

NEW SPECIES OF *STRIATOPPIA* BALOGH, 1958 (ACARI: ORIBATIDA) FROM LAKSHADWEEP, INDIA

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INTRODUCTION

Lakshadweep, one of the smallest Union Territories of India, consists of 12 atolls, three reefs and five submerged banks and 10 of its 36 Islands (area 32 sq.km.) are inhabited. Though the islands are unique in their ecosystem, no extensive faunal survey has yet been undertaken. Considering the fact, a survey was undertaken in Agatti Island, Lakshadweep for short duration and collected insects and mites. The study of soil inhabiting acarines revealed 10 species of oribatid mites including one new species of the genus *Striatoppia* Balogh, 1958 which is described here.

Out of 24 species of the genus *Striatoppia* Balogh, 1958 (Subias, 2009; Murvanidze and Behan-Pelletier, 2011), 6 were recorded previously from India (3 species from West Bengal and 3 species from Tripura). This is the first record of this genus from Lakshadweep.

DESCRIPTION OF SPECIES

Striatoppia milii

(Figs. 1-2)

Sex: Female.

Measurement: Length: 207 μm , Breadth: 110 μm .

Prodorsum: Prolamellae very conspicuous, thick and bifurcated at the apex. Rostral hair originate from the anterior margin of prolamellae. Rostral setae robust and setiform. Lamellar costulae short with well developed, concave translamellae and 2 curved lamellae directed

toward pseudostigma. 1 pair well developed, branched costular portion, unconnected with lamellar costulae, situated in the interbothridial region enclosing 4 large foveolae. Interlamellar setae, originate from costular ridge, appear as hardly discernible stumps. Lamellar setae barbed, phylliform and originate from the inner wall of lamellae. Granulation present in the interbothridial region, translamellar region and in the prolamellae. Granules in the interlamellar region being elongated. Sensillus pro- to exclinate, its widened outer boarder densely ciliated. Lateral longitudinal ridges of prodorsum well developed.

Notogaster: Anterior margin of notogaster narrowed and medially pointed. Notogaster only with 4 to 5 pairs of longitudinal striations which extending from anterior margin to one third length of notogaster i.e upto setae *te* and *ti*. 10 pairs of notogastral hair; 9 pairs widened, barbed and phylliform. p_1 is smaller than other and not phylliform.

Ventral plate: Ventral plate with 2 to 3 pairs of longitudinal striae, all of them restricted near the genital plate. Anogenital region contains 5 pairs of genital, 1 pair of aggenital, 2 pairs of anal and 3 pairs of adanal setae. Genital setae fine and short; g_1 - g_3 positioned anteriorly along median margin of ventral plate; g_4 and g_5 positioned obliquely on the posterior part of the plate. Aggenital setae fine, smooth and simple. Anal setae smooth and simple. Adanal setae ad_3 simple; ad_2 slightly thickened and ad_1 slightly ciliate. Lyrifissure *iad* adjacent and parallel to the anal plate.

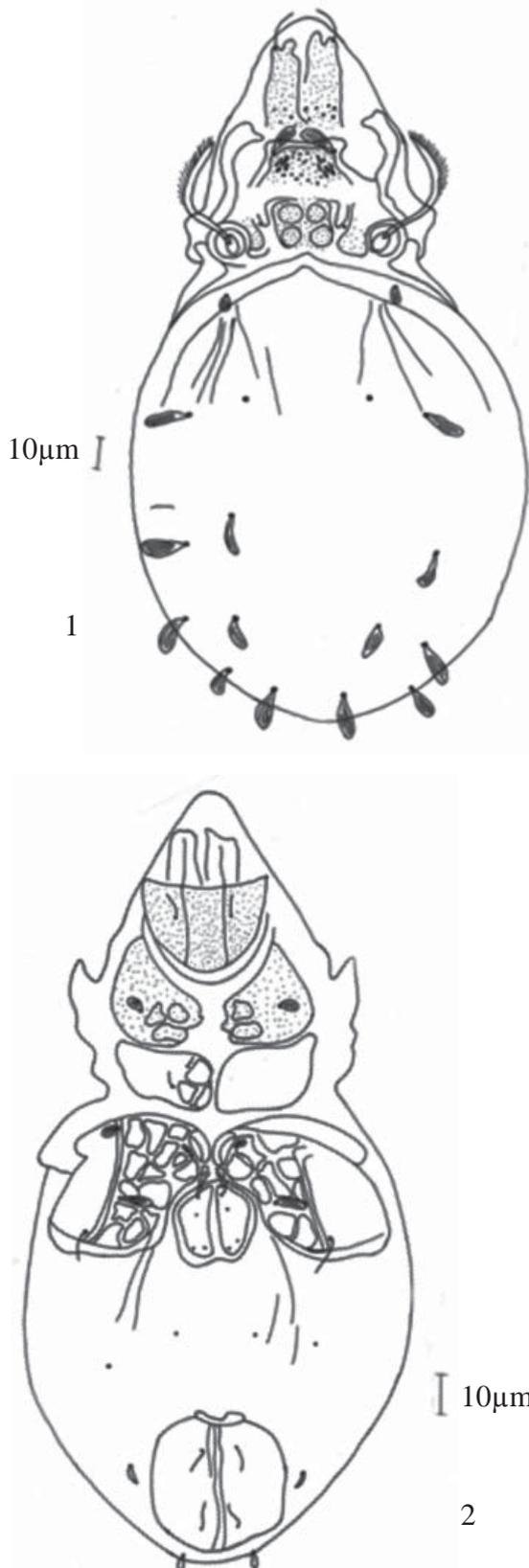


Fig. 1-2. *Striatoppia milii* sp. nov. 1. Dorsal view of the body; 2. Ventral view of the body.

Mentum and anterior part of epimeral surface with granulations. Epimeral setal formula 3-1-3-3. Epimeral setae of different types, *1b*, *3b* and *4a* broad, lanceolate and ciliate and others thin and simple. Setae *1b* and *3b* rounded and *4a* elongated. Epimeral surface ornamented with scattered large spots.

Material examined: Holotype: ♀, India: Lakshadweep: Agatti Island: Agricultural Office garden, 7 kms north of Airport, 02. vii. 2011, from soil mixed with semidecomposed coconut leaves, coll. M. Sanyal. Paratype: 1♀, data same as the holotype. Both the specimens have been deposited in the National Zoological Collection, Zoological Survey of India, Kolkata. The holotype Registration No. 4258/17 and paratype Registration No. 4259/17.

Remarks: *Striatoppia milii* sp. nov. differs from 4 closely related species by the range of characters indicated in Table 1. The new species is related to *S. baloghi* Mahunka, 1974, reported from Cameroun. The similarities between two species are pro-to exclinate sensillus, well developed prolamellae, shape of costular ridge in interbothridial region, widened and ciliated notogastral setae and slightly ciliated *ad*₃. It can be separated easily from the *S. baloghi* by few numbers of lines in notogaster and ventral plate. The sculpture in the interlamellar region is different. Epimeral setae *1b*, *3b* and *4a* rounded in *S. baloghi* but in the present species *4a* elongated. There are no granulations in prolamellar region and no translamellae in *S. baloghi*.

The new species also goes near to *S. modesta* Mahunka, 1988, collected from Sabah, Malaysia by having very few notogastral striations, granulation in mentum and anterior part of epimeral surface and similar shape of *1b*, *3b* and *4a*. Beside these, *S. modesta* possesses no translamellae, prolamellae is not well developed, the shape of the sensillus is different than the new species and have no ventral striation.

This species also shows similarity with *S. quadrilineata*, Hammer, 1982, reported from Bali,

Table 1. Similarities and dissimilarities between *S. baloghi*, *S. modesta*, *S. lanceolata*, *S. quadrilineata* and *S. milii* sp. nov.

	<i>S. baloghi</i>	<i>S. modesta</i>	<i>S. lanceolata</i>	<i>S. quadrilineata</i>	<i>S. milii</i>
Body length	192-195µm	198-221µm	0.215mm	0.23mm	207 µm
Striation in notogaster	Numerous	Few	Few	Numerous	3-5 pairs
Striation in ventral plate	Numerous, transverse and longitudinal	Nil	Few, longitudinal	Numerous, transverse and longitudinal	2-3 pairs, longitudinal
Sensillus	Pro to exclinate, distal part densely ciliate	Proclinate to inclinate, apically strongly incrassate	Proclinate to inclinate, apically strongly incrassate	Club shaped, outer boarder densely ciliated	Pro to exclinate, distal part densely ciliate
Shape of Notogastral setae	Dialated and ciliate	Dialated and ciliate	Lanceolate	Broad lanceolate ciliate	Dialated and ciliate

Indonesia by having distinct prolamellae, well developed translamellae, distinct costular ridges in the interbothridial region and slightly ciliated ad_3 . In *S. quadrilineata* granulations are present only in the prolamellar region, sensillus is club shaped, some notogastral striae reaching beyond ms , notogastral setae are broad lanceolate, ciliate. Epimeral setae $1b$, $3b$ and $4a$ lanceolate and ciliate and the ventral striae halfway surrounding the genital plate and almost reaching the anal plate.

The new species also stands near to *S. lanceolata* Hammer, 1972, from Tahiti. The similarities are well developed prolamellae, translamellae and interbothridial costular ridge, few longitudinal striae in ventral plate and notogastral plate, and the notogastral striae does not exceed ta and te . The major dissimilarities are lanceolate lamellar and notogastral setae and shape of sensillus.

Etymology : The species is named after the collector's name Mili Sanyal.

SUMMARY

Lakshadweep is one of the smallest Union

Territories of India. The first ever study of soil inhabiting oribatid mites from Lakshadweep revealed 10 species including few interesting ones, of which, one species under the genus *Striatoppia* Balogh, 1958 is described here as new to science. This genus is reported for the first time from Lakshadweep.

The new species of *Striatoppia milii* sp. nov. (Acarina: Oribatida) from the soil of Lakshadweep can be distinguished readily from all other known species in its possession of 3-5 pairs of longitudinal striation in notogaster, 2-3 pairs of longitudinal striation in ventral plate, 4 large foveolae in the interbothridial region, etc.

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