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PHOTOSEIIDAE (ACARI) OF LA RÉUNION ISLAND

by Serge QUILICI*, Edward A. UECKERMANN**, Serge KREITER ***
and Jean-François VAYSSIÈRES*

SUMMARY: Twenty three species of the family Phytoseiidae are known from La Réunion Island, of which 14 are newly recorded (10 Amblyseiinae, 2 Phytoseiinae and 2 Typhlodrominae). The sub-family Typhlodrominae is mentioned for the first time from the island. Additional host plants and locality records are also given for 5 species of Amblyseiinae already recorded, as well as for the newly recorded species. Brief descriptions of all the species are given.

INTRODUCTION

The phytoseiid fauna of La Réunion Island is still poorly known. In a study of the Tetranychidae and their predators, GUTIERREZ & ETIENNE (1986) mentioned only two species of Phytoseiidae: Amblyseius ovaloides (now Euseius ovaloides) Blommers and Phytoseiulus persimilis Athias-Henriot. In a more recent study, QUILICI et al. (1997) recorded 10 species from the island (8 Amblyseiinae & 2 Phytoseiinae). This small island shows a high level of endemism. Thus, there was a need for further investigations concerning the phytoseiid mite fauna of La Réunion Island and this paper gives new data on this subject.

Material and methods

Predatory mites were collected from various cultivated or uncultivated biotopes in 1996 and 1997, during different seasons.

Predatory mites were collected by beating the foliage of host-plants over a black plastic plate (diameter: 50 cm) set on a wooden handle (GROUT, pers. comm.). This system allows a better locating of collected mites after beating. Mites were then gently transferred with a fine paintbrush into small vials containing 70% alcohol. For the majority of samples, except those collected on vegetable crops, a standard methodology was used. A sampling unit consisted of five beatings of the vegetation for a given locality and...
date. Mites were cleared with lactic acid, mounted on slides using Hoyer's medium and then identified using a phase contrast microscope.

Specimens of each species are deposited in the mite collections of the three institutes to which the four co-authors belong. Numbers at the end of each collecting locality refer to S. Quilici’s collection (RQ) or to J.-F. Vaysseïres’ collection (RVA).

The following abbreviation are used in this manuscript: F for female, M for male and N for nymphs.

RESULTS AND DISCUSSION

Fourteen phytoseiid species newly recorded for La Réunion Island are mentioned (10 Amblyseiinae, 2 Phytoseiinae & 2 Typhlodrominae). This brings to 23 the number of phytoseiid species known from La Réunion Island.

**Amblyseiinae**

*Amblyseius herbicolus* (Chant)


*Amblyseius deeleoni*, Muma & Denmark, in Muma et al., 1970: 68 (syonymy, in agreement with Daneshvar & Denmark, 1982: 5); *Amblyseius impactus*, Chaudri, 1968 (Daneshvar & Denmark, 1982: 5).

This species can be distinguished by the following combination of characters: Dorsal shield smooth, setal arrangement typical for *Amblyseius*, setae j1, j3, s4, Z4 and Z5 long to very long; ventrianal shield elongate and vase-shaped with lateral margins flaring markedly at anus to make shield widest at this point, with 3 pairs of preanal setae and a pair of pores; spermatheca with parallel-sided cervix; leg IV with 3 long macrosetae; spermatodactyl L-shaped, but with a small closed-angle.

For the collection data and remarks on this species see Quilici et al. (1997).

*Amblyseius largoensis* Muma


This species can be recognized by the following combination of characters: Dorsal shield smooth weakly-sclerotized with setal arrangement typical for *Amblyseius*; setae z2, z4, Z1 and S2 minute, equal to one-another; setae j1, j3, s4, Z4 and Z5 whiplike and long to very long; remaining setae minute; elongate and vase-shaped ventrianal shield with lateral margins flaring markedly at anus to make shield widest at this point, with 3 pairs of preanal setae and a pair of pores; spermatheca with parallel-sided cervix; leg IV with 3 long macrosetae; spermatodactyl L-shaped, but with a small closed-angle.

For the collection data and remarks on this species see Quilici et al. (1997).

*Amblyseius neolargoensis* Van der Merwe


The dorsal setae of La Réunion specimens are shorter than those of the South African specimens, placing it in the range of *A. largoensis* (Muma) and *A. herbicolus* (Chant). However, the spermatheca and position of preanal pores are typical of *A. neolargoensis*.

