

**A NEW SPECIES OF THE GENUS *ZYGORIBATULA*
(ACARINA : ORIBATIDA : ORIBATULIDAE)
FROM TRIPURA, INDIA**

A. K. SANYAL, SUSMITA SAHA* AND S. CHAKRABORTY**

Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053

INTRODUCTION

Berlese (1916) recognised *Zygoribatula* as a subgenus of the genus *Oribatula* Berlese, 1896 with the type species *Oribatula connexa* Berlese, 1904. But subsequently he (1917) gave it the generic status. Balogh (1972) has considered *Neoribatula* Ewing, 1917 as a synonym of *Zygoribatula* Berlese, 1916.

According to the key of Balogh and Balogh (1992) a total of 106 species are known from the world. Grobler (1994) mentioned that Lee (1991) and Balogh and Balogh (1992) diagnosed the genus *Zygoribatula* based on number of notogastral setae, presence of lamellae, translamella and dorsosejugal suture.

The genus *Zygoribatula* with a known species, *Z. longiporosa* Hammer, 1953 was reported for the first time from India by Bhattacharya *et al.* (1980) from West Bengal. Chakrabarti and Mondal (1983) recorded another known species, *Z. tortilis* Hammer, 1977 from Darjeeling, India. Gupta and Paul (1989) reported *Zygoribatula* from the nest of a bird from Medinipur, West Bengal. Sengupta and Sanyal (1990) recorded *Z. tenuiseta* Hammer, 1977 and *Z. tortilis* Hammer, 1977 from the soil of Himachal Pradesh.

Generic Diagnosis : Lamellae well developed; ribbon-shaped with prominent translamella; continuous dorsosejugal suture; notogaster usually oval, sometimes broadly elliptical, generally with anterior shoulder, notogastral setae 11-14 pairs; 4 pairs of true area porosae present on notogaster; genital setae 4 pairs; aggenital setae 1 pair; anal setae 2 pairs; adanal setae 3 pairs; pteromorphae absent; legs tridactylous.

Distribution : INDIA : Orissa, Tripura, West Bengal. Elsewhere : Antarctica, Australia, Canada, Europe, Hungary, Japan, Kazakhstan, Mauritius, Mongolia, New Zealand, Pakistan, Queensland, Russia, South Africa, Subantarctic Islands, Seychelles, Sweden, Uzbekistan.

* 236, G. T. Road, Mahesh, Hooghly-712 202, West Bengal.

** Dept. of Zoology, University of Kalyani, Kalyani-741 235, West Bengal.

In the present paper a new species *Z. beloniensis* sp. nov. is described from the South District of Tripura.

The measurements of the specimens are given in micron (μm). The type specimens are deposited in the National Zoological Collection, Zoological Survey of India, Kolkata.

DESCRIPTION OF SPECIES

Zygoribatula beloniensis sp. nov.

(Test figs. 1–3)

Colour : Brown.

Measurements : Length of the body : 536; width of the body : 376–404.

Prodorsum : Rostrum with a sharp tooth situated medially on its anterior border, rostral setae long (48), thin, rough, situated on lateral margins of rostrum and extending beyond tip of rostrum for about half of their length; lamellar setae longest (92) among prodorsal setae, thin, smooth with pointed tip, extending beyond tip of rostral setae; lamellae of equal thickness throughout their length, translamella well developed, equal in thickness to lamellae and forming a flat arch; inner margin of lamellae and translamella thickened, cuspes absent, but lamellar-translamellar junctions somewhat anteriorly directed; interlamellar setae long (63), stout, smooth, erect, anteriorly and outwardly directed; sensillus with moderately long (22) stalk, head round, smooth, granulated; prodorsum finely punctated.

