

Two new cave-dwelling species of Onychiuridae (Collembola) from Serbia, Yugoslavia

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Abstract: *Onychiurus (Onychiurus) trojan* spec. nov. and *O. (O.) ravanicae* spec. nov. from Serbia, Yugoslavia, are described and the interrelationships with their phenetically closest congeners are briefly discussed.

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Introduction

The springtail genus *Onychiurus* Gervais has a broad distribution including Europe, western Asia, northern Africa and North America (Gisin, 1960; Christiansen & Bellinger, 1980). It comprises three subgenera: *Onychiurus* s. str., *Archaphorura* Bagnall and *Protaphorura* Absolon (Salmon, 1959).

In Serbia, the nominal genus is represented by seven species: *O. (O.) fimetarius* (Linnaeus), *O. (O.) granulatus* Stach, *O. (O.) jugoslavicus* Gisin, *O. (O.) maglicensis* Živadinović, *O. (O.) nervosus* Stach, *O. (O.) pseudogranulosus* Gisin and *O. (O.) rectospinatus* Stach (Bogojević, 1968). Only *O. (O.) jugoslavicus* is endemic in Serbia, while the other species of the subgenus have wide distributions in different regions of southern Europe. In this study, two species of the nominal subgenus, *O. (O.) trojan* and *O. (O.) ravanicae*, are described as new to science from eastern Serbia, Yugoslavia.

The type specimens are deposited in the collections of the Institute of Zoology, Faculty of Biology, University of Belgrade, Belgrade, Yugoslavia (IZB).

Onychiurus (Onychiurus) trojan spec. nov. (figs 1, 3-6)

Type material

Holotype: ♀, Serbia (Yugoslavia), Zlotska Pećina Cave, village Zlot, near Bor, 25.x.1996, leg. R. N. Dimitrijević, L. R. Lučić, S. E. Makarov and O. S. Karamata.

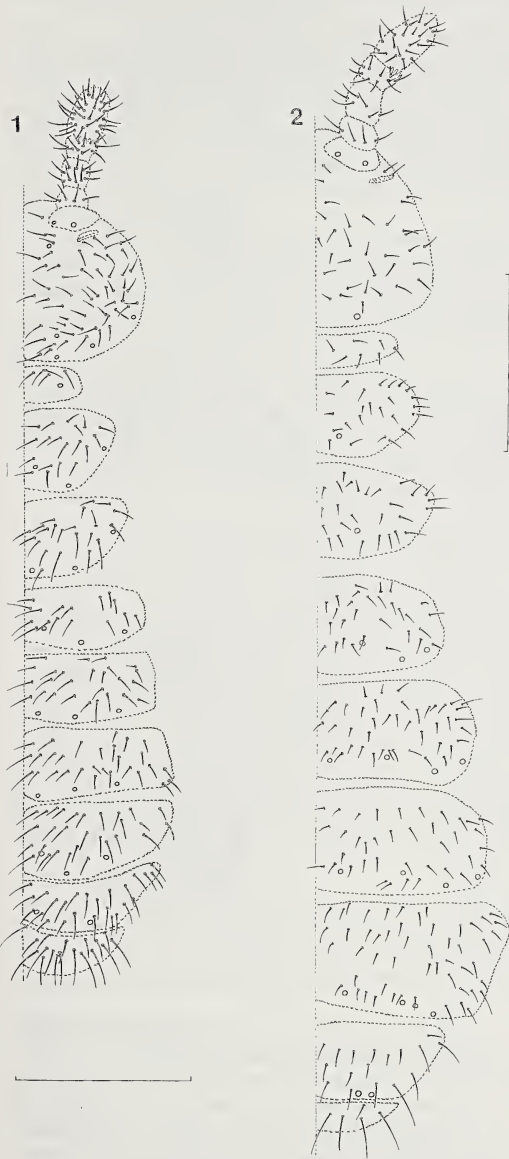
Description

Body length: 1.25 mm. Body colour: white. Body granulation inconspicuous. Dorsal chaetotaxy as in fig. 1.

Head longer than antennae. Antennae I-IV with 4, 10, 10 and 25 dorsal setae, respectively (fig. 1). Sense organ of antenna III with 4 papillae, 5 setae, 3 sensory rods and 2 granulated sense clubs (fig. 3). Postantennal organ (PAO) ellipsoid, with 10 simple tubercles (fig. 4).

Pseudocellar tergal formula: 25/133/33332; sternal formula: 2/000/1222; subcoxal formulae: 111 (laterally) and 111 (ventrally). Parapseudocelli absent. Furca absent. Ventral tubus with 9 lateral setae. Female genital plate as in fig. 6. Anal spines not developed.

Tibiotarsus III with 13 setae; tarsal claws without teeth; empodium without basal lamella. Tarsal claw twice as long as empodium (fig. 5).



Figs 1-2. Dorsal chaetotaxies. 1, *Onychiurus (O.) trojan* spec. nov., holotype, ♀; 2, *O. (O.) ravanicae* spec. nov., holotype, ♀ (scale: 0.25mm).

Etymology

The species is named after Trojan, the ancient Slavic deity.

Comparative notes

From its phenetically close congener, *O. (O.) pseudogranulosus*, the new species clearly

differs in the pseudocellar tergal (33/133/33333 versus 25/133/33332), sternal (1/000/1212 versus 2/000/1222) and subcoxal formulae (002 versus 111), and in the ratio of empodium length to claw length (0.75 versus 0.50).

