

A new species of *Schaefferia* Absolon, 1900 (Collembola: Hypogastruridae)

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RESUMEN

Se describe e ilustra una nueva especie de *Schaefferia* Absolon, 1900, procedente del estado de Oaxaca. Además se proporciona una clave para identificar las especies que han sido encontradas en México, incluyendo la especie *S. quinqueoculata*, que es la más similar a la nueva.

Palabras clave: Collembola, Hypogastruridae, *Schaefferia*.

ABSTRACT

A new Mexican species of *Schaefferia* Absolon 1900 from Oaxaca State is described and illustrated. In addition a key for the species known to occur in Mexico including *S. quinqueoculata*, that is the more related with the new species, is given.

Key words: Collembola, Hypogastruridae, *Schaefferia*.

INTRODUCTION

Genus *Schaefferia* Absolon, 1900

Syn. *Octomma* Willem, 1902

Syn. *Speleogastrura* Bonet, 1945

Type species: *S. emucronata* Absolon, 1900

Diagnoses of the genus: Hypogastruridae, with antennal segments III and IV clearly separated; furcula reduced and with 3-4 setae (rarely 5-6). Anal spines long, similar or longer than unguis III; pigment reduced; eyes reduced or absent (7+7 at most).

This genus is represented by 17 species in the World. From Mexico, Bonet (1945) described two species: *S. duodecimocellata* Bonet, 1945 and *S. guerrerensis* (Bonet, 1945). Later Palacios-Vargas and Thibaud (1986) described *S. oaxacana* and cited *S. emucronata* Absolon, 1900. Some of them from caves and others from edaphic environments.

In this paper we describe and illustrate a new species from Oaxaca State and in addition we give a key for the species known from Mexico, including *S. quinqueoculatus*, from the Arctic and Subarctic region, but is the most similar to the new species.

MATERIAL AND METHODS

Specimens were collected in a soil samples with Berlese funnels. Specimens were mounted on Hoyer's medium. Drawings were done under a Microscope with drawing apparatus.

The following abbreviations are used in the description:

Abd. = Abdominal segment.

Ant. = Antennal segment.

Schaefferia raulmugnizi sp. nov.

(Figs. 1 - 2)

Length maximum = 1.5 (average: n = 3: 1.33 mm). White without any trace of pigmentation. Antenna short and cylindrical. Ant. IV well differenced from Ant. III and with six sensilla, one microsensillum, a subapical sensorial organ and a simple apical vesicle. Sensorial organ of Ant. III typical for the genus (Fig. 1b). Ant. II with nine setae, Ant. I with seven dorsal setae.

5 + 5 eyes, with few pigment. Maximum length of postantennal organ 74 μ , with five tubercules. Only two ocular setae (Fig. 1a).

Tibiotarsi I, II, III with 18, 18 and 17 setae respectively and without tenent hairs. Unguis typical of the genus, length of the unguis III 123 μ . With one internal tooth in the middle and one basal teeth on each side. Unguiculus with basal lamella and filament reaching to the middle of unguis (Fig. 1c). Ventral tube with 4 + 4 setae. Tenaculum with 4 + 4 teeth; dens well developed, 130 μ , with six setae, one longer than the others. Mucro short 52 μ , apex round and reduced lamellae (Fig. 2b).

Chaetotaxy typical for the genus (Figs. 1 and 2), type "A" (after Thibaud *et al.*, 2004) setae **p2** half the length of **m2**; on Abd. IV **p1** is one mesoseta and **p2** is one macroseta. Anal spines very long, 209 μ . Ratio anal spines: unguis III = 1.6. Anal papillae conical very long.

Variation. Some specimens had a bifid macrosetae.

DISCUSSION

Schaefferia raulmugnizi sp. nov. presents two ocular setae, as do the Mexican species *S. oaxacana* and *S. guerrerensis*. The new species is clearly differentiated from the other Mexican species by the presence of 5 eyes per side, as the other Mexican species come from caves and this one from edaphic environment. The new species is also clearly differentiated from *S. duodecimocellata*, for its five eyes. Following Thibaud *et al.* (2004) keys, the new species is similar to *S. quinqueoculata* (Yosii, 1956) because they share the presence of 5 + 5 eyes, nevertheless the new species has only two ocular setae, while *S. quinqueoculata* have three; Yosii's species has only five dental setae and *S. raulmugnizi* sp. nov. has six.

Type material: Holotype female and two paratypes females under slides.

Type locality: MEXICO: Oaxaca: Santa Cruz, Ixtlán de Juárez, Suelo, Podzol.

Derivatio nominis: This new species is dedicated to Dr. Raúl Muñiz, for his contribution to the Coleoptera Curculionidae from Mexico.

Key for the species of *Schaefferia* in Mexico and close related to *S. raulmugnizi* sp. nov.

- 1. Furcula reduced, without mucro 2
- Furcula well developed, with mucro 3
- 2. With 3 + 3 eyes *S. emucronata*
- No eyes *S. guerrerensis*
- 3. With 6 + 6 eyes *S. duodecimocellata*
- With 5 + 5 eyes or less 4
- 4. With 5 + 5 eyes 5
- Without eyes *S. oaxacana*
- 5. Two ocular setae and 5 lobes in the postantennal organ *S. raulmugnizi* sp. nov
- Three ocular setae and 4 lobes in the postantennal organ *S. quinqueoculata*

LITERATURE CITED

Bonet, F. 1945. Nuevos géneros y especies de hipogastrúridos de México (Collembola). *Revista de la Sociedad Mexicana de Historia Natural* 6: 13-45.