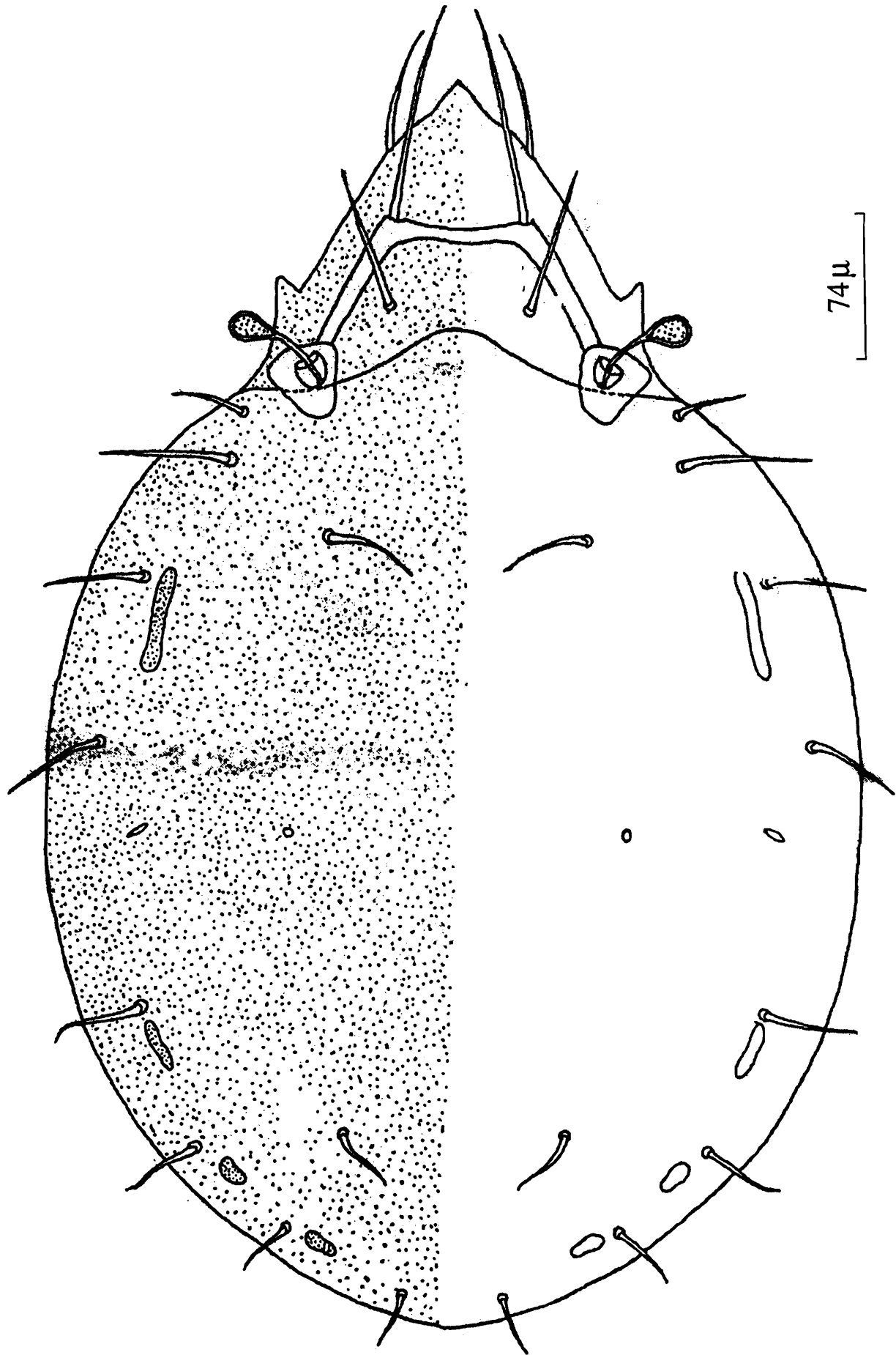
Notogaster : Notogaster oval-shaped, rounded posteriorly, its anterior margin forming a flat, anteriorly directed arch which ends laterally in well-developed shoulders; notogaster finely punctated; notogaster with 11 pairs of smooth, thin, long (22–47) setae; areae porosae distinct and large, area porosa adalaris very long (58) and narrow, area porosa mesonotica elongated, shorter (33) than previous one and area porosa posteriora round-shaped.

