Zootaxa 2273: 49–58 (2009)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Four distinctive new Neotropical species of *Coniceromyia* Borgmeier (Diptera: Phoridae) with patterned-wings

GIAR-ANN KUNG
Entomology Section, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, California 90007, USA. E-mail: gkung@nhm.org

Abstract

Four new species of patterned-wing *Coniceromyia* are described: *C. browni*, *C. sakaii*, and *C. valdesi* from Colombia, and *C. hoggi* from Costa Rica.

Key words: Diptera, Phoridae, *Coniceromyia*, Neotropical, taxonomy

Introduction

The genus *Coniceromyia* Borgmeier, 1923 is comprised of 50 New World species, including the four new species described herein. Although this is a large genus, there is virtually no life history information for the group. Within *Coniceromyia*, there are several species with wings that are patterned, defined as the presence of pigment and/or setae on the wing membrane forming distinctive patterns or markings. The setae that comprise a wing patterning are clearly differentiated from the usual wing setation, being either elongate, or short and densely arranged.

The role of wing patterns in *Coniceromyia* is unknown. There is no consensus among researchers working on other groups of flies as to the purpose of patterned-wings, although it has been suggested that mimicry of predators (Greene *et al*. 1987) is a possible option. It is unclear what role patterned-wings have in courtship and sexual success, although one study found that there was no affect on mating success (Sivinksi & Pereira 2005). More studies are needed to understand patterned-wings.

The reason for the distinctive coloration on the foretibia, found in *Coniceromyia aurantia* Kung & Brown, 2000, *C. browni* **n.sp.**, and *C. leucomacula* Kung & Brown, 2000 is also not understood. Eberhard (2002) studied drosophilids with contrasting white apical foretarsomeres, and suggested that the coloration may be used for both aggressive and courtship behavior.

The role of the modification of foretarsomere 1 has not been studied.

The patterned-wing species of *Coniceromyia* have been reviewed by Kung & Brown (2000a; 2000b) but further new ones have been identified and are described below.

Materials and methods

Most specimens were collected into 70% ethanol, critical point dried with hexamethyldisilizane (Brown 1993), and mounted on pins. Specimens were bar-coded, with the data stored at the Entomology Section of the Natural History Museum of Los Angeles County, with the catalog numbers for holotypes given in brackets. Color images of specimens are deposited in Morphbank (www.morphbank.net).

Accepted by D. Bickel: 28 Sept. 2009; published: 27 Oct. 2009