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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 Estern 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.

A c k n o w l e d g e m e n t s. I am greatly indebted to my friend Dr. V. B. RIZUN for supplying me with the materials from Druzhba cave.

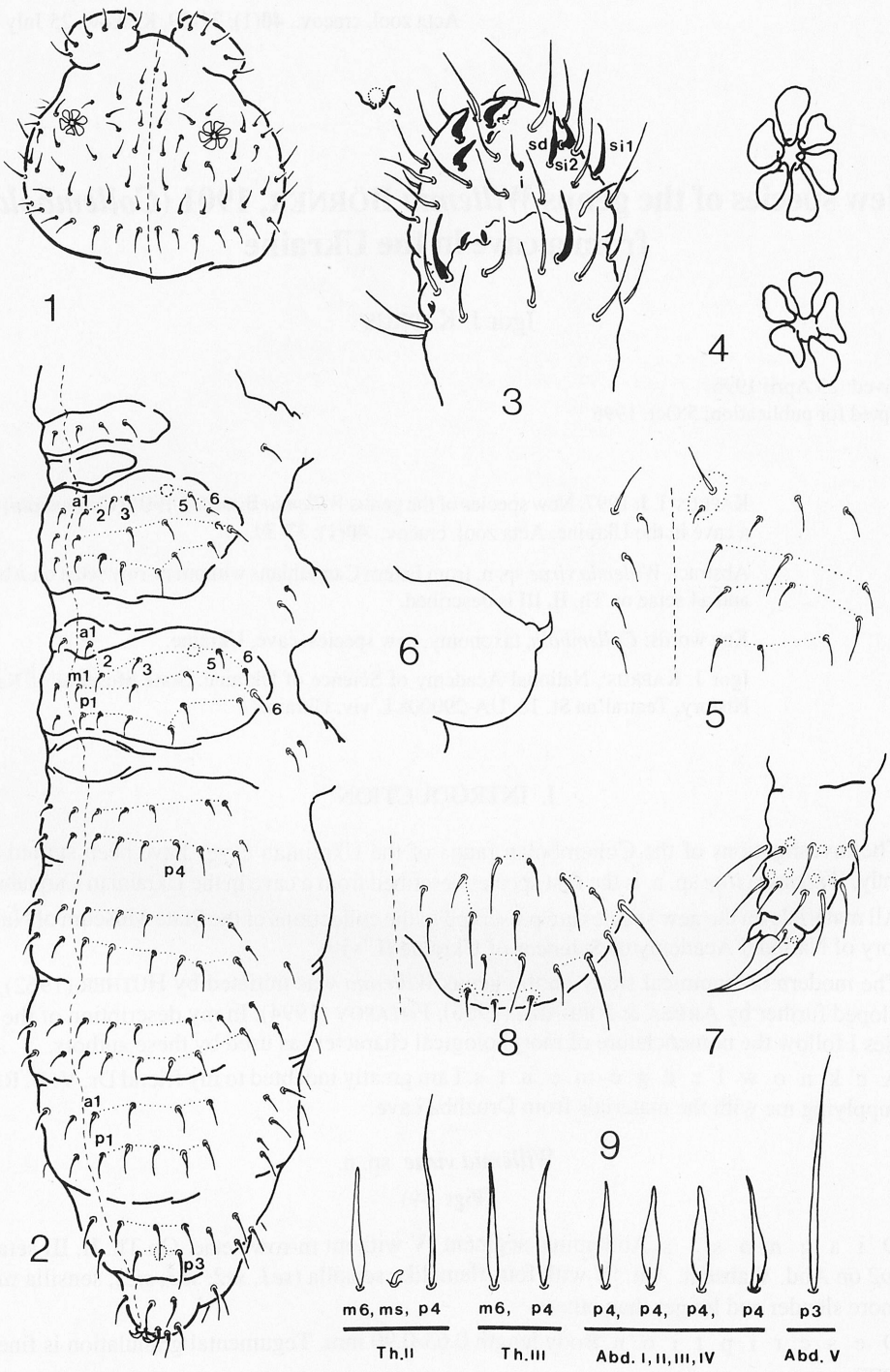
Willemia virae sp. n.

(Figs 1-9)

D i a g n o s i s. 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.

D e s c r i p t i o n. 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. *Willemia virae* sp. n. 1 – dorsal chaetotaxy of head; 2 – chaetotaxy of thoracal 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. Thoracal segments II, III have incomplete set of setae: 5 *a*-setae (*a4* setae absent), 4 *m*-setae and 6 *p*-setae. Sometimes, thoracal tergites II, III without seta *m3*. Tergite of Th. II with lateral microsensilla. Thoracal 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 male, 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 thoracal 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 thoracal and abdominal segments.

W. virae sp. nov. occupies an intermediate place between "*anophthalma*" and "*denisi*" groups, as defined by POTAPOV (1994). Chaetotaxy of Ant. IV in *W. virae* sp. nov. is typical for the species of "*anophthalma*" 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

ARBEA J. I., JORDANA R. 1986. Estudio del genero *Willemia* en Navarra con especial referencia a la quetotaxia dorsal de la antena (*Collembola, Hypogastruridae*). Actas VIII Jornadas A e E. Sewilla. Oct.: 213-222.

HÜTHER W. 1962. Beitrag zur Gattung *Willemia*. Beitr. Entomol. **12**(5/6): 511-526.

POTAPOV M. B. 1994. Genus *Willemia*. [In:] *Collembola* of Russia and adjacent countries: Family *Hypogastruridae* (Ed. by N.M. Chernova). Moscow, Nauka: 232-250. (In Russian).