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A new species of *Scutopalus* (Acari: Cunaxidae: Cunaxoidinae) from Rio Grande do Sul State, Brazil with a key to world species

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Abstract

Scutopalus tomentosus **sp. nov.** is described and illustrated from *Plantago tomentosa* Lam. (Plantaginaceae) in a vineyard agroecosystem at Dois Lajeados county, State of Rio Grande do Sul, Brazil. This is the first species of this genus described from the Americas. A key to world species is included.

Key words: Cunaxoidini, key, predator, vineyards, agroecosystem

Introduction

Mites of the family Cunaxidae are cosmopolitan predators that occur in soil, leaf litter, compost, moss, plants and stored products (Zhang, 2003). Very little is known about the biology of cunaxids; the life cycle of only seven species of this family has been studied (Castro & Moraes, 2010). Their potential as control agents of plant pests has not been adequately investigated but it has been suggested that mass production of these mites could be hampered by their strong tendency towards cannibalism (Gerson *et al.*, 2003).

Scutopalus was erected by Den Heyer (1980b) with *Scutopalus latisetosus* Den Heyer, 1980 designated as its type species. Twelve species of *Scutopalus* have been described: *Scutopalus abiesae* (Sionti & Papadoulis, 2003), *Scutopalus arboreus* Den Heyer, 1980b, *Scutopalus clavatus* (Shiba, 1978), *Scutopalus latisetosus* Den Heyer, 1980b, *Scutopalus makapalus* (Corpuz-Raros, 1996), *Scutopalus osseus* (Tseng, 1980), *Scutopalus philippinensis* (Corpuz-Raros, 1996), *Scutopalus pradhani* (Gupta & Ghosh, 1980), *Scutopalus rugosus* (Corpuz-Raros, 1996), *Scutopalus smolikensis* (Sionti & Papadoulis, 2003), *Scutopalus trepidus* (Kuznetzov & Livshitz, 1979) and *Scutopalus unguianalis* (Tseng, 1980).

Scutopalus has been reported from Brazil (Zacarias & Moraes 2002; Hernandes & Feres 2006; Castro & Moraes 2007; Castro 2008) but only at a generic level. Several taxonomic studies have treated Brazilian cunaxids (Smiley, 1992; Den Heyer & Castro, 2008a, b, c; Castro & Den Heyer, 2009; Ferla & Rocha, 2012), though none have described species of *Scutopalus*. The aim of this paper is to present the description of the first species of *Scutopalus* from Americas and provide a key to species already known.

Material and methods

Mites were collected from leaves of *Plantago tomentosa* Lam. (Plantaginaceae) observed under a binocular microscope, and mounted in Hoyer's medium on glass slides. Setal notation follows Kethley (1990) as applied by Swift (1996) and modified by Fisher *et al.* (2011). Measurements are given in micrometers (μm), with their range given in parentheses.

Abbreviations are: Attenuate solenidion (*ats*); blunt-pointed rod-like solenidion (*bsl*);; depression tarsi I (*dep*);

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5. Setae f_1 and h_1 on small platelets; ratio c_1:c_2 2.1; chaetotaxy of genua I 4 asl, 5 sts; II 2 asl, 5 sts . *S. latisetosus*—South Africa
- Setae f_1 and h_1 on integument; ratio c_1:c_2 1.1; chaetotaxy of genua I 3 asl, 5 sts; II 1 asl, 5 sts ..... *S. smolikensis*—Greece
6. Dorsal shield smooth and/or punctate 7
- Dorsal shield sparse granulate, rugose or reticulate 11
7. Coxae II and IV with 2 setae 8
- Coxae II and IV with 3 setae 10
8. Setae f_1 and h_1 on integument; setae *mps*, c_1, c_2, d_1, e_1, f_1 setiform; a small subscutum situated posterior to dorsal shield absent 9
- Setae f_1 and h_1 on small platelets; setae *mps*, c_1, c_2, d_1, e_1, f_1 clavate; a small subscutum situated posterior to dorsal shield present ..... *S. clavatus*—Malaysia
9. Setae f_1 on dorsal shield; setae *lps*, *mps*, c_1, c_2, d_1, e_1, f_1 set on tubercles; area between *pt* more heavily sclerotized, forming ridges ..... *S. osseus*—Taiwan
- Setae f_1 on integument; setae *lps*, *mps*, c_1, c_2, d_1, e_1 set normally; area between *pt* normally sclerotized, not forming ridges ..... *S. trepidus*—Ukraine
10. Four pairs of hysterosomal setae around genital shields; long slender platelet laterad genital shield present; with a narrow transverse sclerite behind main shield. ..... *S. philippinensis*—Philippines
- Three pairs of hysterosomal setae around genital shields; long slender platelet laterad genital shield absent; without dorsal sclerites ..... *S. makapalus*—Philippines
11. One or more dorsal sclerites present (behind or lateral to dorsal shield); dorsal shield rugose or reticulate; basifemora IV with one seta; palpal tibiotarsus with six setae present and apophysis absent 12
- Dorsal sclerites absent; dorsal shield sparsely granulate; basifemora IV with two setae; palpal tibiotarsus with five setae and a rod-shaped dorsal apophysis present. ..... *S. unguianalis*—Taiwan
12. Dorsal shield rugose; setae f_1 and h_1 on integument; dorsal setae (except c_2 and h_2) distally rod-like (slightly clavate), with minute barbs; with a narrow transverse shield behind main dorsal shield ..... *S. rugosus*—Philippines
- Dorsal shield reticulate; setae f_1 and h_1 on small platelets; dorsal setae (except c_2 and h_2) broad and serrate; sclerites present lateral and behind dorsal shield ..... *Scutopalus tomentosus* **sp. nov.** Rocha, Skvarla and Ferla, 2013—Brazil

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