

THE GENUS *PARAPHYTOSEIUS* SWIRSKI AND SHECHTER WITH A NEW
SUBGENUS AND ONE NEW SPECIES FROM INDIA

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ABSTRACT

The genus *Paraphytoseius* Swirski and Shechter is revived. *Tropicoseius*, a new subgenus under *Paraphytoseius*, is erected to embrace a new species.

INTRODUCTION

The genus *Paraphytoseius* was erected by Swirski and Shechter (1961) with *Paraphytoseius multidentatus* Swirski and Shechter (1961) as its type. But Chant (1965), while reviewing the genera under Phytoseiidae, synonymised it with *Amblyseius* Berlese. Although *Paraphytoseius* bears similarities with *Amblyseius* in characters, viz. presence of 4 pairs of anterior lateral setae, Sub lateral setae present on lateral integument, sternal shield with 3 pairs of setae, 4th pair present on metasternal plates, ventrianal shield with 3 pairs of preanal setae and usually 4 pairs of setae present on postero-lateral integument, but the characters, viz. elongated body, dorsal shield leaves some part of post dorsum uncovered, usually 13 pairs of setae present on dorsal shield of which i_3 , s_4 , z_4 and z_5 always long, thick and serrate, presence of notch on dorsal shield at the level of s_4 , presence of a pair of large pores associated with z_5 , presence of 2 pairs of post lateral setae and macrosetae on leg IV always long with spatulate tip are some of the unique features which are neither universally present in *Amblyseius* nor are met with constantly in any known genera

under Phytoseiidae. All these warrant to keep these group of species separately and, hence, the genus *Paraphytoseius* is re-established to accommodate the species viz. *multidentatus* Swirski and Shechter (1961), *orientalis* Narayanan, Kaur and Ghai (1960), *horrifera* Pritchard and Baker, (1962), *santurcensis* De Leon (1965), *urumanus* Ehara (1967), *bhadrakaliensis* Gupta (1970).

Now, the author collected another related species bearing characters viz. presence of S_2 and thus making the total number of setae on dorsal shield to 14 pairs (13 pairs present in other known species), s_2 and s_3 being thick and serrate (minute in other known species) and presence of 2 pairs of metapodal plates (single pair in other species). Because of the presence of these combination of characters, this species could not be accommodated under subgenus *Paraphytoseius s. str.* and, hence, a new subgenus *Tropicoseius* is erected to accommodate this new species.

In view of this, the genus *Paraphytoseius* is re-defined, key to the subgenera is provided and a new species is described to serve as type of the subgenus.

The measurements given in the text are in microns. The material treated in this paper were collected by the author. Setal nomenclature as that of Chant and Hansell (1971) is followed.

Type material dealt with in this paper is deposited in the National Collection of the Zoological Survey of India, Calcutta.

Genus *Paraphytoseius* Swirski
and Shechter

Type : *Paraphytoseius multidentatus*

Swirski and Shechter, 1961

(By original designation)

Diagnosis : Body elongated, dorsal shield moderately sclerotized, posteriorly leaves some part of dorsum uncovered, with 13-14 pairs of setae, of these 4 pairs of anterior lateral, 2-3 pairs of post lateral, 2 pairs of medio-lateral and 5 pairs of dorso-central. Setae j_3 , s_4 , Z_5 and Z_4 being always long, thick and serrate, sometimes s_2 and s_3 also serrate (in *Tropicoseius* subgen. nov.), 2 pairs of sub-lateral setae present on lateral integument, anterior pair long, serrate, posterior pairs short. A pair of large pores always associated with z_5 . Dorsal shield notched at the level of s_4 . Sternal shield with 3 pairs of setae, metasternal plate with seta present or absent. Ventrianal shield longer than broad with 3 pairs of preanal setae ; 3-4 pairs of setae present around ventrianal shield. Macrosetae on leg IV usually with spatulate tip.

Key to the subgenera

1. Dorsal shield with 13 pairs of setae, only 2 pairs of postlateral setae present, s_2 and s_3 minute, presence of only one pair of metapodal plates..... *Paraphytoseius* Swirski and Shechter, 1961.

