

THREE NEW SPECIES OF THE GENUS *CHAUNOPROCTUS* PEARCE (1906) (ACARINA : ORIBATIDA) FROM INDIA

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INTRODUCTION

The genus *Chaunoproctus* was established by Pearce (1906) with *C. cancellatus* as the type collected from Sikkim Himalaya. Berlese (1916) erected a genus *Zetorchella* with *Z. pedestris* as the type species from Somaliland. Balogh (1958) erected another genus *Caloppia* with *C. basilewskyi* as the type from Angola, Africa. Both the genera, *Zetorchella* and *Caloppia* were regarded by Balogh (1965) as synonyms of the genus *Chaunoproctus*, but later in 1972 he considered them as distinct genera.

Recently J. Balogh and P. Balogh (1992) again considered both *Caloppia* and *Zetorchella* as synonyms of the genus *Chaunoproctus*.

The genus was reported from different parts of the world by several workers like Pearce (1906), Balogh (1958, 1959), Wallwork (1961), Higgins (1966), Karppinen (1966), Bhaduri, Bhattacharyya and Chakrabarty (1975), Corpuz-Raros (1979) and Dhali, Bhaduri and Raychoudhuri (1980).

In India Bhaduri, Bhattacharya and Chakrabarty (1975) described two new species, *C. abalai* and *C. clavisetosus* from West Bengal. Chaudhuri and Banerjee (1977), Chakrabarti and Mondal (1983) reported *C. abalai* from West Bengal. Dhali, Bhaduri and Raychoudhuri (1980) described a new species, *C. longisetosus* from Sikkim. Sanyal (1992, 1996) reported the genus from West Bengal and Rajasthan. Sengupta and Sanyal (1986) again reported the genus from Bihar. Recently Bhattacharya and Chakrabarti (1995) reported the genus from Tripura.

The genus is reported here from South District of Tripura having 4 species including 3 new species.

Generic Diagnosis : Apterogasterine; prodorsum shortly pyramidal; lamellae bar like, narrow, marginal, never meeting apically, connected by thin translamella; interlamellar setae long; notogaster rough, foveolated with 10 pairs of thick, setose or club-shaped setae; genital setae 6 pairs; legs long, thin and tridactylous.

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Distribution : INDIA : Bihar, Rajasthan, Sikkim, Tripura, West Bengal. Elsewhere : America, Africa.

Key to the species of the genus Chaunoproctus from Tripura

- 1(2) Interlamellar setae short, club-shaped; sensillus with short stalk and densely barbed rounded head; notogastral setae club-shaped with densely placed bristles
 *C. orientalis* sp. nov.
- 2(1) Interlamellar setae long; sensillus with long stalk; notogastral setae long
- 3(4) Sensillus with club-shaped head and long thin stalk directed outward and slightly backward; except *ta* all notogastral setae setose *C. longisetosus* Dhali and Bhaduri, 1980
- 4(3) Sensillus long without distinct head; *ta* either smooth or barbed
- 5(6) All prodorsal and notogastral setae barbed; body foveolated *C. sisiri* sp. nov.
- 6(5) All prodorsal and notogastral setae smooth; body punctated and foveolated
 *C. amarpurensis* sp. nov.

Chaunoproctus orientalis sp. nov.

