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ORIBATIDS FROM HONG KONG III (ACARI: ORIBATIDA:
MICROZETIDAE AND ORIBATULIDAE)
(ACAROLOGICA GENAVENSIA XCV)

BY

Sándor MAHUNKA¹

(Ms reçu le 17.5.2000, accepté le 3.7.2000)

ABSTRACT

Oribatids from Hong Kong III (Acari: Oribatida: Microzetidae and Oribatulidae) (*Acarologica Genavensia XCV*). - Descriptions of one new microzetid species and one new protoribatid species from Tai Mo Shan Country Park (New Territories) are given. Each also represents a new genus: *Sinozetes botulus* gen. n., sp. n. (Microzetidae) and *Berndibula bisculpturata* gen. n., sp. n. (Oribatulidae).

Key-words: Acari, Oribatida, Microzetidae, Oribatulidae, Taxonomy, New genera and New species, Hong Kong.

INTRODUCTION

In my second paper on Hong Kong (MAHUNKA, 2000) I discussed the goals and results obtained in connection with the oribatid fauna of Hong Kong.

Presently, I describe two taxonomically interesting species belonging to two families: Microzetidae Grandjean, 1936 and Oribatulidae Thor, 1929. Each new species also requires the erection of a new genus.

The system of the Microzetidae Grandjean, 1936 family as well as the applicability of generic features in differential diagnoses and their evaluation are as yet highly problematic. It is quite obvious that the great majority of the genera should be considered as artificial units since their separation is based on a single characteristic, this is why most of them are monotypic. For the time being, however, no solution is offered, so the best we can do is to describe further genera. The family Oribatulidae also comprises many debated taxa; in other words, the family is badly in need of revision. The new taxon may readily be separated as a genus from the rest of the known taxa.

The terminology follows that of GRANDJEAN (1936).

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DESCRIPTIONS

Microzetidae Grandjean, 1936***Sinozetes* gen. n.**

D i a g n o s i s : Family *Microzetidae*. Rostrum elongated, beak-like in lateral view. Lamellae large, with large lamellar apices, not touching medially, only a weak translamella present. Tutorium simple, its apex triangular. Rostral setae flagelliform, arising on a large apophysis, near to the tutoria. Interlamellar setae located on the inner margin of the lamellae. Sensillus setiform, unilaterally spinose, bent backwards. 3 pairs of bean-pod-shaped structures consisting of secretion (cerotegument?) present in the rostral and interlamellar region. Pteromorphae small, rounded. Nine pairs of short and simple notogastral setae present. Apodemes 2 on the coxisternal region short. Epimeral setal formula: 3 - 1 - 3 - 3. Anogenital setal formula: 6 - 1 - 2 - 3. All legs monodactylous.

T y p e s p e c i e s : *Sinozetes botulus* sp. n.

R e m a r k s : The habitus and the secretion tubes, the form of the lamellae and the long interlamellar setae resemble those of the genus *Hauserozetes* Mahunka, 1979, described from Guatemala (MAHUNKA, 1979). However, the form of the sensillus (dilated, fusiform in *Hauserozetes*, setiform in *Sinozetes*) and the pteromorphae, and most of all, the absence of the long, medially connected sejugal apodemes in the new genus, readily distinguishes the new taxon from *Hauserozetes*.

D e r i v a t i o n o m i n i s : Named after the country where the type species was collected.

***Sinozetes botulus* sp. n.**

(Figs 1-4)

