

Onychiurus pancici, a new cave dwelling endemic species from Serbia, Yugoslavia (Collembola: Onychiuridae)

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Abstract: *Onychiurus (Onychiurus) pancici* spec. nov. from Serbia, Yugoslavia, is described and its interrelationships with phenetically closest congeners are briefly discussed.

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Introduction

The springtail genus *Onychiurus* Gervais comprises three subgenera: *Onychiurus* s. str., *Arcaphorura* Bagnall and *Protaphorura* Absolon (Salmon, 1959), which have been classified according to their PAO number of tubercles and the presence or absence of anal spines (Gisin, 1960; Christiansen & Bellinger, 1980). The genus has a broad distribution including Europe, western Asia, northern Africa and North America (Gisin, 1960; Christiansen & Bellinger, 1980).

According to Gisin (1960), 135 species of *Onychiurus* are present in Europe. Of these, seven belong to the subgenus *Arcaphorura* (distributed from Great Britain in the west up to the Caucasus in the east, and from Greenland and Scandinavia in the north up to Italy and France in the south). The subgenus *Protaphorura* (62 species), is distributed from Scotland and England in the west up to Turkey in the east, and from Denmark in the north up to Spain and northern Africa in the south. The nominal subgenus comprises 66 species, which inhabit different regions in Europe and northern Africa.

In Serbia, the nominal subgenus is represented by nine species: *O. fimetarius* (Linnaeus), *O. granulosus* Stach, *O. jugoslavicus* Gisin, *O. maglicensis* Živadinović, *O. nervo-*

