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ORIBATIDS FROM SINGAPORE II. (ACARI: ORIBATIDA) (NEW AND INTERESTING MITES FROM THE GENEVA MUSEUM LXXIII)

BY

Sándor MAHUNKA¹

(Ms. reçu le 2.12.1998, accepté le 14.12.1998)

ABSTRACT

Oribatids from Singapore II. (Acari: Oribatida). New and interesting mites from the Geneva Museum LXXIII. - A new genus and species is described from the tropical rain-forest Reserve of Bukit Timah in Singapore: *Singabodes rarus* gen. n., sp. n. (*Carabodidae*). Additional remarks on *Bukitritia timah* Mahunka, 1990 are given.

Key-words: Acari, Oribatida, Taxonomy, New genus, new species, Singapore.

INTRODUCTION

Dr Bernd Hauser, former Head of the Arthropod Department of the Muséum d'histoire naturelle, Geneva, visited Singapore during most of his 8 expeditions concerned with a research programme on soil fauna (especially Microarthropoda) of the rain forests of South-East Asia and surrounding areas (MAHUNKA, 1995). These studies were organized together with Dr Charles Lienhard, Research Officier at the same Department, the opportunity was taken to collect soil samples at different points on the island.

Drs Hauser and Lienhard were generously helped in this project by Prof. Dr D.H. Murphy, Department of Zoology, National University of Singapore, who not only accompanied them but also gifted soil samples collected by himself (MURPHY, 1973) to the Geneva team.

This is the second contribution on this very interesting Oribatid material from Singapore, conserved in the collections of the Geneva Museum (MAHUNKA, 1989). A special focus is the study of the fauna of the famous nature reserve of Bukit Timah, "perhaps the oldest small rain-forest reserve in the world" (CORLETT, 1988). The high diversity of the fauna of moss mites of this reserve is a evidence for the value of conserving small fragments of lowland tropical rain forest (TURNER & CORLETT, 1996).

DESCRIPTION AND REMARKS

Euphthiracaridae JACOT, 1930

***Bukitritia timah* MAHUNKA, 1990**

(Fig. 1)

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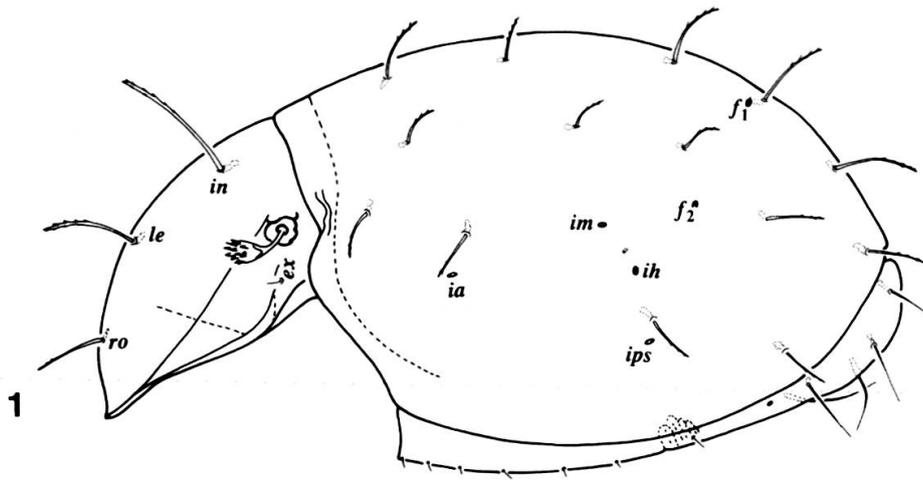


FIG. 1

Bukitritia timah Mahunka, 1990 - 1: body in lateral view.

This taxon was described by the author in a paper which summarized the relationships of the superfamily Euphthiracaroida (MAHUNKA, 1990). The description (both of genus and species) remains valid except for the number of lyrifissures: the correct number is four (and not five).

The complete data of the material examined are: Holotype: Singapore: Bukit Timah Nature Reserve, forest litter, sandy dry slope lower JFV; 25.VI.1969; leg. D.H. Murphy (D 11-2); 1 paratype: from the sample; 1 paratype: Singapore: Bukit Timah Nature Reserve, forest litter, streamside litter wet; 2.VII.1969; leg. D.H. Murphy (D 11-9). Holotype and 1 paratype: MHNG², 1 paratype (1374-PO-89): MNHM³.