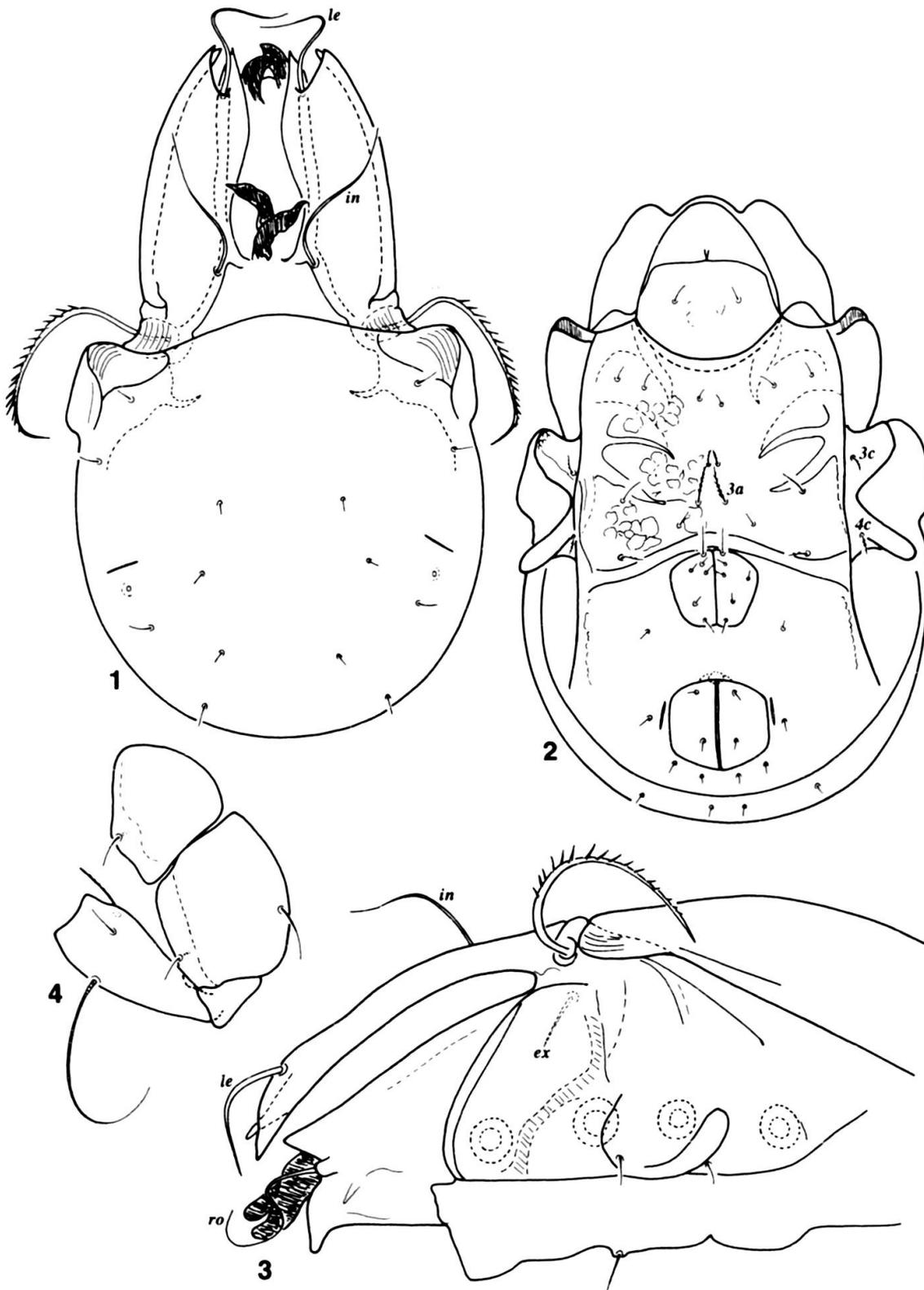
M a t e r i a l e x a m i n e d : Holotype: CHINE: Hong Kong: New Territories, Tai Mo Shan Country Park, bosquet de *Persea* sp. près de la route, prélèvement de sol, 750m; 9.XII.1996; leg. B. Hauser (appareil Berlese à Genève, Suisse); 1 paratype: from the same sample. Holotype: MHNG², paratype (1617-PO-98): HNHM³.

M e a s u r e m e n t s . - Length of body: 225-233 µm, width of body: 142-147 µm.

