ISSN 0373-5680 (impresa), ISSN 1851-7471 (en línea) Revista de la Sociedad Entomológica Argentina 73 (1-2): 61-63, 2014

# First record of *Typhlodromus (Anthoseius) transvaalensis* (Acari: Phytoseiidae) from Argentina

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**Primer registro de *Typhlodromus (Anthoseius) transvaalensis* (Acari: Phytoseiidae) de la Argentina**

**RESUMEN.** Se cita por primera vez de la Argentina a *Typhlodromus (Anthoseius) transvaalensis* Nesbitt (Acari: Phytoseiidae) sobre *Capsicum annuum* L. y *Lycopersicum esculentum* L. (Solanaceae) en la localidad de Concordia, Entre Ríos. Se proporcionan datos morfométricos de los ejemplares argentinos.

**PALABRAS CLAVE.** Ácaros fitoseidos. *Typhlodromus*. Cultivos hortícolas. Solanaceae.

**ABSTRACT.** We report for the first time from Argentina *Typhlodromus (Anthoseius) transvaalensis* Nesbitt from *Capsicum annuum* L. and *Lycopersicum esculentum* L. (Solanaceae) in Concordia, Entre Ríos. Morphometric parameters of Argentine specimens are provided.

**KEY WORDS.** Phytoseiid mites. *Typhlodromus.* Horticultural crops. Solanaceae.

The family Phytoseiidae Berlese (Acari: Mesostigmata) includes the most frequent predatory mites found on plants. Most of them are predaceous; some species are effective biocontrol agents in greenhouses or open field. They are used to control spider mites, thrips, whiteflies and other pests in several parts of the world (Helle & Sabelis, 1985; Zhang, 2003; Gerson & Weintraub, 2007).

The family Phytoseiidae has three sub-families: Amblyseiinae, Phytoseiinae and Typhlodromiinae. In the latter, the subgenus *Typhlodromus (Anthoseius)* De Leon, comprising 322 species, is one of the largest within the family (Moraes, *et al*., 2004; Rahmani *et al*., 2010; Jafari *et al*., 2011). Guanilo *et al.* (2008) give important taxonomic information of phytoseiids mites in northern Argentina, providing a key for their identification and reporting the species that belong to Amblyseiinae and Phytoseiinae. In this work, *Typhlodromus (Anthoseius) transvaalensisis* is cited for the first time from Argentina. We also present morphometric parameters in order to characterize Argentine specimens.

Mites were collected on *Capsicum annuum* L. and *Lycopersicum esculentum* Mill. (Solanaceae), preserved in alcohol 70% and then mounted in Hoyer´s medium for identification. The classification system used in this paper is that of Chant & McMurtry (1994, 2007). The system of nomenclature fo-llows Rowell *et al.* (1978) for dorsal idiosomal setae and Chant &Yoshida-Shaul (1991) for ventral idiosomal setae. All measurements are given in micrometres (µm). Setal form is designated *sensu* Muma & Denmark (1970). Each measurement corresponds to the average for the number of individuals, followed (in parentheses) by the respective ranges.

***Typhlodromus (Anthoseius) transvaalensis* (Nesbitt 1951)**

Female. (3 specimens measured)

Dorsum (Fig.1). Dorsal shield reticulate; 376

Recibido: 27-IX-2013; aceptado: 03-II-2014

(360-392) long and 237 (240-235) wide at level of s4, j1 26 (24-29), j3 41 (40-43), j4 32, j5 33(31-35), j6 35 (32-38), J2 48, J5 8 (7-10), z2 23 (22-24), z3 42 (41-43), z4 45 (43-47), z5 28 (27-29), Z4 60 (58-62), Z5 64 (62-67), s4 48 (48-49), s6 52(51-53), S2 60 (60-61), S4 60 (58-62), S5 9 (9-10), r3 34 (33-35), R1 45 (44-46); j4, j5, j6, z2 and z5 plumose with blunt tip, J5-S5 smooth and the rest of setae plumose and knobbed (Fig.5).

Peritreme. Extending near coxa I. (Fig. 2)

Venter (Fig. 2). Sternal shield smooth, with two pairs of setae and posterior margin V-shaped, the third pair of setae on interscutal membrane and the fourth pair of setae on oval metasternal shields. Distance between st1-st3 81 (80-85) and st2-st2 70 (63-82). Genital shield smooth, distance between st5-st5 81 (81-82). Ventri-anal shield pentagonal, with anterior margin slightly convex and lateral margins slightly concave between JV2-JV4, JV3 absent; 135 long (130-141) and 79 (77-81) wide at level of ZV2 with three pairs of preanal setae and gv2 pore. Three pairs of setae, and a plumose and knobbed JV5. Two pairs of metapodal shields.

Chelicera (Fig. 3): fixed digit 32 (32-33) long with two sub-apical teeth, mobile digit 30.