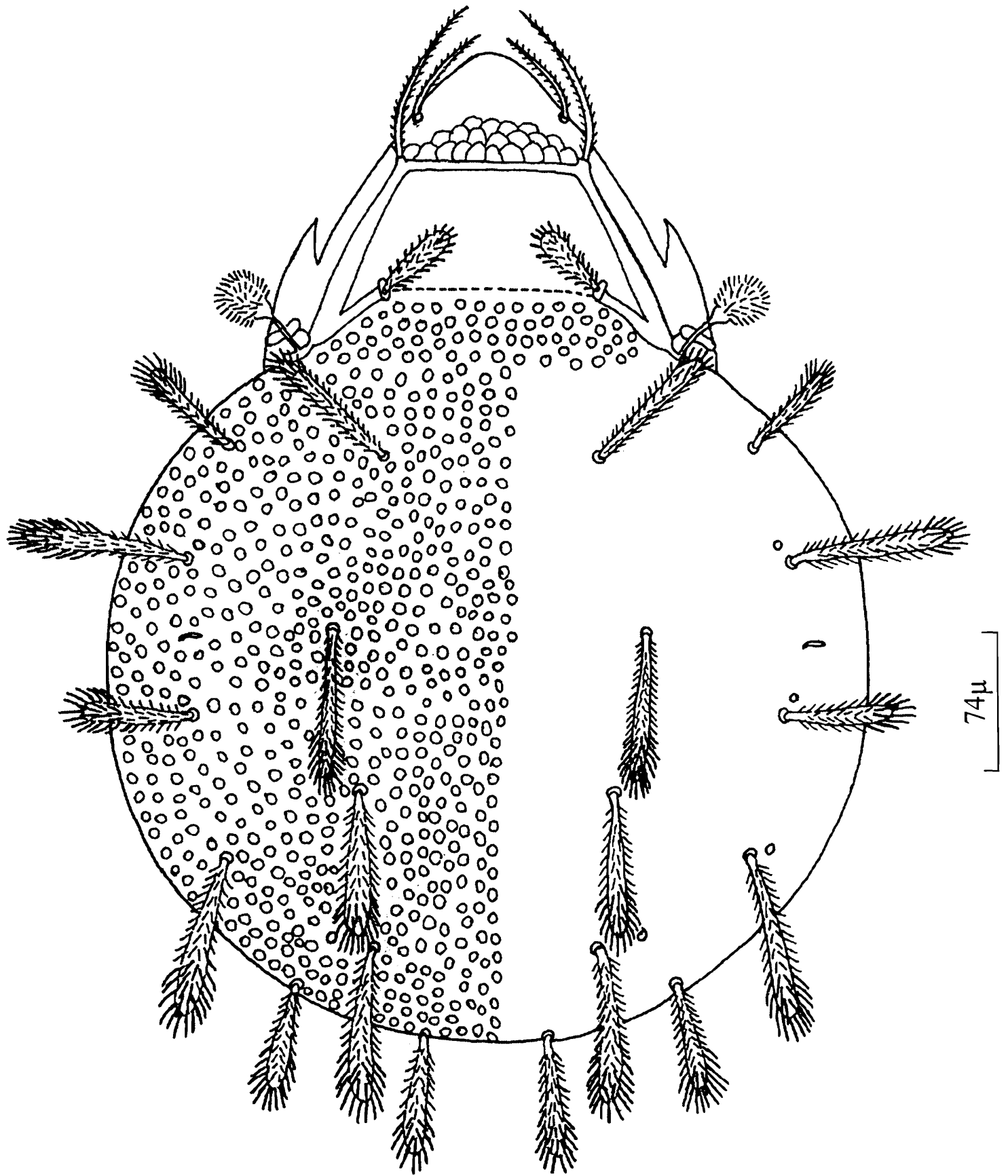
(Figs. 1-2)

Colour : Dark brown.

Measurements (in μ) : Length of the body : 211, width of the body : 326.

Prodorsum : Rostrum broad, rounded; rostral setae moderately long (63), thin, mounted on apophyses on each side of rostrum, bilaterally barbed; narrow bar like lamellae connected by a thin translamella; lamellar-translamellar junction anteriorly directed; lamellar setae (78) longest among prodorsal setae and almost equal to their mutual distance, barbed bilaterally and extended well beyond tip of rostrum; interlamellar setae (30) shortest among prodorsal setae, club-shaped, densely barbed; sensillus with prominent stalk and rounded, densely barbed head; above translamellar line prodorsal region with faint reticulate markings.

