

**A NEW SPECIES AND A NEW RECORD OF THE GENUS
PROTOGAMASELLUS KARG (ACARINA : MESOSTIGMATA :
ASCIDAE) FROM INDIA**

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INTRODUCTION

Karg (1962) established the genus *Protogamasellus* and designated *Protogamasellus primitivus* as type-species. The genus is cosmopolitan in distribution and around 22 species are known to occur. Recently, Bhattacharyya *et al.* (2000) described three new species from the Indian region. In this work *Protogamasellus rajkotensis* is described as new species while *Protogamasellus bifurcalis* Genis *et al.* is recorded for the first time from India.

Chaetotactic concept of Lindquist and Evans (1965) is used in the following description.

Materials used in this study are deposited in the National Zoological Collection, Zoological Survey of India, Calcutta.

***Protogamasellus rajkotensis* sp. nov.**

Female : Anterior dorsal shield (144.9 μ long, 111.15 μ wide) with sixteen pairs of simple setae; apical setae 18.39 μ long; posterior dorsal shield longer (104.4 μ) than wide (91.65 μ), with fifteen pairs of simple setae; transverse line continuous on both shields (Fig. 1); lateral membrane with ten pairs of simple marginal setae; j2 nearly transversely aligned with j1 and z1; setae J1, J2, J3, J4, J5 and Z5 are 26.56 μ , 28.60 μ , 32.69 μ , 36.78 μ , 14.3 μ and 40.86 μ long respectively.

Tritosternum normal in shape with swollen base and slender pilose lacinae (Fig. 2); pre-sternal area sclerotized, deeply emarginate medially; a narrow indistinct strip present connecting two extended sclerotized portions. Sternal shield 81.73 μ long, 76.63 μ wide, slightly concave posteriorly, with two pairs of sternal setae, first pair being situated on anterior sclerotized portion of sternal shield; metasternal setae freely placed on ventral membrane. Genital shield smooth, truncate posteriorly, widening behind paired genital setae. Metapodal plates slender, present transversely nearer to body margin (Fig. 3). Ventri-anal shield lineate anteriorly and conspicuously punctate posteriorly, with three pairs of setae excluding a pair of para- and a post-anal setae; position of three pairs of ventral

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setae and platelets as in fig. 3; ventral membrane lineate around genital and ventri-anal shield. Stigma small, placed at level of coxa IV; peritreme narrow, extending upto between coxae II and III; peritrematal shield encircling coxa IV.

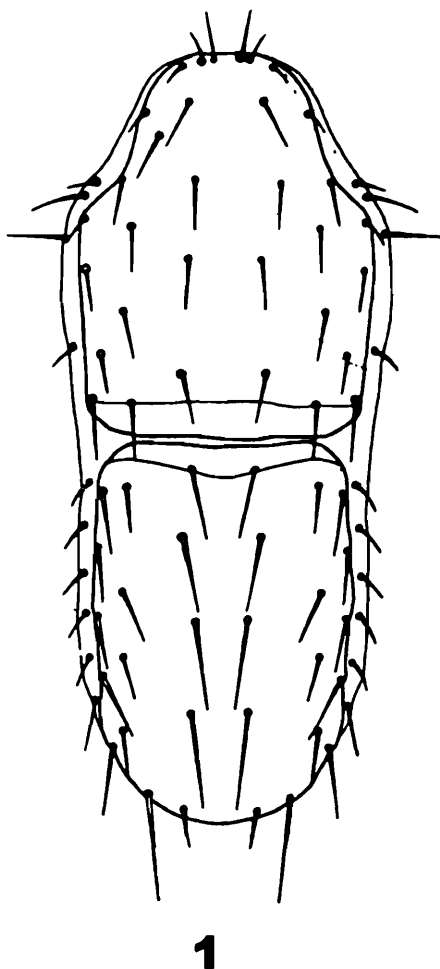


Fig. 1. *Protogamasellus rajkotensis* sp. nov., female. 1. Dorsum.