Onychiurus (O.) trojan is probably endemic in East Serbia, where it inhabits caves.

Onychiurus (Onychiurus) ravanicae

spec. nov.

(figs 2, 7-10)

Type material

Holotype: ♀, Serbia (Yugoslavia), Ravanička Pećina Cave, by the Ravanica Monastery, near Čuprija, 22.x.1996, leg. R. N. Dimitrijević, L. R. Lučić, S. E. Makarov and O. S. Karamata.

Paratypes: 3 ♀, same data as holotype.

Description

Body length: 1.6 mm. Body colour: yellowish to pale brownish. Body granulation inconspicuous.

Head longer than antennae. Antennae I-IV with 4, 6, 13 and 22 dorsal setae, respectively (fig. 2). Sense organ of antenna III with 4 papillae and 5 setae guarding 2 sensory rods and 2 paddle-shaped sensillae (fig. 7). Postantennal organ (PAO) ellipsoid, with 10 simple tubercles (fig. 8). Antenna shorter than head.

Pseudocellar tergal formula: 21/011/34442; sternite formula: 2/111/0000; subcoxal formula: 111. Parapseudocelli absent. Neither furca nor ventral tubus are developed. Female genital plate as in fig. 10. Anal spines not developed.

Tibiotarsus III with 13 setae; tarsal claws without denticles. Empodial appendage with no basal lamella (fig. 9). The claw is nearly 3 times as long as the empodium (fig. 9).

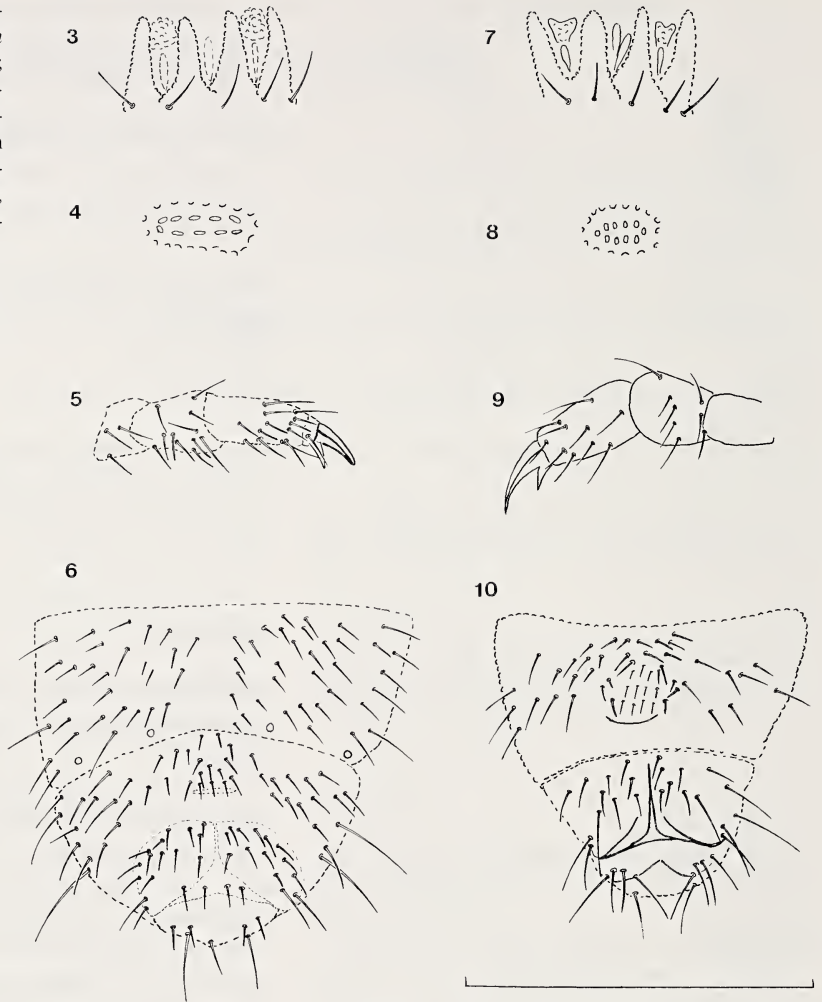
Etymology

The species is named after the type-locality.

Comparative notes

In comparison with its phenetically close congener, *O. (O.) pseudostachianus* Gisin, *O. (O.)*

Figs 3-10. *Onychiurus*. 3-6, *Onychiurus (O.) trojan* spec. nov., holotype, ♀; 7-10, *Onychiurus (O.) ravanicae* spec. nov., holotype, ♀; 3, 7, sense organ of antenna; 4, 8, postantennal organ (PAO); 5, 9, leg III; 6, 10, sternites IV-VI (scale: 0.25mm).



ravanicae is easily distinguished by the number of the pseudocelli at the antennal base (3 versus 2), and by the pseudocellar tergal (32/022/33353 versus 21/011/34442), sternal (3/011/2111 versus 2/111/0000) and subcoxal formulae (002 versus 111). This species is probably endemic to Serbia.

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lembola. – *Cons. Acad. Sci. Rei Publ. Soc. Foed. Jugosl., Acad. Sci. Art. Slov.* 3 (6): 1-33.

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