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Samsinakia trilobitus sp. n., a new cheyletid mite from South India (Acari: Cheyletidae)

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(With 5 figures)

Abstract

Samsinakia trilobitus sp. n. (Acari, Cheyletidae) is described from a tenebrionid beetle (Coleoptera, Tenebrionidae) from South India.

Introduction

The cheyletid mite genus *Samsinakia* Volgin, 1965 (Acari: Cheyletidae) included up to now four species (Samsinak 1959, Volgin 1969, Fain 1980, Corpuz-Raros & Sotto 1977, Fain 1984, Gerson 1994). Females of these mites are known as associated with some tenebrionid beetles (Coleoptera: Tenebrionidae). These mites were found in Africa, Madagascar, and Australia. One species, *Samsinakia pagongae* Corpuz-Raros & Sotto, 1977, was found in a soil and on various plants. Males and preimaginal instars of this genus are unknown.

The present paper gives a description of one new species of this genus, *Samsinakia trilobitus* sp. n., from an unidentified tenebrionid beetle, collected in South India and also gives a new record of the species *S. gonocephalum* Fain, 1984 from the same specimen of host. As far the beetle specimen was absent in the collection vial, it was impossible to identify the host species.

Methods and nomenclature

The description includes measurements for the holotype and observed limits (in parentheses) for all paratypes; all measurements are given in micrometers (µm). The nomenclature of idiosomal chaetotaxy follows Fain (1979). Holotype and paratypes are deposited in the Zoological Institute Russian Academy of Science, Saint Petersburg (ZIN); some paratypes are also deposited in the Institut Royal des Sciences Naturelles de Belgique, Bruxelles (IBN), the Zoological Museum Hamburg (ZMH), and in the Department of Animal Morphology, Adam Mickiewicz University, Poznań, Poland (UAM).

Descriptions

Samsinakia trilobitus sp. n.
(Figs 1-4)

Material examined. Holotype female (T-Ch-54) and 61 female paratypes from tenebrionid beetle (Coleoptera, Tenebrionidae), South India, Anamalai Hills, Cinchora, April 1964, collector unknown. The holotype and 44 paratypes are deposited in ZIN; 7 paratypes in ZMH (Reg. No. A31/98), 7 paratypes in IBN, 3 paratypes in UAM.

ETYMOLOGY. The specific epithet refers to the trilobite-like image of the mite dorsal surface.

FEMALE (holotype).

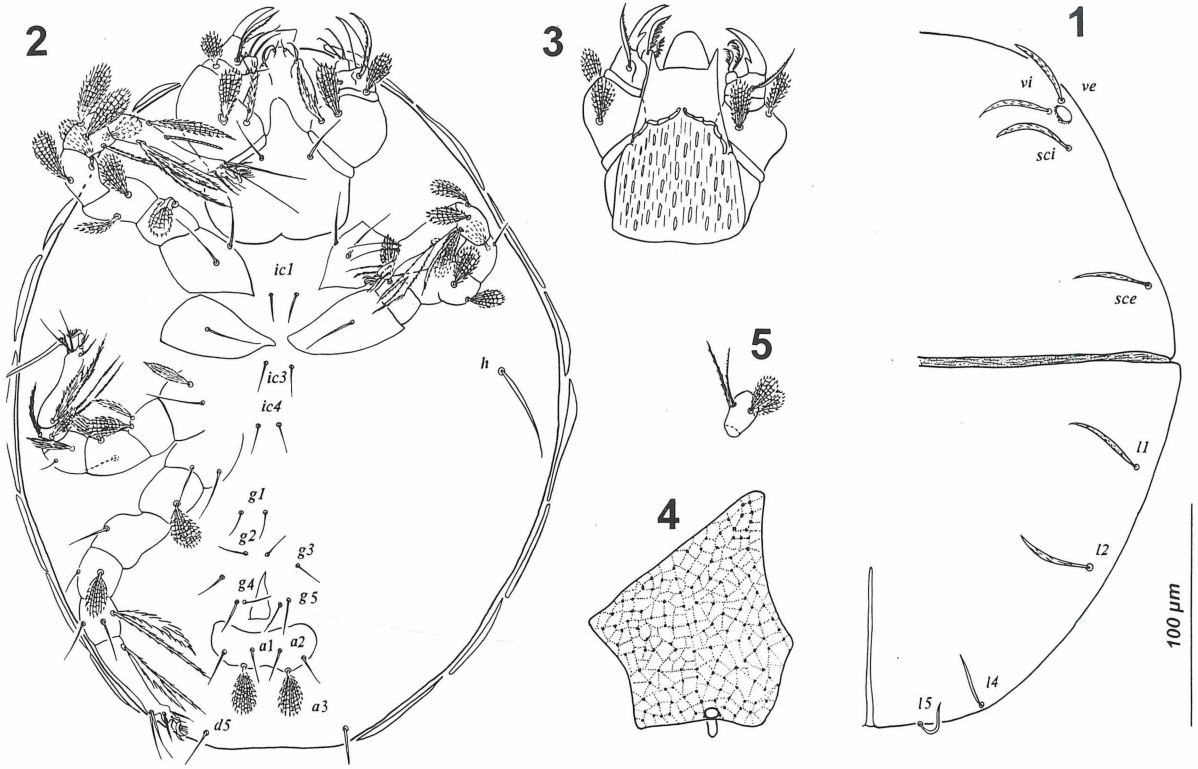
Gnathosoma (Figs 2, 3). Length in holotype 87 (80-99 in 61 paratypes), width 70 (63-81), 3-3.5 times shorter than idiosoma. Peritremes almost transversal, consist of 5-6 pairs of segments. Rostral shield with pair of lateral coarse cogs on front edge. Palptarsus with 2 comb-like setae, 2 curved smooth setae and one short solenidion. Palptibia has acute apical spine with one basal tooth and 3 setae (2 thick setiform barbed, and 1 setiform smooth). Palpgenu with 1 fan-like seta. Palpfemur 37 (31-45) in length, 34 (30-38) in width, with 4 fan-like setae.