Spermatheca (Fig. 4) slightly sclerotized, calix horn like, atrium, duct minor and major difficult to see.

Legs: on leg IV three knobbed macrosetae on genu 26 (25-27), tibia 33 and tarsus 42 (41-42).

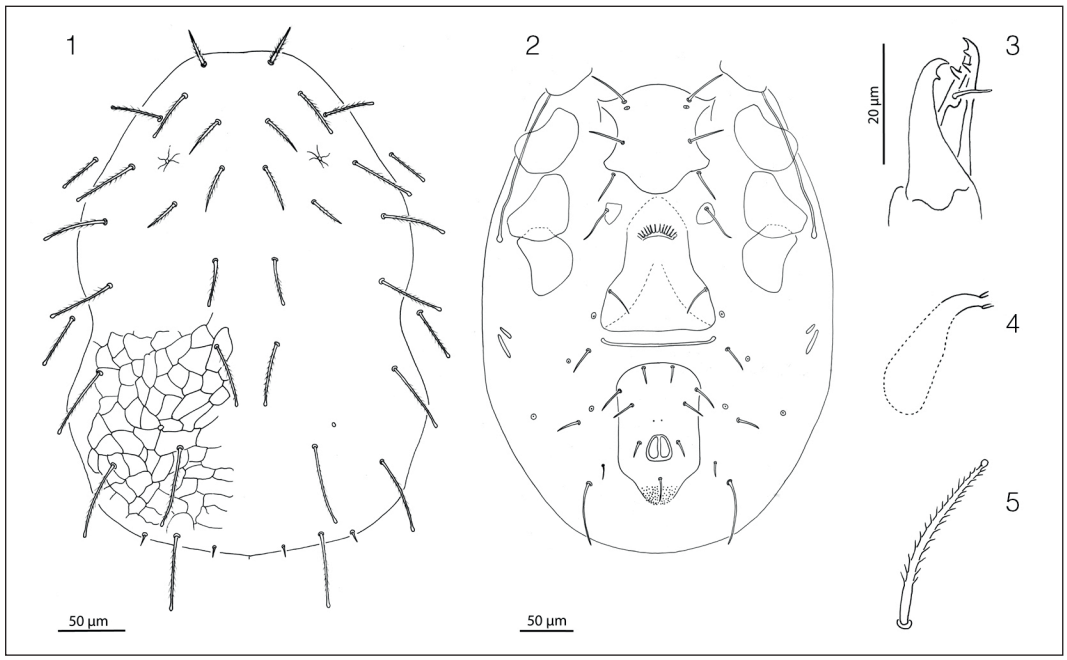
Male: not found.

Junior synonyms: *Typhlodromus (Anthoseius) jackmickleyi* De Leon, 1958: 75 and *Typhlodromus (Anthoseius) pectinatus* Athias-Henriot,1960: 65; Chant *et al*., 1974: 1265 Denmark & Muma, 1973: 269; Muma & Denmark, 1970: 141.

**Other names**: *Kampimodromus transvaalensis* Nesbitt, 1951: 55 —original designation, *Typhlodromus (Typhlodromus) transvaalensis*: Chant, 1957: 528; *Neoseiulus transvaalensis*: Muma, 1961: 295; *Typhlodromus (Neoseiulus) transvaalensis*: Pritchard & Baker, 1962: 218; *Mumaseius transvaalensis*: Abbasova, 1970: 1412; *Anthoseius (Anthoseius) transvaalensis*: Wainstein & Vartapetov, 1973: 103; *Clavidromus pectinatus*: Muma, 1961: 296.

**Material Examined. ARGENTINA. Entre Ríos:** Concordia, 26-10-2012, Castresana col., 2 females on *Capsicum annum* L. (Solanaceae); Chajarí, 22-02-2013, Castresana col., 1 female (MLP) on *Lycopersicum esculentum* (Solanaceae).

Hernandes *et al*. (2011) published a biogeographical analysis of the sub-genus *Typhlodromus (Anthoseius)* De Leon and found that *T. (A.) transvaalensis* has a worldwide distribution. Amitai & Swirski (1978) found this species




**Figs. 1-5.** 1, dorsal view with setal pattern; 2, ventral plates and peritreme; 3, chelicera; 4, spermatheca; 5, detail of plumose and knobbed setae.

in many habitats including stored products, this fact could explain its wide distribution. Measurements of dorsal shield of Argentine specimens are 5% longer and 30% wider than those provided by Schicha (1981), while ventri-anal shield is 6% narrower and 21% longer. With this record 48 species of phytoseiids mites are reported from Argentina.

## ACKNOWLEDGEMENTS

We thank Mrs. María Cristina Estivariz for performing drawings; L. Giambelluca and Julia Roux for technical support; and two anonymous reviewers.

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