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A NEW CRYPTOSTIGMATID MITE (ACARI : ORIBATEI, APOPLOPHORIDAE) FROM DARJEELING, INDIA

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INTRODUCTION

A new species of the genus *Apoplophora* Aoki (Acari : Oribatei, Apoplophoridae), *viz.*, ***A. aokii*** is described from the forest floors and tea fields in the district of Darjeeling, West Bengal, India.

The genus *Apoplophora* was erected by Aoki (1980) with *Apoplophora remota* as the type-species from Japan. But Niedbala (1984) treated *Apoplophora remota* Aoki, 1980 as a synonym of *Mesoplophora pantotrema* Berlese, 1913 while establishing the family Apoplophoridae. He (*op. cit.*) mentioned *Mesoplophora pantotrema* Berlese, 1913 as the type-species of the genus *Apoplophora* Aoki, 1980. He in the same publication also treated *Mesoplophora rostrorugosa* Hammer, 1979 as a synonym of *Mesoplophora pantotrema* Berlese, 1913. He (1993) further treated *Mesoplophora discreta* Berlese, 1913 as a synonym of *Mesoplophora pantotrema* Berlese, 1913 while reviewing oribatid mites from Berlese's collection and redescribing of species from Mesoplophoroidea. Several species under the genus *Apoplophora* are on record. Mahunka (1987) created 3 new species and transferred 2 other species of his own (1985) and also 3 other species of Hammer (1979) into this genus. Mahunka (1988) contributed one more species under this genus and in 1991 he again described 5 more new species under the genus *Apoplophora* from Malaysia. Thus 15 species are known to occur under the genus *Apoplophora*. But the species *Apoplophora rostrorugosa* (Hammer, 1979) and *A. remota* Aoki, 1980 were treated as the synonyms of *Apoplophora pantotrema* (Berlese, 1913) by Niedbala (1984) and *A. leviseta* (Hammer, 1979) were again transferred to *Mesoplophora* genus by Mahunka (1991). Thus the total number of the species stands 12 under the genus *Apoplophora* instead of 15. However, Mahunka (1991) has provided a key for the determination of species of the genus *Apoplophora* where he has given the validity of the species *Apoplophora rostrorugosa* (Hammer, 1979). Thus considering the Mahunka's view and above description, the genus *Apoplophora* contains 13 valid species till to date. All measurements are in micrometers (μm).

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Apoplophora aokii sp. nov.

(Figs. 1-3)

Female : Colour yellowish brown; length of aspis : 360-370; length of notogaster : 446-452; height of aspis : 180-210; height of notogaster : 286-290.

Aspis much longer than broad, punctate, with distinctly longitudinal striations on the middle part; all prodorsal setae erect, unilaterally barbed in the anterior half with tapering tips; rostral (*ro*) and lamellar (*le*) setae nearly equal, 130-132 long respectively; interlamellar setae (*in*) 128-132 long, procumbent; exobothridial setae (*ex*)1 pair, 96-99 long, decumbent, situated anterior to the bothridium; bothridium (*bo*) depressed cup-like; sensillus (*ss*) filiform, nearly uniformly thick in the posterior 3/4th and gradually tapering at the anterior 1/4th distal, sparsely barbed unilaterally more than anterior half, 160-165 long, directed postero-laterally.

Notogaster punctate, with a few irregular foveolated microsculptures; notogastral setae 8 pairs, 48-152 long, unilaterally barbed in the posterior 2/3rd except setae c_3 which are quite different, much thinner and shorter than the others, glabrous, 48-50 long, setae c_1, d_1 dorsal, c_2, d_2 dorso-lateral and d_3, e_1, e_2 postero-dorsal, setae c_3 antero-lateral.

Ventral plate separable into a most densely punctate region at the anterior middle half, with 7 pairs of setae, 48-85 long, of which 6 pairs faintly barbed unilaterally at the distal half, originating around the anal plates and 1 pair smooth, in aggenital position; each anal plate thrice as long as broad, with 3 nearly equal, unilaterally ciliated anterior half setae, 55-60 long, placed equidistantly along the outer side of the anal plate; each genital plate triangular in out line, with 6 smooth setae, 20-30 long, 3 along the median margin, 2 near the posterior margin and 1 latero-posteriorly of the mid point of the plate; genital and anal apertures separated from each others by more the length of anal aperture.

