

A NEW SUBGENUS OF BOURLETIELLIDAE (COLLEMBOLA)
FROM QUINTANA ROO, MEXICO

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ABSTRACT

A new subgenus and new species of Bourletiellidae are described and illustrated. The subgenus is part of the genus *Stenognathriopes* and it is characterized by the presence of lamellar expanded tenent hairs. This new taxon seems to be endemic of the Sian Ka'an Biological reserve.

Key Words: *Tenentiella*, taxonomy, *Stenognathriopes*, Collembola

RESUMEN

Un nuevo subgénero y una nueva especie de Bourletiellidae son descritos e ilustrados. El subgénero es parte del género *Stenognathriopes* y se caracteriza por la presencia de "tenent hairs" expandidos en forma de lamela. Este nuevo grupo parece ser endémico de la Reserva de la biosfera de Sian Ka'an.

The Symphypleona is the subclass of Collembola least studied in Mexico. Only about 50 species of the family Sminthuridae s. l. have so far been recorded from Mexico.

During our study of the diversity of soil fauna in the Biological Reserve of Sian Ka'an, we have found specimens belonging to the new subgenus and new species herein described.

Stenognathriopes (*Tenentiella*) **subgen. nov.**

Bourletiellidae having 2-3 very modified clavate tenent hairs (one laminar), arranged parallel to the long axis of each tibiotarsus. Antennal segment IV with 13 sub-

divisions. Tibiotarsi with four dorsal oval organs. Dental chaetotaxy reduced. Mucro with both edges smooth.

This new subgenus is very similar to *Stenognathriopes*, but differs in the lamellar shape of one of the tenent hairs. It also differs in the presence of 4 oval organs dorsally on tibiotarsi. Neither of these characteristics is found in any other genus of the Family Bourletiellidae. *Tenentiella* has a subdivided fourth antennal segment as do other genera of the family and shares a reduction of ventral chaetotaxy of dens with the members of the genus *Deuterosminthurus* (Palacios-Vargas and V. González, 1995).

Type species: *Stenognathriopes (Tenentiella) siankaana* sp. nov. from Quintana Roo, Mexico.

Stenognathriopes (Tenentiella) siankaana sp. nov.

(Figs. 1 - 8)

Description

Body yellow; head, antennae and legs purple. Eyepatch black. Some small spots of purple in the body. Furcula light blue. Body with spinelike macrosetae, acuminate mesosetae and bothriotrichia (Fig. 1).

Eyes 8 + 8. Two oval organs on each side of the mouth. Antennal segments ratio (from holotype) 1:2.2:2.2; 5.5. Ant. IV with 14 subsegments and no apical bulb. Each subsegment has a single circlet of setae and sensillae (Fig. 2). Ant. I with 6 setae, Ant. II with 16 setae varying in size (Fig. 3). Ant. III with 19 setae, 4 spiniform (Fig. 4). Sense organ of Ant. III with two microsensillae, two guard sensillae and one external microsensilla (Fig. 5). Ratio head-antenna: 1: 1.5. Labral chaetotaxy with 4/5,3,4 setae. Thoracic segmentation not distinct. Metatrochanters without oval organs. Femora with one internal spine each (reduced in femur III).

Leg setation as follows from coxa to tibiotarsi: leg I: 1,4, 13+ spine, 40 + 4 oval organs; leg II: 3, 6, 13 + spine, 40 + 4 oval organs; 3, 5, 13 + spine; 42 + 4 oval organs. Tenent hairs 3, 3 and 2 (Figs. 6 and 7). Ventral setae of tibiotarsi are thick, the spine-like setae are weakly serrate. Pretarsus without microsetae. Ungues thick and short, with one external tooth, without tunica or pseudonychia. Unguiculus slender and pointed, a slightly longer than ungues on Leg III. Sacs of ventral tube tuberculate. Rami of tenaculum tridentate (Fig. 1), corpus with three apical setulae. Manubrium with 7 dorsal setae and one ventral. Dens with 7 ventral setae, 6 external and 13 lateral and dorsolateral setae. Mucro with both edges smooth. Ratio mucro: dens = 1: 2.3. Maximum size (n = 8): 1.2 mm. Spiniform dorsal macrochaetae of head and body as shown in Fig. 1.

Female subanal appendix palmate. Male genital plate with seven pairs of setae.