Notogaster : Notogaster rounded, surface foveolated with ten pairs of narrowly club-shaped setae, distally with comparatively long and densely placed bristles; *ti*, *ms* and *r*₁ placed at inner row and *ta*, *te*, *r*₃ and *r*₂ located at outer row on notogaster; distance *ti*-*ms*(74) > *r*₁-*ms* (67); *ta* (52) shorter than *ti* (67) and *te* (70), *ta*-*te* (52) < *te*-*r*₃ (70), postero-marginal setae 3 pairs, *p*₁ (55) inserted in posterior margin of notogaster, nearly equal to *p*₃ (48) but much smaller than *p*₂ (70); four pairs of area porosae present on notogaster; fissure *im* an oblique slit placed laterally at middle of notogaster in between insertion of *te* and *r*₃.



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Fig. 1. *Chaunoproctus orientalis* sp. nov., Dorsal view.

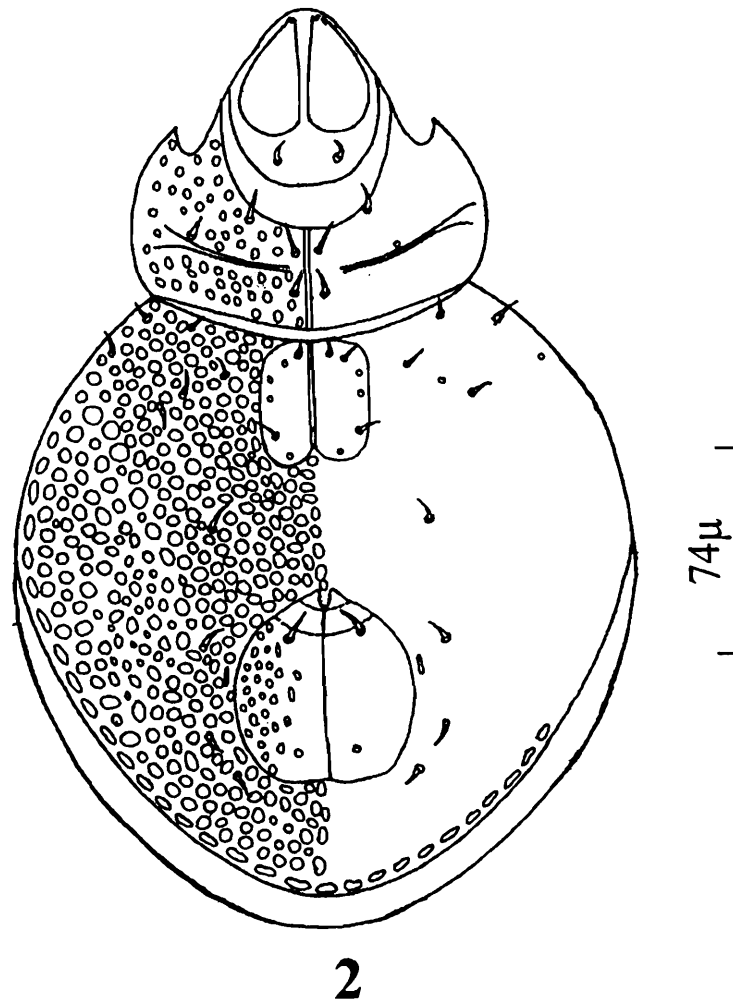


Fig. 2. *Chaunoproctus orientalis* sp. nov., Ventral view.

Epimeral Region : Epimeral region foveolated; epimeral setae simple, short (7-11), fine, setal formula 3-1-3-3.

Ano-Genital Region : Genital plate trapezoidal (length : 59, width : 52) with 6 pairs of setae of which 2 pairs located at anterior margin, 2 pairs at lateral margin and 2 pairs at posterior margin of genital plates; distance between genital and anal plates exactly equal to length of genital plates; anal plates longer (length : 92, width : 78) than genital plates, with 2 pairs of setae; adanal setae 3 pairs, ad_1 located at postero-lateral, ad_2 at latero-median and ad_3 at antero-lateral margin of anal field; ventral plate with foveolae.