Claws monodactylous, slightly curved.

Holotype : Adult F, INDIA : West Bengal : Darjeeling, Lopchu Tea Estate (from loose humus), 1200 m., 26.viii. 1989 (*B. K. Mondal* coll.); paratype : 1 adult F, INDIA : West Bengal : Darjeeling, Happy Valley Tea Estate (from decomposed leaves of *Camellia sinensis*), 1990 m., 24. viii. 1989 (*B. K. Mondal* coll.); paratype : 1 adult F, INDIA : West Bengal : Darjeeling, Darjeeling forest Div., Senchal forest range, Sonada forest block (from soil under a plant, *Machilus edulis*), 2100 m., 30. viii. 1989 (*B. G. Kundu* coll.); paratype : 1 adult F, INDIA : West Bengal : Darjeeling forest Div., Tonglu forest range, Palmajua forest bunglow area (from rotten leaves of *Cryptomeria japonica*), 2300 m., 2. ix. 1989 (*B. K. Mondal* coll.) ; deposited in the laboratory of the Department of Zoology, Ananda Chandra College, Jalpaiguri -735 101, INDIA.

The Indian species accords with *Apoplophora pantotrema* (Berlese, 1913), *A. heterotricha* Mahunka, 1987, *A. malaya* Mahunka, 1991 and *A. triseta* Mahunka, 1991 respectively. It can,

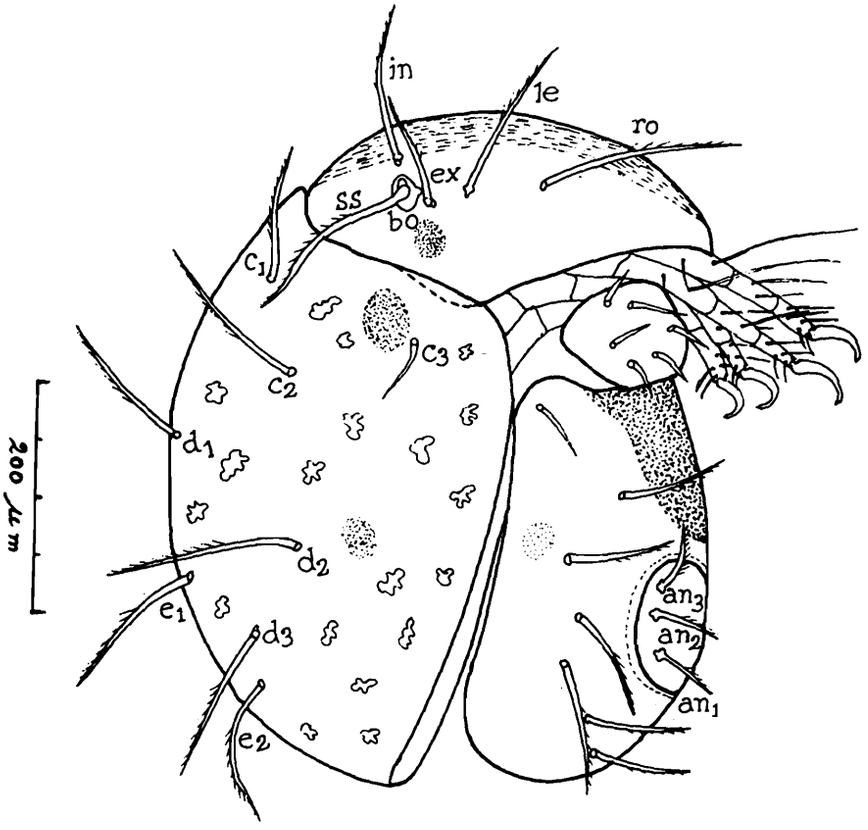

Fig. 1. *Apoplophora aokii* sp. nov. (Lateral view), *ro* = rostral seta, *le* = lamellar seta, *in* = interlamellar seta, *bo* = bothridium, *ss* = sensillus, *ex* = exobothridial seta; c_1, c_2, c_3, d_1, d_2, d_3, e_1, e_2 = notogastral setae, an_1, an_2, an_3 = anal setae.

