

ORIBATID MITES FROM COCONUT PALM — 3. A NEW SPECIES
OF *AFRONOTHRUS* (ACARI : ORIBATEI : TRHYPOCHTHONIIDAE)
FROM KERALA (INDIA)

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ORIBATEI
SPECIES,
COCONUT PALM

ABSTRACT : Taxonomic description of a new oribatid species viz. *Afronothrus arboreus* inhabiting coconut palm is given. This new species also occurs on the weed *Chromolaena odorata*. The genus is a new record from India.

ORIBATEI
ESPÈCES
COCOTIER

RÉSUMÉ : On présente ici la description taxonomique d'une espèce nouvelle d'oribatide, *Afronothrus arboreus* vivant sur le cocotier. Cette espèce se trouve aussi sur la mauvaise herbe *Chromolaena odorata*. Ce genre est reporté pour la première fois de l'Inde.

Afronothrus arboreus sp. nov.
(Figs. 1-4)

Colour : Transparent to pale brown.

Measurements : Length 548 μ m (Range : 523-587 μ m); width : 293-306 μ m).

Sex : female.

Prodorsum (Fig. 1) :

Prodorsum flat, triangular and gradually broadening downwards with lateral protuberances on either side of the bothridia; rostrum round, blunt and without any incisions; seta *ro* (Fig. 1A) inserted below the rostral apex, narrow, tapering, flexible, roughened and measures 67 μ m; a pair of incomplete lateral ridges present one on either side of the prodorsum between the rostral setae and the bothridia, which become more thickened at the anterior

half; lamella absent; seta *le* (Fig. 1B) stiff, erected, roughened, longer than their mutual distance, measuring 37 μ m and with their points of insertion marked by ridges; the long and smooth seta *in* (Fig. 1C) inserted very near to the bothridium and forms the longest among the prodorsal setae, measuring 84 μ m; bothridium (*bo*) (Fig. 1D) with circular opening, the inner wall of which provided with linearly arranged foveolated striation; sensillus (*ss*) (Fig. 1D) short-stalked with a spherical smooth head projecting laterad; exobothridial setae absent; integument of the prodorsum distinctly porose.

Notogaster (Fig. 1) :

Notogaster more or less oval with a slightly wavy dorsosejugal suture; fifteen pairs of setae of varying size arranged on the notogaster as shown in Fig. 1; c_2 and d_2 very small and h_2 and ps_2 very long, equal in size and tapering terminally, f_2 and ps_1 rough-

