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Orolaelaps (Acari: Mesostigmata: Melicharidae): description of two new species, redescription of *Orolaelaps quisqualis* and new characterisation of the genus

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Abstract

Until now, the genus *Orolaelaps* De Leon was known only from the USA. Two new species of this genus, namely *Orolaelaps piracicabensis* **n. sp.** and *Orolaelaps tupiniquim* **n. sp.,** are described from specimens collected in the State of São Paulo, Brazil. *Orolaelaps quisqualis* De Leon, the type species of the genus, is redescribed and an updated diagnosis of *Orolaelaps* is provided.

Key words: Ascoidea, taxonomy, fruits, soil

Introduction

The family Melicharidae (Ascoidea) comprises 11 genera, many of which are represented by species collected from sugary substrates and insects (Moraes *et al.* 2015). The type species of the type genus of this family, *Melichares agilis* Hering, was described from specimens found on dates, figs. and plums.

The melicharid genus *Orolaelaps* De Leon was described from specimens of *Orolaelaps quisqualis* De Leon, also collected from a sugary substrate, decaying pineapple on the ground (De Leon 1963). This is the only species placed in this genus until now. Lindquist & Evans (1965) and Farrier & Hennessey (1993) considered *Melichares* Hering to be a senior synonymy of *Orolaelaps*. In this publication we adopted the interpretation of Halliday *et al.* (1998), considering them to be distinct genera.

Recent examination of decaying fruits of carambola (*Averrhoa carambola*, Oxalidaceae), a common fruit tree in Brazil, as well as of decaying corn grains and corn cobs (*Zea mays*, Poaceae) on the ground, led to the discovery of two new species of *Orolaelaps*. The objectives of this paper are to describe those new species, and to provide a redescription of *O. quisqualis* and an updated diagnosis of the genus.

Material and methods

Samples of decaying carambola fruits as well as of corn grains and corn cobs were collected and processed in Berlese funnels for mite extraction, in search of mesostigmatid mites in an effort to determine their diversity in southeastern Brazil. These were mounted in Hoyer´s medium and observed under phase and interference contrast microscopes. The melicharid species were identified to genera. The *Orolaelaps* specimens collected and the holotype of *O. quisqualis* were morphologically characterised providing the level of details presently considered in the identification of mesostigmatic mites.

Taxonomically relevant structures were illustrated with the help of photos taken with a digital camera connected to the interference contrast microscope and later processed with a digital tablet, using the Adobe Illustrator® program. Measurements were done with the use of a graded ocular. Setal nomenclature for the idiosoma follows that of Lindquist & Evans (1965) and Lindquist (1994). Identification of pores and lyrifissures

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