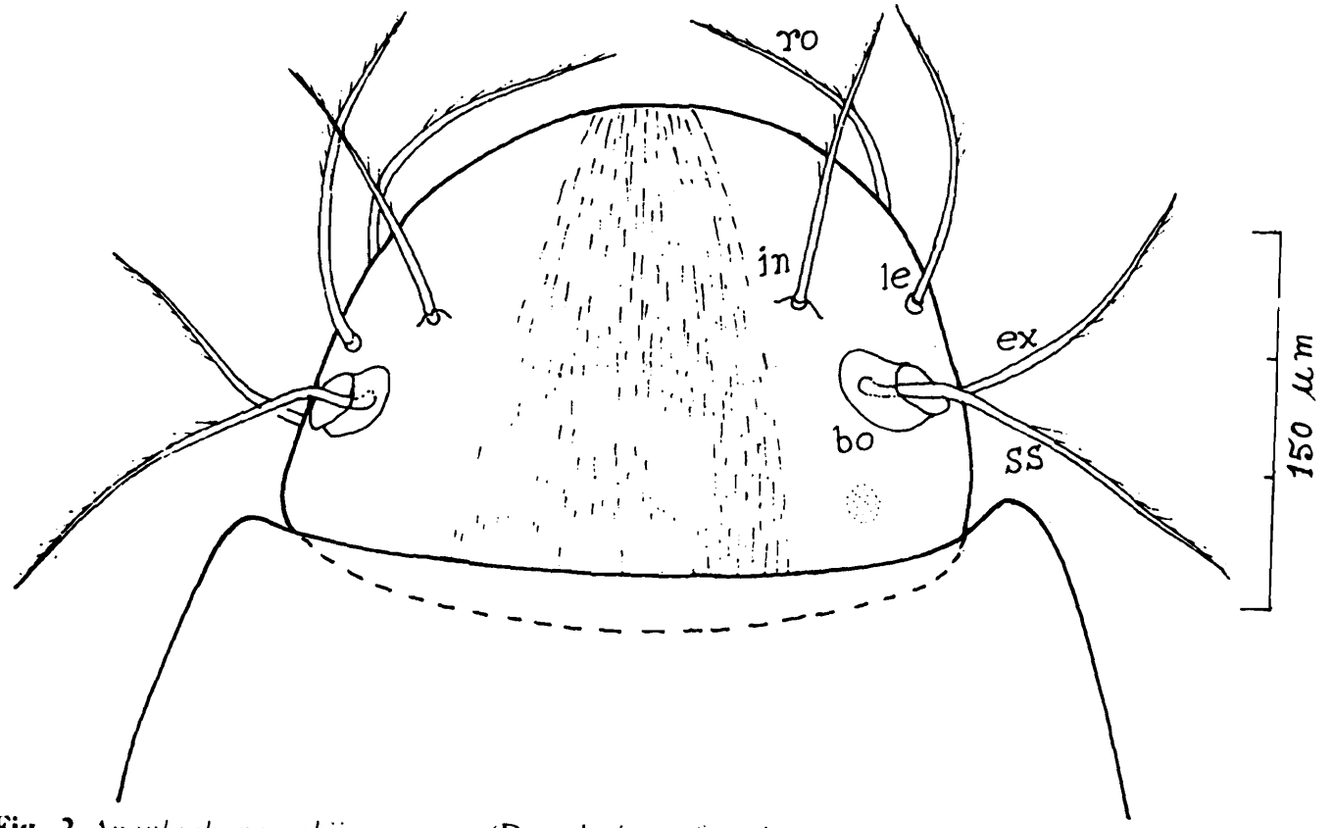

Fig. 2. *Apoplophora aokii* sp. nov. (Dorsal view of aspis), *ro* = rostral seta, *le* = lamellar seta, *in* = interlamellar seta, *bo* = bothridium, *ex* = exobothridial seta, *ss* = sensillus.

