



Revision and phylogeny of the rare *Priotomis* Townes (Hymenoptera, Ichneumonidae, Cryptinae), with three new species and first description of the male

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Abstract

Priotomis vinhai Tedesco, **sp. nov.**, from the restingas of southeastern Brazil, *P. echyrus* Tedesco, **sp. nov.**, from Mexico and Costa Rica, and *Priotomis flammatus* Tedesco, **sp. nov.**, from Panama and Brazil, are described and illustrated. The monophyly of the genus and the relationships of its species were cladistically tested using implied weighting, in a matrix with 22 species, including four species of *Priotomis*, and 92 external structural characters. Concavity constants (*K*) from 1 to 6 were tested. All analyses recovered *Priotomis* as monophyletic. A redescription of *Priotomis* is presented, combining the original definition with original information, expanding the limits of the genus. All results indicate *P. vinhai*, **sp. nov.** as the basal-most species of the genus; all results with *K*=2–5 recovered the apical clade *P. rana* + (*P. echyrus*, **sp. nov.** + *P. flammatus*, **sp. nov.**). An updated key to species is presented. Additional distribution records are provided, expanding the known range of *Priotomis* to 41°11' latitude degrees, from Mexico to Argentina.

Key words: Atlantic Forest, Cryptini, Lymeonina, Phygadeuontinae, Restinga

Introduction

Priotomis was proposed by Townes (1970) for a single species, *P. rana*, from a mountainous region of the Brazilian Atlantic Forest. Another species, *P. golbachi* was described by Porter (1972) from the Chaco Forest of Argentina. The genus is characterized by many features unusual in Cryptini, such as mandible apex twisted; dorsal valve of ovipositor with a series of teeth; posterior transverse carina of propodeum absent; notaulus completely absent; epomia absent; and posterior margin of pronotum not swollen. All species in the genus seem to be extremely rare, and both previously known species were described from a single specimen.

The genus was placed by Townes in the Lymeonina, but Porter (1972) observed that it shows many “aberrant characters unparalleled among other genera of this subtribe”, such as the presence of serration on the dorsal valve of ovipositor, more characteristic of Baryceratina, and the twisted apex of the mandible, a unique feature within Cryptinae. In a molecular phylogeny of Cryptinae using six Lymeonina taxa, Laurence *et al.* (2006) recovered *Priotomis* plus 3–6 other Lymeonina taxa grouped together with the only genus of Baryceratina used in that analysis, *Baryceros* Gravenhorst, plus the Goryphina *Diapetimorpha* Viereck, and with the Hemigastrini *Platymystax* Townes. Only a single species of *Priotomis* was included, so the internal phylogenetic relationships of *Priotomis* remained unknown until now.

This study represents the first cladistic assessment of *Priotomis*, describes three new species, and redescribes the genus by combining information from Townes (1970), Porter (1972), and original data.

Material and Methods

Acronyms for collections follow Arnett *et al.* (1993), with the addition of UFES – Insect Collection of the Universidade Federal do Espírito Santo (Brazil). Material sorted for *Priotomis* included over 30,000 specimens of Neotro-