Derivatio nominis: The names of the genus and species refer to the hill of Bukit Timah which, 162.5 m, is the highest point of the island, and to the Nature Reserve of 75 hectares.

Carabodidae C.L. Koch, 1837

Singabodes gen. n.

Diagnosis: Family *Carabodidae*. Prodorsum simple, interlamellar setae arising on the lamellae. Sensillus long and clavate. Notogaster with a wide, smooth, projecting median field, and with a deep hollow posteriorly. Fourteen pairs of modified notogastral setae present, five pairs arising around the hollow, are long and fringed, two pairs originate in the humeral region, the other four pairs in a posteromarginal position, one pair in front of the hollow and two pairs near to the anterior margin of the notogaster.

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.

Epimeral setal formula: 3-1-3-3. Anogenital region well sclerotized, ornamented by rugae, hollows and crests. The leg chaetotaxy is of the "reduced type".

Type species: *Singabodes rarus* sp. n.

Remarks: The characteristic notogastral structure, combined with the shape of setae and sensillus, makes it impossible to place this new species in any of the so far known genera of Carabodidae (MAHUNKA, 1986).

Derivatio nominis: allusion to the name of Singapore: Singapura in Sanskrit (= Lion City), this name was given at the end of the 13th century by the prince Sang Nila Utama from Sumatra who landed in Temasek (now Fort Canning Hill), the first settlement on the island (HAENLEIN, 1985).

***Singabodes rarus* sp. n.**

(Figs 2-14)

Material examined: Holotype: Singapore: Bukit Timah Nature Reserve, forest litter; 9.VII.1969; leg. D.H. Murphy (D 12-7); 1 paratype: from the same sample. Holotype: MHNG², paratype (1377-PO-89): HNHM³.

Measurements. - Length: 344-384 μ m, width: 127-153 μ m.

Prodorsum: Rostrum elongated, rostral setae arising anterior of the lamellar setae (Fig. 2). Some large and round alveoli visible in this region. Lamellae narrow, anterior part ornamented by transversal striations (Fig. 2). Lamellar setae originating on the inner margin of lamellae, approximately lanceolate; the two other pairs of prodorsal setae phylliform, their surface well spiculate. Interlamellar region with some irregular spots medially. Sensillus long, gradually widened distally, clavate. Tutorium strong, some other crests also observable on the lateral part of prodorsum (Fig. 5).

Notogaster: Dorsosejugal region slightly concave. Median part of notogaster smooth, lateral surface granulate, enclosed between these two parts is a clearly polygonate surface with tubercles. Median field with an elevation posteriorly (in which the hollow is situated) (Fig. 7). The hollow consists of two parts (Fig. 6) and some uninterpreted structures are visible at a deeper level. Among the notogastral setae nine pairs are small, approximately round, or phylliform, five pairs, around the hollow, large, with long fringes.