Legs : Leg tridactylous, middle claw stronger than lateral ones.

Material Examined : *Holotype* : Adult female, India : Tripura : Amarpur, 4.iii.1992, from litter of rotten leaves of mixed vegetation, coll. S. Saha. *Paratype* : 1 adult female, data same as holotype.

Distribution : INDIA : Tripura (South District).

Remarks : The new species approached close to *C. clavisetosus* Bhaduri *et al.*, 1975 in the shape of body, position of prodorsal and notogastral setae and body foveolation, but can easily be separated from the latter species in having sensillus with rounded and barbed head, short

interlamellar setae not touching the translamellar line, densely barbed notogastral setae and having distance $ti-ms > r_1-ms$.

Chaunoproctus sisiri sp. nov.

(Figs. 3-4)

Colour : Dark Brown.

Measurements (in μ) Length of the body : 677; width of the body : 517.

Prodorsum : Rostrum rounded; rostral setae moderately long (113), thin, inserted laterally on apophyses on either side of rostrum, curved inward and barbed outside with minute setae, pointed at tip; narrow bar like lamellae extend over nearly half of length of prodorsum and joined by a thin translamella; lamellar-translamellar junction anteriorly directed; lamellar setae long (188), slightly thicker than rostral setae, bilaterally barbed, extend beyond tip of rostrum and with pointed tip; interlamellar setae slightly longer (197) than lamellar setae, their mutual distance about half of their length, bilaterally barbed and with blunt tip; bothridium cup-shaped; sensillus long (122), distally thickened, without distinct head, barbed densely on both sides; prodorsum with reticulate markings excepting interlamellar region.