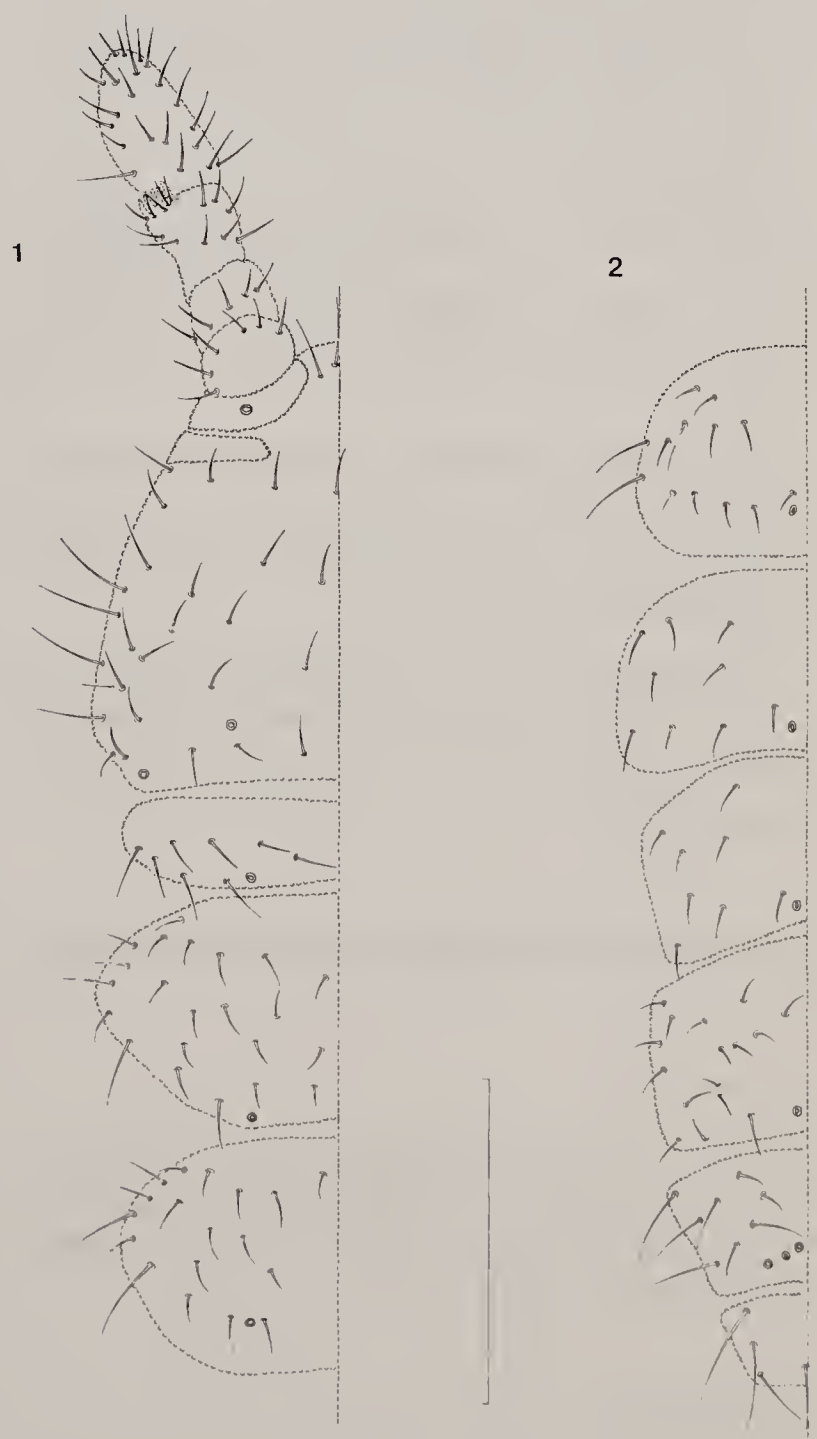


Fig. 1-2. *Onychiurus pancici* spec. nov., holotype, ♀, dorsal chaetotaxies. 1, head and thoracic segments I-III; 2, abdominal segments I-VI (scale line: 0.25 mm).

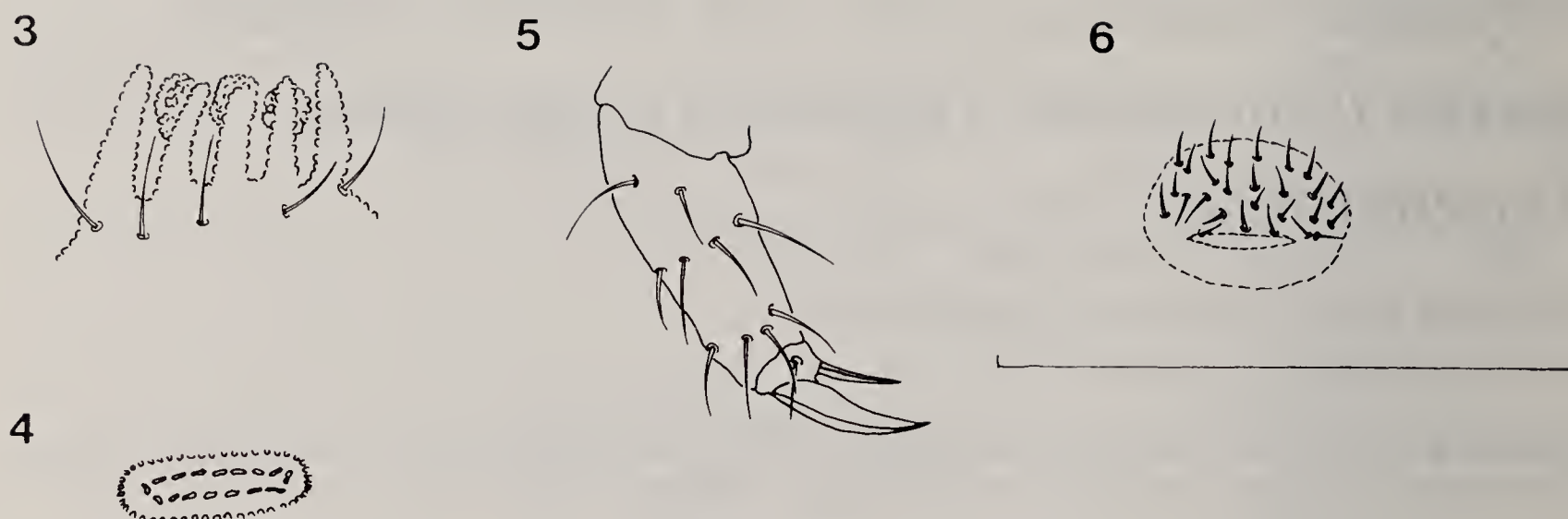


Fig. 3-6. *Onychiurus pancici* spec. nov., holotype, ♀. 3, sense organ of antenna; 4, postantennal organ (PAO); 5, leg III; 6, genital plate (scale line: 0.25 mm).

sus Stach, *O. pseudogranulosus* Gisin, *O. ravanicae* Ćurčić & Lučić, *O. rectospinatus* Stach and *O. trojan* Ćurčić & Lučić (Bogojević, 1968, 1989; Ćurčić & Lučić, 1997, 1998; Gisin, 1961; Živadinović, 1973). Two species, *O. ravanicae* and *O. trojan*, are endemic in Serbia (Ćurčić & Lučić, 1998) and both *O. jugoslavicus* and *O. maglicensis* are considered endemic in the Balkan Peninsula, while all other species mentioned have wide distributions in different regions in Middle and South Europe.

A tenth species of the subgenus *Onychiurus* inhabiting Serbia, *O. pancici* spec. nov. is described in this paper as new to science from East Serbia, Yugoslavia.