This species can be distinguished by the following combination of characters: Dorsal shield smooth, setal arrangement typical for *Amblyseius*, setae j1, j3, s4, Z4 and Z5 long to very long with the rest very short; peritremes reach antero-lateral to setae j3; ven-
trianal shield with preanal pores almost between setae JV2, as opposed to closely associated with and posterior of setae JV2 in *A. largoensis* and *A. herbicolus*; spermatheca with cervix slender and almost parallel-sided, as opposed to broader and parallel-sided in *A. largoensis* and flared towards vesicle in *A. herbicolus*; fixed cheliceral digits with 9 teeth in *La Réunion* specimens (as opposed to 11 in the South African specimens) and movable digit with 3 or 4 teeth; macrosetae present on Sgel, II, III and IV, Sti III and IV and StIV.

**Specimens examined:** Sainte-Marie, April 24, 1997, 1 F on *Sida* sp. (RQ 3641); Bassin Plat, Jan. 24, 1998, 3 F on *Tetranychus* sp., on *Sechium edule* (Jacq.) Sw. (RVA 623).

*Amblyseius tama tavensis* Blommers


This species belongs to the *tama tavanaensis* group within the subgenus *Amblyseius* (Denmark & Muma, 1989). It can be distinguished by the following combination of characters: Dorsal shield smooth with setal arrangement typical for *Amblyseius*; setae z2, z4, Z1, S2, S4, S5 and most j minute; setae j1, j3, s4, Z4 and Z3 whiplike and long to very long; setae s4, Z4 and Z5 and macrosetae on leg IV very long, with dimensions between those of *A. anomalus* Van der Meerwe and *A. obtusus* Koch; ventrianal shield smooth, moderately elongate and perfectly coat of arms-shaped, with 3 pairs of preanal setae and a pair of very distinct pores; elongate fundibuliform spermathecal cervix with a ductus major making an elongated and enlarged vesicle just under the atrium; L-shaped spermatodactyl with a weakly-bifurcate toe on the foot.

**Specimens examined:** Bassin Plat, Dec. 11, 1996, 1 F on *Carica papaya* L. (RQ 3312); Entre-Deux, March 11, 1997, 1 F on *Parthenium hysterophorus* L. (RQ 3607); western area (Savannah, Etang-Salé), April to June, 1997, 1 F, 2 N on *Mangifera indica* L. (RQ 3711).

This species is known from Madagascar and Nigeria (Denmark & Muma, 1989) and from various provinces of South Africa (El-Banhawy, 1997). In Nigeria, it was found associated with *Tetranychus neocalendonicus* André, *Oligonychus gossypii* (Zacher) and *Brevipalpus californicus* (Banks) (Matthysse & Denmark, 1981). In Madagascar, it has been collected on *Citrus limon* (L.) Burm. f., *Phaseolus* sp., *Leonotis* sp. and *Ipomoea* sp. (Denmark & Muma, 1989), while it was found occasionally on citrus in the Natal and Western Cape provinces of South Africa (El-Banhawy, 1997). In the laboratory, *A. tama tavanaensis* has been successfully reared on *Oligonychus coffeae* (Nieter) and *T. neocalendonicus* plus pollen and honey (Blommers, 1976).

*Euseius hima* (Pritchard & Baker)


Although the preanal setae of this species are not transversely aligned, Moraes et al. (1989) considered it as a *Euseius* sp., as it fits all the other features of the genus, as defined by McMurry (1983).

This species may be recognized by the following characters: Dorsal shield slightly reticulated with most setae smooth and equal to subequal in length, except for setae Z5 which are the longest and slightly serrated and J5 the shortest; lateral setae slightly longer than the dorso-central setae; peritremes reach to level of setae z2; spermatheca with proximal two-thirds of cervix broad but suddenly narrows before it joins the vesicle; leg IV with 3 macrosetae, however, those on the tibia and genu are not distinctly long.

**Specimens examined:** Hauts de Trois-Bassins, Chemin forestier, March 26, 1997, 1 F on *Rubus alcefolius* L. (RQ 3185); Les Colimaçons, March 26, 1997, 1 F, 1 M on *R. alcefolius* (RQ 3191); Salazie, April 30, 1997, 3 F on *Solanum auriculatum* Aiton (RQ 3208 & 3212), 2 F on *R. alcefolius* (RQ 3209), 1 F on *Lantana camara* L. (RQ 3210); Piton Sainte-Rose, May 28, 1997, 1 F on *L. camara* (RQ 3230).
Euseius ovaloides (Blommers)

Amblyseius (Amblyseius) ovaloides BLOMMERS, 1974: 147; Amblyseius ovaloides, SCHICA & GUTIERREZ, 1985: 177.