P r o d o r s u m : Rostrum projected, nasiform, not visible between the lamellae in dorsal view (Fig. 1) because two pairs of tubes consisting of secretion, cover it. Also arising on the prodorsal surface is one pair of secretion excrescences, like blackish bean-pods. Rostral apex bent downwards, beak-like in lateral view (Fig. 3). Lamellae large, typical for the genus, but not touching medially and not connected by a true transversal bridge at their median or basal part. There are two, nearly equal lamellar apices, between them a deep U-shaped incisure, with long, basally thickened, setiform lamellar setae. Bothridia comparatively small, well sclerotised. Rostral setae very long,

² MHNG = deposited in the Muséum d'Histoire naturelle, Geneva.

³ HNHM = deposited in the Hungarian Natural History Museum, Budapest, with identification number of the specimens in the Collection of Arachnida.



FIGS 1-4.

Sinozetes botulus gen. n., sp. n. – 1: body in dorsal view, 2: body in ventral view, 3: podosoma in lateral view, 4: leg IV.

smooth, flagellate, arising on large tubercles. Interlamellar setae also setiform, smooth. Sensillus long, setiform, directed backwards, bearing some spines on its lateral surface.

Lateral part of podosoma (Fig. 3): Tutorium simple, with triangular apices. Rostral setae arising on separate tubercles. Pedotecta I with a strong anterior border, parallel with it a weaker margin also present. Pedotecta II-III and discidia well developed, they are smooth.

Notogaster: Dorsosejugal suture medially gradually becoming convex in dorsal view (Fig. 1). Pteromorphae very small, rounded laterally, ornamented by some longitudinal lines on their dorsal surface. Depressions are missing from the notogaster. Nine pairs of subequal notogastral setae present, all simple, setiform, comparatively short (Fig. 1).

Ventral region: The shape of the apodemes and epimeral borders typical for this genus: only one complete transversal band (*bo.* 4) and a short part of *bo.* 2, *bo. sej.* present. No connection between them. Epimeral surface with a very weak irregular polygonal pattern. Among the epimeral setae *3a* much longer than the others bearing long cilia. Setae on epimere 1 shortest of all, without cilia. Setae *4b* and *4c* ciliate. Epimeral setal formula: 3 - 1 - 3 - 3. Genital opening only slightly smaller than the anal, located comparatively near to each other. Anogenital setal formula: 6 - 1 - 2 - 3. Lyrifissure *iad* long, in adanal position.

Legs: Typical for the family. Leg IV shown on Fig. 4.

Remarks: See the remarks after the generic diagnosis.

Derivation of name: Named after the vermicular form of secretion resembling a sausage.

Oribatulidae Thor, 1929

Berndibula gen. n.

Diagnosis: Family *Oribatulidae*. Rostrum divided by two deep incisions, rostral apex sharply pointed. Lamellae long, continued in prelamellae, bearing lamellar and rostral setae. Lamellae branching into long sublamellae. Tutorium short, without an apex. Sensillus short, fusiform, directed anteriorly. Notogaster with ten pairs of short, simple setae and 4 pairs of minute areae porosae. Pteromorphae immovable. In front of the genital aperture a large, nearly semicircular field present, apodeme not reaching to the border of genital aperture. Epimeral setal formula: 3 - 1 - 3 - 3. Discidium with strong custodium. Circumpedal carina long. Anogenital setal formula: 3 - 0 - 2 - 3. Gnathosomal characters are typical for the family *Oribatulidae*. All legs monodactylous, solenidia of tibia I arising on large apophysis.

Type species: *Berndibula bisculpturata* sp. n.

Remarks: The oribatulid forms displaying pronotic, immovable pteromorphae are extremely difficult to classify at the family level, since the earlier erected families lack any sound bases (BALOGH & BALOGH, 1984; 1992). Furthermore, MIKO *et al.* (1994) have shown that even the genera of *Protoribates* Berlese, 1908 and

Xylobates Jacot, 1929 are synonyms, rendering the whole system rather unreliable. This is why I use for the time being the family Oribatulidae Thor, 1929 sensu lato. The form of the rostrum, lamellae, epimeral region and the absence of aggenital setae in the new genus differ from related genera. Nothing similar is known to me at this moment.

