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ORIBATID MITES FROM COCONUT PALMS

4. A NEW SPECIES OF SICULOBATA (ACARI: ORIBATEI) FROM KERALA, INDIA

by N. RAMANI* and M. A. HAQ*

**Summary:** This paper provides the taxonomic description of a new species of Siculobata, *S. malabarica* n. sp., collected from the green foliage of coconut palms cultivated at different localities of Kerala, South India. The new species appeared to extend its distribution on six species of host plants, representing fruit crops, vegetables, oil seeds and weeds. The population density of this species was greater on *Cocos nucifera* and the terrestrial weed, *Chromolaena odorata*, when compared to the other crop plants.

*Siculobata malabarica* sp. nov. (Figs. 1–4)


**Prodorsum** (Fig. 1) broader basally and converging anteriorly; rostrum with two incisions; seta *ro* (Fig. 1a) long, thin, sharply pointed, barbed, measuring 47 µm and inserted far beyond the rostral apex; lamella sheath-like and extending posteriorly to the bothridium, seta *le* (Fig. 1b) inserted on tip of lamella, measuring 63 µm, thicker than *ro*, bearing short spines and ending in blunt tip; space between *ro* and *le* occupied by a ridge-like prolamella, the latter of both sides connected by prolamellar ridge; seta *in* (Fig. 1c) longest, measuring 93 µm, inserted far behind *le* and greatly resembling the latter; a part of area porosae (*AL*) situated one on either side of the lamellae and exterior to them, almost at the level of the interlamellar hairs; exobothridial setae absent; bothridium (*bo*) hidden by anterior border of notogaster; sensillus (*ss*) (Fig. 1d) with a short, smooth stalk and a roughened, globose head bearing inner folding; punctations aggregated on the prodorsal surface, lying immediately exterior to the lamella.

**Notogaster** (Fig. 1) somewhat spherical and broadest medially; anterior border demarcated from prodorsum by a straight dorsosejugal suture; at the extreme posterior boundary the notogaster is slightly incurved; ten pairs of simple, thin setae showing variation in size on the notogaster mostly along the lateral region; four pairs of sacculi of varying size and shape located on notogaster, *sa* near the insertion

* Division of Acarology, Department of Zoology, University of Calicut, Kerala, 673 635, India.

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FIG. 1: *Siculobata malabarica* sp. nov.

of seta \( te, s_1 \), below middle of notogaster, almost at level of seta \( ms, s_2 \) and \( s_3 \) of the left side in the holotype placed very close, in an asymmetric fashion between setae \( r_1 \) and \( r_3 \), but on the right side \( s_2 \) is placed slightly behind \( r_3 \) and \( s_3 \), slightly below \( r_1 \); fissure \( im \) well discernible at middle of notogaster, below, and exterior to, seta \( ti \); integument of notogaster smooth and without any ornamentation.

**Lateral region** (Fig. 2): Tutorium not detected; prolamella clearly visible in lateral view extending posteriad and meeting distal region of pedotectum I; pedotecta I and II well developed, covering acetabula I and II respectively and without any surface ornamentation; circumpedal carina poorly developed and custodium not detected; area porosae \( Al \) and \( Ah \) well developed, with distinct boundaries; irregular punctations also present on the lateral prodorsal border; prodorsal carina \( (kf) \) detected between anterior end of pedotectum I and area porosa \( Al \).

**Ventral region** (Fig. 3). Epimeral region: apodemata II, III and sejugal apodeme developed, apodemae II somewhat kidney-shaped; epimeral area smooth, with setal formula 3-2-2-3, all setae except \( Ic \) smooth, latter barbed and stouter than others.

**Genital and anal regions:** genital plates broad anteriorly and narrow posteriorly, each plate bearing three smooth setae, one placed anteriorly and the other two located on posterior half; a pair of glabrous aggenital setae situated one on either side of the genital plate posterolaterally; anal plates elongate, carrying two pairs of smooth setae placed equidistantly from the middle, \( an_1 \) slightly posterior and \( an_2 \) slightly anterior in location; three pairs of adanal setae detected, all smooth and thin, \( ad_1 \) placed posteriorly, \( ad_2 \) laterally, slightly above insertion of \( an_1 \) and \( ad_3 \) anterolaterally; fissure \( ia_d \) more or less vertical and closely apposed to anal plates, below \( ad_3 \) and slightly above the level of \( an_2 \); entire ventral plate smooth.

**Gnathosoma** (Fig. 3a): labiogenal articulation diarthric type; mentum large and smooth; gena also smooth; rutellum \( (ru) \) with three notches; seta \( h \) roughened, \( m \) slightly smaller than \( h \) and also roughened, \( a \) thick, stout and bearing fine, long barbs; chelicerae (Fig. 3b) well developed with porose surface, digits
mobilis with 4 and digitus fixus with 3 highly sclerotized, sharp teeth, setae cha and chb provided with barbs, cha longer than chb; pedipalps (Fig. 3c) of five segments and possessing setal formula 0-2-2-1-3, most of the palpal setae roughened, close association noted between the solenidion (ω) and the eupathidium (acm).

**Legs** tri- and heterodactylous; tibia III (Fig. 4b) and IV (Fig. 4c) with solenidia ending in a small vesicle; femora III and IV slender while that of leg I (Fig. 4a) thick, stout and swollen; chaetotaxy of leg I 0-5-3-6-19; on femur I setae d and r" thick and barbed, bv" slender and roughened, porose area and faint striations present on femur I, a ventrodistal flange also present on femur; genu I carries a setiform solenidion (σ), and two barbed setae r' and r"; tibia I elongated, with a broad distal and a narrow proximal end, setae present only on distal half of tibia, two solenidia on the tibia, q₂ slender and small and q₁ thick and long, v' stout and with long barbs; tarsus I broadened proximally, empodial claw stouter than the two lateral ones; two solenidia o₂ and o₃ present on tarsus I, of which o₂ thin, long and tapering distally, while o₁ is thick, shorter and with blunt apex;
famulus (e) situated proximal to \( \omega_2 \); most tarsal setae possess barbs to various degrees, setae (p) thick and eupathidic; setae (u), (it) and (te) with curved tips.

Material examined: Holotype \( \delta \); paratypes: 5 \( \delta \delta \) and 6 \( \varpi \varpi \) collected from foliage of coconut palm, Calicut University Campus, Kerala, India, 26 Nov. 1983.

**Remarks**

Grandjean (1953) erected the genus *Siculobata* based on the type species *S. sicula* (Berlese, 1892) from Europe. The present new species resembles the type species in general appearance, nature of lamellae, arrangement of notogastral setae and sacculi, and in some of the ventral characters. However, the following characters of the new species support its erection as a new taxon:

1. Possession of only three pairs of genital setae, instead of four as in the type species;
2. Presence of two well developed rostral incisions;
3. Possession of only 4 pairs of sacculi on the notogaster;
4. Roughened nature of the sensillus and its inner folds;
5. Barbed nature of epimeral seta Ic;
6. Differences in the number, nature and arrangement of leg setae.

REFERENCE