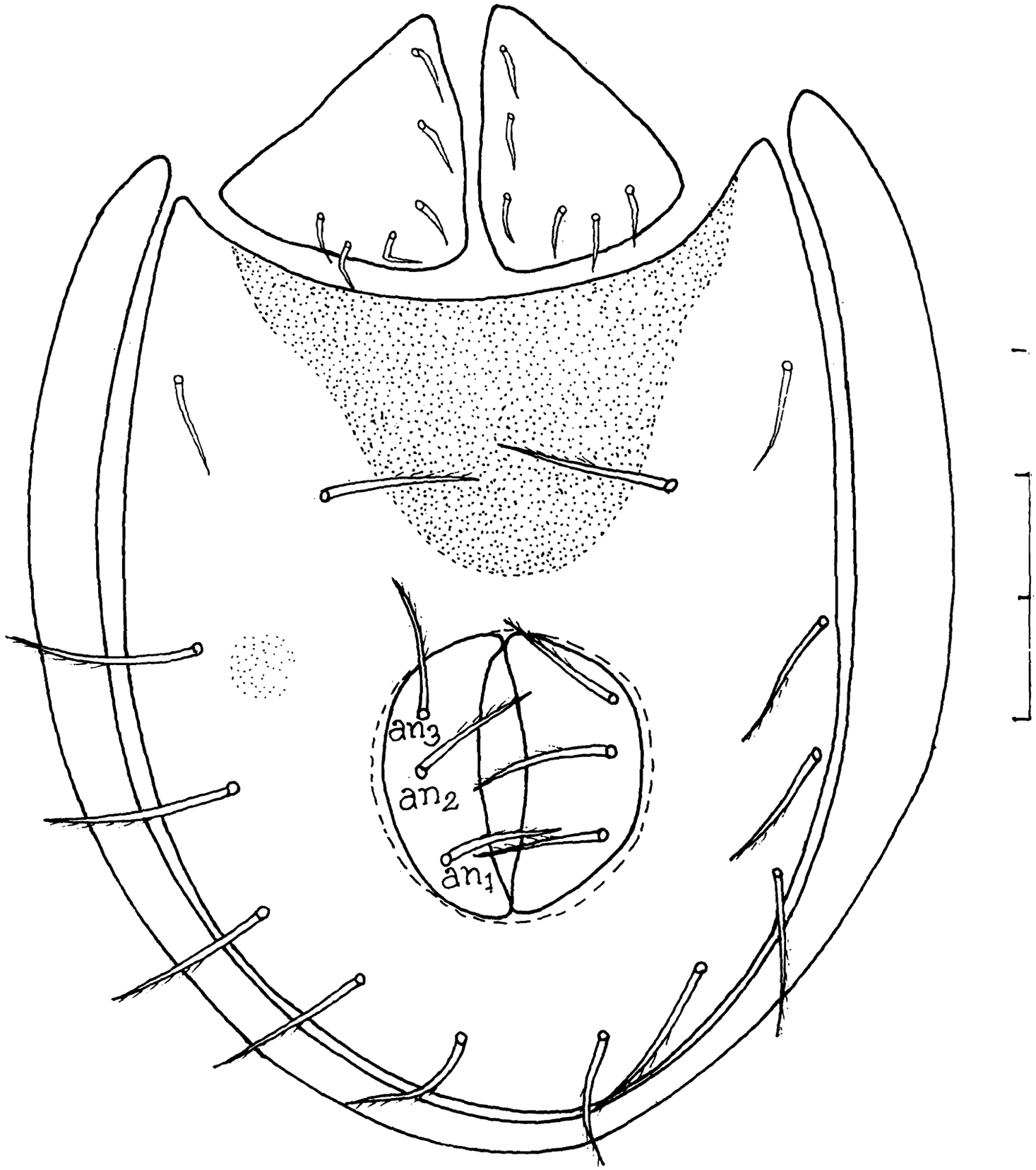

Fig. 3. *Apoplophora aokii* sp. nov. (Ano-genital region), an_1, an_2, an_3 = anal setae.

however, be easily distinguished from *pantotrema* by the nature of notogastral setae c_3, presence of densely punctate region of ventral plate and number of anal setae and on the other hand from *heterotricha* by the presence of distinct striations on aspis and nature and number of ventral setae. It is further separated from *malaya* by having 3 pairs of anal setae, densely punctate region of ventral plate and 7 pairs of ventral setae of which one pair in aggenital position. However, the Indian species is the second *Apoplophora* species with 3 pairs of anal setae next to *A. triseta*. But it is distinctly differed from *triseta* by having larger body size, presence of distinct striations on aspis, 7 pairs of ventral setae and by the nature of notogastral setae c_3.

SUMMARY

This paper deals with the description of a new species of soil oribatid mite (Acari), *viz.*, *Apoplophora aokii* from forests and tea estates of Darjeeling, West Bengal, India.

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