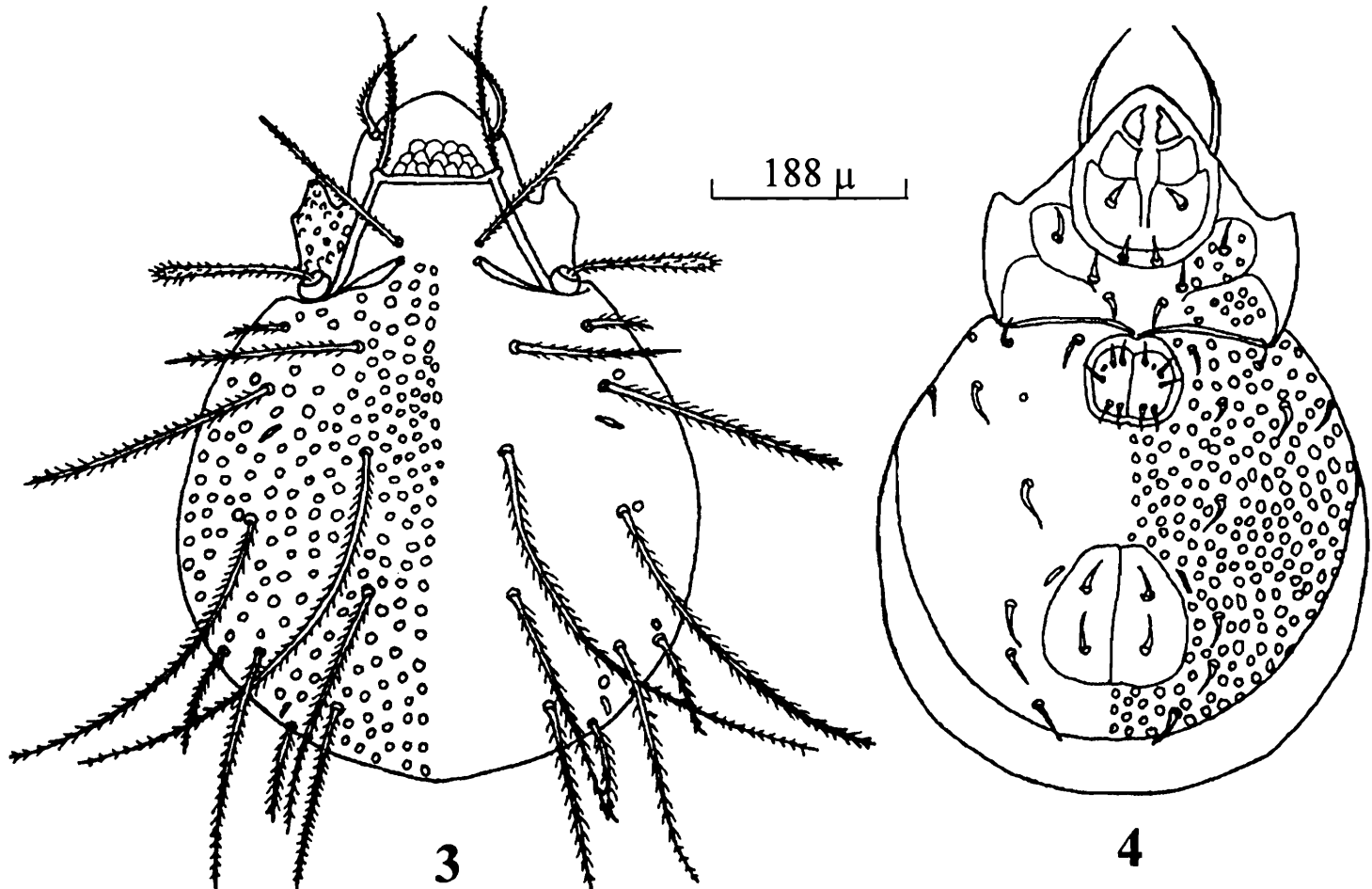


Fig. 3-4. *Chaunoproctus sisiri* sp. nov. Fig. 3. Dorsal view; Fig. 4. Ventral view.

Notogaster Notogaster rounded, surface rough and foveolated, with ten pairs of elongated setose setae, setae ta (66) shortest one and barbed, p_2 (103) and p_3 (113) shorter than p_1 (160), ms (376), r_3 (282) exceptionally long; te and r_2 equal in length (226); distance $t_1-ms < ms-r_1$ and $ta-te$ smaller than $te-r_3$; four pairs of small area porosae on notogaster.

Epimeral Region : Epimeral region foveolated; epimeral setae simple, short (7-10), setal formula 3-1-3-3.

Ano-Genital Region : Genital plate almost rounded (length : 75, width 75) with six pairs of setae of which 2 pairs located at anterior margin, 2 pairs at lateral margin and 2 pairs at posterior margin of genital plates; distance between genital and anal plates exactly equal to length of anal plates (132); anal plates (length : 132, width : 122) with two pairs of setae; three pairs of adanal setae; ventral plate densely foveolated.

Legs : Leg tridactylous.

Material Examined Holotype Adult female, India Tripura : Baikora (Sabrum), 27.iv.1992, from litter below banana plant, coll. S. Saha. *Paratype* : 1 adult female, India : Tripura; Dhuptali (Udaipur), 28.iv.1992, from decomposed soil with loose litter, coll. S. Saha.

Distribution : INDIA : Tripura (South District).

Remarks : The new species is comparable to *C. longisetosus* Dhali and Bhaduri, 1980 regarding body shape and nature of notogastral and prodorsal setae. But it shows dissimilarities with *longisetosus* in having long, barbed sensillus without any distinct head and in possessing barbed setae ta . The species also shows similarities with *C. amarpurensis* sp. nov. in shape of body, long prodorsum and notogastral setae and shape of sensillus. However, it markedly differs from *amarpurensis* sp. nov. in having barbed prodorsal and notogastral setae and without any punctation on the body.

Chaunoproctus amarpurensis sp. nov.

(Figs. 5-6)

Colour : Dark brown.

Measurements (in μ) : Length of the body : 617; width of the body : 503.

