



## Article

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### Description of three new species of Nymphistrini (Coleoptera: Histeridae: Haeteriinae) from Central America

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#### Abstract

Three new species belonging to the tribe Nymphistrini of the obligate myrmeco- and termitophilous subfamily Haeteriinae (Coleoptera: Histeridae) are described from Central America: *Nymphister rettenmeyeri* sp. n. (Costa Rica and Panama), *Trichoreninus carltoni* sp. n. (Belize and Honduras) and *T. neo* sp. n. (Costa Rica and Panama). Identification keys for the Central American species of both genera are prepared. Available host records for *N. rettenmeyeri* confirm the symbiosis of the genus with *Eciton* army ants: the species has been found in colonies of *E. burchelli* (Westwood), *E. hamatum* (Fabricius) and *E. mexicanum* Roger. Host records are not available for the new species of *Trichoreninus* as all known specimens were collected by flight intercept traps.

**Key words:** Coleoptera, Histeridae, Haeteriinae, *Nymphister*, *Trichoreninus*, new species, Central America, myrmecophily, *Eciton*

#### Introduction

The rich and diverse Neotropical fauna of the obligate myrmecophilous and termitophilous histerid subfamily Haeteriinae has attracted considerable attention of systematists and taxonomists during the last three decades. This focus has led to substantial progress in understanding and describing the diversity and evolution of its constituent taxa (Helava *et al.* 1985; Tishechkin 2007 and references therein). However, despite this progress, a thorough revision of the subfamily remains far from completion. Significantly more work has been conducted at the supraspecific level, while the task of species-level description within the Haeteriinae has lagged behind. As a consequence, the operational taxonomic approach first suggested by Helava *et al.* (1985) and stressed by Tishechkin (2007), *i.e.*, genus-by-genus revisions that cover all included taxa, is still largely unrealized. While some holistic revisionary approaches have been published recently (Caterino & Tishechkin 2008; Tishechkin & Caterino 2009), it is far from being optimal given the diversity of the Haeteriinae (Mazur 1997; Tishechkin 2007), reflecting constraints operating upon systematic revisionary work on poorly known diverse tropical organisms.

In this particular work, we have opted not to follow this ideal approach, but a more pragmatic one, in line with arguments of Erwin and Johnson (2000). Herein, we describe three relatively recently collected species of Haeteriinae to make the valid names available for two tropical insect inventories we took part in as participants (Basset *et al.* 2007; Mercado Cárdenas 2012). To facilitate species identification, we present keys for Central American species of the two genera included in this study.

#### Materials and Methods

Genitalia were extracted with a hooked insect pin, treated in heated 10% KOH solution, and washed in excess of water. After separation of genital capsule components, genital sclerites and aedeagi were placed into microvials pinned under specimens. Habitus illustrations were prepared with the aid of digital imaging system Photo-Montage