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Article

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A new ectoparasitic *Aulacothrips* (Thysanoptera: Heterothripidae) from Amazon rainforest and the significance of variation in antennal sensoria

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Abstract

Aulacothrips amazonicus **sp.n.** is described from Northern Brazil, with larvae and adults ectoparasitic on ant-tended Membracidae (Hemiptera) on *Solanum* shrubs. This new taxon differs from its congeners by (i) body distinctively paler; (ii) sensoria on antennal segments III & IV much less convoluted; (iii) male tergite IX posterior margin straight and with several long and stout setae. The possible biological significance of interspecific differences in antennal sensoria among *Aulacothrips* species is discussed.

Key words: ectoparasitism, *Dolichoderus bispinosus*, Membracidae, Neotropics, treehoppers

Introduction

By exhibiting an ectoparasitic way of life, the species of *Aulacothrips* are amongst the most remarkable taxa within the order Thysanoptera. They belong to the Heterothripidae, a family that is restricted to the Americas and all remaining members are considered to be phytophagous, feeding and breeding in flowers (Mound & Marullo 1996; Izzo *et al.* 2002; Cavalleri *et al.* 2010; Pereyra & Cavalleri 2012). Larvae and adults of *Aulacothrips* infest aggregations of several ant-tended hemipterans, and females are known to lay their eggs in the plant tissue, very close to the host individuals (Cavalleri *et al.* 2010).

This genus is known only from Brazil, and includes two species, *Aulacothrips dictyotus* Hood and *Au. minor* Cavalleri, Kaminski & Mendonça. These are very similar in their external morphology but differ significantly in life strategies and host use. The first is a highly specific ectoparasite of *Aetalion reticulatum* (Aetalionidae) while the second attacks several hemipteran species, almost all of them ant-tended treehoppers of the Membracidae family (Cavalleri *et al.* 2010). Silva and Del-Claro (2011) recently recorded *Au. dictyotus* infesting *Enchenopa brasiliensis* (Membracidae) in Minas Gerais, but further examination of this material revealed that those specimens belong to *Au. minor.*

These ectoparasites were previously recorded from several savannah areas in Central and Southeast Brazil, sometimes living in sympatry but always infesting distinct hemipteran hosts (Cavalleri *et al.* 2010). However, recent samples showed a third *Aulacothrips* species infesting Membracidae in the Brazilian Amazon rainforest, about 1,500 km distant from the currently known distribution of its two congeners. Interesting morphological differences were observed among these three species, particularly the sensoria on antennal segments III and IV. All *Aulacothrips* have a remarkable antennal morphology, with segments III and IV enlarged and with highly convoluted porous sensoria, but this new species has clearly smaller sensorial bands.

Here, we describe this new taxon, and consider the possible biological significance of interspecific variation in these antennal sensoria to these ectoparasitic thrips.

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