Prodorsum : rostral setae moderately long (111), thin, inserted laterally on apophyses on either side of rostrum, curved inward and smooth; narrow bar like lamellae extended over nearly half of length of prodorsum and joined by very thin translamella, lamellar-translamellar junctions rounded; lamellar setae long (170), thin, smooth, tip pointed, directed anteriorly and extended well beyond tip of rostrum; interlamellar setae longest (207) among prodorsal setae, thin, smooth, with pointed tip; sensillus long (78), smooth, directed outward, distally thickened, without distinct head, prodorsum punctated densely.

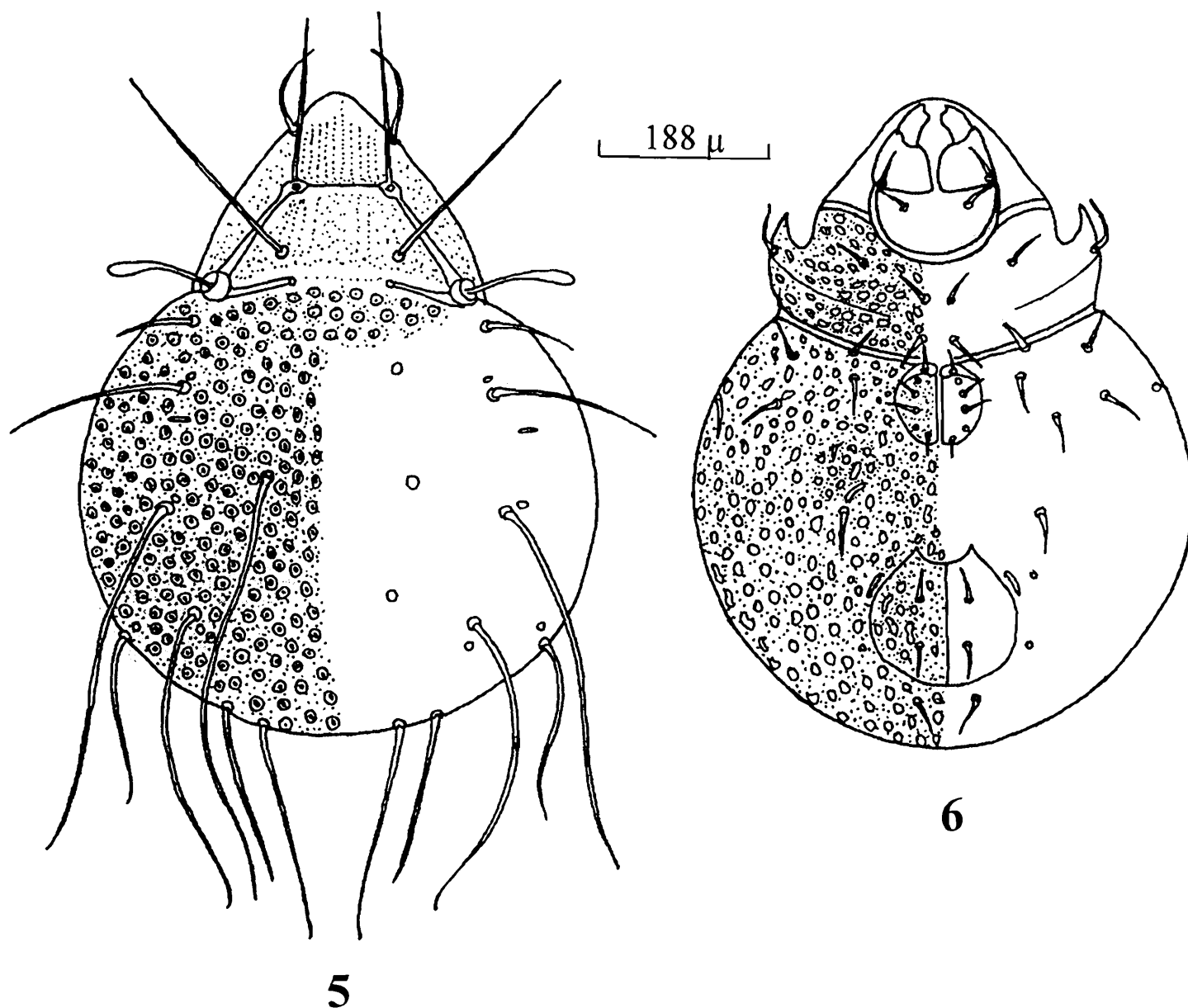


Fig. 5-6. *Chaunoproctus amarpurensis* sp. nov. Fig. 5. Dorsal view; Fig. 6. Ventral view.

