



Phytoseiid mites of the tribe Paraseiulini Wainstein (Acari: Phytoseiidae) from sub-Saharan Africa

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Abstract

This is the eighth publication of a series on the determination of phytoseiid mites of sub-Saharan Africa. Twenty-three phytoseiid species of the tribe Paraseiulini Wainstein are reported in this paper. They refer to all species of this tribe known to occur in sub-Saharan Africa. Six of these species are described for the first time and 13 species are redescribed. Most of the reported species were collected in cassava habitats in tropical Africa and in other habitats in South Africa. A key is included to help in the separation of the species treated in this paper.

Key words: Biological control, predator, phytoseiid, cassava, taxonomy

Introduction

Cassava is one of the most important food crops grown in sub-Saharan Africa. The Neotropical mite pest *Mononychellus tanajoa* (Bondar), the cassava green mite, was first reported in East Africa in the early 1970's, from where it quickly spread to most sub-Saharan African countries where cassava is widely cultivated (Yaninek 1988). In the early 1980's, the International Institute of Tropical Agriculture (IITA) initiated a program to control *M. tanajoa* biologically (Yaninek & Herren 1988). To evaluate the composition of native phytoseiids, IITA personnel conducted surveys in cassava habitats in several sub-Saharan African cassava-growing countries before and after the introduction of exotic phytoseiids from the Neotropics for the control of that pest. This paper is the eighth of a series dealing with the determination of sub-Saharan African phytoseiid mites, elaborated within the scope of the IITA program for the biological control of *M. tanajoa*. The first six papers dealt with species of the subfamily Amblyseiinae (Moraes *et al.* 2001b; Moraes *et al.* 2006; Moraes *et al.* 2007a; Moraes *et al.* 2007b; Zannou *et al.* 2006; Zannou *et al.* 2007) and the seventh with the species of the subfamily Phytoseiinae (Ueckermann *et al.* 2007).

The objective of the present paper is to report the phytoseiids of the tribe Paraseiulini Wainstein. Redescriptions of known species and descriptions of new species are based mostly on specimens found in the cassava surveys previously reported, with the addition of specimens collected by South African researchers.

Setal nomenclature is that of Rowell *et al.* (1978) and Chant & Yoshida-Shaul (1991) for dorsal and ventral surfaces of the idiosoma, respectively. Idiosomal setal patterns are those of Chant & Yoshida-Shaul (1992). All measurements are given in micrometers; each measurement corresponds to the average for the number of individuals indicated for each sex of each species, followed (in parentheses) by the respective ranges (if measurement is variable). For some of the redescribed species, measurements of type specimens are provided; in those cases, if measurements of specimens collected in this study are also provided, then the measurements of the types are shown in square brackets. Dorsal shield width was always taken at the widest level of the proscutum and ventrianal shield width at level of anus was always taken at the middle part of the anus. Macrosetae for which measurements are not provided should be considered as absent. Abbreviations used for depositories of type specimens and non-type specimens examined are: ESALQ-USP (Escola Superior de Agricultura "Luiz de Queiroz", Universidade de São Paulo, Piracicaba-SP, Brazil), IITAIM (International Institute of Tropical Agriculture Insect Museum; Cotonou, Republic of Benin) and NCA-PPRI (National Collection of Arachnida, PPRI, Pretoria, South Africa). World distribution of each species is based on the surveys corresponding to the present work and on Moraes *et al.* (2004).

Paraseiulini Wainstein

Paraseiulini Wainstein, 1976: 697; Chant & McMurtry, 1994: 243; 2007: 141.

Based on Chant & McMurtry (1994), key characters of the Paraseiulini are: idiosoma well sclerotized; dorsal