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Phytoseiid mites (Acari: Mesostigmata) from Araucaria Forest of the State of Rio Grande do Sul, Brazil, with new records and descriptions of four new species

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Abstract

This paper reports on the Phytoseiidae from an *Araucaria* forest in the State of Rio Grande do Sul, describing four new species, namely *Transeius kroeffis* n. sp., *Typhlodromalus araucariae* n. sp., *Typhlodromips pompeui* n. sp. and *Typhlodromips salvadorii* n. sp.. *Iphiseiodes moraes* Ferla & Silva, *Neoseiulus tunus* (DeLeon), *Typhlodromips japi* Lofego, Demite & Feres, *Typhlodromips pallinii* Gonçalves, Silva & Ferla, *Typhloseiopsis dorsoreticulatus* Lofego, Demite & Feres are reported for the first time from this type of habitat in Rio Grande do Sul state, Brazil.

Key words: Amblyseiiinae, predatory mite, natural environment, southern Brazil

Introduction

The Phytoseiidae (Acari: Mesostigmata) is a large family of predatory mites that includes some species recognised as effective natural enemies of some agricultural pests (Gerson *et al.* 2003). They feed on spider mites, nematodes, fungal spores, pollen and plant exudates. Several species have been used in biological control programs (Moraes, 2002). In the last five years, an effort has been made to describe the phytoseiid fauna from southern Brazil (Ferla *et al.*, 2010, 2011, 2012, 2013; Marchetti & Ferla, 2011; Eichelberger *et al.*, 2011; Horn *et al.*, 2011; Ferla & Silva 2011; Johann & Ferla 2012; Gonçalves *et al.*, 2013; Rocha *et al.*, 2013, 2014; Silva *et al.*, 2013; Reichert *et al.*, 2014; Johann *et al.*, 2014; Barbosa *et al.*, 2014).

The *Araucaria* forest represents one of the main natural habitats of southern Brazil, predominantly in the Brazilian Meridional plateau, between 24–30°S latitude, at 500–1400 m above sea level (Klein, 1960). *Araucaria angustifolia* (Bertol.) Kuntze (Araucariaceae) is the most characteristic species of this type of vegetation, being the dominant species composing the upper canopy (Leite & Klein 1990). The *Araucaria* forest (*Araucaria* moist forest) consists of species with origins in the mountains of Central Brazil, in the Andes and Southern-Antarctic flora, adapted to cold weather (Rambo, 1953; Teixeira *et al.*, 1986). The aim of this work is to document the phytoseiid species from *Araucaria* forest in Rio Grande do Sul for the first time.

Material and methods

This survey was conducted in Araucaria Forest located in São Francisco de Paula northeastern Rio Grande do Sul