Zootaxa 3547: 1–23 (2012)
www.mapress.com/zootaxa/

Article

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

urn:lsid:zoobank.org:pub:DD12BC03-2233-4F66-8A61-19E1091337B8

Ten new species of *Meteorus* (Hymenoptera: Braconidae) from Ecuador reared at the Yanayacu Biological Center for Creative Studies

GUINEVERE Z. JONES & SCOTT R. SHAW
U.W. Insect Museum, Department of Ecosystem Science & Management, University of Wyoming, 1000 East University Avenue, Laramie, Wyoming 82071-3354, U.S.A.
gjones9@uwyo.edu and braconid@uwyo.edu

Abstract

Ten new species of the braconid genus *Meteorus* are described, along with biological information. Specimens were reared from lepidopteran larvae collected in the northeastern Andes of Ecuador, a hotspot of global diversity. The new species described and illustrated are: *M. bustamanteorum, M. caritatis, M. horologium, M. imaginatus, M. luteus, M. margarita, M. oreo, M. porcatus, M. quasifabatus*, and *M. zitaniae*. The biology of these species has also been observed: reared as single wasp emergences are *M. caritatis, M. imaginatus, M. luteus, and M. oreo*. The majority of the descriptions are of gregarious wasp rearings, which occur within *M. bustamanteorum, M. horologium, M. margarita, M. porcatus, M. quasifabatus*, and *M. zitaniae*. There is a large diversity of taxa used for oviposition; four species were reared from Arctiidae caterpillars, two from Nymphalidae, and one each from Apatelodidae, Limacodidae, Megalopygidae, and Noctuidae. The host data for the new species of *Meteorus* shows a strong correlation between type of host defense and whether development yields a solitary or gregarious wasp. All of the *Meteorus* wasps collected from this region have been new species, which highlights the enormous biodiversity and importance of describing new species in the neotropics.

Key Words: Hymenoptera, Braconidae, Neotropical, parasitoid, taxonomy, behavior, Lepidoptera

Introduction

This treatment of *Meteorus* Haliday (Hymenoptera; Braconidae) from Napo Province, Ecuador, is a small part of a larger project: Caterpillars and Parasitoids of the Eastern Andes (CAPEA). CAPEA consists of eight Principal Investigators and over a dozen additional researchers. This international research team's main goal is to address insect and plant species diversity and interactions of the Eastern Andes by learning more about those species' ecology and taxonomy. While a large majority of the research team focuses on lepidopteran taxa, this paper will address the new species within one genus of parasitoid wasps, and ultimately the relationship with their host caterpillars.

Collection of *Meteorus* specimens, reared from caterpillars, collected as cocoons, or collected as adults, has been in progress since 2001. With this long and consistent sampling of specimens, many new species of *Meteorus* from Ecuador have been discovered. Ten new species are described here.

Hymenoptera is one of the megadiverse insect orders, and within Hymenoptera, Braconidae is the second largest family (Shaw 1995). Based on estimates such as those of van Achterberg (1989), there remains one-half to two-thirds of the species in this family still left to be described (Wharton 1997). Braconids are parasitoids, meaning they ultimately kill their host (Shaw & Huddleston, 1991).

Meteorus Haliday is a diverse and widespread braconid genus comprising more than 250 described species worldwide (Muesebeck 1923, 1939; Nixon 1943; Huddleston 1980, 1983; Maetô 1990; Chen & Wu 2000; Zitani & Shaw 2002; Zitani 2003; Shaw & Nishida 2005; Stigenberg 2008). They are koinobiont endoparasitoids, mostly attacking young exposed-feeding caterpillars but some parasitize beetle larvae (Shaw & Huddleston 1991; Shaw 1995, 1997). *Meteorus* species are noted for their diverse silk-spinning and cocoon-forming behaviors (Zitani & Shaw 2002; Zitani 2003). While many are solitary parasitoids of small caterpillars, several tropical *Meteorus*

Accepted by J.T. Jennings: 20 Aug. 2012; published: 13 Nov. 2012