

Two new species of trombiculid mites from
Mexico and Guatemala
(Prostigmata : Trombiculidae)¹

Hiroshi SUZUKI

*Department of Virology, Institute for Tropical Medicine,
Nagasaki University, Nagasaki 852 Japan*

and

Masao KAMIYA

*Department of Parasitology, Faculty of Veterinary Medicine,
Hokkaido University, Sapporo, 060 Japan*

Abstract: Phylogenic studies on parasites of rabbits of the sub-family Palaeolaginae were conducted at Mexico and Guatemala in 1977, under the sponsorship of Overseas Scientific Research Grant. Of the trombiculid mites collected in the studies, two species have been identified as new species of genus *Pseudoschoengastia*. They have been named as *Pseudoschoengastia matudai* n. sp. and *Pseudoschoengastia mexicoensis* n. sp. and are described in detail here as follows.

INTRODUCTION

Two new species of the genus *Pseudoschoengastia* were discovered in the studies on trombiculid mites obtained from the Volcano rabbit (*Romerolagus diazi*), field rodent and soil samples in their habitat, which were collected in Mexico in 1977. The trombiculid mites were also obtained from field rodents captured at Guatemala in the same year. *P. matudai*, one of the two new species, was recovered from every one of 10 captured rabbits (5 male and 5 female). This is the first report about trombiculid mites found in Volcano rabbit (*Romerolagus diazi*), that living in Mexico and this species was also isolated from *Microtus mexicanus mexicanus* of Mexico and from *Sigmodon hispidus* of Guatemala. *P. mexicoensis*, another one of the two, was collected only from soil samples from small tunnels in the habitat of the rabbit, *R. diazi*, which is about

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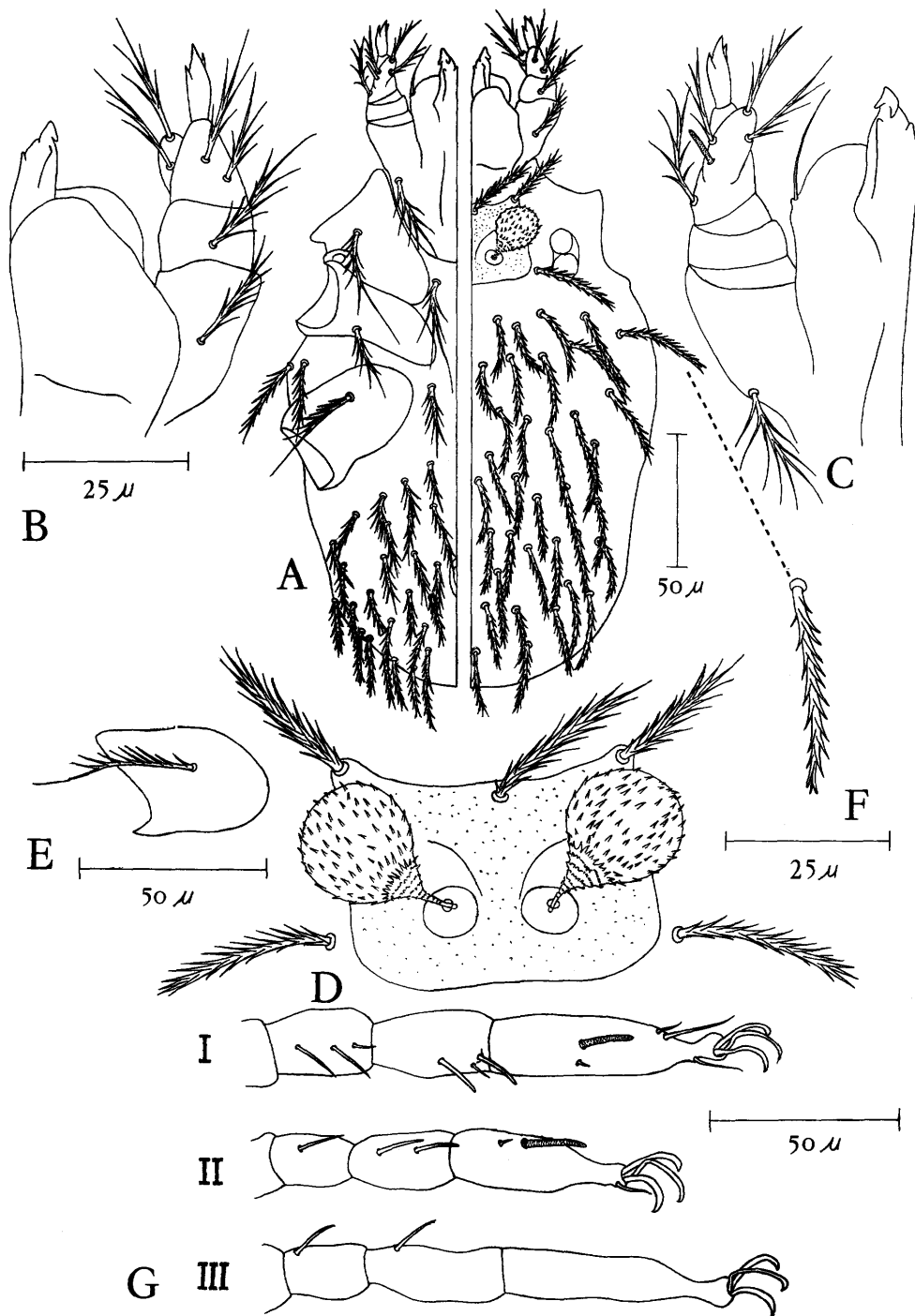


