

Some new Macropylines Oribates (*Acarida*) from India

(*Hypochthoniidae*, *Cosmochthonoidea* and *Epilohmanniidae*)

by

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This is the second paper about the oribatid fauna of Tripura (India). Here we study the Primitive Oribatids belonging to the families *Hypochthoniidae*, *Haplochthoniidae*, *Cosmochthoniidae* and *Epilohmanniidae*. The materials were collected by Mrs. Sadhana Sarkar and studied by the authors in the Department of Entomology, Faculty of Biology, Complutense University of Madrid.

Malacoangelia similis n. sp.

Colour.—Whitish.

Measurement.—Length 335 μ ; breadth 200 μ .

Integument.—The whole body is covered by irregular cerotegument which being seen needle-like laterally and granular dorsally.

Prodorsum (Fig. 1).—Rostrum truncate and foveolated anteriorly and thinly punctate posteriorly; rostral setae kidney-shaped with big boundary and rostral insertions widely separated; lamellar setae bifurcate and leaf-shaped; interlamellar setae placed just above bothridia and also leaf-shaped; sensillus long, setiform and barbed bilaterally; exostigmatic setae like interlamellar; posterior region of prodorsum sparsely punctate.

Notogaster (Fig. 1).—Notogastral setae leaf-shaped with mid-rib and long except those of segment II being very small, thin and spiny; lenticulus of usual type of the genus into a pentagonal depression; some other depressed areas also found on anterior and posterior segments.

Ventral region of this species agrees with *M. remigera* BERLESE, 1913, redescribed by GRANDJEAN (1935).

Discussion.—CHAKRABARTY, BHADURI and RAYCHAUDHURI (1972) described *M. remigera indica* from India. Our material is different from other Indian materials in the nature of *ro*, *la*, *in* and also exostigmatic setae. The new species is very close to *M. remigera* BERLESE, 1913 from Java redescribed by GRANDJEAN (1935) from Central America but differs from it in the structure of kidney-shaped rostral and bifurcated lamellar setae and in the possession of interlamellar and exostigmatic setae thicker than that of *remigera*. The sensillus of *similis* is also different because of bilateral barbulation. Notogastral setae c_2 are not bifurcated.

In 1960, WALLWORK describes the new variety *M. remigera symmetrica* from Ghana with similar sensillus present in *similis* but different from the new species because the author says that the remaining features of the body correspond to GRANDJEAN's description of *remigera*.

