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## Revision of the Neotropical genus *Eschatocerus* Mayr (Hymenoptera, Cynipidae, Eschatocerini) with biological notes and the first description of the terminal larva

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### Abstract

The gall wasp genus *Eschatocerus* (Hymenoptera, Cynipidae, Eschatocerini), a cynipid genus of gall inducers on *Prosopis* and *Acacia* species (Fabaceae), endemic to southern South America, is revised. Complete descriptions of the external morphology of the genus and its three known species, illustrated with scanning electron photographs, are given for the first time, and an updated key for the identification of the species is provided. The biology of the species of *Eschatocerus* and their galls is described. Host plant associations are given, and the terminal larva of *Eschatocerus niger* is described for the first time. Preliminary notes on the inquiline and parasitoid community associated with the galls of *Eschatocerus* species are also given.

**Key words:** gall wasps, life history, South America, Argentina, *Prosopis*, *Acacia*

### Introduction

Cynipidae and Figitidae are the two largest families of Cynipoidea, a species rich superfamily of predominantly parasitic Hymenoptera. However, the Cynipidae family is different from the remaining Cynipoidea families in that it comprises only specialized herbivores capable of inducing complex galls on plants or of modifying existing galls as inquilines, either of other Cynipidae or, in some cases, of Chalcidoidea or Lepidoptera (Nieves-Aldrey *et al.* 2009; van Noort *et al.* 2007). The family has traditionally been divided into six tribes: Aylacini, Eschatocerini, Cynipini, Diplolepidini, Pediaspidini and Synergini (Ashmead 1903; Nieves-Aldrey 1994, 2001; Ronquist 1999; Csóka *et al.* 2005), while two additional tribes were described in recent years: Paraulacini and Qwaqwaini (Nieves-Aldrey *et al.* 2009; Liljeblad *et al.* 2011). The classification of the Cynipidae has been just adjusted in light of the more recent combined, morphological and molecular, phylogenetic analysis (Ronquist *et al.* 2015). In this study, it is shown that the Aylacini and the Synergini are not monophyletic and the classification of the Cynipidae is modified accordingly, with the erection of four new tribes: Aulacideini, Diastrophini, Ceroptresini and Phanacidini. As a result of this reclassification, the Cynipidae are now divided into twelve monophyletic tribes (Ronquist *et al.* 2015).

The great majority of the *circa* 1500 gall wasp species occur in the temperate regions of the Northern Hemisphere. These species are mainly cynipines, commonly known as oak gall wasps (Stone & Cook 1998; Nieves-Aldrey 2001; Liljeblad *et al.* 2008); the tribes Paraulacini and Eschatocerini are peculiar because they are endemic of temperate areas of the Neotropics (Nieves-Aldrey *et al.* 2009; Medianero & Nieves-Aldrey 2111), whereas the Qwaqwaini have a southern Afrotropical distribution. The Cynipidae were recorded as absent in Australia and the Oceanian region, but a species of the tribe Synergini has recently been described from Papua New Guinea (Nieves-Aldrey & Butterill 2014).

In the present paper, we address one of the two cynipid tribes endemic to the Neotropical Region, the Eschatocerini. The Eschatocerini comprises one genus, *Eschatocerus* Mayr, with three described species: