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A NEW SUBGENUS AND TWO NEW SPECIES OF THE FAMILY OPPIIDAE (ACARINA : ORIBATIDA) FROM INDIA

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INTRODUCTION

The members of the family Oppiidae are represented in India by 26 genera in which *Aeroppia* and *Striatoppia* are known by one and seven species respectively. The genus *Aeroppia* was first recorded from India by Sanyal (2000) from Tripura and of the seven species of *Striatoppia* four were reported from West Bengal (Chakraborti *et al.* 1973, Joy and Roy 1986, Sanyal 1992) and three others were known from Tripura of which two species were described as new to science (Subias and Sarkar 1983, Bhattacharya et al. 1985). The present work includes description of one new subgenus *Paraeroppia* and two new species *Aeroppia (Paraeroppia) indiana* and *Striatoppia asiaticus* from Tripura, India.

Keywords : Acarina, Oribatida, Oppidae, *Paraeroppia,* subgen.n., *Aeroppia (Paraeroppia) indiana* sp.n., *Striatoppia asiaticus* sp.n., India.

MATERIAL AND METHODS

The specimens studied here were collected from litter and soil samples through the standard method of extraction with the Tullgren funnel extraction apparatus. All measurements are given in micrometers (µm).

SYSTAMATICS

Family OPPIIDAE GRANDJEAN, 1954

Genus ***Aeroppia*** Hammer, 1961

Subgenus ***Paraeroppia*** subgen.n.

Subgeneric diagnosis : Hysterosoma with 12 pairs of setae, 7 pairs of similar setae on dorsal surface, *lm* absent, 2 pairs of thick air filled setae on posterior border of notogaster.

Type-species : *Aeroppia (Paraeroppia) indiana* sp. n.

Aeroppia (Paraeroppia) indiana sp. nov.

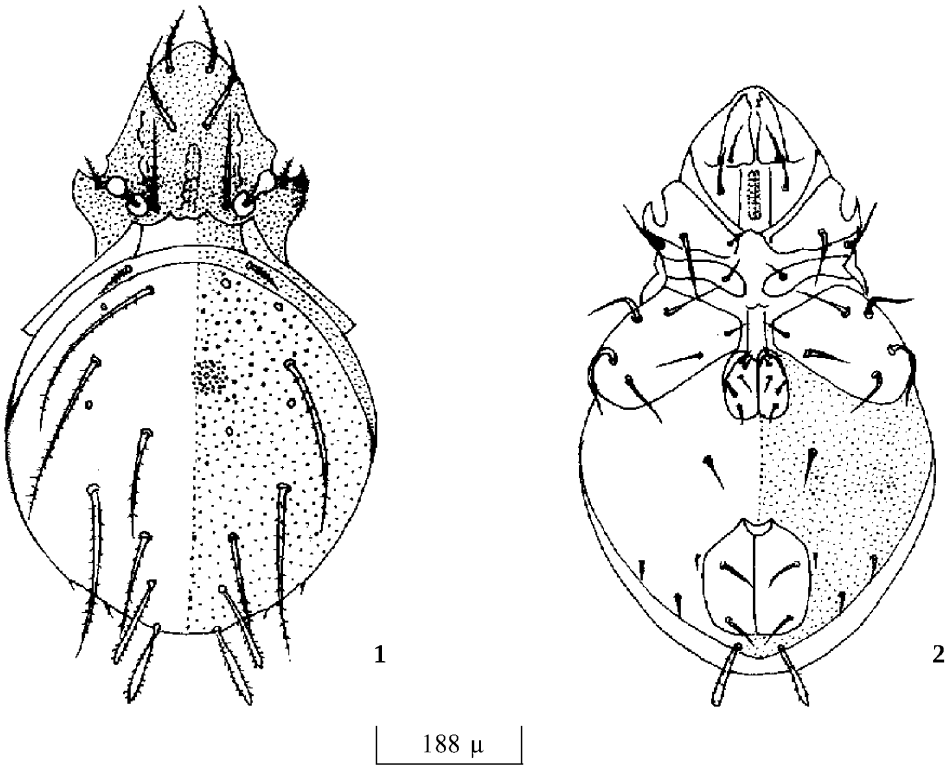
(Figs. 1-2)

Colour : Chestnut brown.

Measurements : Female (holotype) : Body 652 long, 399 wide (649 and 658 long and 392 and 413 wide in 2 paratypes).