Fig. 1. *Pseudoschoengastia (Pseudoschoengastia) matudai* n. sp.

A. larva, left ventral, right dorsal; B. gnathosome, dorsal; C. gnathosome, ventral; D. scutum; E. coxa III; F. humeral seta; G. leg with specialized setae.

50 km south of Mexico City and is 3,500 meters above sea level.

Diagnosis of larva: This species belongs to the *farneri* group with 2 genualae I. It resembles to *P. smithi* Loomis, 1976 reported from Mexico but is distinguishable from it in different palpal formula and in less numbers of dorsal setae (total 102 in *P. smithi*). This species is also easily distinguished from known species of the same genus previously reported in Mexico (Brennan, 1952, 1960; Brennan & Jones, 1959; Hoffmann, 1948, 1951, 1960; Lipovsky, 1951) and from other species of the genus reported in North, Central and South America (Brennan, 1952, 1960, 1968; Brennan and Yunker, 1966 Geest and Loomis, 1968).

Description of holotype larva: Body color white, measuring $200\mu\text{m} \times 300\mu\text{m}$ partially engorged. Eyes 2/2.

Gnathosome: palpotarsal pilous formula 5B. Palpal formula B/B/BBB. Palpotibial claw 3-pronged, middle prong the longest. Galeal seta nude. Blads with tricuspid cap.

Scutum: Rectangular with posterior margin slightly concave, pls off scutum, sensilla broad ovate and sensillary bases fairly close together.

Scutal measurements as in Table 1.

Body setae: Dorsal setae resembling scutal setae, total 62 in number, arranged 4-7-9-10-10-6-4-2. Ventral setae 2-2 and a 4 ventral humeral setae between coxa II and III, total 54 in number.

Legs: Leg I, 7-segmented; leg II and III, 6-segmented, coxal seta 1-1-1; seta of coxa III situated in middle of coxa.

Leg I: 2 genualae, long microgenuala; 2 tibialae, long microtibiala; tarsala, microtarsala, subterminala, pretarsala.

Leg II: Genuala; 2 tibialae; tarsala, microtarsala, pretarsala.

Leg III: Genuala; tibiala.

Materials studied: Cicitec, Mexico, 9-18 October, 1977, off Volcano rabbit, *Romerolagus diazi*, 5 male and 5 female, 293 larvae Cicitec, Mexico, 12 October 1977, off *Microtus mexicanus mexicanus*, 106 larvae Palin, Guatemala, 18 September 1977, off *Sigmodon hispidus* and *Reithrodontomys* sp., 30 larvae.

Holotype: Cicitec, Mexico, 9 October 1977, off *Romerolagus diazi*, male.

Paratype: 30 paratypes, same as holotype, 20 paratypes, Cicitec, Mexico, 12 October 1977, off *Microtus mexicanus mexicanus*.

Holotype and 30 paratypes will be deposited in the National Science Museum, Tokyo, Japan and 20 paratypes will be deposited in collections of senior author.