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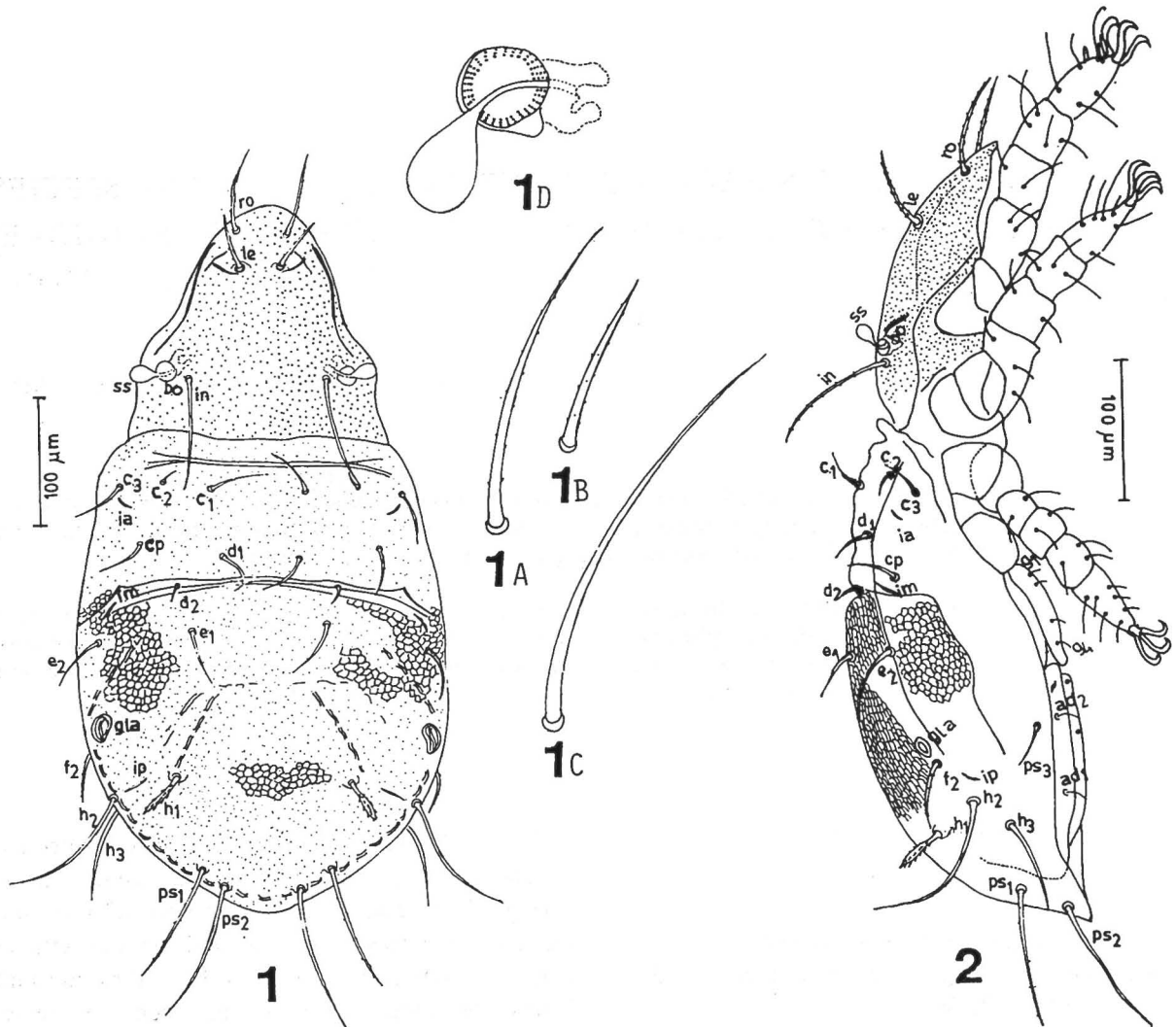


FIG. 1-2 : *Afronothrus arboreus* sp. nov.

1. — Dorsal view. 1A. — Rostral seta. 1B. — Lamellar seta. 1C. — Interlamellar seta. 1D. — Sensillus and bothridium. 2. — Lateral region.

ned, insertions of f_2 and h_3 visible ventrally, h_1 thick, heavily barbed and with prominent insertional points, h_2 and h_3 opposed each other in direction, ps_1 and ps_2 with prominent insertional points, ps_3 located ventrally; a well developed transverse furrow present between the insertion of cp and d_1 anteriorly and e_2 and e_1 posteriorly which merges with the polygonal reticulations on the lateral sides of the notogaster; fissure ia obliquely placed below the insertion of c_3 ; im similarly located in the

median furrow; ip resembles im but longer than the latter and located almost at the level of h_1 ; opening of the lateroabdominal gland (gla) detected slightly below the middle of the body; posterior and posterolateral regions of the notogaster sclerotized to form light brown areas; the integument of the notogaster lying posterior to the median furrow ornamented with polygonal reticulation; the entire surface of the notogaster weakly porose.

Lateral region (Fig. 2) :

The integument of the lateral region of the prodorsum also porose; tutorium and other prodorsal condyles absent; pedotecta not detected.

Ventral region (Fig. 3) :

Epimeral setal formula 3-1-3-2, epimeral boundaries clearly separated and smooth showing size variation, *1b* and *3b* long, *1a*, *2a* and *4c* very short and *1c*, *3a*, *3c* and *4b* intermediate in size; in

paratype 2 all epimeral setae except *1b* and *3b* equal in size; epimeral surface porose.

