

A NEW SOIL PSEUDOSCORPION, *RONCUS URSI* N. SP., FROM WESTERN SERBIA (NEOBISIIDAE, PSEUDOSCORPIONES)

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Abstract — A new species of the pseudoscorpion genus *Roncus* L. Koch (Neobisiidae) from Serbia (Kulina, Mt. Medvednik) is described and its diagnostic characters are illustrated. Interrelations with phenetically close congeners are analyzed; in addition, the presence/absence of microsetae proximal to the trichobothria **eb** and **esb** and presence/absence of one or two outstanding tubercles on the interior lateral side of pedipalpal femur are established as important taxonomic characters.

Key words: Pseudoscorpions, Neobisiidae, *Roncus ursi* n. sp., Šumadija, Serbia.

INTRODUCTION

The low number of taxa of a particular group of arachnids in Serbia can be attributed to several possible reasons. The interest of specialists might be focused on other groups of animals: the small body size and cryptic way of life impedes the gathering of material needed for study, the low densities of specimens of a particular group (the troglobitic and troglophilic forms in particular), and the general inaccessibility of the habitats these animals populate.

Among the pseudoscorpions pertaining to the family Neobisiidae, only 40 are known to inhabit Serbia (Ćurčić et al., 2004). Of these, most are cave dwellers — troglophilic or true troglobitic forms, although there also appear forms that live under stones, in leaf litter and in soil. Bearing in mind the richness of the various types of the relief in Serbia, especially the karst forms (caves, potholes, ponors), and the data for other groups of animals, the above-mentioned reasons may be regarded as responsible

for the rather small number of known epigeal and cavernicolous *Roncus* species from Serbia.

Setal designations follow Beier (1963).

SYSTEMATIC PART

NEOBISIIDAE J. C. CHAMBERLIN, 1930
RONCUS L. KOCH, 1873

RONCUS URSI B. ĆURČIĆ
NEW SPECIES
(Figs. 1-7; Table 1; Map 1)

Etymology — The new species is named after its type locality, Mt. Medvednik (the Bears' Mountain), nr. Mionica, Šumadija, Serbia.

Specimens examined — Holotype male from Kulina, Mt. Medvednik, nr. Mionica, Serbia, collected on 3 August 2011. Paratype male, same data as for holotype; both specimens collected by D. Ž. Antić, S. Vujić and Marija Marjanović. Both specimens are

deposited in the collection of the Institute of Zoology, Faculty of Biology, University of Belgrade, Belgrade, Serbia.

Description — Carapace is longer than broad (Table 1). Epistome knob-like and rounded apically (Fig. 5). Carapacial setal formula $4 + 6 + 6 + 6 = 22$ setae (Fig. 5). No microsetae are carried in either preocular recess. One small eye present on each side of the carapace (Fig. 5). Carapace reticulate throughout. Tergite setation I – X: 6 – 8 – 11 – 11 – 10 – 11 – 11 – 10 – 9 – 9 (holotype), and 6 – 8 – 10 – 11 – 10 – 11 – 11 – 10 – 10 – 10 setae (paratype).

Female genital area: unknown.

Male genital area: sternite II with 10 – 13 medially situated setae. Sternite III with 4 – 8 anterior, 9 – 11 posterior setae and 3 microsetae along each side of the stigma. Nine or ten long setae are present on sternite IV and three microsetae along each of the stigma. Setation of sternites V – X: 14 – 14 – 12 – 13 – 12 – 12 (holotype) and 14 – 15 – 14 – 13 – 13 – 12 (paratype). Pleural membranes granulostriate. Sternite II with a pair of small setae.

Cheliceral galea low (Fig. 6). Cheliceral palm with six setae. Movable finger bears one seta. Fixed and movable cheliceral fingers have 11 and 15 teeth, respectively. Flagellum 8-bladed. The proximalmost blade is the smallest, all other blades of the same length. All blades are pinnate on the anterior side. Chelicera is 1.42 – 1.44 times longer than broad (Table 1).

