



Phytoseiid mites (Acari: Phytoseiidae) of the subfamily Amblyseiinae Muma from Peru, with descriptions of four new species

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Abstract

This paper reports the mites of the subfamily Amblyseinae (Phytoseiidae) known from Peru, based on an extensive survey conducted in different regions of the country as well as on published information. Forty-eight species are reported, four of which are new to science, namely *Aristadromips escarsidentatus* Guanilo & Moraes **n. sp.**, *Proprioseiopsis parabelizensis* Guanilo & Moraes **n. sp.**, *Typhlodromips angustus* Guanilo & Moraes **n. sp.** and *Typhlodromips amazonensis* Guanilo & Moraes **n. sp.** In addition to the description of the new species, measurements of all species collected and a taxonomic key to separate the species reported from Peru are provided.

Key words: Taxonomy, predatory mites, biological control

Introduction

Surveys to determine prospective natural enemies for the control of the tomato red spider mite, *Tetranychus evansi* Baker & Pritchard (Tetranychidae), in Africa were conducted in Argentina (Furtado *et al.* 2007; Guanilo *et al. in press*) and Brazil (Furtado *et al.* 2005, 2006; Rosa *et al.* 2005; Fiaboe *et al.* 2007). More recently, a survey was also conducted in regions of Peru determined by Fiaboe *et al.* (2006) to be climatically similar to places in Africa where *T. evansi* has been found. Because of the host plant preferences shown by *T. evansi* (Moraes *et al.* 1987), this survey concentrated on plants in the family Solanaceae, although plants of other families found with solanaceous plants were also sampled. This paper refers to the phytoseiids of the subfamily Amblyseinae found in the survey conducted in Peru to search for natural enemies of *T. evansi* as well as to mites of this subfamily previously reported by different authors from that country. A taxonomic key was prepared for the separation of all Amblyseinae known from Peru to date.

Material and methods

The plant samples were examined under a stereomicroscope and mites found were mounted in Hoyer's medium for identification. Guanilo *et al.* (2008) presented a first partial report of that survey, referring to the phytoseiids of the subfamilies Phytoseiinae and Typhlodrominae.

The classification system used in this paper is that of Chant & McMurtry (2003; 2004a, b, 2005a, b, c, 2006, 2007). The setal terminology of Rowell *et al.* (1978) was used for the dorsum, while that of Chant & Yoshida-Shaul (1991) was used for the venter. The terminology used to refer to the different shapes of the spermatheca is that of Muma *et al.* (1970). All measurements are given in micrometres (μm); each measurement corresponds to the average for the number of individuals indicated for each sex of each species, followed (in parentheses) by the respective range. Measurements are provided not only for the new species, but also for species already described, based on specimens collected in this study and/or on type specimens (the latter indicated by square brackets). Dorsal shield width was always taken at the widest level of proscutum. Macrosetae for which measurements are not provided should be considered absent.

The "Departamentos" (major geographic divisions of Peru) corresponding to localities where specimens were found are indicated in bold; coordinates correspond to the exact site of collection in each locality. Abbreviations of collection locations where type material is deposited are: ESALQ-USP (Escola Superior de Agricultura "Luiz de Queiroz", Universidade de São Paulo, Piracicaba, São Paulo, Brazil) and MHN ("Museo de Historia Natural", Lima, Peru). Except where otherwise specified, world distributions are based on Moraes *et al.* (2004).