Prodorsum (Fig. 1) : Rostrum rounded; rostral setae long (70) nearly twice their mutual distance (44), bilaterally feathered, moderately thick base becoming thin gradually and ended in pointed tip; lamellar setae longest (112) of all prodorsal setae, thin, rough, more than twice their mutual distance (43), placed on very short apophyses; interlamellar setae long (104), erect, thick, beset with bristles, placed at posterior border of pseudostigmata, less than twice their mutual distance (74); sigilla for the cheliceral retractor muscles present in two rows of light spots, each with seven, between lamellar setae; trichobothria with short (26), thin stalk, head (diameter : 22) small, ball-shaped; exopseudostigmatic setae short (55) with bristles; on latero-posterior part of propodosoma, cuticle with many tubercles; middle part of propodosoma finely punctated; posterior part of prodorsum with three prominent semilunar crests.

Notogaster (Fig. 1) : On either side of dorsosejugal region, a tooth like projection runs backward as keel for a very short distance; notogaster with 12 pairs of setae, one pair of setae *ta* minute, placed lateral to keel; 7 pairs of long, thick, stiff setae, almost equally thick throughout, tips pointed,



Figs. 1-2. *Aeroppia (Paraeroppia) indiana* **sp. n.**, Adult female : 1 - dorsum; 2 - venter.

with bristles, except *dm* (107) all longer than lamellar setae, r_2 (196), *la* (189), *ti* (174), *da* (129), posterior two pairs of setae p_1 (85) and r_1 (104) placed on short apophyses, air filled, stiff, with spines, two pairs of postero-lateral setae p_2 and p_3 very thin, short; notogaster densely punctated. Ventral plate with minute tubercles.

Epimeral region (Fig. 2) : Epimeres I and II well separated, III and IV fused; epimeral setae moderately long (38-74), thin, smooth with setal formula 3-1-3-3.

Ano-genital region (Fig. 2) : Genital plates rectangular (length : 67, width : 55) with 5 pairs of setae; anal plates separate from genital plates by 133 µm; anal plates punctated and equal in length and width (107) with 2 pairs of setae, setae an_2 (41) longer than setae an_1 (30); fissure *iad* minute and close to anal plates; ad_1 long (78), thick, rough air filled setae behind anal plates, setae ad_2 and ad_3 short; ventral plates finely punctated.

Legs : Legs monodactylous. Leg chaetotaxy : I : 2-4-3-4 + 1-19-1; II : 2-4-3-4 + 15-1; III : 3-3-2-3 + 1-12-1; IV : 1-2-2-4-8-1.

Type material : Female holotype, 2 female paratypes, from decomposed soil with loose litter, India : Tripura, Pulcharri (Sabrum), 4. vii. 1993, coll. D. Saha.

Type depositories : Holotype and 2 paratypes are deposited in the National Zoological Collection, Zoological Survey of India, Kolkata, India.

Differential diagnosis : On the basis of subgeneric diagnosis, the new species is distinguishable from the species under the subgenus *Aeroppia (Aeroppia).*

Genus ***Striatoppia*** Balogh, 1958

Striatoppia asiaticus sp. nov.

(Figs. 3-4)

Colour : Brownish.

Measurements : Female (holotype) : Body 245 long, 121 wide (235-261 long and 117-125 wide in 11 paratypes).

Prodorsum (Fig. 3) : Rostrum rounded; rostral setae moderately long (14), placed at end of two prolamellae present in between rostrum and translamella; translamella developed; lamellar costulae not prominent; lamellar setae short (7), half to rostral setae, fan-shaped; interlamellar setae short (5), thin; two long but faint ridges adjacent to interlamellar setae which enclose 4 light areas of weak chitinization; bothridium cup-shaped; sensillus fusiform with rows of papillae; prolamellar, lamellar and interlamellar regions well granulated.

Notogaster (Fig. 3) : Notogaster oval-shaped, smooth, striated; 10 pairs of moderately long (12-14) notogastral setae, all setae including p_1 fan-shaped with longitudinal striation.

Epimeral region (Fig. 4) : Epimere I broad, separated by a prominent sternal plate, epimeres II and fused III-IV separated by narrow ridge; apodemata II narrow, sejugal apodemata very broad; epimeres marginally reticulated with punctation, epimeral setal formula 3: 1: 3: 3; *1b, 3b, 4a, 4b* long, broad and barbed.

