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NEW SPECIES AND NEW RECORDS OF PHYTEOSEIUS RIBAGA
(ACARI : PHYTOSEIIDAE) FROM INDIA

BY A. Q. RATHER *

ABSTRACT : A species of predacious mite, Phytoseius domesticus n. sp., collected in India is described and illustrated. Two additional species, Phytoseius mixtus and Phytoseius nipponicus are recorded for the first time in India. These new records bring the total number of species in the genus Phytoseius in India to eighteen.

INTRODUCTION

During a survey of the phytoseiid mites from the year 1977 to 1979, 4 species of Phytoseius, one new to Science, two new to India and one new to North-Western Himalayan region, were collected. These were identified with the assistance of Dr. H. A. DENMARK, Chief of Entomology, Florida, U.S.A. and Dr. C. E. KENNETT, specialist, division of Biological control, California, U.S.A. The pattern of descriptions follows those used by DENMARK (1966, 78). All measurements are in microns and the types are in Florida State Collection of Arthropods, Gainesville, U.S.A.

Phytoseius Ribaga, 1904.

Dorsal scutum smooth, 3-4 pairs of dorsal setae; 1 pair of median setae; 8 pairs of lateral setae, some of them thick, serrate or plumose; 1 or 2 pairs of sublateral setae, with anterior sublaterals on the dorsal scutum. Peritreme extending up to verticals. Ventrianal scutum with 1-3 pairs of preanal setae.

Type species Gamasus plumifer Canestrini and Fanzago, 1876.

WAINSTEIN (1959) erected the subgenus Dubininellus for those species of Phytoseius with only anterior pair of sublateral setae and designated P. corniger Wainstein as its type. PRITCHARD and BAKER (1962) stated that Dubininellus is a synonym of Phytoseius. They erected the subgenus Pennaseius for those species having posterior sublateral setae and retained the species without posterior sublateral setae in the subgenus Phytoseius. MUMA and DENMARK (1968), MUMA, DENMARK and DELEON (1970) followed PRITCHARD and BAKER in the subgeneric division of the Phytoseius. This is the character, utilized too in this paper, to separate the two subgenera of

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Phytoseius. All the species indicated in this paper are devoid of posterior sublateral setae and thus fall into subgenus Phytoseius.

Phytoseius (Phytoseius) domesticus n. sp. (Figs. 1-7)

Female : Body 306 μ; D₁, D₂, D₃ and M₁, 4 μ long; clunals 7 μ; L₁, 69 μ, L₂ 17 μ, L₃ 36-43 μ, L₄ 29 μ, L₅ 141-154 μ, L₆ 78-82 μ, L₇ 98-105 μ, L₈ 85-89 μ; anterior sublateral 35-52 μ. Sternal scutum as long as wide, smooth with 2 pairs of setae. Setae of 4th pair are on weakly sclerotized metasternal plates. Genital scutum with a pair of setae. Ventrianal scutum longer than wide, smooth, vase shaped with 3 pairs of preanal setae and a pair of small obscure pores. Three pairs of setae on posteroventral integument surround the ventrianal scutum; ventrocaudal pair thick, serrate and 45-52 μ long. Peritreme extends to verticals. Spermathecal cervix poculiform, 12-14 μ in diameter, knobbed atrium wider than long attached slightly off-center; major duct broad. Leg formula 4 1 2 3. Macrosetae on leg IV as follows: Sge absent, Sti 64-70 μ, St 29-35 μ long. Genu I 2 — 2 — 1 — 1. Diameter of genu IV 19 μ.

Male : Body 252 μ long, 143 μ wide. Setae on dorsal scutum similar to female but shorter in length. Ventrianal scutum smooth, with a pair of pores and 4 pairs of preanal setae. The shank of the spermatodactyl about 1 1/2 times as long as the foot.

Type locality : Nishat, Jammu and Kashmir, India.

Collected : July 14, 1979, on Prunus domestica by the author.

Material examined : holotype female, allotype male, 5 paratype females collected with the holotype; 2 females, Hazratbal, 10.X. 1978, on Rubus niveus; 3 females, Nishat, 14.VII.1979, on Prunus sp. (Apple); 1 female, Poonch, 20.X.1979, on Ficus sp.

Discussion : Phytoseius domesticus is closely related to Phytoseius kishii Ehara (1967), from which it is distinguished by having lateral seta L₄ 29 μ in n. sp., while it is 18 μ in P. kishii, leg IV macrosetae : Sge absent, Sti 64-70 μ, St 29-35 μ in new species but in P. kishii Sge present 17 μ, Sti 42 μ and St 25 μ.

This species was found only in fruit orchards. On apple and plum, it was found associated with Bryobia rubrioculus (Scheuten), Panonychus ulmi (Koch) and Tetranychus urticae (Koch).

Phytoseius (Phytoseius) nipponicus Ehara.


Phytoseius nipponicus resembles Phytoseius taiyushani (Swirski and Shechter), but differs most noticeably in having dorsal scutum without pores, spermathecal cervix poculiform with knobbed atrium and spermatodactyl shaft about twice as long as the foot.


Discussion : This species is known only from Japan. It is reported for the first time from India (Jammu and Kashmir), collected at a high altitude above 2 530 m.

Phytoseius (Phytoseius) mixtus Chaudhri.


Phytoseius mixtus comes close to Phytoseius nipponicus (Ehara), but differs in having dorsal scutum with a pair of pores, L₃ and L₄ serrate, L₇ double the length of S₁, and spermatheca with bell shaped atrium.

Material examined : Seven females, Parimalahal, 17.VII.1979, A. Q. RATHER coll., on Celtis australica; 1 female, Verinag, 10.IX.1978, on Lonicera japonica; 7 females, Chasmashahi, 27.IX.1977, on Ficus sp.; 4 females, Nishat, 7.VII.1977, on Rubus niveus; 3 females, Uri, 1.XI.1977, on Cle-
FIGS. 1-8: *Phytoseius (Phytoseius) domesticus* n. sp.: (1-6) female: 1, dorsal scutum; 2, Chelicera; 3, posterior part of peritremal, stigma and prostigmatic lobe of peritremal shield; 4, leg IV; 5, ventral scuta and setation; 6, distal part of major duct, atrium and calyx. (7-8) male: 7, ventrianal scutum; 8, spermatodactyl.
Phytoseius (Phytoseius) intermedius Evans and Macfarlane, 1962.


Phytoseius (Dubininellus) intermedius (Evans and Macfarlane), Denmark, 1966 : Division of Plant Industry, Bull. no. 6, 70-71.

Phytoseius intermedius is related to Phytoseius nipponicus (Ehara), but the former species can be distinguished from the latter by having $L_6$ and $L_8$ equal in length, but smaller than $L_7$, devoid of macrosetae on leg IV, and spermatodactyl shaft about 1 1/2 times longer than foot.

Material examined : Two females, 3 males, Gandhinagar, Jammu, 13.X.1979, A. Q. Rather coll., on Solanum minutum; 2 females, Simla, Himachal, 10.IX.1977, on Datura stramonium.

This species is known from Rhodesia, Pakistan and India. It has been recorded earlier from Andaman Islands, U.P. and West Bengal in India.

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