Genital and anal regions :

Genital and anal plates contiguous, the former broader anteriorly and posteriorly, each genital plate carries four smooth setae arranged close to the inner margin, *g*₁ and *g*₂ placed anteriorly, one behind the other, *g*₃ situated slightly behind the middle of the plate and *g*₄ located posteriorly; no aggenital setae; anal plates narrow, each plate

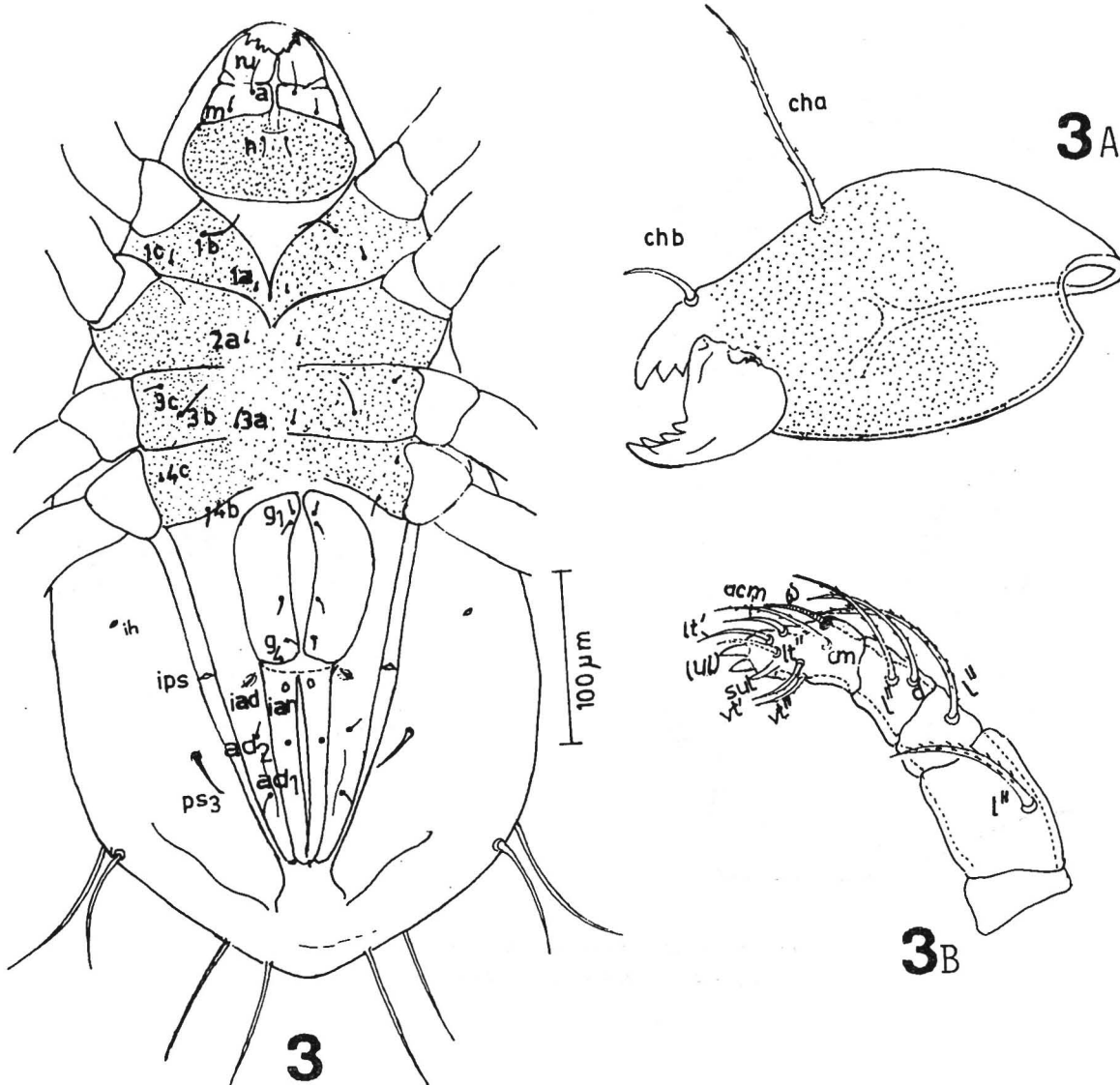


FIG. 3 : *Afronothrus arboreus* sp. nov.
 3. — Ventral view. 3A. Chelicera. 3B. — Pedipalp.