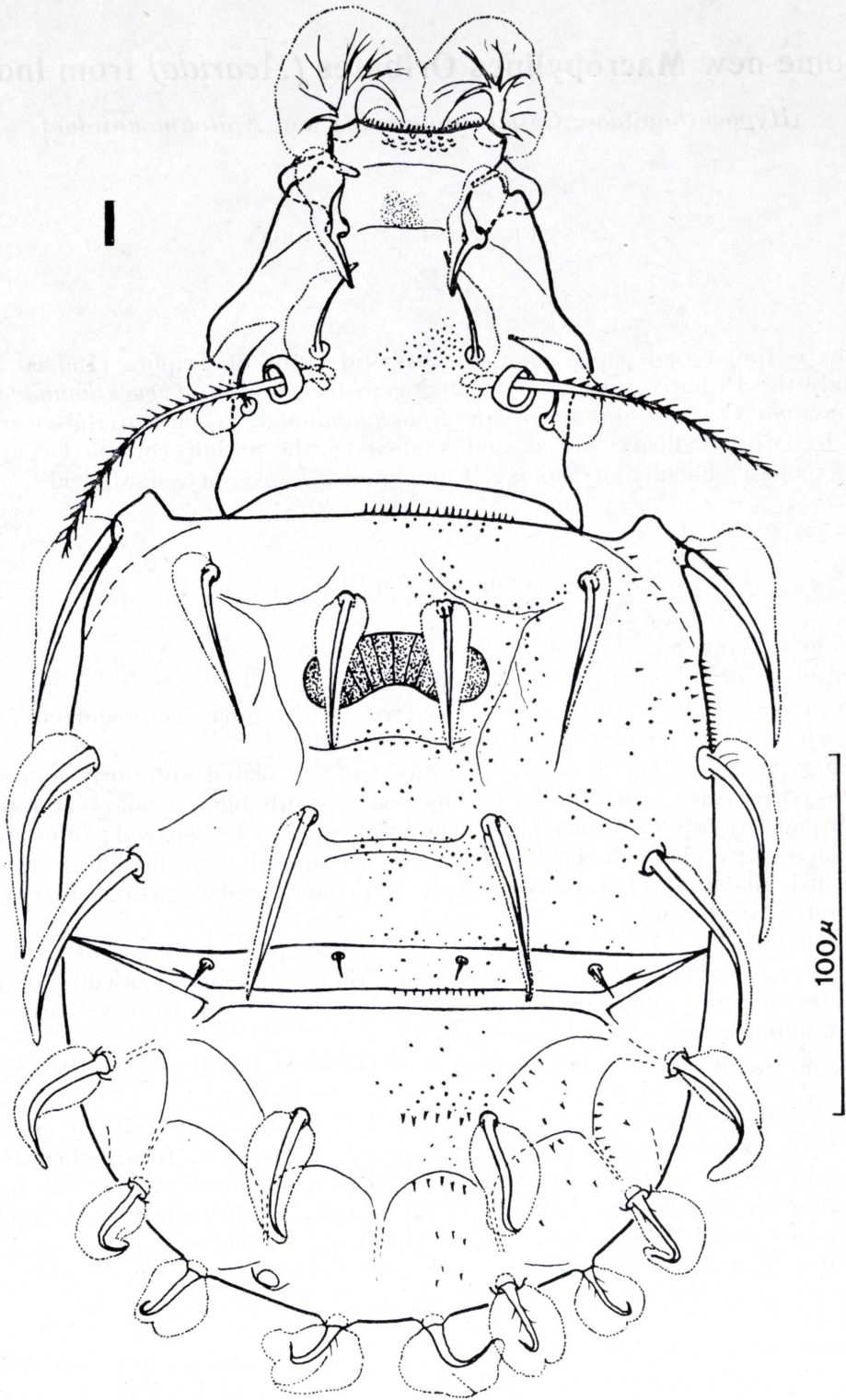


Fig. 1.—*Malacoangelia similis* n. sp.: dorsal view.

Material examined.—Holotype 1 adult, from Atharamura, Tripura on 10.V. 1975 and deposited in the Department of Entomology, Faculty of Biology, Complutense University of Madrid; preserved in 70 % lactic acid.

Cosmochthonius lanatus diversiseta n. ssp.

Colour.—Yellowish.

Measurement.—Length $290\ \mu$ - $305\ \mu$; width $156\ \mu$ - $171\ \mu$.

Integument (Fig. 2).—Body with polygonal reticulation sculpture with a distinct, thick lower cerotegumental cover also reticulated.

