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A new genus of Eucharitidae (Hymenoptera: Chalcidoidea), with notes on life history and immature stages

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Abstract

Neolirata **new genus** (Eucharitidae: Eucharitini) is recognized based on males and females, with new descriptions of eggs, planidia and pupae. Redescriptions are provided for *N. alta* (Walker) and *N. daguerrei* (Gemignani) (**comb. nov.** transferred from *Lirata*) and a new description of *N. furcula* **sp. nov.** is presented. Females of *N. alta* deposit their eggs on the underside of leaves of *Pseudabutilon virgatum* (Cav.) Fryxell (Malvaceae) and *N. daguerrei* on the underside of *Urvillea chacoensis* Hunz (Sapindaceae). A key to species is included.

Key words: *Neolirata*, eggs, planidia, pupae, host plant, poneromorph, ant, parasitoid

Introduction

Eucharitidae (Hymenoptera: Chalcidoidea) are parasitoids of the immature stages of ants, and potentially are the most diverse group of hymenopteran parasitoids of eusocial insects (Heraty 2002; Murray et al. submitted). Four subfamilies and 54 genera are recognized, distributed in almost every zoogeographical region of the world (Heraty 2002; Heraty et al. 2004; Heraty et al. in press).

Cameron (1884) described *Lirata*, with *L. luteogaster* Cameron as its type species. Heraty (2002) provided a detailed diagnosis and description of the genus, a key to species, and descriptions of new species. *Lirata* previously included eight species from the Neotropical region (Argentina, Brazil, Ecuador, Panama, Paraguay and Venezuela) that belong to the *Kapala* clade, a group of poneromorph ant parasitoids within the Eucharitini (Hymenoptera: Eucharitidae) (Heraty 2002). In recent phylogenetic analyses using molecular data (Murray et al. submitted), two of the species of *Lirata* treated were placed distant from the rest. These differences from other *Lirata* were supported by our reanalysis of their morphological features. Here we establish a new genus based on two species moved from *Lirata* (*L. alta* Walker and *L. daguerrei* Gemignani) and describe a new species from Brazil. Descriptions of the immature stages and plant host associations are provided for the two transferred species.

Material and methods

Adults of *N. alta* were collected at San Vicente, Tucumán, Argentina on *Pseudabutilon virgatum* (Cav.) Fryxell while ovipositing on the underside of leaves of the host plant. Adults of *N. daguerrei* were collected at Tapia, Tucumán, Argentina on *Urvillea chacoensis* Hunz, and eggs were also found on the underside of leaves. For both collections, leaves with eggs were placed into a 10 x 10 cm cylindrical glass container with dampened cotton until emergence of the first instar larvae (planidia). Planidia and some eggs were preserved in ethanol. Planidia were later cleared in 10% KOH and both larvae and eggs slide-mounted in Hoyer's medium.

Images were obtained using GT-Vision® Ento-Vision software on a Leica M16 zoom lens linked to a JVC KY-F75U 3-CCD digital video camera, and Leica Application Suite (version 3.5.0) software operating on a Leica MZ12 linked to a digital video camera Leica DFC295. Images were enhanced with Corel PhotoPaint and Corel

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