Apex of the pedipalpal coxa (manducatory process) with four long setae. Pedipalpal femur with a single small exterior tubercle (Fig. 3). Interior and lateral granulations are formed on the pedipalpal femur and chelal palm. All other pedipalpal articles smooth (Fig. 1 and 3). The fixed and movable chelal fingers carry 59 and 59 – 61 small and contiguous teeth, respectively (Fig. 1).

Trichobothriotaxy: eight and four trichobothria are present on the fixed and movable chelal fingers,



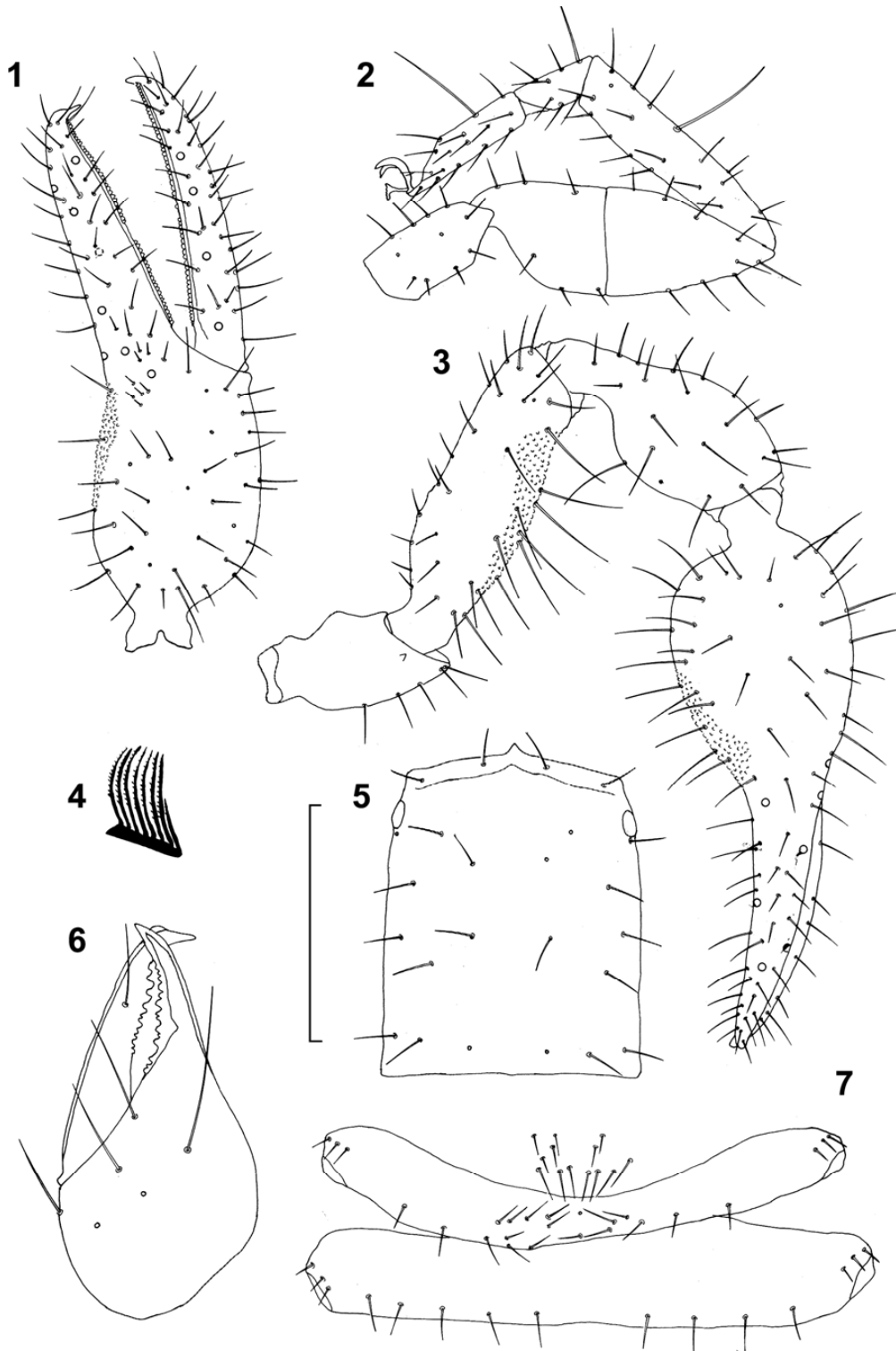
Map 1. Distribution of *Roncus ursi* n. sp. in Serbia.