Note: This new species is dedicated to the late Prof. Eizi Matuda, Instituto de Biologia, U. N. A. M., Mexico for his self-sacrificing support to accomplish this survey.

Diagnosis of larvae: This species is distinguished from all other species of the genus *Pseudoschoengastia* by the absence of eyes except of *P. finitima* Brennan & Yunker, 1966 from Panama and Costa Rica. It is also separable from *P. finitima* in differences

Table 1. Standard measurements of *Pseudoschoengastia matudai* n. sp. (in micra)

	AW	PW	SB	AP	ASB	PSB	am	al	pl	s	AS	PS	pp-ss	hm
Holotype	40	80	13	28	23	13	28	25	28	25	25	30	+3	33
Mean of 20 paratypes	40	81	13	32	23	13	29	27	30	25	25	33	+3	35
Range	38-43	65-100	10-15	25-40	20-25	13-15	25-30	25-30	28-33	25	25-28	25-35	0-+3	33-38

Table 2. Standard measurements of *Pseudoschoengastia mexicana* n. sp. (in micra)

	AW	PW	SB	AP	ASB	PSB	am	al	pl	s	AS	PS	pp-ss	hm
Holotype	40	58	20	28	18	15	33	20	40	43	20	20	+8	37
Mean of 2 paratypes	41	61	21	28	18	15	33	20	42	37	20	20	+8	38
Range	40-43	58-63	20-23	28	18	15	33	20	40-43	33-43	20	20	+8	38

