

A NEW SPECIES OF OTOCEPHEIDAE (ACARI : ORIBATEI)  
FROM DARJEELING, INDIA

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(With 2 Figures)

INTRODUCTION

A new species of the genus *Dolicheremaeus* Jacot (Acari : Oribatei : Otocepheidae), viz., *D. geminus* is described from forest and tea soils in the district of Darjeeling, West Bengal, India.

The genus *Dolicheremaeus* was established by Jacot (1938) with *D. rubripedes* as the type-species from Florida, U. S. A. Balogh (1965, 1972) and Aoki (1967) considered the genus *Tetracondyla* Newell, 1956 as a junior synonym of the genus *Dolicheremaeus*. Balogh (1972) also considered the genus *Dicondyla* Aoki, 1965 as a synonym of the genus *Dolicheremaeus*. 78 species and 4 subspecies have so far been described under the genus. All measurements are in microns.

***Dolicheremaeus geminus* sp. nov.**

(Figs. 1-2)

*Female* : Colour brown to light brown ; length of the body : 877-981 ; width of the body : 445-499.

Prodorsum nearly as long as broad, laterally with irregular incomplete foveoles and medially with punctations ; lateral lamelliform expansion (*spa. l*) well developed ; lamellae slightly converging anteriorad ; tatorium weakly developed ; rostral setae uniseriate, procumbent, with pointed tips, inserted at the anterior end of *spa. l*, laterally on rostrum, 95-104 long, nearly as long as their mutual distance ; lamellar setae uniseriate, procumbent, with pointed tips, inserted inner to the rostral setae nearly the same level, 117-131 long, one and half times as long as their mutual distance ; interlamellar setae distinctly seriate with blunt tips, inserted below a thin, small, chitinous ridge, 117-131 long, nearly two and half times as long as their mutual distance ; bothridium cup-shaped, directed antero-laterad, ventral bothridial plate (*tbv*) triangular and well developed ; sensillus with thin, long stalk, uniformly thick throughout and spoon-shaped head, with an inner core, 140-153 long, directed postero-laterad ; exobothridial setae 1 pair, minute,

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19-21 long, intimate to the bothridial plate; median prodorsal condyles (*co. pm*) absent; lateral prodorsal condyles (*co. pl*) well developed, touching the anterior rim of lateral notogastral condyles (*co. nl*); a longitudinal row of scales present in the interpseudostigmatic region.

