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A new species of *Gamasiphis* (Acari: Ologamasidae) from Brazil, with a key to species from the Neotropical Region

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Abstract

Gamasiphis paulista **n. sp.** is described based on specimens representing all postembryonic stages, collected from litter and soil in Piracicaba, State of São Paulo. This is the first species of *Gamasiphis* described from Brazil. A key is provided for the separation of species of this genus known from the Neotropical Region.

Key words: Mesostigmata, Rhodacaroidea, edaphic mite, litter, taxonomy

Introduction

Ologamasidae (Mesostigmata: Rhodacaroidea) is a large, widely distributed group of predatory mites that inhabit soil, humus and compost (Lindquist *et al*., 2009). They are some of the most ubiquitous edaphic Mesostigmata in southeastern Brazil (Mineiro & Moraes, 2001; Silva *et al*., 2004).

Gamasiphis Berlese is one of the most diverse genera of Ologamasidae, with 68 described species (Castilho *et al*., 2009a). According to Karg & Schorlemmer (2009), *Gamasiphis* species occur mainly in tropical and subtropical areas. Seventeen species of this genus have been reported from the Neotropical Region (Fox, 1949; Karg, 1990, 1994a, 1994b, 1998, 2003, 2007; Karg & Schorlemmer, 2009). Undetermined species also have been reported from Brazil (Mineiro & Moraes, 2001; Silva *et al*., 2004).

Gamasiphis species have been considered as predators of soil mites (Karg & Schorlemmer, 2009; Lindquist *et al*., 2009), although only a single detailed biological study of a species of this genus has been conducted (Lee, 1974). Given the high frequency in which ologamasids are commonly found in southeastern Brazil, an effort has been made to evaluate their possible role as biological control agents of pest organisms in this region. As part of this process, we were recently able to establish a laboratory culture of an undescribed species of *Gamasiphis*, whose biology is presently under investigation. The objective of this paper is to provide a taxonomic description of the post-embryonic stages of this new species and a taxonomic key to separate the species of this genus known from the Neotropical Region.

Material and methods

Litter and soil samples were collected on the campus of Escola Superior de Agricultura "Luiz de Queiroz", Universidade de São Paulo, Piracicaba, State of São Paulo, and taken to a laboratory where mites were extracted with a Berlese funnel. Ologamasids collected were then sorted under dissecting microscope, and a culture of the most numerous species was established according to the procedure described by Castilho *et al*. (2009b). Three months after the establishment of the culture, samples of each developmental stage of the mite were taken from the culture, cleared in Nesbitt's medium and mounted in Hoyer's medium for examination under phase-contrast microscopy. Samples of adult males and females were also taken from the culture, and

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