Notogaster : Notogaster rounded, surface punctated and foveolated, dark punctation inside all foveolae; ten pairs of elongated, smooth notogastral setae; setae ta (81) smallest and smooth, r_3 (377); ms (388); r_1 (333) are exceptionally long, P_2 (96) and P_3 (111) smaller than P_1 (181); distance t_1-ms more or less equal to $ms-r_1$ and $ta-te < te-r_3$; four pairs of small area porosae present on notogaster.

Epimeral Region : Epimeral region punctated and foveolated; epimeral setae short (7-11), smooth, epimeral setal formula 3-1-3-3.

Ano-Genital Region : Genital plate punctated, trapezoidal (length : 81, width : 78) with 6 pairs of setae; distance between genital and anal plates (111) slightly shorter than length of anal plates; anal plates punctated with irregular foveolae, more or less rectangular in shape (length : 122, width : 174), with two pairs of setae; three pairs of adanal setae, ad_1 placed posteriorly, ad_2 placed postero-laterally and ad_3 in postero-median position; ventral plate punctated and foveolated.

Legs : Leg tridactylous.

Material Examined : *Holotype* : Adult female, India : Tripura : Birganj (Amarpur), 2.i.1992, from litter beside Gomti river, coll. S. Saha. *Paratypes* : 6 adult females, India : Tripura : Jarimura (Amarpur), 2.i.1992, from loose soil with decomposed leaf litter, coll. S. Saha.

Distribution : INDIA : Tripura (South District).

Remarks : The species resembles *C. longisetosus* Dhali and Bhaduri, 1980 in general body shape, in having long prodorsal and notogastral setae and smooth *ta*, but can easily be separated from *longisetosus* in having smooth, thin long prodorsal setae; long, smooth sensillus without distinct head; smooth notogastral setae; punctated prodorsum, notogastral punctation and dark punctated area inside the foveolae and also having punctated, foveolated epimeral and ano-genital region. The new species also shows similarities with *C. sisiri* sp. nov. in shape of body, long prodorsal and notogastral setae and shape of sensillus. But it differs from *sisiri* in having smooth prodorsal and notogastral setae and body punctation.

Chaunoproctus longisetosus Dhali and Bhaduri

1980. *Chaunoproctus longisetosus* Dhali & Bhaduri, *Indian J. Acar.*, **5** : 53.

Colour : Dark Brown.

Measurements (in μ) : Length of the body 592-614; width of the body : 450-468; *ro* : 95-105; *la* : 150-165; *in* 190-197; *ss* : 70-76; length of the notogastral setae : 95-350; length of the genital plates : 70-75; width of the genital plates : 68-73; distance between the genital and anal plates : 101-109; length of the anal plates : 105-112; width of the anal plates : 150-165.

Material Examined : 2 adult females, India : Tripura Ampinagar (Amarpur), 15.xii.1991, from soil and litter below cowdung, coll. S. Saha.

Distribution : INDIA : Sikkim, Tripura (West District and South District).

Remarks : The specimens collected from South Tripura district correspond with drawing and description of *C. longisetosus* Dhali and Bhaduri, 1980 in all the characters.

SUMMARY

Three new species, *Chaunoproctus orientalis* sp. nov., *C. sisiri* sp. nov. and *C. amarpurensis* sp. nov. are described and illustrated alongwith their affinities. A known species *C. longisetosus* Dhali and Bhaduri, 1980 is also reported here from the State. A key to all the four species is also provided.

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