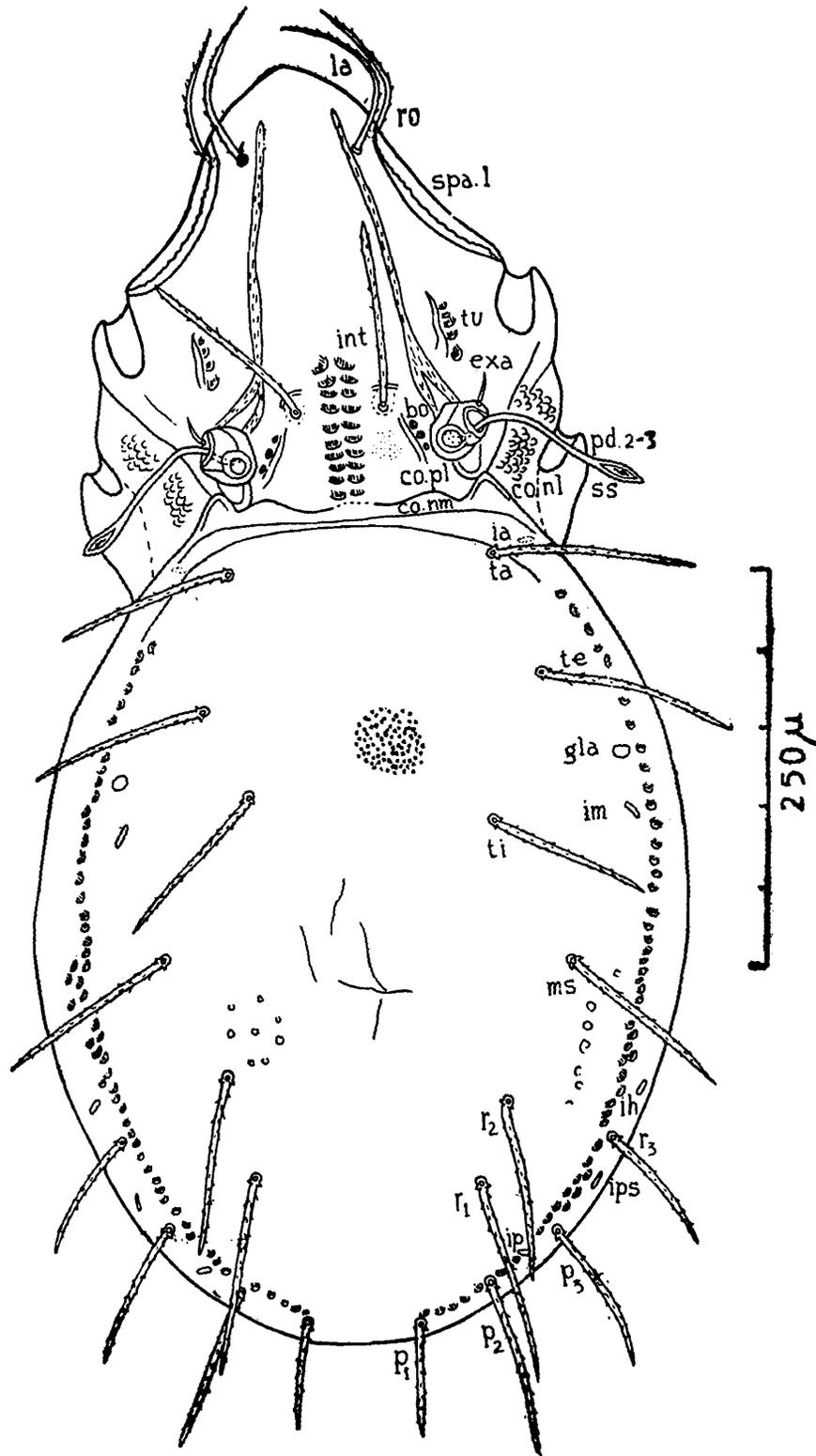


Fig. 1. *Dolicheremaeus geminus* sp. nov. (Dorsal view), *ro*=rostral seta, *la*=lamellar seta, *int*=interlamellar seta, *exa*=anterior exobothridial seta, *ss*=sensillus, *bo*=bothridium, *spa. l*=lateral lamelliform expansion, *tU*=tutorium, *pd. 2-3*=pedotecta-complex II-III, *co. pl*=lateral prodorsal condyle, *co. nl*=lateral notogastral condyle, *co. nm*=median notogastral condyle, *ta*, *te*, *ti*, *ms*, *r<sub>1</sub>*, *r<sub>2</sub>*, *r<sub>3</sub>*, *p<sub>1</sub>*, *p<sub>2</sub>*, *p<sub>3</sub>*=notogastral setae, *ia*, *im*, *ih*, *ips*, *ip*=dorsal lyrifissures, *gla*=orifice of latero-abdominal gland.

Notogaster oval, finely punctate throughout, with crack-like lines and scattered irregular foveoles posteriorly and a porous area peripherally; median notogastral condyles (*co. nm*) well developed, broadly rounded, being widely separated from each other but closely adjacent to the lateral notogastral condyles (*co. nl*) —hence the specific name;