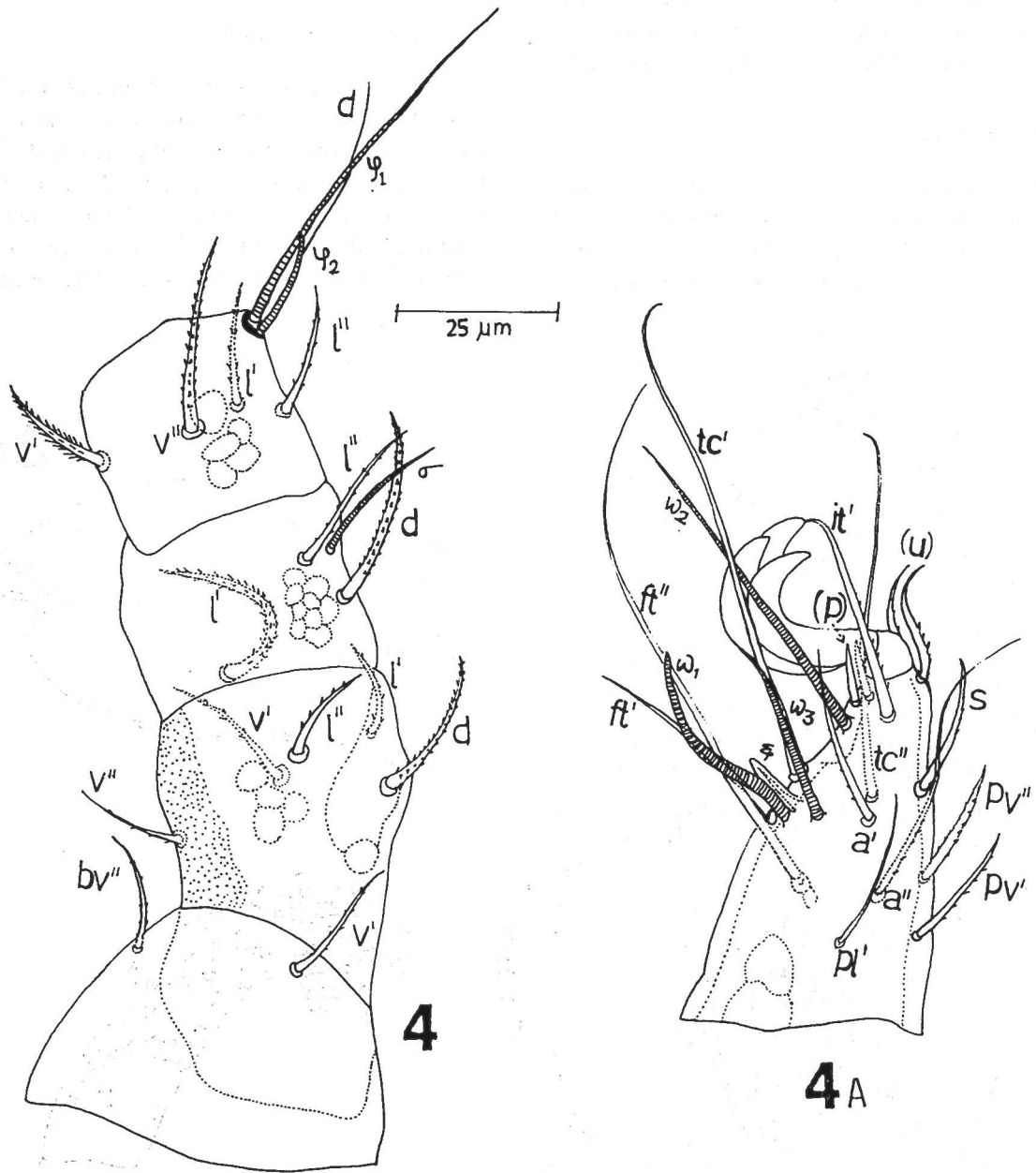


FIG. 4 : *Afronothrus arboreus* sp. nov.
4. — Leg I except tarsus. 4A. — Tarsus I.

