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## **Revision of *Milichiella* Giglio-Tos (Diptera, Milichiidae)**

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## Abstract

The species of *Milichiella* Giglio-Tos are revised and assigned to species groups revealed by a phylogenetic analysis. 69 new species are described: *Milichiella abditoargentea*, *M. acantha*, *M. aeroplana*, *M. aldabrae*, *M. angolae*, *M. anterogrisea*, *M. argenteidorsa*, *M. argentinae*, *M. asiatica*, *M. badia*, *M. bella*, *M. bermaguiensis*, *M. boliviana*, *M. boooloombae*, *M. breviarista*, *M. brevirostris*, *M. bruneiensis*, *M. cavernae*, *M. chilensis*, *M. chocolata*, *M. christmas*, *M. cochiseae*, *M. conventa*, *M. cooloolae*, *M. dominicae*, *M. faviformis*, *M. flavilunulae*, *M. flaviventris*, *M. formosae*, *M. fusciventris*, *M. griseomacula*, *M. inbio*, *M. jamaicensis*, *M. laselvae*, *M. lasuizae*, *M. longirostris*, *M. maculatradii*, *M. madagascarensis*, *M. mathisi*, *M. metallica*, *M. mexicana*, *M. mojingae*, *M. mollis*, *M. multisetae*, *M. novateutoniae*, *M. opuntiae*, *M. pachycerei*, *M. peyotei*, *M. plaumanni*, *M. proclinata*, *M. pseudopuntiae*, *M. punctata*, *M. quintargentea*, *M. rufa*, *M. rugosistyla*, *M. rutila*, *M. santacatalinae*, *M. sculpta*, *M. sterkstrooma*, *M. striata*, *M. triangula*, *M. trisetae*, *M. turrialbae*, *M. ugandae*, *M. variata*, *M. villarricae*, *M. virginiae*, *M. weejasperensis* and *M. zaizikensis*. *Milichia aethiops* Malloch is combined with *Milichiella*, the genus *Ulia* Becker is synonymized with *Milichiella*, five species within *Milichiella* are synonymized and 19 lectotypes are designated.

**Key words:** key, phylogenetic analysis, *Ulia*

## Introduction

The genus *Milichiella* was described by Giglio-Tos in 1895 based on one or more specimens collected on the Seychelles. These specimen(s) were misidentified by Giglio-Tos as *Milichiella argentea* (Fabricius), but Becker later described them as *M. tosi*. The genus belongs to the subfamily Milichiinae of the family Milichiidae and most species are characterized by a notch in the posterior eye margin and a posteromedial triangular extension of tergite 1 over tergite 2 in males.

Becker (1907) described the genus *Eccoptomma* for *Milichiella* species with four dorsocentral setae and parallel wing veins  $R_{4+5}$  and M. However, these characters vary within *Milichiella* and Sabrosky (1980) synonymized *Eccoptomma* with *Milichiella*.

This revision was done as an example of an online revision within the EDIT project (European Distributed Institute of Taxonomy). The online revision can be found at <http://www.milichiidae.info> and includes photos of all species, additional drawings, and an interactive key and distribution map.

Before this revision 42 extant and seven amber fossil *Milichiella* species were known. The amber species were recently described by Brake (2006) and are not covered herein.

In this paper one genus and five species are synonymized, *Milichia aethiops* Malloch and *Ulia poecilogastra* Becker are combined with *Milichiella*, *M. tiefii* (Mik) and *M. tosi* Becker are resurrected from synonymy, 19 lectotypes are designated and 69 new species are described as well as a further 16 unnamed taxa. All together *Milichiella* now includes 110 extant species, of which one is a nomen dubium.

A key to males of *Milichiella* is provided. This key is based mainly on characters visible without dissection in contrast to the online key, which includes also characters of the terminalia. Because many females are unknown and those known are hard to distinguish, they were not included in the key.

## Material and methods

The adult terminology follows Brake (2000), the larval terminology follows Courtney et al. (2000). Information on the colour of the microtomentum is provided. However, these colours change with the direction of the light, and there are several different kinds of shades of brown, for example, which are difficult to specify. Therefore, colour must be treated carefully. In addition to colour, information on the presence and density of the microtomentum is provided. Structures can be shiny (without microtomentum), subshiny (without or with very sparse microtomentum), slightly microtomentose (with sparse microtomentum, structure still visible), or