This species belongs to the genus Euseius and can be distinguished by the following combination of characters: Dorsal shield reticulate anterolaterally with 17 pairs of short setae, except j1 and moreover Z5; ventri-anal shield constricted anteriorly, with arrangement of the three preanal setae characteristic of Euseius and one pair of visible pores; spermatheca with major duct ill-defined, a small atrium, a tubular cervix, suddenly widened terminally; 3 macro setae on leg IV and 2 on leg III.

SPECIMENS EXAMINED: La Confiância, April 30, 1997, 3 F, 2 M, 1 N on Rubus alcaefolius L. (RQ 3216); Bassin Plat, Dec. 11, 1996, 4 F, 3 N on Carica papaya L. (RQ 3312); Bassin Martin, Dec. 11, 1996, 1 N on Vitis vinifera L. (RQ 3314) and 3 F, 3 N on C. papaya (RQ 3315); Bassin Plat, Jan. 8, 1997, 3 F on Zea mays L. (RQ 3326); Les Colimaçons, Dec. 31, 1996, 2 F on Prunus persica (L.) (RQ 3329); Ravine des Cabris, Jan. 15, 1997, 1 F on Terminalia catappa L. (RQ 3338) and 1 F on Syzygium cumini (L.) (RQ 3340); Entre-Deux, March 11, 1997, 3 F on Parthenium hysterophorus L. (RQ 3607) and 2 F on Ageratum conyzoides L. (RQ 3611); Sainte-Marie, April 24, 1997, 2 F on Sida sp. (RQ 3641), 2 F on Panicum maximum L. (RQ 3646); Grande Chaloupe, April 24, 1997, 4 F, 1 N on Phyllanthus sp. (RQ 3648), 1 F, 1 N on Jacaroba curcas L. (RQ 3650).

Euseius rhusi (Van der Merwe)


Euseius rhusi is characterized by the almost smooth oval dorsal shield with all the dorsal setae very short (9–13 μm), except for setae j1 (28 μm) and Z5 (25 μm) which are the longest; peritremes reach antero-lateral to setae j1; spermatheca with proximal fourth bulged and the rest very slender but flared before it joins the vesicle; fixed cheliceral digit with 3 teeth and the movable digit with 1 tooth; leg IV bears 3 macrosetae.


Kampimodromus spinosus (Meyer & Rodrigues)


The reticulated, rectangular dorsal shield with most dorsal setae serrated, except for setae j1, j4, j5, Z5 and Z5 (S4 absent); setae Z5, Z4, S4, S2, S4, j3 and z4 (in that order) which are much longer than rest of dorsal setae; the spermatheca with lopsided, swollen cervix which suddenly narrows and then flares towards the vesicle; the fixed cheliceral digits bearing 9 teeth and the movable digits bearing 3 teeth and leg IV bearing 2 macrosetae (St and Sge) terminating in small knobs, distinguishes this species from the other species in this genus.


Neoseiulus barkeri Hugues


This species can be identified by the following combination of characters: Dorsal shield sclerotized, mostly smooth throughout, anterolaterally with few striae; smooth and short setae, except Z4 and Z5 which are longer and serrated; ventri-anal shield only slightly longer than wide, subpentagonal, subquadrate in the preanal area, with lateral margins convex, 3 pairs of preanal setae and a pair of small pores between and caudad to the third setae; spermatheca with broad major duct, bifid and narrow atrium as wide as cervix base and almost tube-like, or truncate cone-shaped cervix, which may be bulged before it joins the atrium, with 1 side straight and the other curved; leg IV with 1 macrosetae on basitarsus; ventri-anal shield of male with 4 pairs of preanal setae and a pair of small pores.

This species has been used largely in the last twenty years for biocontrol of thrips, particularly the onion thrips (Thrips tabaci) on glasshouse cucumber (HANSEN & GEYTI, 1987; HANSEN, 1988; BRODSGAARD & HANSEN, 1992) and the western flower thrips (Frankliniella occidentalis) (Bakker & Sabelis, 1986).

This species has not been officially introduced in La Réunion within a classical biocontrol program. However, as it is commercially available in Europe, its presence on the island might be the result of releases of mass-produced mites on crops.