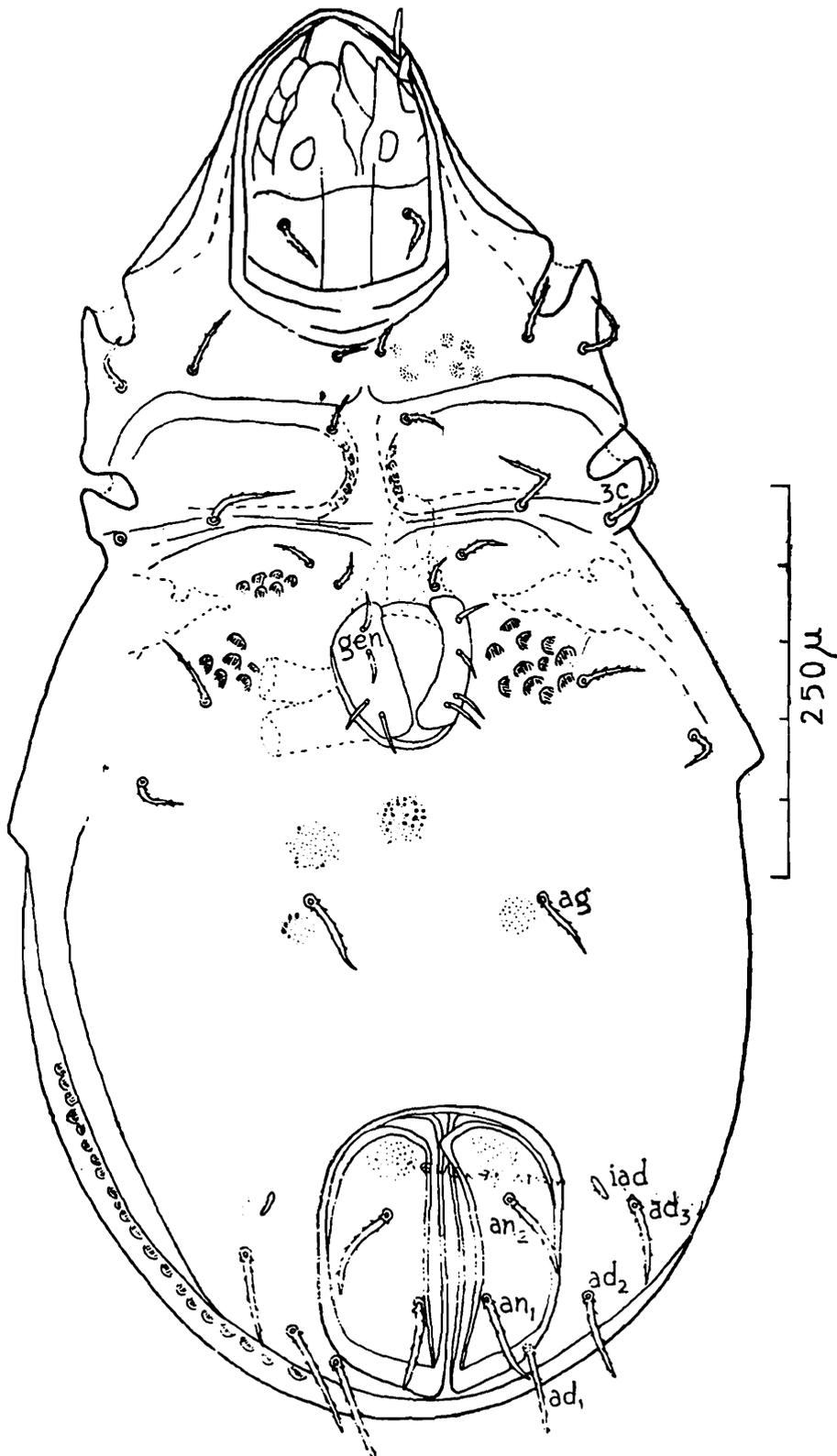


Fig. 2. *Dolicheremaeus geminus* sp. nov. (Ventral view), *an*<sub>1</sub>, *an*<sub>2</sub> = anal setae, *ad*<sub>1</sub>, *ad*<sub>2</sub>, *ad*<sub>3</sub> = adanal setae, *iad* = adanal fissure, *gen* = genital plate, *ag* = aggenital seta, *3c* = epimeral seta, *c. st* = sternal ridge.

lateral notogastral condyles (*co. nl*) tooth-like, well projected anteriorad; notogastral setae ten pairs, barbed, with blunt tips and distinct setal base, 77-140 long, ranging from 13.8-25.2 *RLN*; setae *ta* antero-lateral, *te*, *ms* dorso-lateral, *ti* mid-dorsal,  $r_1, r_2$  postero-dorsal,  $p_1, p_2, p_3$  and  $r_3$  postero-marginal; distance *ta*—*te* greater than distance *te*—*ti* and nearly half the distance *te*—*ms*; distance  $ti-ti < ta-ta < te-te < ms-ms$ ; distance  $r_1-r_1 < r_2-r_2$ ; distance  $p_1-p_2 < p_2-p_3 < p_3-r_3$ ; notogastral fissures 5 pairs, *ia* located antero-lateral to the follicle of *ta* (indistinct in dorsal view), *im* aligned obliquely between *te* and *ms* laterally, *ih* above the insertion of  $r_3$ , *ips* between  $p_3$  and  $r_3$  more closer to  $p_3$ , *ip* between  $p_2$  and  $p_3$  nearer to  $p_2$ ; *gla* rounded, placed quite anterior to *im*, separated by a distance which is about one and half times the length of the latter.