Epimeral Region : Epimeral region finely punctated; apodemata I and III incomplete, apodemata II complete, apodemata IV absent; epimeral setae smooth, short, setal formula 3–1–3–3.

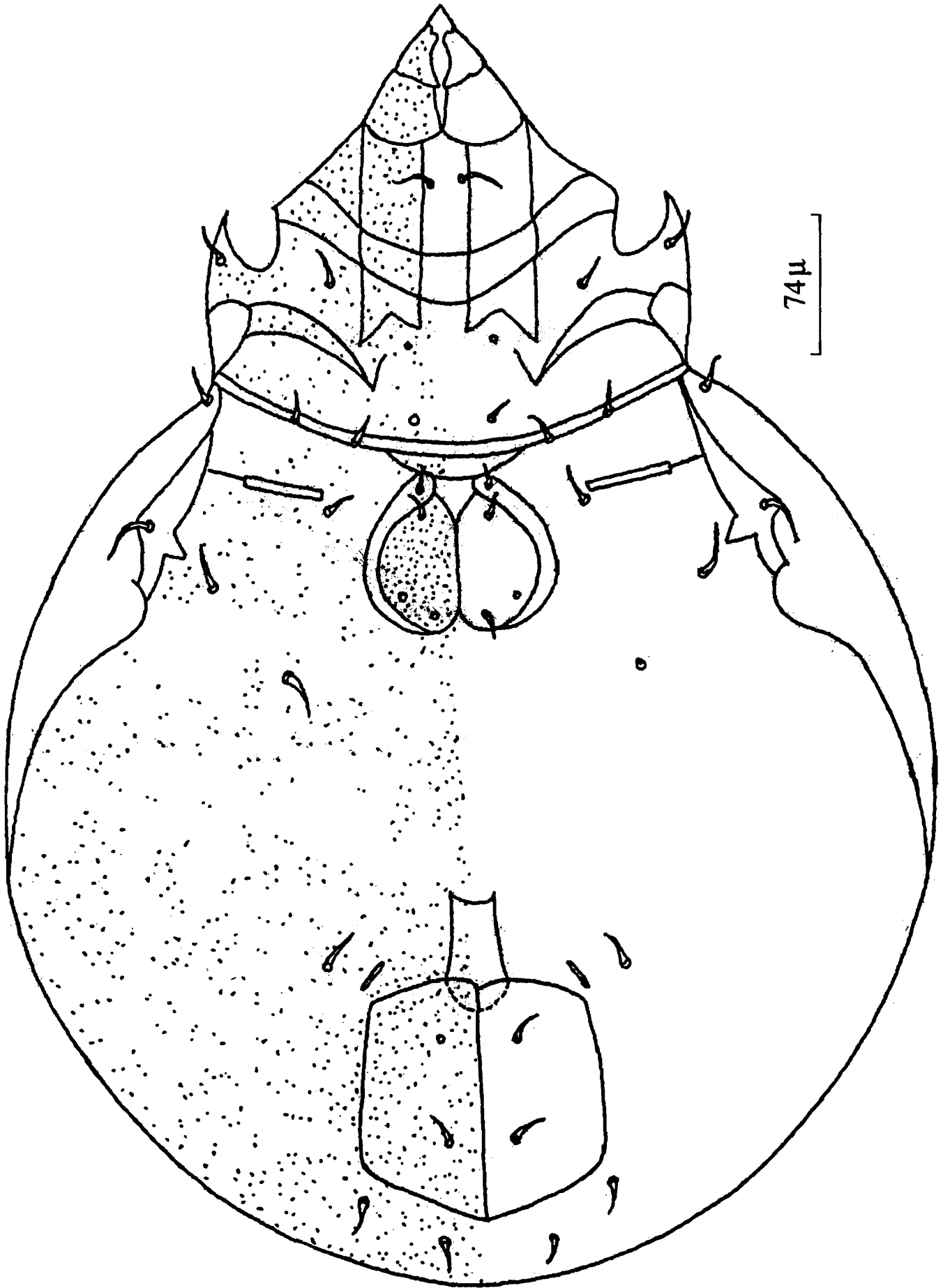
Ano-genital Region : Genital plates punctated and more or less oval (length : 63, width : 70) with 4 pairs of smooth, small genital setae; anal plates punctated and more or less squarish (length : 92, width : 107) with 2 pairs of smooth setae; adanal setae 3 pairs, ad_3 anterolateral to anal plates; *iad* anterior to anal plates, ventral plates finely punctated.

