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Descriptions of two new species of *Myrmedonota* Cameron (Staphylinidae: Aleocharinae) from Mexico with comments on the genus taxonomy and behavior

KAITLYN A. MATHIS¹ & K. TARO ELDRIDGE²

¹Department of Environmental Science, Policy, and Management, University of California, Berkeley, 130 Mulford Hall, Berkeley, CA 94702-3114, USA. E-mail: kamathis@berkeley.edu

²Department of Ecology and Evolutionary Biology, and Division of Entomology, Biodiversity Institute, University of Kansas, 1501 Crestline Dr., Lawrence, KS 66045-2811, USA

Abstract

Two new species of *Myrmedonota*, *M. shimmerale* n. sp. and *M. xipe* n. sp., are described, and the genus is recorded from Mexico for the first time. Dorsal habitus photographs, illustrations of the median lobe and spermatheca are presented for diagnostic purposes. We suggest that *Myrmedonota* is in fact diverse in the New World and that its taxonomy is already in a state of confusion. New behavioral observations show that: (1) *Myrmedonota* species will aggregate towards agitated ants, possibly to prey on them; (2) *Myrmedonota* will form mating swarms, either with no apparent landmark or in the vicinity of ants.

Key words: *Apalonia*, *Azteca*, *Eciton*, myrmecophily, *Papyrius*, *Pheidole*, *Pseudacteon*, symbiosis, *Termitognathus*, termitophily

Introduction

The genus *Myrmedonota* Cameron, 1920 (Aleocharinae: Athetini) contains 26 species, described primarily throughout the Old World, with 23 species described from Malaysia, Indonesia, Papua-New Guinea and Singapore. Currently only three species have been described from the New World, all from North America (Maruyama *et al.* 2008; Eldredge 2010), though the actual diversity is believed to be much larger (Eldredge, personal observation). While the life histories of most species are unknown, several have been collected in the presence of either ants or termites (Bourguignon & Roisin 2006; Maruyama *et al.* 2008). One species, *Myrmedonota papyriomyrmecis* Kistner, 2003 is the first to have a definitive host record, and can be found scavenging in the kitchen middens of *Papyrius nitidus* Mayr, 1862 nests (Kistner 2003).

Recently, we collected two undescribed species of *Myrmedonota* on a shade coffee farm in Chiapas, Mexico from traps for behavioral observations, originally designed to attract *Pseudacteon* Coquillett, 1907 phorid flies to *Azteca sericeasur* Longino, 2007 ants. In this paper we describe the new species, the first ever collected from Mexico, and provide bionomical information.

Material and methods

Specimens were observed using an Olympus SZX7 stereomicroscope, an Olympus BX51 compound microscope, and a Leica MZ12.5 stereomicroscope. Illustrations were made using an Olympus U-DA camera lucida mounted on an Olympus BX51. Scale bars were drawn using an Olympus slide micrometer. Body measurements were made using a Leica stereomicroscope ocular micrometer.

Dissected structures were cleared in KOH, mounted in Euparal (see Eldredge 2012 for details) and pinned underneath the specimen (similar to Maruyama 2004).

Terminology for median lobe orientation follows Gusarov (2002).

Legs long; hind tibia 0.78 times as long as the elytral width. Macrosetae prominent; antennal macrosetae 2.47 times the width of the antennomere.

Male. Median lobe (Figs. 6–7) somewhat limuloid in parameral view, apex slightly bifid; apical lobe gently curved paramerally in lateral view, generally pointed at apex in lateral and parameral views; longitudinal bands large and conspicuous; copulatory piece overall narrow, apex slender and attenuated, base with lateral paired blunt arms slightly constricted at midpoint, annulus small and longitudinally elongate; comb of teeth present, directed paramerally in lateral view and apical of copulatory piece. Tergite VIII apicomediaally concave and margin variably serrate.

Female. Spermatheca (Fig. 8) bent submedially at near-right angle. Internal cone with circumventral sculptural grooves.

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