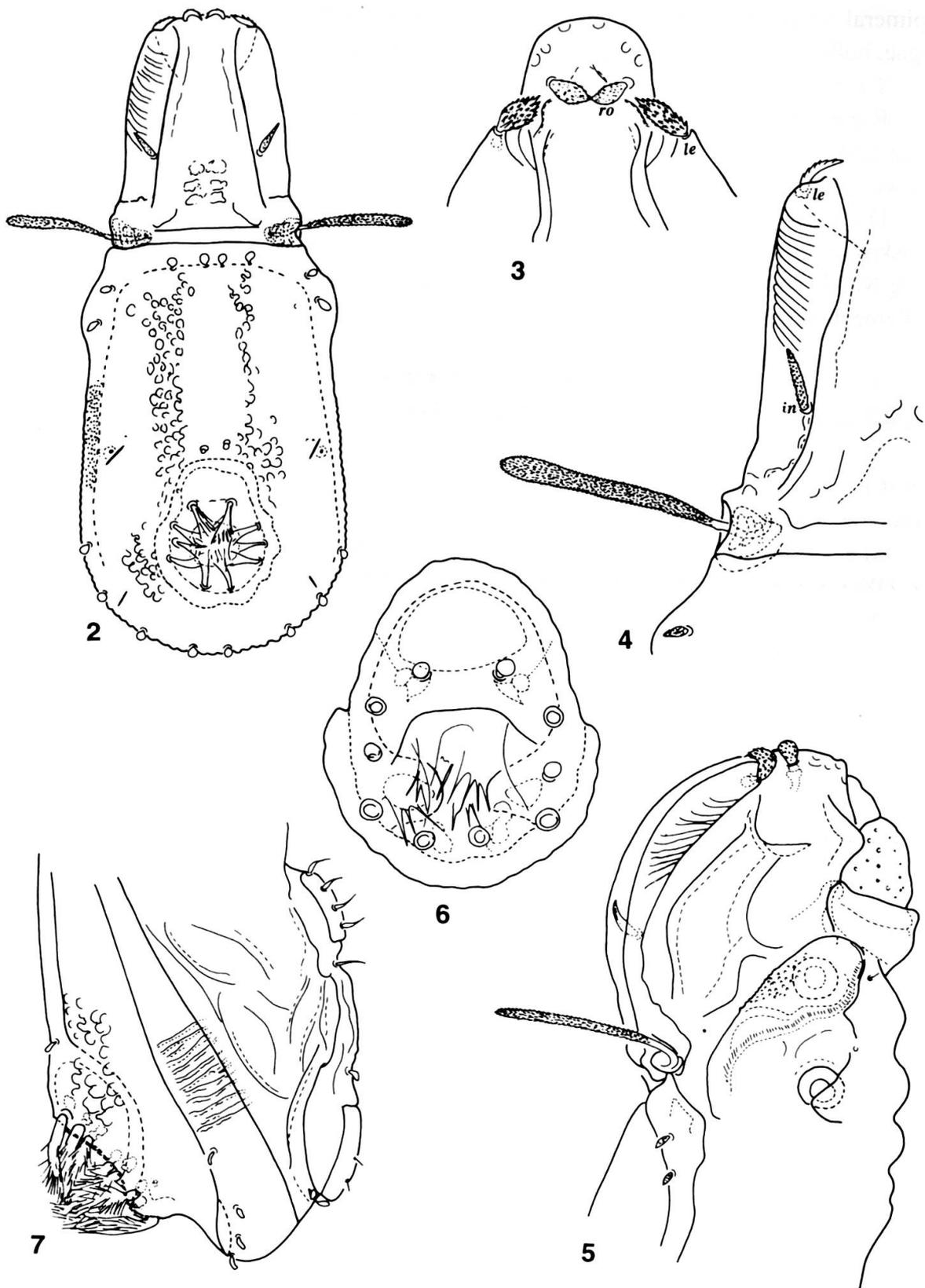
Ventral side (Fig. 8): Mentum coarsely foveolate. Setae *h* simple and short, originating near to each other. Coxisternal region wide, the widest anteriorly, near to the very large pedotecta 1. Apodemes and epimeral borders conspicuous. Between the epimeres a wide median field. All epimeral setae minute. Anogenital region divided and ornamented by ribs and crests. Genital and anal apertures removed far from each other. Anogenital setal formula: 4-1-2-3. Genital and aggenital setae widened basally, with pointed distal ends. Anal setae simple, adanal setae round, phylliform. Setae *ad*₁ and *ad*₂ in postanal, setae *ad*₃ in preanal position.

Legs: Chaetotaxy of legs:

I: 1-4-3+1-4+2-15+2-1 (Figs 9, 10)