D e r i v a t i o n o m i n i s : The new genus is dedicated to my friend Dr. Bernd Hauser (Geneva Museum), the collector of this material.

***Berndibula bisculpturata* sp. n.**

(Figs 5-10)

M a t e r i a l e x a m i n e d : Holotype: CHINE: Hong Kong: New Territories, Tai Mo Shan Country Park, bosquet de *Persea* sp. près de la route, prélèvement de sol, 750m; 9.XII.1996; leg. B. Hauser (appareil Berlese à Genève, Suisse); 46 paratypes: from the same sample. Holotype and 30 paratypes: MHNG, 16 paratypes (1618-PO-98): HNHM.

M e a s u r e m e n t s . - Length of body: 235-271 µm, width of body: 154-182 µm. Significant difference exists between the female and the male.

P r o d o r s u m : Rostrum characteristic for the genus (Fig. 8), tripartite. Median apex lanceolate, the lateral incisions wide and rounded basally. Lamellae well developed, reaching over the insertion of the lamellar setae and continued in prelamellae. Distal end bearing the rostral setae. Rostral and lamellar setae setiform, finely ciliate. Interlamellar ones bacilliform, erect, blunt at tip, only finely roughened. Exobothridial setae simple. Bothridium simple, oval. Sensillus with a short peduncle, carrying a large, wide head with spiculate surface.

L a t e r a l p a r t o f p o d o s o m a (Fig. 7): Lamellae and sublamellae long, latter ones reaching to the insertion of exobothridial setae. Tutorium present, like a short, blunt lath, without cusp. Pedotecta I low, discidium large with strong custodium. Circumpedal carina reaching to the margin of the ventral plate.