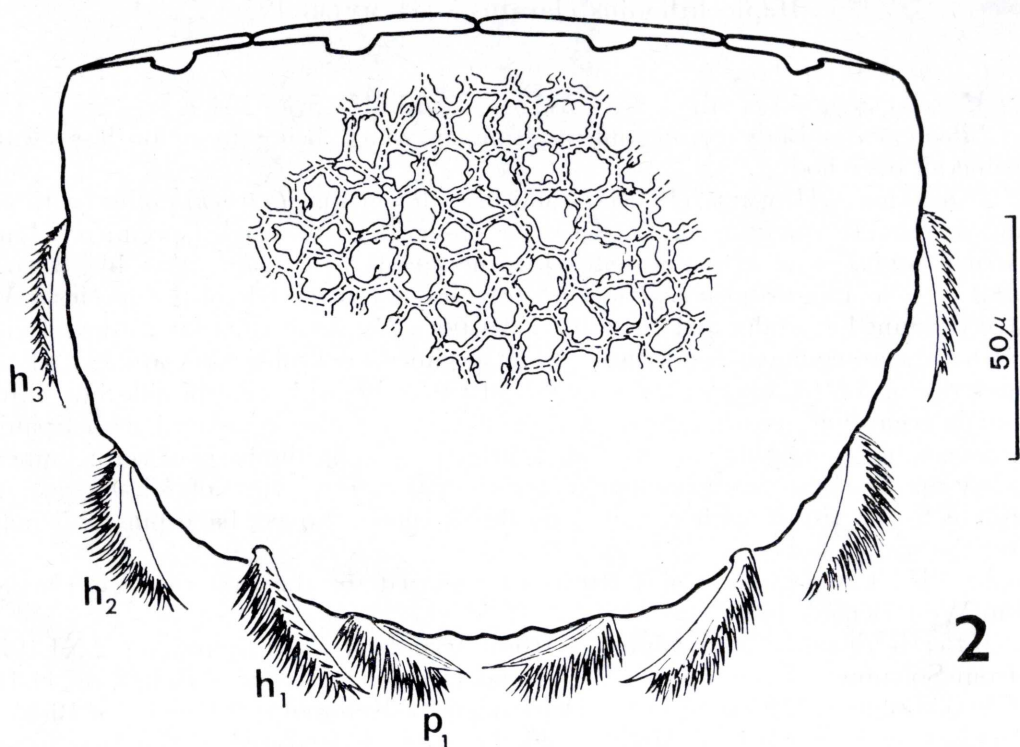


Fig. 2.—*Cosmochthonius lanatus diversiseta* n. ssp.: posterior region of notogaster.

Discussion.—It is interesting to note that till to-day *C. lanatus* (MICHAEL, 1885) was reported with certainty only from holarctic region. Now we find one new subspecies from the soil of India (Oriental region). SUBÍAS (in litt.) discussed the identity of the species *C. lanatus* on the basis of specimens collected from soils of Spain. We have compared our materials with the Spanish materials; both are similar except the structure of h_3 setae (according to notation of SUBÍAS, *op. cit.*) which being clearly narrower than the other posteromarginal setae.

WALLWORK (1960) described *Cosmochthonius lanatus* ? from Ghana and expressed his doubt about the identity of this species with certainty. Tripura materials are different from WALLWORK's specimens also in the nature of h_3 .

Our new subspecies in very different from *Cosmochthonius sublanatus* descri-

bed by MAHUNKA (1977) from Java in a number of characters especially regarding the structure of notogastral setae of segment II and segment IV.

Material examined.—13 adults, 1 from Mohanpur, Tripura on 12.XII.1977, 4 from Durlavpur, Tripura on 11.III.1975, 1 from Brajapur, Tripura on 26.VII.1978, 5 from Jogendranagar, Tripura on 5.III.1976, 1 from Atharamura, Tripura on 10.V.1975 and 1 from Brajapur, Tripura on 4.X.1976; the holotype from Jogendranagar and 6 paratypes deposited in the Department of Entomology, Faculty of Biology, Complutense University of Madrid; the other 6 paratypes deposited in the Department of Zoology, M. B. B. College, Agartala, Tripura, India; all the specimens preserved in 70 % lactic acid.

Haplochthonius clavatus ? (HAMMER, 1958).

Colour.—Whitish.

Measurement.—Length 275 μ - 282.5 μ , width 126.5 μ - 134 μ .

Integument.—Body cerotegument granular which being more or less clearly visible all over body.

Discussion.—HAMMER (1958) established the genus *Tetrochthonius* with the new species *T. clavatus* on the basis of observation of single specimen. Later *Tetrochthonius* was synonymised with the genus *Haplochthonius* by BALOGH (1961). The author did not give clear drawing of ventral side of the species. We have examined 6 adults and resemble HAMMER's *H. clavatus* as far as dorsal view and body cerotegument concerned. Our specimens resemble GRANDJEAN's (1947) redescription of *H. simplex* (WILLMANN, 1930) fully with ventral side but differs from it regarding cerotegument. Our materials are also compared with Spanish specimens of *H. simplex* and are found different also on the basis of cerotegument. As we are unable to compare our materials with ventral view of *H. clavatus*, we hesitate to identify it with certainty as this species. So we have put “?” mark after the name of species.

In 1972 CHAKRABORTI and BHADURI reported for the first time *H. clavatus* from West Bengal, India.

Material examined.—6 adults, 3 from Anandanagar, Tripura, on 2.XI.1976, 2 from Sonamura, Tripura, on 2.I.1975 and 1 from Durlavpur, Tripura, on 11.III.1975; 3 specimens deposited in the Department of Entomology, Faculty of Biology, Complutense University of Madrid and the other 3 deposited in the Department of Zoology, M. B. B. College, Agartala, Tripura, India; all the specimens preserved in 70 % lactic acid.

Epilohmannia pallida WALLWORK, 1962.