—Dorsal shield with 14 pairs of setae, 3 pairs of post-lateral setae present, s_2 and s_3 serrate, presence of two pairs of metapodal plates.. *Tropicoseius* subgen. nov.

Tropicoseius subgen. nov.

Diagnosis : Dorsal shield with 14 pairs of setae, S_3 (= L_6) thick and serrate, s_2 and s_3 fairly long and weakly serrate, 2 pairs of metapodal plates present.

Type : *Paraphytoseius (Tropicoseius)*
nucifera sp. nov.

Paraphytoseius (Tropicoseius) nucifera sp. nov.

(Fig. 1.)

Female : Body elongated oval, peritreme extends anteriorly beyond j_1 and posteriorly narrowed and curves around coxa—IV. Dorsal shield 305 long, 165 wide, deeply notched at the level of s_4 . j_1 , j_3 , s_2 , s_3 , s_4 , S_2 , Z_5 , Z_4 , r_3 , all being long, thick and serrate, other setae small. Measurements of setae : j_1 -28, j_4 - j_6 -4 each, j_3 -68, s_2 -16, s_3 -32, s_4 -80, S_1 -4, S_2 -40, Z_5 -76, z_5 -4, Z_4 -68, r_3 -56, R_1 -28. Sternal shield weakly sclerotized as long (10) as wide with 3 pairs of long sternal setae, metasternal plate triangular with seta distinct. Genital shield wider (80) than greatest width of ventrianal shield. Ventrianal shield smooth, 80 long, 60 wide with 3 pairs of preanal setae, 3 pairs of setae present around ventrianal shield, JV_5 -28 long, 2 pairs of metapodal plates present. Fixed digit of chelicera multi-dentate, tooth on movable digit not discernible, Spermatheca with bell shaped cervix. Leg IV with macrosetae on genu-44, tibia-36, basitarsus-64 and distitarsus-40 ; leg chaetotaxy : genu II 7 setae (4 dorsal, 3 lateral), genu III 7 setae (4 dorsal, 2 lateral, 1 ventral), genu IV 7 setae (4 dorsal, 2 lateral, 1 ventral), tibia II 7 setae (3 dorsal, 2 lateral, 2 ventral), tibia III 7 setae (3 dorsal, 2 lateral, 2 ventral), tibia IV 6 setae (3 dorsal, 2 lateral, 1 ventral).