Thibaud, J.-M., H.-J. Schulz et M.M. da Gama Assalino. 2004. Synopses on Palaearctic Collembola. Volume 4. Hypogastruridae. *Abhandlungen und Berichte des Naturkundemuseums Görlitz*, 75(2): 1-287.

Palacios-Vargas, J.G. & J. M. Thibaud. 1985. Nuevos Hypogastruridae anoftalmos (Collembola) de cuevas y suelos de México. *Folia Entomológica Mexicana*, 66: 1-13.

Palacios-Vargas, J. G. & J.-M. Thibaud. 1997. New cave Collembola from Mexico and Belize. *Southwestern Entomologist*, 22: 323-329.

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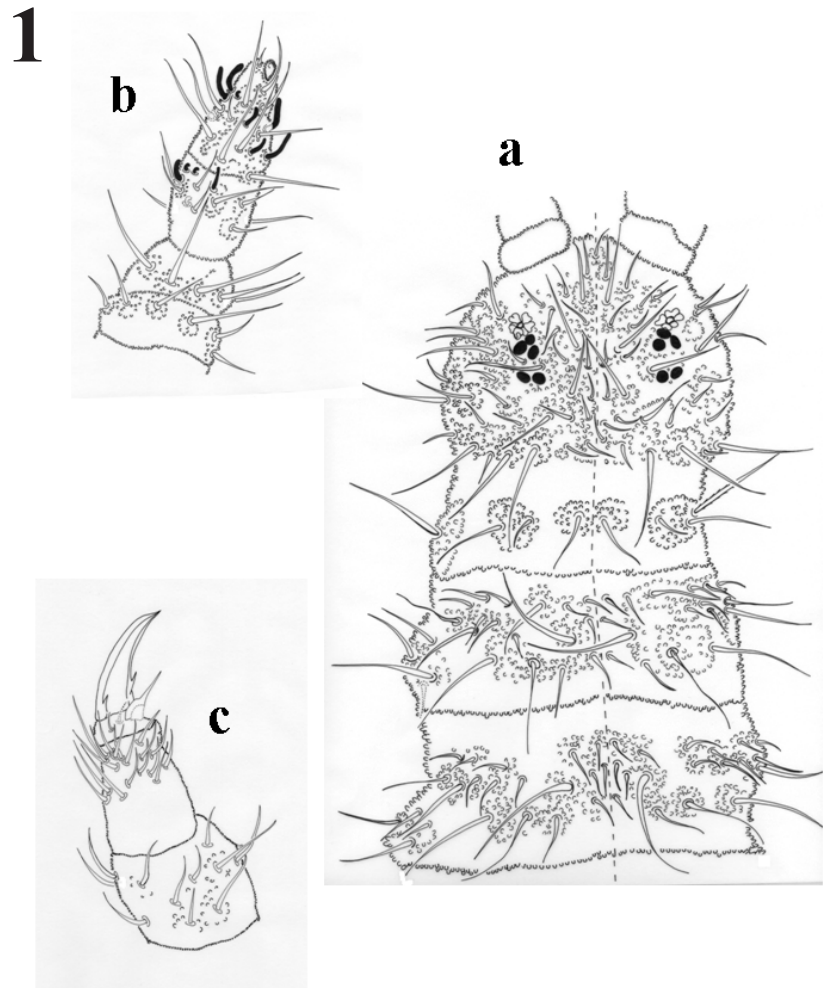
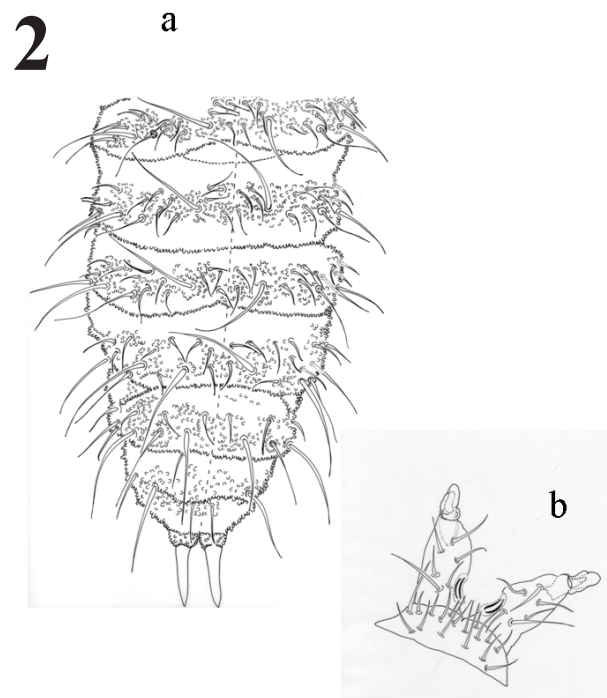


Figure. 1 a-c, *Schaefferia raulmugnizi* sp. nov. a, dorsal chaetotaxy of head and thorax; b, dorsal chaetotaxy of antenna (from Ant. I to IV); c, femur and tibiotarsus III.



Figures. 2 a-b, *Schaefferia raulmugnizi* sp. nov. a, dorsal chaetotaxy of abdomen; b, furcula.