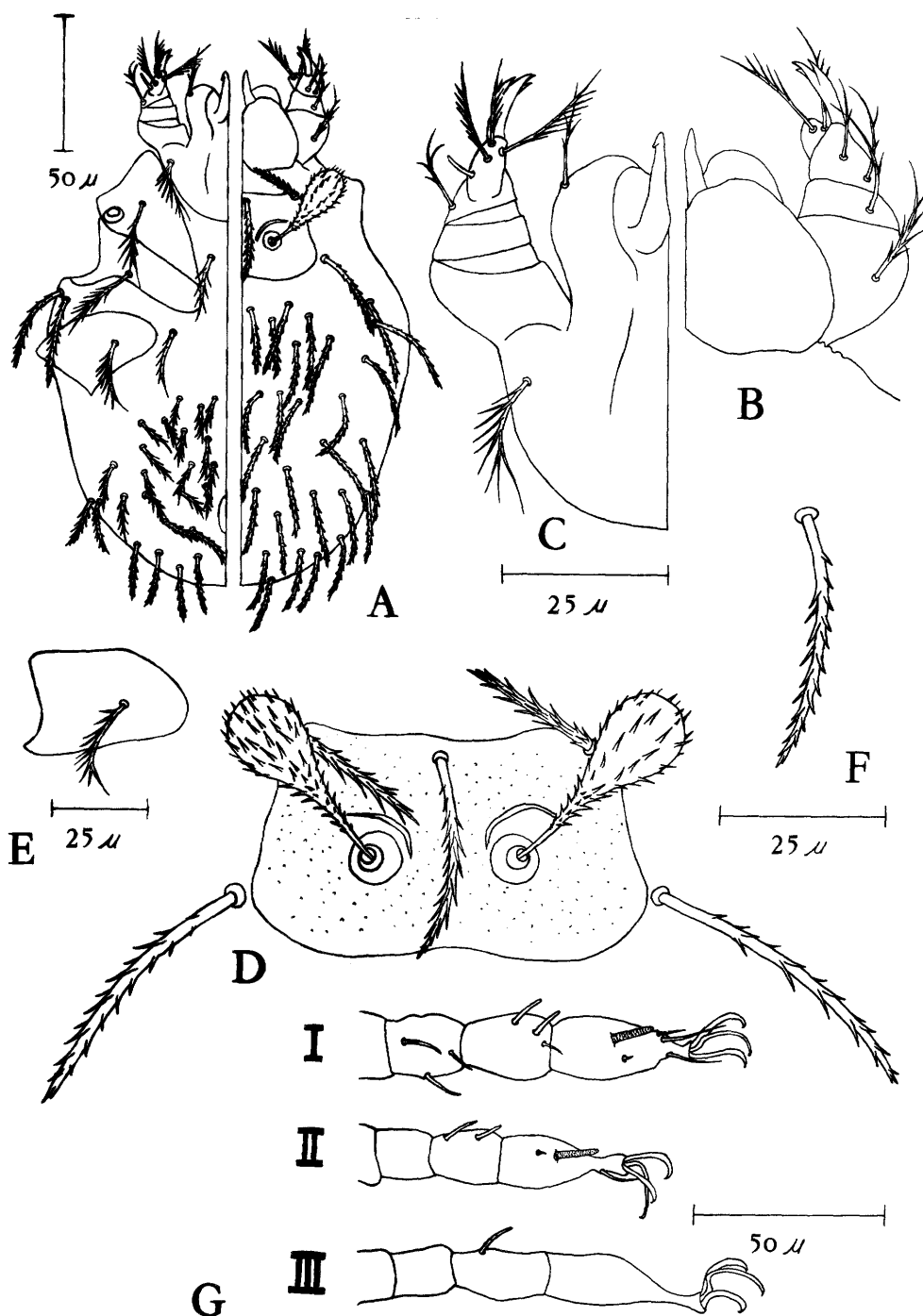


Fig. 2. *Pseudoschoengastia* (*Pseudoschoengastia*) *mexicoensis* n. sp.
 A. unengorged larva, left ventral, right dorsal; B. gnathosome, dorsal; C. gnathosome, ventral;
 D. scutum; E. coxa III; F. humeral seta; G. leg with specialized setae.

of galeal setae nude (n. sp. branched), palpal formula B/N/BN (n. sp. B/b/bbB), specialized setae in leg II and III with genuala (n. sp. no genuala in leg II and III).

Description of holotype larva: White color as in alive. Body length and width as $130\mu\text{m} \times 120\mu\text{m}$ when unengorged. Eyes absent.

Gnathosome: Palpotarsal pilous formula 5B. Palpal formula B/b/bbB. Palpotibial claw 3-pronged. Galeal setae with few branches. Chelicera blades with tricuspid cap.

Scutum: Rectangular with near anterior and posterior margin concave. Sensillae pyriform. Pls extrascutal. Standard measurements as in Table 2

Body setae: Dorsal setae resembling scutal setae, total 51 in number, arranged 4-13-10-10-2-10-2. Ventral setae 2-2 plus about 48 and in addition, 2 setae between coxa II and III. The setae posterior to the anus are longer than those in the anterior rows and similar in form to the dorsal setae.

Legs: Leg I, 7-segmented; leg II and III, 6-segmented, coxal setae 1-1-1; setae of coxa III situated in middle of coxa.

Leg I: 2 genualae, long microgenuala; 2 tibialae, long microtibiala; tarsala, micro-tarsala, subterminala, pretarsala.

Leg II: 2 tibialae; tarsala, microtarsala, pretarsala.

Leg III: Tibiala.

Materials studied: Three specimens collected from soil under the ground holes by unengorged larvae in Cicitec, Mexico, 24 October 1977

Holotype: Cicitec, Mexico, 24 October 1977, MG-6-3.

Paratypes: Two paratypes same as holotype. Holotype and 2 paratypes will be deposited in the National Science Museum, Tokyo, Japan.

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メキシコとグワテマラで採集された恙虫の二新種
 鈴木 博 (長崎大学熱帯医学研究所ウィルス学部門)
 神谷正男 (北海道大学獣医学部家畜寄生虫病学教室)

1977年メキシコで採集したメキシコウサギ (Volcano rabbit, *Romerolagus diazi*) 及び野鼠類と土壌中から採集した恙虫, 更にグワテマラの野鼠類から得られた恙虫, を調査して *Pseudoschoengastia* 属に二種の新種を見出した. そのうちの一種を *Pseudoschoengastia matudai* n. sp. と命名し記載した. 本種は捕獲し調査したすべての *R. diazi* (♂ 5 ♀ 5) から得られ, *Microtus mexicanus mexicanus* 及びグワテマラの *Sigmodon hispidus* にも見出された.

他の一種は, *Pseudoschoengastia mexicana* n. sp. と命名した. 本種はメキシコ市から南へ約 50km 離れた標高3.500m の地域で, *R. diazi* が生息する場所の土穴の土壌からのみ採集された.

メキシコだけに生息するメキシコウサギからの恙虫の報告は今回が初めての記録である.

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