carrying a single seta represented by its insertion; two pairs of smooth adanal setae present; fissure *ian* situated anteriorly on the anal plate, *iad* located slightly above the level of *ian* and *ips* seen on the unsclerotized part between the ventral and adanal shields unlike that of the other known species of the genus, *ih* seen far above on the ventral plate, more or less to the level of seta g_3 . *Gnathosoma* :

Labiogenal articulation diarthric type; mentum broad and appearing porose; genae narrow and smooth; rutellum (*ru*) broad, unsclerotized and with three to four notches; all the infracapitular setae smooth and of different size, *a* the longest, *m* the shortest and *h* intermediate in size; chelicerae (Fig. 3A) broad and 3/4 of their surface appearing porose, digitus fixus with three and digitus mobilis with four teeth, seta *cha* long and barbed while seta *chb* short and smooth; pedipalps (Fig. 3B) five segmented with a setal complement of 0-1-1-2-10; setae of palpal femur, genu and tibia long and barbed, setae (*ul*) and *sul* of palpal tarsus eupathidic, seta *acm* not eupathidic and placed far from the solenidion ω , setae *vt'* and *vt''* roughened, *lt'* and *lt''* smooth.

Legs :

All legs tridactylous and homodactylous, leg segments appearing broader; chaetotaxy of leg I (Figs. 4 and 4a) 2-5-3 (1)-5 (2)-16 (3); trochanter I bears two roughened setae, *bv''* and *v'*; femur I long and stout carrying five setae, of which *d* densely barbed; genu I short bearing three barbed setae and a solenidion σ , seta *l'* and *d* thick and densely barbed; tibia I carries a long solenidion φ_1 and a short solenidion φ_2 , and seta *d* very thin and closely associated with the solenidia, seta *v'* plumose; tarsus I (Fig. 4A) with three solenidia ($\omega_1, \omega_2, \omega_3$), a famulus ε and fifteen setae, solenidion ω_1 thick and blunt apically while the other two pointed distally, placed near setae (*p*), setae (*tc*) very long, smooth and curved terminally, (*u*) basally thickened and barbed, setae *it'*, (*a*), *s* and (*pv*) barbed; (*p*) thick and smooth, *ft'* and *ft''* thin and smooth, the latter quite long and tapering terminally.

Materials examined :

Holotype ♀ paratypes 3 ♀♀, collected from the foliage of coconut palm, Calicut University Campus, Kerala, India on 28.6.84.

REMARKS :

WALLWORK (1961) first described the genus *Afro-nothrus* from Ghana with *A. incisivus* as the type species. The present new species can be easily distinguished from the type species and its three subspecies *A. incisivus neotropicus* Balogh and Mahunka, 1974, *A. incisivus maheensis* Mahunka, 1978 and *A. incisivus paraguayensis* Mahunka, by the general appearance of the body, clearly spherical nature of the sensillus, thick and densely barbed nature of seta h_1 , absence of lateral incision on the notogaster and the anteriorly broadened nature of the genital plates. It shows resemblance to *A. incisivus sulcatus* Hammer, 1972 in the general appearance of the body, nature and arrangement of most of the body and in the presence of polygonal reticulation on the notogaster. However, it keeps its identity separate in the following respects : 1) roughened nature of setae *ro*, *le*, f_2 and ps_1 ; 2) absence of lamellae; 3) clearly spherical nature of sensillus; 4) thick and densely barbed nature of seta h_1 and the stiff nature of seta h_3 and 5) absence of polygonal reticulation on the ventral plate.

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Paru en Juillet 1992.