The genus is very common in warmer regions of the world, so too in Tripura, India. WALLWORK (1962) collected 160 individuals from Ghana belonging to four distinct species. One of these species was *Epilohmannia pallida*. Tripura specimens show remarkable similarity to *E. pallida* in its general morphological features. Points of similarity include body size, form of the sensillus and prodorsal setae, barbed notogastral setae, chaetotaxy of anogenital region and the presence of 4 strongly thickened setae on tarsus IV. Later, three subspecies of *pallida* were described: *E. pallida pacifica* AOKI, 1965; *E. pallida aegyptica* BAYOUMI and MAHUNKA, 1976; *E. pallida americana* BALOGH and MAHUNKA, 1981.

In none of these subspecies, the integumental microsculpture is described and nothing about colour is mentioned except in the case of *pallida* s. str. where WALLWORK mentioned that the colour was pale yellow-brown and the body sculpture was not conspicuous. The characters by which all the subspecies of *pallida* being separated are not very clear except perhaps *pallida* s. str. We believe that our specimens are clearly different from *pallida* s. str. and have intermedial characters between *pacifica*, *aegyptica* and *americana*, so we think that these belong to two new subspecies of *pallida* group also characterized by colour and definite distinct sculpture of notogaster.

Epilohmannia pallida areolata n. ssp.

Colour.—Deep red-brown.

Measurement.—Length of prodorsum $134 \mu - 156 \mu$, width of prodorsum $104 \mu - 111.5 \mu$; length of notogaster $223 \mu - 245.5 \mu$, width of notogaster $163.5 \mu - 178.5 \mu$.

Integument (Fig. 3).—Notogaster has typical shape of *pallida* species-group and distinct areolate with punctations in between all over body. These areolae are very clear in the most of specimens middorsally. Laterally these areolae appear like foveolae.

Discussion.—The new taxon differs from *aegyptica* in having distance between setae c_1-c_2 and c_2-c_3 almost equal and also having equal length of $3b$ and $3c$, in the usual possession of transverse ridge between epimeres I and in the outer margin of the posterior coxisternal plate that seems to be straight, smooth. Nature of notogastral setal endings and epimeral ridge separate *areolata* from *americana*. The new subspecies is characterized by possessing notogastral setae bilaterally barbed distally and ps_1 touching which being clearly separated in *pacifica*.

Material examined.—33 adults from Brajapur, Tripura on 20.V.1978; holotype and 17 paratypes deposited in the Department of Entomology, Faculty of Biology, Complutense University of Madrid and the other 15 paratypes deposited in the Department of Zoology, M. B. B. College, Agartala, Tripura, India; all the specimens preserved in 70 % lactic acid.

Epilohmannia pallida rugosa n. ssp.

Colour.—Pale yellow.

Measurement.—Length of prodorsum $119 \mu - 134 \mu$, width of prodorsum $96.5 \mu - 115 \mu$; length of notogaster $208.5 \mu - 234 \mu$, width of notogaster $149 \mu - 180 \mu$.

Integument (Fig. 4).—Integumental microsculpture of notogaster is very distinct in the form of rugosae which being widely separated on middorsal part of notogaster and very close laterally.

Discussion.—The new taxon is characterized by having equal distance between setae c_1-c_2 and c_2-c_3 unlike *aegyptica* and also having $3b$ longer than $3c$ unlike *pacifica* and *americana*. Transverse epimeral ridge and shorter setae ps_1 which being not touching separate the new subspecies from both *aegyptica* and *americana*. Outer margin of the posterior coxisternal plate seems to be rugose in this new taxon but is straight in case of *pacifica* and *americana*. Notogastral setae are obtuse in *americana* but pointed in *rugosa*.