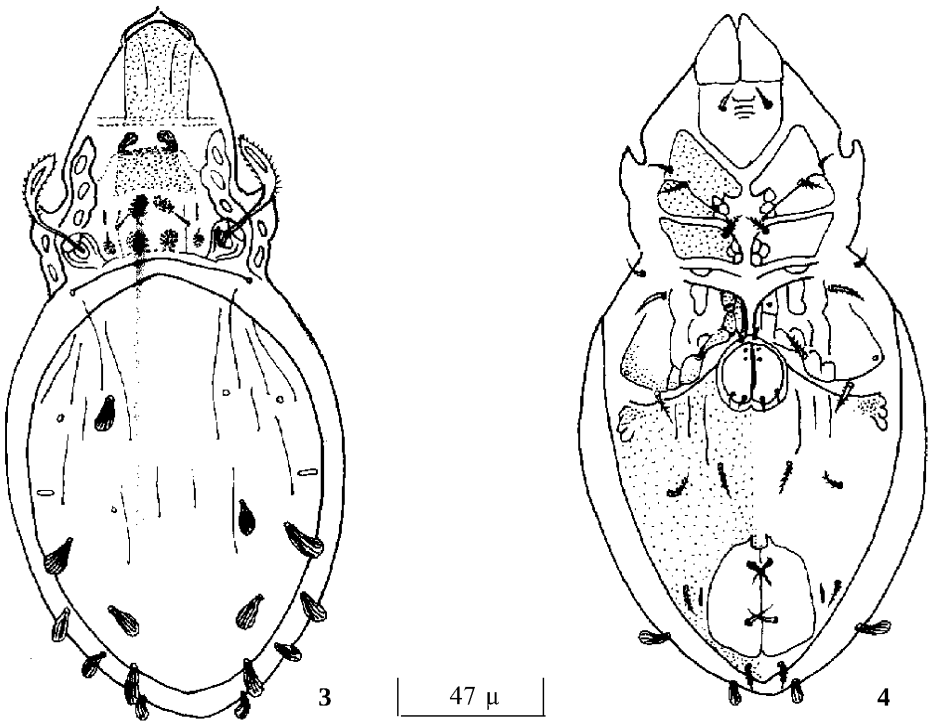
Ano-genital plates (Fig. 4) : Genital plates more or less squarish (length : 23, width : 21) with 5 pairs of smooth setae; aggenital and adanal setae finely barbed, anterior portion of ventral plates faintly striated, thickly punctated; anal plates almost rectangular in shape (length : 40, width : 35) with 2 plairs of setiform setae; *iad* fissures adjacent to anal plates.

Legs : Legs monodactylous, punctated. Leg chaetotaxy : Leg I : 3-2-0-4-16+1; Leg II : 3-0-0-3-7-1; Leg III : 0-2-1-4-10-1; Leg IV : 3-1-0-3-12-1.

Type material : Female holotype, 11 female paratypes, from soil with cowdung, India : Tripura, Dhuptali (Udaipur), 22. i.1992, coll. S. Saha.

Type depositories : Holotype and 11 paratypes are deposited in the National Zoological Collection, Zoological Survey of India, Kolkata, India.

Differential diagnosis : The new species approaches close to *Striatoppia similis* Subias and Sarkar, 1983 from Tripura, India regarding nature of rostral, lamellar, interlamellar and notogastral setae, nature of sensillus and nature of epimeral setae (expect *4b*). But it can be easily separated from Subias and Sarkar's species by the presence of fan shaped notogastral setae *p*, absence of granulation in notogaster, shape of prolamellar ridges and in having barbed aggenital and adanal setae.



Figs. 3-4. *Striatoppia asiaticus* **sp.n.**, Adult female : 3 – dorsum; 4 – venter.

SUMMARY

A new subgenus *Paraeroppia* and two new species of oribatid mite *viz., Aeroppia (Paraeroppia) indiana* and *Striatoppia asiaticus* collected from soil in Tripura, India are described and illustrated. The new subgenus and the species under it are erected on the presence of 12 pairs of hysterosomal setae and two pairs of thick air-filled setae on notogaster. *S. asiaticus* was distinguished by presence of fan-shaped setae *p*, absence of notogastral granulation, shape of prolamellar ridges and barbed aggenital and adanal setae.

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