Neoseiulus bayviewensis (Schicha)

According to SCHICHA (1977) this species is closely related to N. bellinus (Womersley) and N. thwaitiei (Schicha). However, the following combination of characters distinguishes it from these two species: Dorsal shield smooth, as opposed to completely reticulated in N. bellinus and only laterally reticulated in N. thwaitiei; sternal shield with three pairs of setae in N. bayviewensis and N. bellinus, but on the interscutal membrane in N. thwaitiei; fixed and movable cheliceral digits with three and two teeth, respectively in N. bayviewensis and N. thwaitiei while N. bellinus has only one tooth on the movable digit; cervix of sperma­theca bell-shaped; leg IV with 2 short, pointed macrosetae on Sge and Sti and a long macroseta (almost twice the length of latter 2) on St, with a small knob distally; N. thwaitiei has only 2 macrosetae with the 1 on Sge knobbed distally (Sti absent); N. bellinus has only 1 long pointed macroseta on St.

Neoseiulus fallacis (Garman)

The characters of La Réunion specimens of N. fallacis are: Dorsal shield reticulated; elongate dorsal setae and setae Z4 and Z5 longest and serrated; other setae moderately long; ventral shields reticulated; sternal shield with posterior margin straight and ventrianal shield triangular with elliptical preanal pores close together almost between setae JV2; ventrianal shield of males with three pairs of preanal setae; spermatheca cup-shaped; fixed cheliceral digit with 3 subapically and 2 proximal teeth and movable digit with 3 teeth; leg IV with one long macroseta.


Neoseiulus scapilatus (Van der Merwe)

According to SCHICHA (1977) setae R1 situated on the dorsal shield as one of the distinguishing features of this species. However, subsequent collections included specimens with R1 on the interscutal membrane. N. scapilatus can be differentiated by the following combination of characters: Lightly imbricated dorsal shield with lateral setae slightly longer to twice as long as dorsocentral setae, setae Z4 and Z5 are slightly serrated, equally long and also the longest setae; peritremes reach antero-lateral to setae j1; spermatheca with atrium bulged, proximal third of cervix slender and the rest a broad tube which flares before it joins the vesicle; fixed cheliceral digit with 3 teeth and the movable digit with 1 tooth; leg IV with 2 macrosetae, absent from Sti.
Specimens examined: Les Colimaçons, March 26, 1997, 1 F on Litsea chinensis Lam. (RQ 3187).

*Neoseiulus teke* (Pritchard & Baker)


This species exhibits the following characters: Dorsal shield reticulated, with all setae long and serrated, except for setae j1 and j5; ventral shields also reticulated; peritremes slightly shorter in the Réunion specimens, reaching antero-lateral level of setae j3 oppose to antero-lateral level of j1 in the African specimens; spermatheca similar to that of *N. scapilatus*; fixed chelicera digit with 4 teeth and the movable digit with 2 teeth; leg IV with 1 macroseta on basitarsus.


Paraphytoseius multidentatus Swirski & Shechter


*Paraphytoseius bhadraliensi* (Gupta), *P. narayanani* (Ehara & Ghai), *P. nicobarenensis* (Gupta), *P. orientalis* (Narayanath, Khair & Ghain), *P. parabilis*, *P. santurcensis* DeLeon, *P. subtropicus* (Tseng) and *P. urumanus* (Ehara) (Synonymies in agreement with MATTHYSSE & DENMARK, 1981: 342).

This species can be identified by the following combination of characters: Dorsal shield with pores near z5 very pronounced; large serrate setae j1, j3, Z4, Z5, s4, r2, R1 long to very long; remaining setae smooth and short; ventral shield elongate with a pair of minute pores; leg IV with 4 distinct rod-shaped macrosetae; spermatheca with a long and slender major duct, a knob-like atrium and a platter-shaped cervix; spermatodactyl short.


*Phytoscutus reunionensis* (Ueckermann & Loots)

*Amblyseius (Trochoseius) reunionensis* UECKERMANN & LOOTS, 1985: 132.

CHANT & McMURTRY (pers. comm.) place PRITCHARD & BAKER’s (1962) *Iphiseius (Trochoseius)* species under the genus *Phytoscutus*.

*Phytoscutus reunionensis* can be differentiated from the other species in the genus by the following combination of characters: setae z2 longer than distances to setae z4, but shorter than z2 of *P. eugenus* (Ueckermann & Loots); ventral shield squarish, reticulated and bears three pairs of setae; opisthogastric integument with 3 pairs of setae (ZV1, ZV3 and JV), JV5 absent; 2 pairs of metapodal shields present with one very small and the larger one ring-like; cervix of spermatheca funnel-shaped; macrosetae present on Sge II, III and IV, Sti III and IV and St IV.

