



## The Muscini flies of the world (Diptera, Muscidae): identification key and generic diagnoses

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### Abstract

Flies of the tribe Muscini (Diptera, Muscidae) are worldwide in distribution and are represented by some 350 species in 18 genera. The present study provides an identification key and diagnoses for all the genera of world Muscini: *Biopyrellia* Townsend, *Curransia* Paterson, *Dasyphora* Robineau-Desvoidy, *Deltotus* Séguy, *Hennigmyia* Peris, *Mesembrina* Meigen, *Mitroplatia* Enderlein, *Morellia* Robineau-Desvoidy, *Musca* Linnaeus, *Myiophaea* Enderlein, *Neomyia* Walker, *Neorypella* Pont, *Polietes* Rondani, *Polietina* Schnabl & Dziedzicki, *Pyrellia* Robineau-Desvoidy, *Pyrellina* Malloch, *Sarcopromusca* Townsend, *Ziminellia* Nihei & de Carvalho. Most infrageneric taxa are also represented, namely, the subgenera of *Dasyphora* and *Morellia*. Comments on phylogeny support (whenever pertinent) and the major references containing revisions and regional identification keys to species are provided for each genus and subgenus.

**Key words:** Muscini, taxonomy, systematics, identification key, diagnosis

### Introduction

Worldwide in distribution, the tribe Muscini comprises, together with the Stomoxyini, the subfamily Muscinae, which is considered to be among the basal groups within the family (de Carvalho 1989; Couri & de Carvalho 2003).

The classification and definition of Muscini have changed over time, as is the case throughout the muscoid taxa at the family and subfamily levels. The first definition for the Muscinae sensu lato was given by Schiner (1862): M vein bent forward towards vein  $R_{4+5}$ , plumose arista, short and oval abdomen without strong setae, and relatively short legs. Subsequent authors gave different definitions of the group according to their own interpretation of the characters (Girschner 1893; Bezzi & Stein 1907; Schnabl & Dziedzicki 1911; Malloch 1924; Ringdahl 1929; Hennig 1963a, 1965; Skidmore 1985; de Carvalho 1989). However, most of the characters previously used to characterize the Muscinae (and consequently the Muscini) are now generally accepted as being the result of independent evolutionary processes (homoplasies), as is the case, for example, for the shape of the lower calypter (enlarged posteriorly), or the bend of vein M toward vein  $R_{4+5}$  (de Carvalho 1989; Couri & de Carvalho 2003; Nihei & de Carvalho 2007a).

Hennig (1965) performed the first comprehensive phylogenetic study of the Muscidae. However, he used an explanatory and intuitive approach, which was restricted to presenting and discussing the major characters shared by the higher-level groups and genera. More recently, Nihei and de Carvalho (2007a) performed a formal cladistic analysis of the 21 genera recognized within the tribe. Their results can be summarized as follows: 1) synonymy of *Parapyrellia* Townsend, *Trichomorellia* Stein and *Xenomorellia* Malloch with *Morellia*