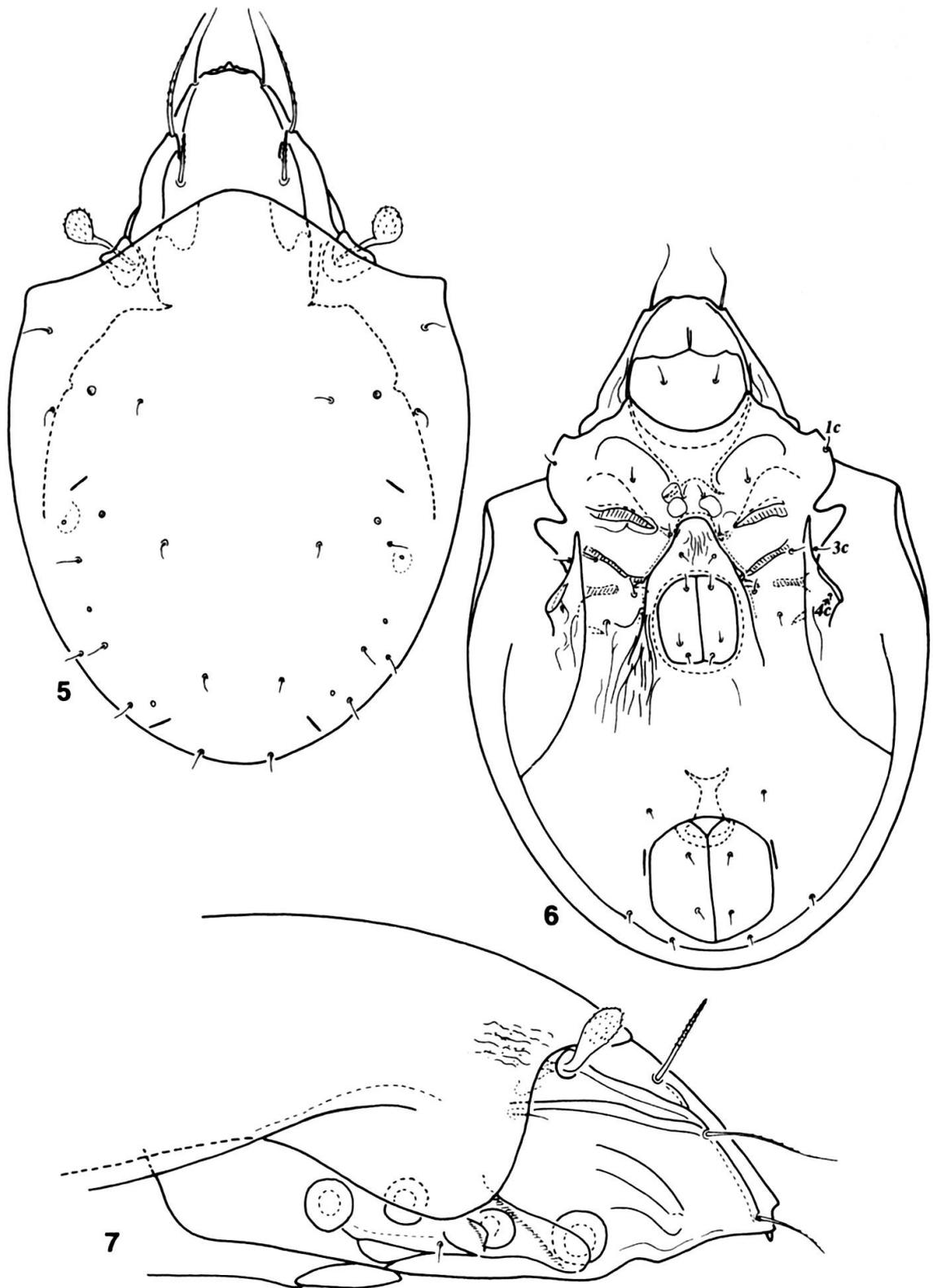
N o t o g a s t e r (Fig. 5): Integument with fine sculpture, consists of short rugae, between them rows of punctules present. They are best observable in the humeral region, along the immovable pteromorphae. Ten pairs of short and simple notogastral setae and 4 pairs of areae porosae present. All areae porosae minute, the porosity of the first pairs distinct but indistinct in the others. Lyrifissures *ip* long.

V e n t r a l r e g i o n (Fig. 6): The shape of apodemes and epimeral borders characteristic, typical for this genus. All apodemes reaching far from the genital aperture, with a free field in front of it. Epimeral surface with a weak polygonal pattern, only some spots visible. Epimeral setal formula: 3 - 1 - 3 - 3. All setae simple, setiform, setae *4c* minute. Anogenital setal formula: 3 - 0 - 2 - 3. Setae *ad*₃ in preanal, lyrifissure *iad* long, in adanal position.

L e g s : All legs monodactylous. Their form and chaetotaxy as shown on Fig. 9 and 10.

