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# The genus *Manota* in Costa Rica (Diptera: Mycetophilidae)

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## Abstract

The genus *Manota* Williston is shown for the first time to be present in Costa Rica, and is represented there by 27 species, all new to science: *acuminata*, *acutistylus*, *arenalensis*, *bihamata*, *caribica*, *corcovado*, *costaricensis*, *diversiseta*, *eximia*, *fraterna*, *incisa*, *inornata*, *intermedia*, *limonensis*, *major*, *montivaga*, *multisetosa*, *parva*, *penicillata*, *planistylus*, *rara*, *rectolobata*, *rotundistylus*, *spinosa*, *squamulata*, *tapantiensis*, and *vexillifera*. These species are described, illustrated, and keyed using characters of the male terminalia as the only tool for distinguishing closely related species. A lectotype is designated for the type species, *Manota defecta* Williston, and it is redescribed and the male terminalia illustrated.

**Key words:** taxonomy, morphology, Mycetophilidae, *Manota*, new species, Costa Rica

## Introduction

The subfamily Manotinae (Mycetophilidae) was recently shown, by parsimony analysis, to be a monophyletic group (Hippa et al. 2005), which is in accordance with the view taken by most previous authors (Tuomikoski 1966; Zaitzev 1990; Söli 1997, 2002; Söli et al. 2000). Among the four manotine genera recognised (Papp 2004, Hippa et al. 2005), *Manota* Williston is the only genus to extend its range outside the Oriental Region. A total of 30 *Manota* species has been described to date, distributed over the biogeographic regions as follows: Palaearctic Region, 3 species; Oriental, 3; Afrotropical, 18; Neotropical, 3; and Australian, 3 (Bechev 2000, Ševčík 2002, Papp 2004). At least one unnamed species is known to occur in the Nearctic Region (Vockeroth 1981, in litt.). According to Papavero (1978), the three named Neotropical species include two from Brazil and one from St. Vincent, Lesser Antilles, the latter being the type species, *Manota defecta* Williston 1896. The presence of *Manota* in Central America has not yet been documented.

Apart from the common knowledge that species of *Manota* are forest dwellers, details of their biology remain largely obscure. Larvae of one Palaearctic species, *M. unifurcata* Lundström, were found once on the surface of very moist, rotten birch wood with a greyish coat of an unidentified fungus (Zaitzev 1990). For the same *Manota* species, a single specimen was reported as emerging from rotten beech wood bearing a myxomycete (Chandler 1978). Adults, quite inconspicuous in their habits, are usually obtained by standard entomological methods, especially Malaise traps, used in damp, shady forests.

Due to its peculiar wing venation, *Manota* is one of the most readily recognisable genera of the family Mycetophilidae. The external morphology of *Manota* species is for the most part extremely uniform, but there is a degree of morphological diversity in the male terminalia, which is of major significance for the purposes of species identification and presumably also for subgeneric classification.

In this article, we describe and key 27 new species of *Manota* from the small area of Costa Rica. This number probably represents about half the actual number of *Manota* spe-

  