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**Revision of the untreated taxa of *Melaloncha* s. s.  
bee-killing flies (Diptera: Phoridae)**

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## Abstract

The previously untreated sections of the bee-parasitizing, Neotropical phorid genus *Melaloncha* Brues are revised. A total of 167 species of these strictly New World flies are now recognized, including the following 36 new species: *M. acicula*, *M. berezovski*, *M. calathea*, *M. ciliata*, *M. cordyla*, *M. crinita*, *M. declivata*, *M. dibitetii*, *M. erinacea*, *M. feleoae*, *M. flavilineata*, *M. forficata*, *M. gomezi*, *M. gonzalezae*, *M. gradata*, *M. hirsuta*, *M. immaculata*, *M. kittsonae*, *M. lacerna*, *M. laselvae*, *M. licina*, *M. muricata*, *M. nannocauda*, *M. oligoseta*, *M. pilidorsata*, *M. prostata*, *M. rasmusseni*, *M. rodeoensis*, *M. ruinensis*, *M. simoni*, *M. simotris*, *M. torquata*, *M. trichopera*, *M. umbra*, *M. xanthocauda* and *M. zurquiensis*. Because of insufficient differences among examined specimens, *Melaloncha cuspidata* Borgmeier is synonymized with *M. palpalis* Borgmeier (new synonymy). A lectotype is designated for the species *M. plaumanni* Borgmeier. Hosts and behavior of some species is discussed, and a new key to species and species groups of *Melaloncha* is presented.

**Key words:** Diptera, Phoridae, *Melaloncha*, Apidae, parasitoid, new species, Neotropical

## Introduction

The genus *Melaloncha* Brues is a surprisingly large group of mostly Neotropical phorid flies. All species are believed to be parasitoids of adult bees of the family Apidae, especially stingless bees (Meliponini), introduced honey bees (*Apis mellifera* (L.)), and a single record from a bumble bee (*Bombus*; Ramírez 1982). A recent publication has recorded a further, unidentified species of *Melaloncha*, subgenus *Udamochiras* Enderlein, from a halictid bee host (Wcislo et al. 2004).

The taxonomy of these bee-killing flies has been the subject of extensive recent research (Brown 2004a, b, 2005a, b; Brown & Kung 2006; Gonzalez & Brown 2004) and collecting effort (Brown 2001), resulting in an expanded knowledge of hosts and some insights into parasitic behavior. The phylogeny of the group has been partially hypothesized, and will be treated more fully with the results of an ongoing molecular and morphological analysis (Brown & Smith in preparation).

Although the literature prior to recent research on the genus only identified 32 species of *Melaloncha* (Borgmeier 1968, 1971a), there are now 167 species recognized in the group, and further new species are found wherever collections are made. I estimate that the full species-richness of the genus will likely total between 200 and 300 species. In this paper, I describe the remaining species that have not been treated in previous papers listed above, and give a new key for identification of all species or species groups in the genus.

## Methods and material

This revision is based almost exclusively on female specimens, as were others in the