Type Locality

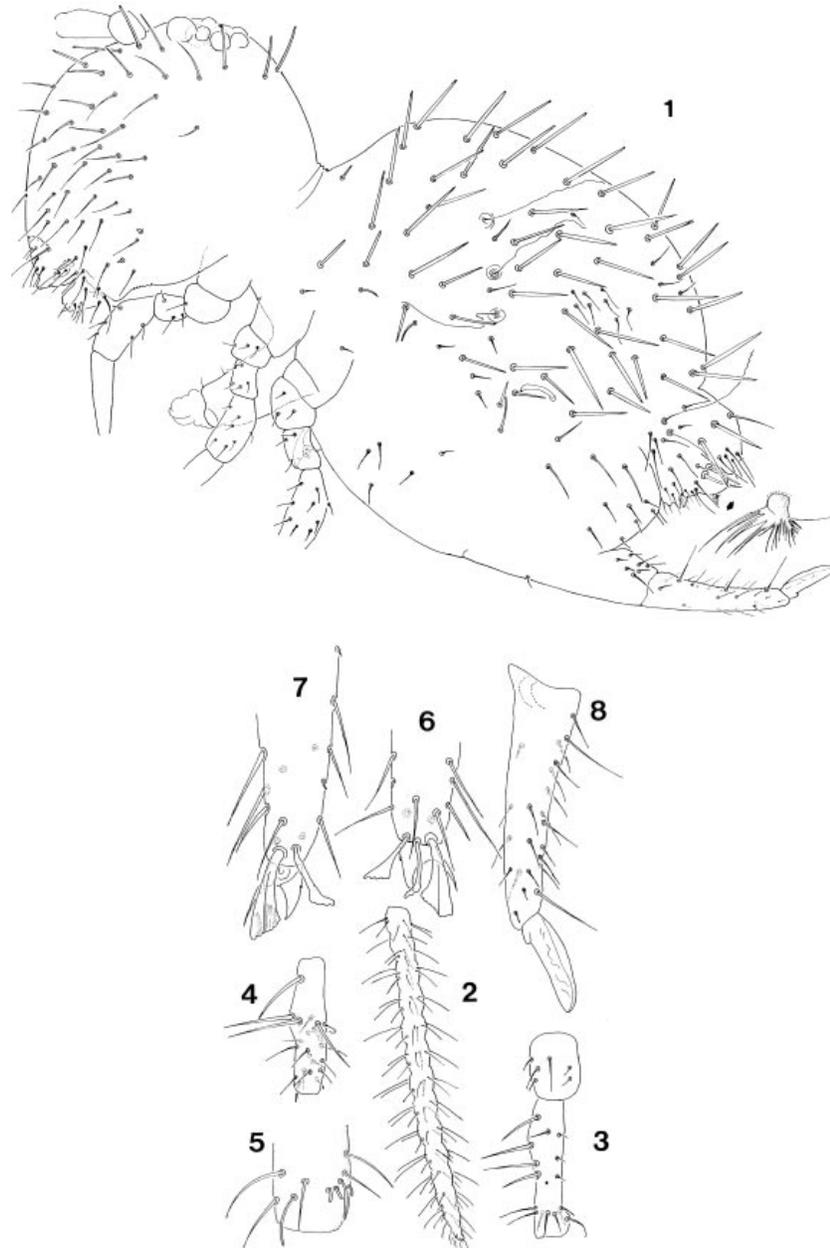
MEXICO: Quintana Roo, Biological Reserve of Sian Ka'an. Low tropical forest. Soil and litter, 17-V-95, 8-VII-95, 7-VII-95. M. M. Vázquez coll.

Type Material

Holotype female on slide; 2 female paratypes, 2 male paratypes and 3 juveniles on slides. Two paratypes will be kept in senior author institution, holotype and other paratypes in junior author institution.

Variation

Some variation in the number of the mesosetae on abdominal chaetotaxy was observed.



Figs. 1-8. *Stenognathriopes (Tenentiella) siankaana* gen. et sp. nov.
1. Body Chaetotaxy in lateral view; 2. Antennal segment IV; 3. Antennal segment I and II; 4. Antennal segment III; 5. Magnification of sensorial organ of Ant. III; 6. Foot complex I; 7. Foot complex III; 8. Dens and mucro in lateral view.

Etymology

The species is named after the type locality: Sian Ka'an.

DISCUSSION

The only genus known in the Family with very modified tenent hairs is *Stenognathriopes* (Betsch & Lasebikan, 1979), originally described with one species from Nigeria. The new subgenus is very similar or identical to the other members of the genus in the structure of the unguis, lack of pretarsal setae, the 14 subsegments of the fourth antennal segment, labral structure and dorsal chaetotaxy of the body. The differences in the new subgenus *Tenentiella* are that the tibiotarsal spines are less strongly serrate, the unguiculus apical filament is short on legs I and II and the unguis with clear external teeth. One tenent hair on each foot is lamellate rather than swollen and clavate as in *Stenognathriopes* s. s. Head with 2 oval organs on each side which are not mentioned in Betsch & Lasebikan (1979). Leg III with four oval organs. Tenaculum is tridentate with three rather than four setae on the corpus.

The occurrence of this highly modified genus in Africa and Mesoamerica is of considerable biogeographic interest.

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