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Alobevania, a new genus of neotropical ensign wasps (Hymenoptera: Evaniidae), with three new species: integrating taxonomy with the World Wide Web

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Abstract

Alobevania Kawada & Deans, **n. gen.**, and three new ensign wasps, *A. gattiae* Kawada & Deans, **n. sp.**, *A. tavaresi* Kawada & Deans, **n. sp.**, and *A. longisaeta* Kawada & Deans, **n. sp.** are described from specimens collected in the Neotropics. A key to species and discussion of how this previously undescribed lineage fits within Evaniidae are provided. This taxonomic effort is greatly enhanced by the integration of numerous Web resources: a) an ontology of Hymenoptera morphology, b) annotations and collections of images archived in Morphbank, c) descriptive species pages at Evanioidea Online, d) Web-based multi-entry and bifurcating diagnostic keys at Evanioidea Online, e) taxon pages at the Tree of Life Web Project, f) registration of taxa, authors, taxonomic references, and specimens at ZooBank and assignment of Life Science Identifiers (LSIDs), g) georeferencing of all specimen localities, with downloadable KML files, h) manuscript is marked up using TaxonX and is available through Plazi.

Key words: Evanioidea, cybertaxonomy, mx, *Evaniella*, Hymenoptera Ontology

Introduction

Rearing records indicate that ensign wasps (Hymenoptera: Evaniidae) develop as solitary predators of cockroach eggs (Dictyoptera) within oothecae (Deans 2005). Female evaniids are often collected while they search through leaf litter, tussocks, buildings, and other complex environments for cockroach egg cases in which to deposit their eggs. Despite fascinating morphological and behavioral adaptations, relative ease of capture, conspicuous mimicry complexes, and their potential for biological control of pestiferous cockroaches Evaniidae remains a relatively obscure group of insects. Recent efforts, however, addressing aspects of evaniid taxonomy (Deans *et al.* 2006; Deans 2005; Deans & Huben 2003), fossils (Engel 2006; Deans *et al.* 2004; Basibuyuk *et al.* 2002, 2000a, 2000b), rearing (Fox & Bressan-Nascimento 2006; Hwang & Chen 2004), host searching (Yeh *et al.* 2000; Yeh & Mu 1994), and species revision (Kawada & Azevedo 2007), represent a renaissance of evaniid research.

We describe herein a new genus of ensign wasp that is morphologically and phylogenetically distinct. Deans *et al.* (2006) included an examplar of this tiny ensign wasp ("*Evaniella* 039") in their evaluation of evaniid taxonomy. This exemplar never resolved with other *Evaniella* Bradley, 1905 (Deans *et al.* 2006 Fig. 6, reproduced, in part, here as Fig. 1) and exhibits fore and hind wings without jugal lobes, an anteroposteriorly flattened head, an anteroposteriorly compact mesosoma, and other characters not found in true *Evaniella* spp. Based on ARD's extensive research for a recently published catalog (Deans 2005) and his direct observations of all available type specimens for New World species we have determined that no previously described species belong in this new genus.

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