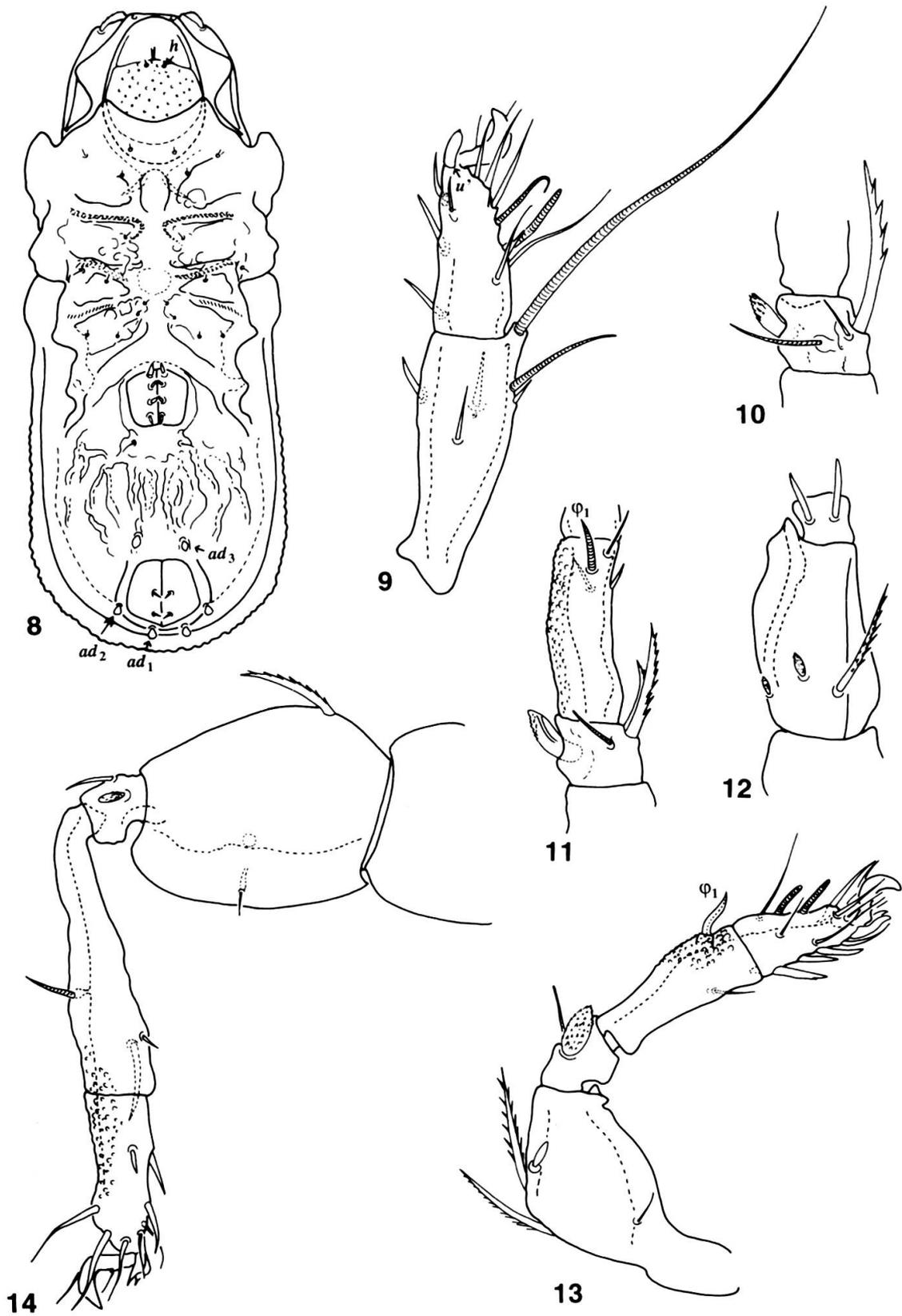
II: 1-4-3+1-3+1-15+2-1! (Figs 11, 13)

IV: 1-2-2-2+1-12-1 (Fig. 14)



FIGS 2-7

Singabodes rarus gen. n., sp. n. - 2: body in dorsal view, 3: rostrum, 4: lateral part of prodorsum, 5: prodorsum in lateral view, 6: median hollow of notogaster, 7: posterior part of notogaster in lateral view.



FIGS 8-14

Singabodes rarus gen. n., sp. n. - 8: body in ventral view, 9: tibia and tarsus of leg I, 10: genu of leg I, 11: tibia and genu of leg II, 12: femur and genu of leg III, 13: leg II, 14: leg IV.

Surface of some joints of legs: granulate or pustulate, femora and trochanters of legs III (Fig. 12) and IV (Fig. 14) with strong dorsal protuberances or a wide blade-like ventral formation. Ventral setae (*pv*, *a*) of tarsi and tibiae of legs I and II (Figs 9, 10) modified, spiniform; setae *u* very wide, blunt at tip. Some solenidia (of legs II and IV) sharply pointed.

Derivatio nominis: allusion to the rarity of this taxon.

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RÉSUMÉ

ORIBATES DE SINGAPOUR II (ACARI: ORIBATIDA) (ACARIENS NOUVEAUX ET INTÉRESSANTS DU MUSÉUM DE GENÈVE LXXIII)

Le travail contient la description d'un genre nouveau et d'une espèce nouvelle de la Réserve de forêt pluviale Bukit Timah de Singapour: *Singabodes rarus* gen. n., sp. n. (*Carabodidae*) et des remarques complémentaires sur *Bukitritia timah* MAHUNKA, 1990.

Mots-clés: Acariens, Oribates, taxonomie, nouveau genre, nouvelle espèce, Singapour.

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