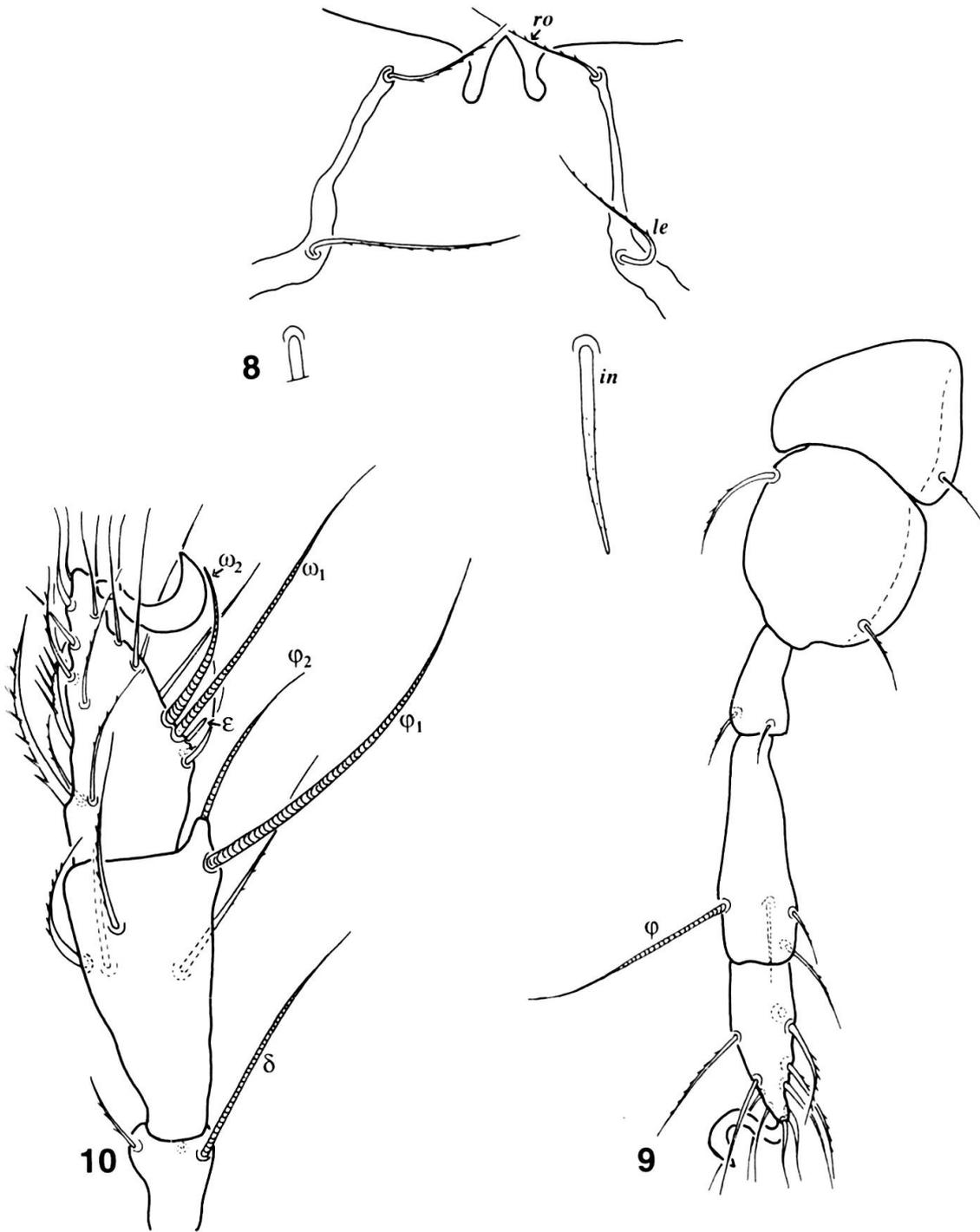
R e m a r k s : The new species is distinguishable from all congeners by the features given in the remarks after the generic diagnosis.

D e r i v a t i o n o m i n i s : Named after the characteristic sculpture of the notogaster and the epimeral region.



FIGS 5-7.

Berndibula bisculpturata gen. n., sp. n. – 5: body in dorsal view, 6: body in ventral view, 7: podosoma in lateral view.



FIGS 8-10.

Berndibula bisculpturata gen. n., sp. n. – 8: rostrum in anterodorsal view, 9: leg IV, 10: leg I.

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RÉSUMÉ

ORIBATES DE HONG KONG III (ACARI: ORIBATIDA: MICROZETIDAE ET ORIBATULIDAE) (*ACAROLOGICA GENAVENSIA* XCV)

Le travail contient la description de deux genres nouveaux et de deux espèces nouvelles du Parc naturel régional Tai Mo Shan Country Park (New Territories): *Sinozetes botulus* gen. n., sp. n. (Microzetidae) et *Berndibula bisculpturata* gen. n., sp. n. (Oribatulidae).

Mots-clés: Acariens, Oribates, Microzetidae, Oribatulidae, nouveaux genres, nouvelles espèces, Hong Kong.

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