For the collection data and remarks on this species see QUILICI et al. (1997).
Phytoseiulus persimilis Athiás-Henriot, 1957

This species belongs to the genus *Phytoseiulus* and can be identified by the following combination of characters: Dorsal shield lightly or moderately sclerotized and creased or imbricate; dorsal setae j3, z4, s4, Z1, Z4, Z5,j4, j5 and j6 long and weakly serrated, the remaining dorsal setae being short to very short; ventrianal shield oval, creased and with a pair of minute pores and no preanal setae; spermatheca with a cervix vesicular, flaring towards the vesicle, its proximal part swollen, atrium minute, major duct cylindrical; 3 distinguishable macrosetae on the leg IV, St IV being smooth; spermatodactyl of typical form, foot terminal, heel obscure, and lateral process small, but with toe large and spatulate; ventrianal shield of the male with 3 pairs of preanal setae.


Proprioseiopsis tulearensis (Blommers)

*Proprioseiopsis* (*Proprioseiopsis*) tulearensis **BLOMMERS, 1976:** 100.

*P. tulearensis* belongs to the genus *Proprioseiopsis* Muma, 1961, in which setae J2 are absent and genu II bears eight setae. This species can be identified by the following combination of characters: Dorsal shield brownish and smooth, not exceptionally sclerotized; setae short except s4, Z4 and Z5; ventrianal shield midly imbricate, moderately elongate, coat of arms-shaped, with a slight constriction in the lateral part of the anal area, 3 preanal setae and small pores in the middle; spermatheca with a long major duct, constricted in the middle, a short atrium and a cervix caliciform; 3 moderately long macrosetae on leg IV and shorter ones on genu II and III.

*Specimens examined:* Hauts de Trois-Bassins, Chemin forestier, March 26, 1997, 1 F on *Solamum auriculatum* Aiton (RQ 3184); Sans Souci, April 16, 1997, 1 F on *Rubus alcaefolius* L. (RQ 3195); Petite France, April 16, 1997, 2 F on *R. alcaefolius* (RQ 3202); Basse Vallée, May 14, 1997, 1 F on *Litsea chinensis* Lam. (RQ 3218); Bassin Plat, Jan. 8, 1997, 6 F on *Capsicum frutescens* L. (RQ 3319) and 3 F on *Solamum nigrum* L. (RQ 3320); western area (Savannah, Etang-Salé), April to June, 1997, 1 F on *Mangifera indica* L. (RQ 3711).

Typhlodromips reptans (Blommers)

*Amblyseius* (*Amblyseius*) reptans **BLOMMERS,** 1974: 145.

*This species belongs to the genus Typhlodromips* and can be recognized by the following combination of characters: Dorsal shield laterally reticulate with setae rather short except Z4 and Z5, which are moderately long and serrated; ventrianal shield pentagonal with 3 pairs of preanal setae and 2 distinct pores; spermatheca with a short atrium and a cervix long and slender, parallel-sided for most of its length; 3 long macrosetae on leg IV; 2 macrosetae on leg III and one on genu II and I longer than normal setae but more dagger-like; ventrianal shield fused with peritremal shields of the male with 3 pairs of preanal setae and 5 pairs of pores; spermatodactyl process L-shaped.

*Specimens examined:* Sans-Souci, April 16, 1997, 1 F on *Lantana camara* L. (RQ 3193), 5 F, 1 M on *Rubus alcaefolius* L. (RQ 3195); Salazie, April 30, 1997, 1 F on *R. alcaefolius* (RQ 3209), 1 F on *Solamum auriculatum* Aiton (RQ 3212); Piton Sainte-Rose,

Phytoseiinae

Phytoseius (Pennaseius) amba Pritchard & Baker


This species belongs to the P.hongkongensis group, according to Denmark (1966), and can be recognized by the following combination of characters: Dorsal shield slender and smooth with dorsal setae j1, j3, z3, Z4, Z5, s4, s6 and r3 long to very long and serrated, the rest are smooth and very short; peritremes reach antero-lateral to setae j3; slender ventrianal shield constricted laterally, with preanal pores; sternum! shield with posterior margin slightly convex; spermatheca with a broad major duct, short broad atrium, cervix slender proximally but strongly flared towards vesicle; fixed and movable cheliceral digits with 2 and 1 teeth, respectively; leg IV with four macrosetae, those on St, Sti and Sge are irregularly expanded and distally knobbed (variable) but the one on the tarsus is only knobbed distally.

