A New Species of Amblyseius (Acari: Phytoseiidae) in the State of Bahia, Brazil

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A new species of *Amblyseius* (Acari: Phytoseiidae) in the state of Bahia, Brazil

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Abstract

A new phytoseiid species, *Amblyseius constrictus* Argolo, Oliveira & Moraes sp. nov. (Acari: Phytoseiidae), is described and illustrated. The specimens were collected from tropical ornamentals, cupuacu (*Theobroma grandiflorum* (Willd. ex Spreng.) K.Schum.; Malvales: Sterculiaceae) fruits and from other trees in shaded cacao plantations in the southern coast of the state of Bahia, northeastern Brazil.

Key Words: predatory mites; ornamental plants; tropical fruits; Amblyseinae; taxonomy

Materials and Methods

The commercial cultivation of tropical ornamentals, tropical fruit trees, and cacao has been the basis of the agricultural economy in the coastal region of southern Bahia State. This is one of the largest Brazilian states, located in the northeastern part of the country. Phytoseiid mites are known for their common occurrence on plants and their efficiency as biological control agents of phytophagous mites (Gerson et al. 2003; McMurtry et al. 2013). Fifty-one species of Phytoseiidae were already registered in the state of Bahia (Demite et al. 2014). However, few studies have reported these mites in the coastal region of southern Bahia (Lawson-Balogbo et al. 2008; Souza et al. 2010). The aim of this paper is to describe a new phytoseiid species collected from leaves of tropical ornamentals, cupuacu (*Theobroma grandiflorum* (Willd. ex Spreng.) K.Schum.; Malvales: Sterculiaceae) and other trees in shaded cacao plantations in that region.

Results

*Amblyseius constrictus* sp. nov. (Figs. 1–5).

**DIAGNOSIS**

The new species is characterized by having the dorsal shield smooth; all dorsal, ventral and leg setae smooth and sharp-tipped; sternal shield mostly smooth, with few lateral striae; ventrivial shield vase shaped, mostly smooth, with a profound constriction immediately behind JV1; calyx tubular, slightly constricted near basis; atrium undifferentiated.

**ETYMOLOGY**

The epithet *constrictus* refers to the profound constriction of the ventrivial shield immediately behind JV1.

**DESCRIPTION**

Female (7 Specimens Measured)

Dorsum (Fig. 1)—Dorsal shield smooth; with 14 pairs of lyrifissures and eight pairs of pores; setal pattern 10A:9B; 352 (326–366, 334–352).

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Figs. 1-5. Female of *Amblyseius constrictus* sp. nov. 1. Dorsal surface of idiosoma; 2. ventral surface of idiosoma; 3. chelicera; 4. variations of calyx of spermatheca; 5. genu, tibia, and basitarsus of leg IV.
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336) long and 282 (271–305, 274) wide; setal lengths: j1 31 (30–34, 31), j3 39 (37–41, 41), j4 7 (7–8, 7), j5 7 (6–8, 8), j6 8 (6–8, 8), j2 9 (8–10, 10), j5 7 (6–8, 7), z2 17 (15–18, 15), z4 12 (11–13, 11), z5 7 (7–8, 7), z1 9 (7–11, 11), z4 112 (107–116, 113), z5 223 (214–229, 229), s4 89 (85–92, 92), s2 11 (10–12, 12), s4 10 (9–11, 11), s5 9 (8–11, 8), r3 13 (12–15, 15), r1 10 (8–11, 10). All setae smooth and pointed. Peritreme—Extending beyond level of j1. Venter (Fig. 2)—Sternal shield mostly smooth, with few lateral striae, 3 pairs of setae and 2 pairs of lyrifissures; distances between setae St1–St3 63 (61–64, 64), St2–St2 75 (72–76, 73). Genital shield smooth; distance between St5–St5 73 (69–76, 69). Ventrianal shield vase shaped, mostly smooth, with a profound constriction immediately behind JV1, 113 (98–119, 98) long, 68 (64–76, 76) wide at level of ZV2, and 79 (76–81, 76) wide at anus level, with 3 pairs of pre-anal setae (JV1, JV2 and JV2) and a pair of round pores posteromesad of JV2; setae JV4, JVS, ZV1, and ZV3 on unscerotised cuticle. Ventral setae smooth and pointed. Two pairs of metapodal plates. Chelicera (Fig. 3)—Fixed digit 31 (30–32, 31) long, with 14 (13–15, 15) teeth; movable digit 38 (36–40, 40) long, with 3–4, 3 teeth. Spermatheca (Fig. 4)—Calyx tubular, 16 (14–18, 18) long, slightly constricted near region of fusion with major duct; atrium undifferentiated. Leg manus (Fig. 5)—Sge I 39 (37–43, 40) Sge II 37 (37–40, 40), Sge III 48 (43–55, 43), Sti III 34 (34–37, 34), Sge IV 97 (92–101, 98), Sti IV 61 (58–64, 64), St IV 75 (70–79, 70), all pointed. Chaetotaxy: genu II 1–2/1, 2/0–1; genu III 1–2/1, 2/0–1.

Male

Unknown.

1. — Spermatheca with atrium globular .......................................................... A. fernandezi
1’. — Spermatheca with atrium undifferentiated .............................................. 2
2. — Preanal pores ellipsoidal ...................................................................... A. coffeee
2’. — Preanal pores rounded .......................................................................... 3
3. — Ventrianal shield with a profound constriction immediately behind JV1; calyx of spermatheca with a slight constriction near region of fusion with major duct .......................................................... A. constrictus sp. nov.
3’. — Ventrianal shield without constriction behind JV1; calyx of spermatheca with constriction near region of fusion with major duct .......................................................... A. operculatus

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References Cited


TYPE MATERIAL


REMARKS

This new species is similar to *Amblyseius coffeae* De Leon (1961), *Amblyseius fernandezi* Chant & Baker (1965), and *Amblyseius operculatus* De Leon (1967), in relation to the general measurements and general shape of spermatheca, but it differs from them by having a profound constriction of the ventrianal shield immediately behind JV1, and by having the spermathecal calyx slightly constricted near region of fusion with the major duct. In addition, it differs from *A. coffeae* by having preanal pores rounded (ellipsoidal in *A. coffeae*), from *A. fernandezi* by having z2 longer (in the latter 9–12 according to Denmark & Muma [1989]), and from *A. operculatus* by having spermathecal calyx longer (in the latter 10 according to De Leon [1967], 8 according to Denmark & Muma [1989], and 8–12 according to Gondim Jr. & Moraes [2001]). The following key can be used to separate those species:

1. — Spermatheca with atrium globular .......................................................... A. fernandezi
1’. — Spermatheca with atrium undifferentiated .............................................. 2
2. — Preanal pores ellipsoidal ...................................................................... A. coffeee
2’. — Preanal pores rounded .......................................................................... 3
3. — Ventrianal shield with a profound constriction immediately behind JV1; calyx of spermatheca with a slight constriction near region of fusion with major duct .......................................................... A. constrictus sp. nov.
3’. — Ventrianal shield without constriction behind JV1; calyx of spermatheca with constriction near region of fusion with major duct .......................................................... A. operculatus