Idiosoma (Figs 1-2, 4). Length 274 (265-299), width 224 (220-250). Dorsal surface (Fig. 1) with 2 large, finely verrucose propodosomal and hysterosomal shields, length of each about 135 (133-144). These shields separated by narrow sejugal furrow 4 (4-15). All surface of these shields covered with polygonal dorsomedial setae (Fig. 4). Propodosomal shield bears 4 pairs of lateral setae , *vi, ve, sci, sce,* each 38 (37-43) in length. Eyes situated between setae *ve* and *sci.* Hysterosomal shield bears 4 pairs of lateral setae, similar to lateral setae on propodosomal shield: *l1, l2* - 36 (35-39), *l4, l5* - 22 (20-25) long, setae *l3* absent. Ventral surface (Fig. 2). There are 3 pairs of intercoxal setae (*ic1, ic3, ic4*), 5 pairs of genital setae (*g1-g5*), all these setae smooth; there are 3 pairs of anal setae, *a1, a2* smooth, *a3* fan-like. Setae *h* thick, 38 (34-40) in length, setae *d5* thin setiform, 15 (13-20), situated ventrally.

Legs I - IV (number and form of setae). Tarsi 8-7-7-7; tibiae 4-4-4-4 (I-II with 3 fan-like and 1 thin barbed, III with 1 fan-like, 1 thick barbed and 2 thin, IV with 1 thick barbed, 1 thin barbed and 2 setiform smooth); genua 2-2-2-2 (I with all setae fan-like, II-IV with 1 fan-like, 1 setiform smooth); femur 2-2-2-1 (I-II with all setae fan-like, III - 1 fan-like and 1 setiform smooth, IV - 1 setiform, smooth); trochanters 1-1-2-1 (all setae fan-like); coxae 2-1-2-2 (all setae setiform, except fan-like external seta of coxa III). Tarsi I 50 (49-56) in length, solenidion *omega-1* 20 (18-27) in length, its guard seta narrowly fan-like.

Male and preimaginal instars unknown.

Differential diagnosis. The new species is most similar to *Samsinakia theodoridis* (Samšiňák, 1959). In females of the new species the tibia IV has 2 setiform smooth setae, one thick barbed and one thin barbed setae; hysterosomal shield with 4 pairs of thick lateral setae (setae *l3* lacking); apical spine of palptibia with one tooth. In females of *S. theodoridis* the tibia IV has 2 fan-like and 2 striated barbed setae; hysterosomal shield with 5 pairs of lateral setae; apical spine of palptibia with 3 teeth.



Figs 1-5. Females of the genus *Samsinakia*, 1-4: *Samsinakia trilobitus* sp. n., 1 - idiosoma, dorsal aspect; 2 - idiosoma, ventral aspect; 3 - gnathosoma, dorsal aspect; 4 - polygonal dorsomedial setae of propodosomal shield; 5 - *Samsinakia gonocephalum* Fain, tibia II.

Samsinakia gonocephalum Fain, 1984
(Fig. 5)

Material examined. 7 females (4 specimens deposited in ZIN, 3 in IBN) from tenebrionid beetle: all data as for *S. trilobitus* sp. n.

This species was originally described from material from *Gonocephalum simplex* Fab. (Coleoptera, Tenebrionidae) from Zaire (Fain 1984). Our specimens from India slightly differ from typical African specimens by the chaetotaxy of tibia II. There are 2 thick barbed, 2 fan-like setae in Indian specimens (Fig. 5), while there are 1 thick barbed, 3 fan-like setae in African specimens. However, we suggest that this difference is insufficient to establish the Indian forms as a separate species or subspecies.

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