The type specimen is deposited in the collections of the Institute of Zoology, Faculty of Biology, University of Belgrade, Belgrade, Yugoslavia.

***Onychiurus (Onychiurus) pancici* spec. nov.**
(fig. 1-6)

Type material

Holotype: ♀, Serbia (Yugoslavia), Monastery Pečina cave, village Selačka, near Minićevo, en route Knjaževac-Zaječar, 28.vi.1997, leg. R. N. Dimitrijević, L. R. Lučić, S. E. Makarov & V. T. Tomić.

Description

Body length: 2.1 mm. Body colour: white to pale yellowish. In general, body uniformly granulated. Dorsal chaetotaxy as in fig. 1 and 2.

Head longer than antennae. Antennal segments I-IV with 6, 5, 8 and 21 dorsal setae, respectively (fig. 1). Apical sense organ of antenna III with 5 papillae, 5 setae and 3 granulated sense clubs (fig. 3). Postantennal organ (PAO) in a deep groove, consisting of 16 ellipsoid tubercles ("sibiricus" type, see Christiansen & Bellinger, 1980) (fig. 4).

Pseudocellar tergal formula: 12/111/11113; sternal formula: 1/000/1111; subcoxal formulae: 111 (laterally) and 111 (ventrally). Parapseudocelli absent.

Furca absent. Ventral tubus with 6+6 setae. Female genital plate as in fig. 6; it bears 27 setae surrounding the genital mouth. Anal spines absent ("fimetarius" group, see Gisin, 1960). Abdominal segment VI dorsally with 8 long hairs.

Tibiotarsus III with 11 setae; tarsal claws without teeth. Empodial appendage with an outstanding basal lamella. Tarsal claw 1.33 times as long as empodium (fig. 5).

Etymology

This new species is named after the famous Serbian naturalist, Academician Josif Pančić, the first president of the Royal Serbian Academy.

Comparative notes

The new species is clearly distinct from *O. jugoslavicus* in the body size (greater versus smaller), in the pseudocellar formula

(12/111/11113 versus 10/011/11112), in the number of PAO tubercles (16 versus 12), and in the tarsal claw length to the empodium length ratio (1.33 versus 2.00).

Onychiurus pancici is phenetically closer to *O. cadaverinus* Handschin, known only from some Swiss caves (Gisin, 1960). However, the new species is easily distinguished from its Swiss cave congener by the pseudocellar formula (12/111/11113 versus 32/111/11112), by the number of PAO tubercles (16 versus 15), by the structure of tarsal claws (without denticles versus with denticles), and by the presence of the basal lamella in *O. pancici* and its absence in *O. cadaverinus*.

Onychiurus pancici is most probably endemic in East Serbia, where it inhabits caves.

References

- BOGOJEVIĆ, J., 1968. Catalogus Faunae Jugoslaviae. Collembola. – *Cons. Acad. Sci. Rei Publ. Soc. Foed. Jugosl., Acad. Sci. Art. Slov.* 3 (6): 1-33.
- BOGOJEVIĆ, J., 1989. Novija saznanja o fauni Collembola SR Srbije. – *Zborn. rad. Polj. fakult. Belgrade* 34: 59-77.
- CHRISTIANSEN, K. & P. BELLINGER, 1980. *The Collembola of North America. Part II. Families Onychiuridae and Isotomidae*: 387-784. Grinnell College, Grinnell, Iowa.
- ĆURČIĆ, B. P. M. & L. R. LUČIĆ, 1997. On the biodiversity of springtails (Collembola, Insecta) in Yugoslavia (Serbia and Montenegro). – *Arch. Biol. Sci. Belgrade*, 49: 13P-14P.
- ĆURČIĆ, B. P. M. & L. R. LUČIĆ, 1998. Two new cave-dwelling species of Onychiuridae (Collembola) from Serbia, Yugoslavia. – *Ent. Ber., Amst.* 58: 70-72.
- GISIN, H., 1960. *Collebolenfauna Europas*: 1-312. Muséum d' Histoire Naturelle, Genève.
- GISIN, H., 1961. Sieben neue Arten von Collembola aus Bosnien und Wiederbeschreibung von *Onychiurus serratotuberculatus* Stach. – *God. Biol. Inst. Univ. Sarajevo* 14: 3-13.
- SALMON, J. T., 1959. Concerning the Collembola Onychiuridae. – *Trans. R. ent. Soc. Lond.* 111: 119-156.
- ŽIVADINOVIĆ, J., 1973. Ekologija triju endemičnih vrsta roda *Onychiurus* (Collembola). – *Ekologija* 8: 117-129.

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