Material examined.—2 adults; the holotype from Udaipur, Tripura collected

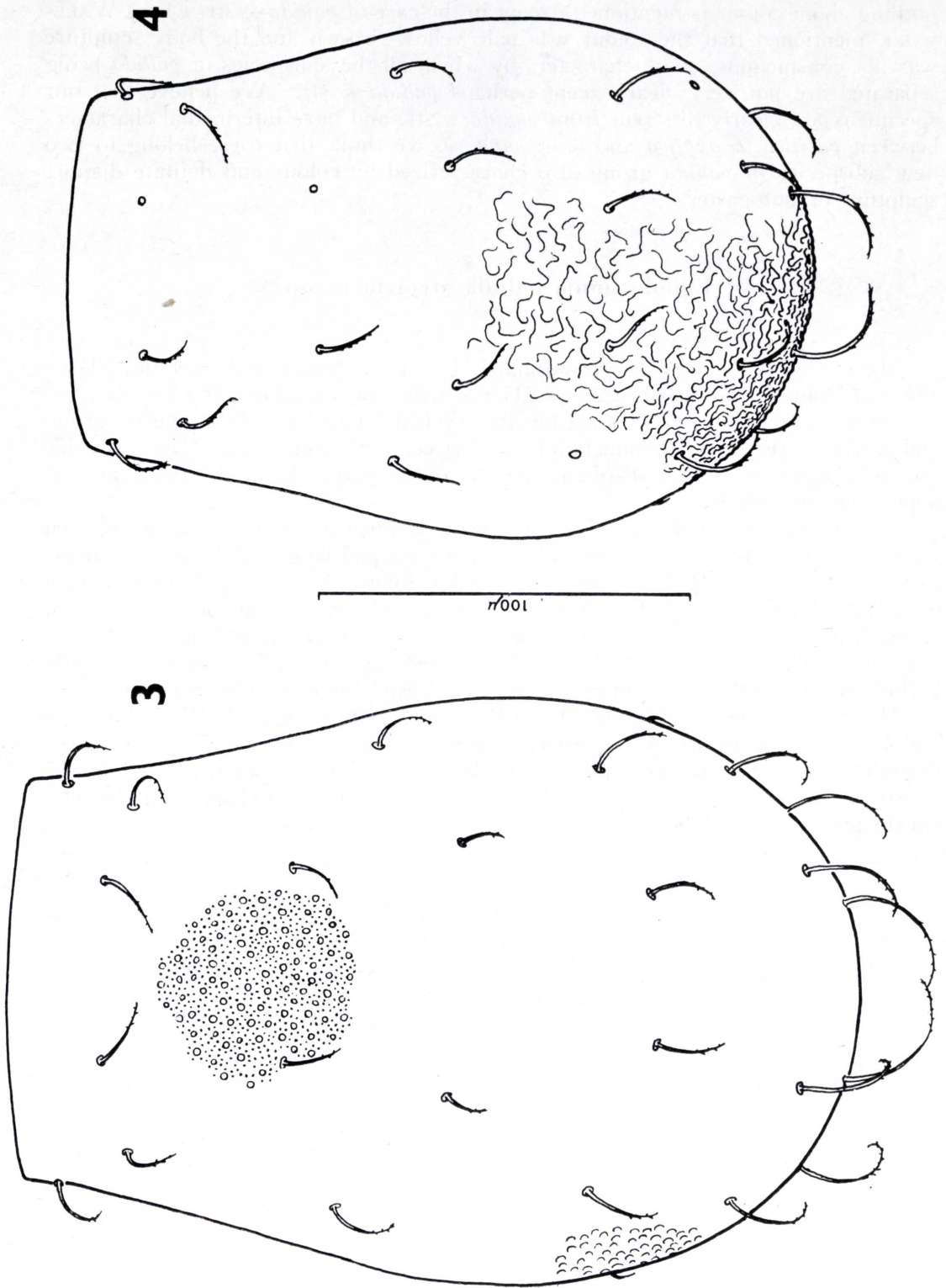


Fig. 4.—*Epilohmannia pallida rugosa* n. ssp.: notogaster.

Fig. 3.—*Epilohmannia pallida areolata* n. ssp.: notogaster.

on 4.IV.1977 and deposited in the Department of Entomology, Faculty of Biology, Complutense University of Madrid and the paratype from Agartala, collected on 10.IX.1977 and deposited in the Department of Zoology, M. B. B. College, Agartala, Tripura, India; all the specimens preserved in 70% lactic acid.

Summary.

In this paper two species and three subspecies are recorded from India. Among these one species, *Malacoangelia similis* n. sp. and three subspecies, *Cosmochthonius lanatus diversiseta* n. ssp., *Epilohmannia pallida areolata* n. ssp. and *Epilohmannia pallida rugosa* n. ssp. are new to science.

Resumen.

En este trabajo se estudian dos especies y tres subespecies procedentes de la India. De éstas, una especie, *Malacoangelia similis* n. sp., y las tres subespecies, *Cosmochthonius lanatus diversiseta* n. ssp., *Epilohmannia pallida areolata* n. ssp. y *Epilohmannia pallida rugosa* n. ssp., son nuevas para la Ciencia.

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