Specimens examined: Petite France, April 16, 1997, 4 F on Rubus alcaefolius L. (RQ 3202).

It is known from Zaire, Ruanda-Burundi, South Africa, Zimbabwe, Madagascar, Nigeria and Kenya, where it was collected on various plants.

Phytoseius (Phytoseius) crinitus Swirski & Shechter


This species is one of the two species belonging to the crinitus group, according to Denmark (1966), and was classed by this author in the subgenus Dubininellus. However, Chant & McMurtry (1994) recognize only 3 species groups in this genus and consider Phytoseius (Dubininellus) Wainstein, 1959 as a synonym of the horridus species group Denmark. This species can be distinguished by the following combination of characters: Dorsal shield chitinized, reticulated and bearing 15 pairs of setae; setae s4 much longer than the remaining setae of the dorsal shield; s4 > Z4 > Z1 > Z5 and all these setae flat, broad, serrated-plumose, with a long slit or line dividing each lengthwise; the lateral margins of the ventrianal shield are constricted peristiod of the 3 pairs of preanal setae; spermatheca elongated with cervix longer than broad, slightly constricted before the vesicle, with a bulbous atrium, thick major duct, large receptacle and minor duct; leg IV with three spatulate macrosetae; short spermatoactyl L-shaped with a small closed-angle.

Specimens examined: Hauts de Trois-Bassins, Chemin forestier, March 26, 1997, 2 F on Rubus alcaefolius L. (RQ 3185); Salazie, April 30, 1997, 1 F on R. alcaefolius (RQ 3209); Ravine des Cabris, Jan. 15, 1997, 1 F on Rubus idaeus L. (RQ 3341).

P. crinitus was previously known only from Hong Kong, where it was recorded on various plants: Psidium guajava L., Fortune (la sp., Ficus hirta Vahl, Celtis chinensis Bunge, Rhodomyrtus tomentosa (Aiton) Hassk., and Homalium conchinchinensis (Lour.) Druce (Swirski & Shechter, 1961; Amitai & Swirski, 1966; Denmark, 1966; Swirski & Amitai, 1966).

Phytoseius (Phytoseius) intermedius Evans & McFarlane


Most setae on the elongated dorsal setae are serrated, except for setae j4, j5, j6, J5 and z5, setae s4, s6, Z4 and Z5 are the longest, setae J2 and R1 are absent; peritremes reach antero-lateral to setae j1; vase-shaped ventrianal shield without preanal pores; leg IV devoid of macrosetae.
For the collection data and remarks on this species see Quilici et al. (1997).

**Platyseiella longicervicallis** (Moraes & McMurtry)


Platyseiella longicervicallis differs from the other species in this genus in that setae r3 and N1 are situated on the interscutal membrane and ventrianal shield, respectively; ventrianal shield without preanal pores. This species and *P. platypilis* (Chant) have the absence of setae J2 and R1 in common.

For the collection data and remarks on this species see Quilici et al. (1997).

**Typhlodrominae**

*Kuzinellus scytinus* (Chazeau)


This species belongs to the genus *Kuzinellus* of the tribe Paraseiulini Wainstein (CHANT & McMURTRY, 1994) and can be recognized by the following combination of characters: Dorsal shield toughly sclerotized, squamose on the opisthosoma; setae smooth and medium-sized, except Z4 and Z5 which are longer, serrated and distally dilated in a subcircular lobe; ventrianal shield smooth, subpentagonal with 4 pairs of preanal setae and a pair of central pores; spermatheca with a major duct enlarged distally, cervix proximally slender but gradually flare towards the vesicle; genu II with 8 setae and leg IV with 3 distally knobbed macrosetae.

**SPECIMENS EXAMINED:** La Confiance, April 16, 1997, 1 F on *Rubus alcaefolius* L. (RQ 3216).

Described in the genus *Kampimodromus* by Nesbitt (1951), this species is now assigned to the subgenus *Anthoseius* De Leon of the genus *Typhlodromus*, and the species group *transvaalensis* Schicha & Corpuz-Raros by Chant & McMurtry (1994). *T. transvaalensis* appears to be widely distributed (MUMA & DENMARK, 1970; CHANT & McMURTRY, 1994). In South Africa, it is found occasionally on citrus in the Northern Province of Zebediela (El-Banawy, 1997). According to MUMA & DENMARK (1970), the species is unusual, as it can be found on the ground in litter, above ground on various species of trees and shrubs, and occasionally on mammals. It prefers habitats with decaying organic matter and nothing is known about its food habits.

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