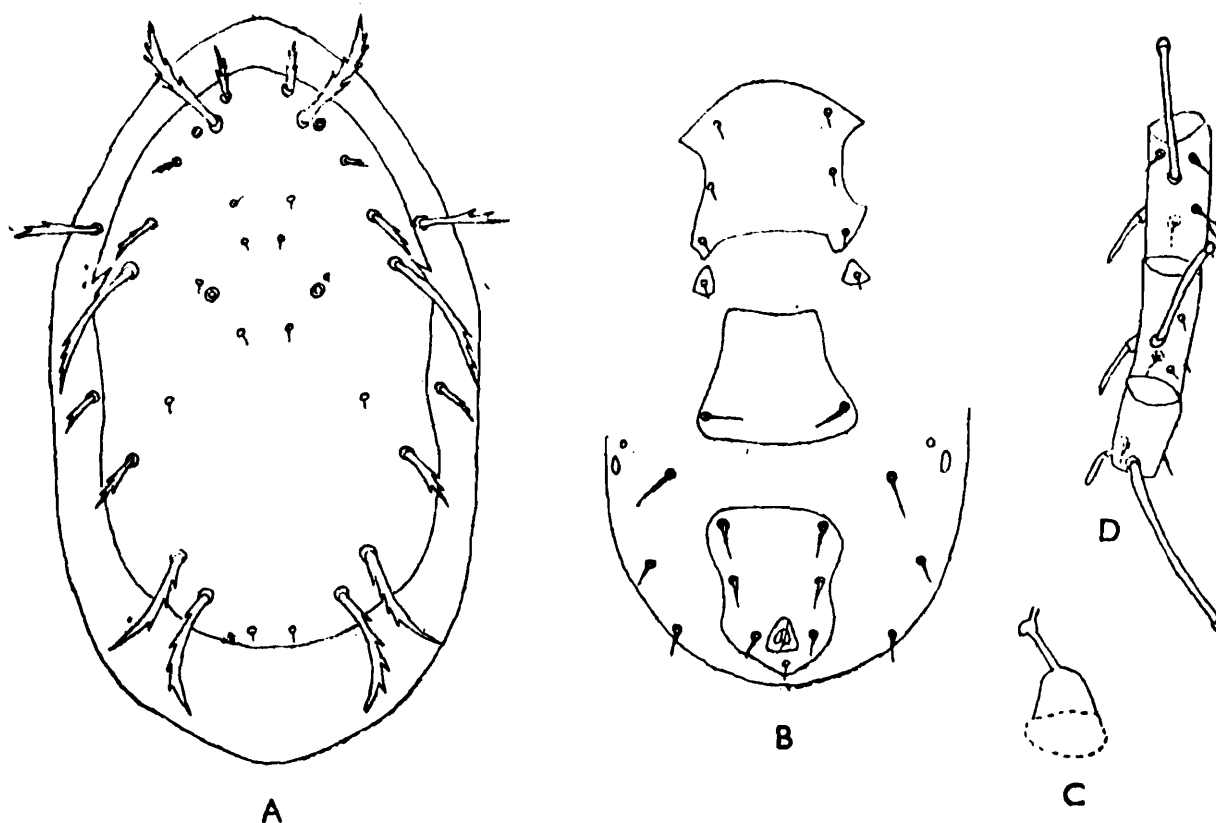


Fig. 1. (A—D) *Paraphytoseius (Tropicoseius) nucifera* sp. nov. A—dorsal shield, B—ventral surface, C—spermatheca, D—leg IV.

Male : Unknown

Material : Holotype Reg. No. 3057/17 INDIA : Kerala : Neyyar Dam, 15. xii. 1975, ex *Cocos nucifera*.

Remarks : This species is easily distinguished from all other known species by presence of S_2 , setae s_2 and s_3 fairly thick and serrate and by presence of two pairs of metapodal plates.

Subgen. *Paraphytoseius* Swirski and Scherzer

***Paraphytoseius (Paraphytoseius) bhadrakaliensis* (Gupta) comb. nov.**

Amblyseius bhadrakaliensis Gupta, 1970. *Bull. Ent.* 10 : 127-128.

Material : 1 ♀, TAMIL NADU : Tozhupedu, 3. xii. 1975, ex banana ; 1 ♀, Kodai-kanal, 6. xii. 1975, ex. pear ; 3 ♀ ♀, Batlagundu, 7. xii. 1975, ex. seem ; 6 ♀ ♀, Oothu, 8. xii. 1975, ex. sunflower ; 1 ♀, Therakalpathur, 12. xii. 1975, ex. cashewnut ; 1 ♀, KERALA : Neyyar Dam area, 15.xii.1975. ex. rose ; 2 ♀ ♀, Coimbatore, Agricultural University campus, 19.xii.1975, ex. brinjal ; 1 ♀, Top slip, 24.xii.1975, ex. unknown host ; 7 ♀ ♀, Top slip, Ambuliperai, 24.xii.1975, ex. unknown host ; 1 ♂, Aruvankadu, 26.xii. 1975, ex. eucalyptus ; 4 ♀ ♀, 1 ♂, Aruvankadu, 26.xii.1975, ex. tea ; 6 ♀ ♀, 2 ♂ ♂, Coonoor, Wellington, 26.xii.1975, ex. rose ; 4 ♀ ♀, Wellington, 27.xii.1975, ex. pear ; 1 ♀, KARNATAKA : Bandipur, 30.xii.1975, ex. unknown host ; 2 ♀ ♀, ANDHRA PRADESH : Simachalam, 5.i.1976, ex. cashewnut.

Remarks : This species was described from West Bengal and later was collected from different parts of India on a wide range of hosts but chiefly on vegetables and mostly found associated with *Tetranychus* spp.

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