New species of the genus *Willemia* BÖRNER, 1901 (*Collembola*)
from a cave in the Ukraine

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Abstract. *Willemia virae* sp. n. from Eastern Carpathians without m-row setae on Abd. IV and a4 setae on Th. II, III is described.

Key words: *Collembola*, taxonomy, new species, cave, Ukraine.

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I. INTRODUCTION

The investigations of the Collembolan fauna of the Ukrainian caves have been started only recently. *Willemia virae* sp. n. is the first species described from a cave in the Ukrainian Carpathians.

All materials on the new species are preserved in the collections of the State Museum of Natural History of National Academy of Sciences of Ukraine (L’viv).

The modern taxonomical study on the genus *Willemia* was initiated by HÜTHER (1962), and developed further by ARBEA & JORDANA (1986), POTAPOV (1994). In my description of the new species I follow the nomenclature of morphological characters as used by these authors.

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*Willemia virae* sp. n.

(Figs 1-9)

Diagnosis. Abdominal segment IV without m-row setae. On Th. II, III setae a4 and p2 on Abd. V absent. Ant. IV with four flamelike sensilla (*se1, se2, se3, si2*); sensilla *sd* and *si1* more slender and longer than others.

Description. Body length 0.63-0.90 mm. Tegumental granulation is fine and uniform.

Antennal segment IV with four flamelike sensilla (*se1, se2, se3, si2*) (Fig. 3). Sensilla *sd* and *si1* more slender and longer than others. Lateral sensilla of Ant. III organ are about as long as the nearest setae and placed in a rather great distance one from another (Fig. 3). Ant. I, II with 7 and 12 setae, respectively.
Figs 1-9. *Willeminia virae* sp. n. 1 – dorsal chaetotaxy of head; 2 – chaetotaxy of thoracic and abdominal tergite, 3 – apical part of antenna; 4 – postantennal organ; 5 – chaetotaxy of central part of abdominal sternite IV; 6 – Abd. VI with anal spine; 7 – distal part of leg III; 8 – anal lobe; 9 – sensilla of body.
A circular postantennal organ with 5-6 lobes (Fig. 4). Labrum with 4/4, 5, 4 setae.

Body is covered with the setae of average size. Dorsal chaetotaxy as in Fig. 1, 2. Seta a₀ present and setae oc₁, d₂, v₂ absent on the head. Thoracic segments II, III have incomplete set of setae: 5 a-setae (a₄ setae absent), 4 m-setae and 6 p-setae. Sometimes, thoracic tergites II, III without seta m₃. Tergite of Th. II with lateral microsensilla. Thoracic and abdominal sensilla as in Fig. 9. Abdominal tergites I, II, III with a₂ setae and without m₃ and m₅. The m-row setae on Abd. IV absent. Row a with a₁, a₂, a₄, a₅ setae and row p with p₁, p₂, p₃, p₄ (=sensillum), p₅ setae. Abdominal tergite V without seta p₂ and with a₂ seta.

On abdominal sternite IV seta a₁ present, and setae of m-row absent (Fig. 5). Generally, in the central part of this segment there are 14+14 setae. Each of anal lobes with 18 setae, including setae z and 3hr (Fig. 8). Ventral tube with 4+4 setae.

Claw without teeth (Fig. 7). Empodial appendage is of about 0.45 the length of the inner edge of the claw and has a small basal lamella (Fig. 7). Tibiotarsi I, II, III with 17, 17, 16 setae.

Anal spines small, as long as 0.25 of the claw (Fig. 6). Males present.

H o l o t y p e m a l e, 6 paratypes (males and females) on slides: Ukraine, Zakarpats'ka province, vill. Mala Ugol'ka, Druzhba Cave, litter deposited on its floor from beech forest, 20 m from the entrance, 14.II.1992, leg. V.B. Rizun.

D i s c u s s i o n. The species described has some rare morphological characters. It differs from other species of the genus Willemia by the absence of m-row setae on Abd. IV and setae a₄ on thoracic segment II, III. Generally, the new species is similar to Willemia scandinavica Stach, 1949 and is readily separated from it by the presence of 5 a-setae on Th. II, III (6 a-setae in W. scandinavica) absence of setae m₄, m₆ on Abd. IV and p₂ on Abd. V, the shape of sensilla on thoracic and abdominal segments.

W. virae sp. nov. occupies an intermediate place between "anopithalma" and "denisi" groups, as defined by POTAPOV (1994). Chaetotaxy of Ant. IV in W. virae sp. nov. is typical for the species of "anopithalma" group. However, the absence of seta p₂ on Abd. V brings it closer to the "denisi" species group.

D e r i v a t i o n o m i n i s. The species is named in honour of my wife, Vira.

REFERENCES