Legs : Tridactylous. Leg chaetotaxy : I : 0–4–3–3+1–16–3; II : 0–4–3–4+1–17–3; III : 0–2–1–4–11–3; IV : 1–2–2–6–9–3.

Material examined : HOLOTYPE : Adult female, India : Tripura : Radhakisorganj (Belonia), 12.x.1993, from loose soil by the side of root of bamboo tree with cowdung and rotten straw, coll. S. Saha. PARATYPES : 3 adult females, data same as for holotype.



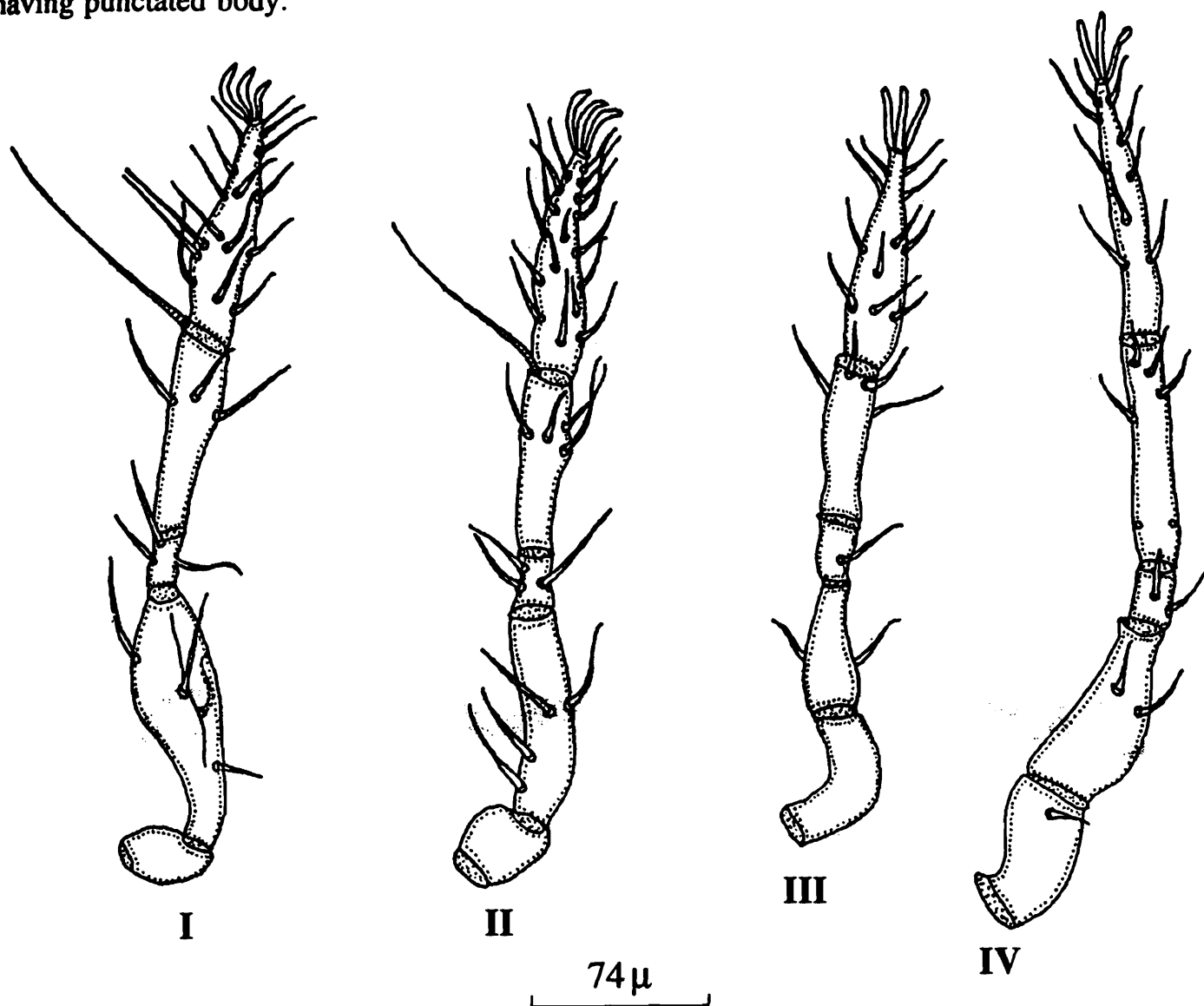
Figs. 1. *Zygoribatula beloniensis* sp. nov. – dorsal view.