Ventral plate punctate; each anal plate punctate, more than twice as long as broad, with two finely barbed, nearly equal setae, 54-72 long;  $an_1$  inserted close to the inner and posterior and  $an_2$  median and anterior part of the anal plate, separated by a distance nearly equal to the length of the former; adanal setae three pairs, faintly barbed, 54-90 long,  $ad_1, ad_2$  nearly equal and  $ad_3$  shorter than either of the two,  $ad_1, ad_2$  postero-lateral and  $ad_3$  medio-lateral to the anal field, distance  $ad_3-ad_3 > ad_2-ad_2$ ; *iad* oblique to the lateral border of anal field above  $ad_3$ , separated by a distance from the follicle of  $ad_3$  which is equal or slightly greater than its length; each genital plate more than twice as long as its maximum width, with 4 simple setae, 18-27 long, the posterior two setae inclined outwards and anterior two setae inclined inwards on the genital plate; aggenital setae one pair, barbed, with pointed tips, 45-68 long, their mutual distance nearly twice the maximum width of the genital plates.

Epimeral region with scaly microsculptures; epimera I and II distinctly separated, III and IV fused, sternal ridge of epimera II distinct; epimeral setae finely barbed, 20-90 long, setae *3c* longest; epimeral setal formula 3-1-3-3.

Legs monodactylous, claws curved; all legs with ultimate setae of flagelliform type (L-L-L-L).

*Holotype*: Adult ♀, INDIA: W. Bengal: Darjeeling, Darjeeling forest Div., Tonglu forest range, Palmajua forest bungalow area (from decomposed leaves of *Cryptomeria japonica*), 2300 m., 16. viii. 1977 (B. K. Mondal Coll.); paratypes: 2 adult ♀♀, data same as for holotype; paratypes: 2 adult ♀♀, INDIA: W. Bengal: Darjeeling, Pashok Tea Estate (from rotten leaves of *Thea sinensis*), 1200 m., 22. x. 1977 (B. K. Mondal Coll.); paratypes: 2 adult ♀♀, INDIA: W. Bengal:

Darjeeling, Darjeeling forest Div., Teesta Valley forest range, Pashok forest block (from soil under a plant, *Acacia catechu*), 700 m., 22. x. 1977 (B. K. Mondal Coll.); paratypes: 2 adult ♀♀, INDIA: W. Bengal: Darjeeling, Teesta Valley Tea Estate (from humus), 900 m., 23. x. 1977 (B. K. Mondal Coll.); deposited in the laboratory of the Department of Zoology, Presidency College, Calcutta.

This species approaches close to *Dolicheremaeus baloghi* Aoki, 1967 described from South Japan in the absence of median prodorsal condyles (*co. pm*), presence of spoon-shaped sensillus, turtorium, nature of *spa. l*, structure and position of rostral and lamellar setae, position of median notogastral condyles (*co. nm*), structure and position of lateral notogastral condyles (*co. nl*) and number of notogastral setae besides other characters. It however, deviates from the Japanese species in having slightly convergent lamellae, longer interlamellar setae, unlobed lateral prodorsal condyles (*co. pl*), broader median notogastral condyles (*co. nm*), notogastral setae with blunt tips, setae *te* much closer to *ta* than to *ms*, *gla* situated anterior to *im*, *ad*<sub>3</sub> much below the level of anterior margin of anal plates and in lacking an oblique chitinous ridge on the anal plate near the insertion of *an*<sub>1</sub>, which justifies its introduction as a new species.

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#### SUMMARY

This paper deals with the description of one new species of the genus *Dolicheremaeus* Jacot (Acari: Oribatei: Otocepheidae), viz., *D. geminus* from the soils of forests and tea estates in the district of Darjeeling, West Bengal, India.

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