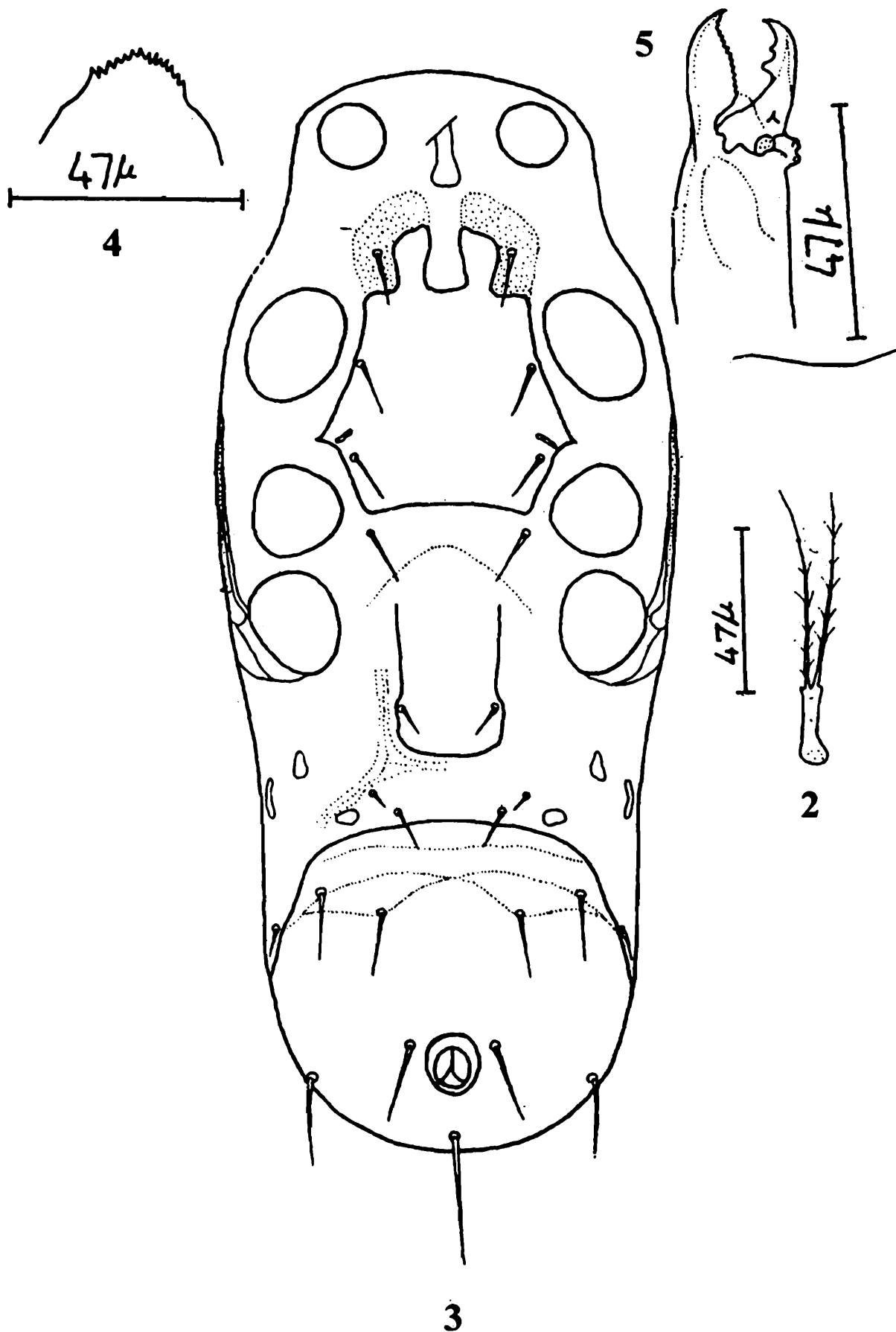
Anterior margin of tectum denticulate, almost round in shape (Fig. 4). Fixed cheliceral digit with a row of teeth on its cutting edge, movable digit bidentate (Fig. 5), distal one larger than proximal one; corniculi slender. Deutosternum with five transverse rows of deutosternal denticles.

Legs I–IV with well-developed claws and pulvilli; length of legs I–IV are 244.2 μ , 173.9 μ , 148 μ and 207 μ respectively; number of setae on femur, genu and tibia of legs I–IV being : femur 12-11-6-6, genua 13-11-8-8, and tibiae 3-10-8-9; legs without any macrosetae.

Male : Unknown.

Material Examined : Holotype female and four paratype females, Gujarat, Rajkot, Jubilee Garden; ex. soil and grass; 21.ix.1997; A. K. Bhattacharyya coll.

Differential Diagnosis : *Protogamasellus rajkotensis* sp. nov. shares its relationship with *P. brevicornis* Genis *et al.*, 1967, in respect of sclerotized pre-sternal area, shape of the genital and ventri-anal shield, number of setae on ventri-anal shield, but the new species is well-distinguished from *brevicornis* in having comparatively long dorsal setae, sixteen pairs of setae on anterior dorsal



Figs. 2-5. *Protogamasellus rajkotensis* sp. nov., female. 2. Tritosternum, 3. Venter, 4. Tectum, 5. Chelicera.

shield, free metasternal setae, presence of peritrematal shield, longer para-anal setae, shape of tritosternum, tectum, chelicerae and some other characteristic features.

Protogamasellus bifurcalis Genis *et al.*, 1967

1967. *Protogamasellus bifurcalis* Genis *et al.*, *J. nat. Hist.*, 1 : 345.

Female : Anterior dorsal shield 120 μ long, 87 μ wide, with seventeen pairs of setae; posterior dorsal shield 138 μ long, 147 μ wide, with fifteen pairs of setae; lateral membrane with eleven pairs of marginal setae, anterior ones comparatively longer than posterior ones; all setae simple; transverse line across posterior dorsal shield absent between setal bases of J1.

Tritosternum densely plumose; sternal shield 68 μ long, 39 μ wide, with three pairs of setae; first sternal setae longer than second and third ones; posterior margin of sternal shield concave; metasternal setae placed on metasternal platelets; genital shield with paired genital setae. Ventri-anal shield with thirteen pairs of setae, excluding a pair of para- and a post-anal setae with its anterior margin extending beneath genital shield thus possessing Jv1 on it; paired metapodal shields small, droplike in shape. Stigma small, placed at anterior level of coxa IV, with its post-stigmatal prolongation not reaching beyond mid-region of coxa IV.

Corniculi slender, with bifurcate tips; ventrally four pairs of stout hypostomatic setae present; capitular groove with seven rows of deutosternal denticles, 3–4 denticles in each row; movable digit of chelicera bidentate, fixed digit multidentate. Margin of tectum strongly denticulate.

Legs I–IV without any spur; tarsus I with macrosetae apically.

Male : Unknown.

Material Examined : Three females, Gujarat, Vadodora, Zoological Garden; ex. leaf litter; 25.ix.1997; A. K. Bhattacharyya coll.

Remarks : The Indian examples of *P. bifurcalis* Genis *et al.* conforms exactly with the well-illustrated description provided by its authors. The species is recorded for the first time from India. Previously the species was known only from its type-locality, Natal, Republic of South Africa.

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