Figs. 2. *Zyoribatula beloniensis* sp. nov. – ventral view.

Distribution : INDIA : Tripura (South District).

Remarks : The new species from Tripura is closely related to *Z. longiporosa* Hammer, 1953 regarding body shape, medially pointed toothed rostrum and nature of area porosa. The new species can be distinguished from *longiporosa* by the presence of smooth round headed sensillus and in having punctated body.



Figs. 3. *Zygoribatula beloniensis* sp. nov. – legs (I–IV).

SUMMARY

This paper contains the description along with illustrations of a new species *viz.*, *Zygoribatula beloniensis* from Tripura, India.

ACKNOWLEDGEMENTS

The authors are thankful to Director, Zoological Survey of India, Kolkata, for laboratory facilities.

REFERENCES

- Balogh, J. 1972. The Oribatid genera of the world. *Akad, Kiado*, Budapest, Hungary, pp. 1-359.
- Balogh, J. and Balogh, P. 1992. The Oribatid mites genera of the world, vol. I and II. *Hungarian National History Museum*, Budapest, pp. 1-375.
- Berlese, A. 1916. Centuria terza di Acari nuovi. *Redia*, **12** : 289-338.
- Berlese, A. 1917. Acarines Deuxieme exped. Antarct. Fravcaise (1908-1910). *Documents Scientifiques*, **1917** : 11.
- Bhattacharya, T., Joy, V. C. and Joy, S. 1980. Soil inhabiting cryptostigmata (Acari) of the rice field ecosystem in relation to agro technical measures. *Tropical Ecology and Development*, 981-987.
- Chakrabarti, D. K. and Mondal, B. K. 1983. On a collection of Oribatid fauna (Acari : Oribatei) from Darjeeling District, India. *Indian J. Acar.*, **8** : 40-43.
- Grobler, L. 1994. Species of the genus *Zygoribatula* Berlese, 1916 (Acari, Oribatida, Oribatulidae) from South Africa III. *Zygoribatula contracta* spec. nov. and *Zygoribatula setosa* Evans, 1953. *Navors. nas. Mus. Bloomfontein*, **10(6)** : 261-279.
- Gupta, S. K. and Paul, K. 1989. Nest associated acarines of birds in India. In : *Progress in Acarology* (Eds. G. P. Channa Basavanna and C. A. Viraktamath), **2** : 315-321.
- Lee, D. C. 1991. New species of Oribatulidae (Acarida : Cryptostigmata : Planofissurae) from South Australian soils, with a review of subfamilies and Australian records. *Rec. S. Aust. Mus.*, **26** : 37-49.
- Sengupta, D. and Sanyal, A. K. 1990. Oribatid (Acari : Oribatei) fauna of the Himalayan soils of Himachal Pradesh, India. *Environ. Ecol.* (Kalyani), **8(IA)** : 149-153.