respectively (Fig. 1). Trichobothrium **st** closer to **t** than to **sb**; **sb** equidistant to **st** and **b**. Trichobothrium **ist** slightly closer to **est** than to **isb**. Five microsetae present anterior to **eb** and **esb** (Fig. 1). Chelal finger longer than chelal palm (Table 1). The pedipalpal chelal length-to-breadth ratio is 3.315 – 3.40. Pedipalpal femur is 3.14 – 3.40 times longer than broad. The pedipalpal tibia is 2.20 – 2.33 times longer than wide (Table 1).

Tibia IV, basitarsus IV, and tarsus IV each with a single long tactile seta (Fig. 2). Subterminal tarsal seta furcate, each branch with a few tiny spinules.

Tactile seta ratios, measurements and morphometric ratios are presented in Table 1.

Differential diagnosis — *Roncus ursi* n. sp. is easily distinguished from *Roncus krupanjensis* B. Čurčić, Rađa, S. Čurčić, and N. Čurčić in the following aspects: body length, carapacial length and breadth, carapacial length-to-breadth ratio, cheliceral length-to-breadth ratio, pedipalpal length to body length ratio, pedipalpal femur length-to-breadth ratio, pedipalpal chela length-to-breadth ratio, length of chelal palm to breadth of chela ratio, length of chelal finger to length of chelal palm ratio, as well as in many oth-



Figs. 1 – 7. *Roncus ursi* n. sp., holotype male from Kulina, Mt. Medvednik, Šumadija, Serbia: 1 – pedipalpal chela, 2 – leg IV, 3 – pedipalp, 4 – flagellum, 5 – carapace, 6 – chelicera, 7 – male genital area. Scale lines: 0.50 mm (Figs. 1, 2, 3, and 5) and 0.25 mm (Figs. 4, 6, and 7).

Table 1. Linear measurements (in millimeters) and morphometric ratios in *Roncus ursi* n. sp., *R. krupanjensis* B. Ćurčić, Rađa, S. Ćurčić, and N. Ćurčić, and *R. radji* B. Ćurčić, Rađa, S. Ćurčić, and N. Ćurčić from Western Serbia. Abbreviations: M = male, MM = males.

Character	<i>R. ursi</i> n. sp. MM	<i>R. krupanjensis</i> M	<i>R. radji</i> MM
Body			
Length (1)	2.75-2.77	2.72	3.395-3.74
Cephalothorax			
Length (2)	0.65-0.68	0.72	0.95-0.98
Breadth (2a)	0.53-0.55	0.60	0.70-0.78
Ratio 2/2a	1.23-1.24	1.20	1.26-1.94
Abdomen			
Length	2.07-2.12	2.00	2.415-2.79
Chelicerae			
Length (3)	0.41-0.42	0.44	0.52-0.53
Breadth (4)	0.21	0.24	0.275-0.285
Length of movable finger (5)	0.285-0.295	0.315	0.38-0.39
Ratio 3/5	1.42-1.44	1.40	1.36-1.37
Ratio 3/4	1.95-2.00	1.83	1.86-1.89
Pedipalps			
Length with coxa (6)	3.30-3.33	3.85	5.52-6.195
Ratio 6/1	1.20	1.415	1.475-1.82
Length of coxa	0.51-0.52	0.55	0.69-0.77
Length of trochanter	0.41-0.42	0.47	0.65-0.77
Length of femur (7)	0.66-0.68	0.80	1.13-1.385
Breadth of femur (8)	0.20-0.21	0.23	0.25
Ratio 7/8	3.14-3.40	3.48	4.52-5.54
Ratio 7/2	0.97-1.05	1.11	1.19-1.41
Length of patella (tibia) (9)	0.55-0.56	0.64	0.95-1.01
Breadth of patella (tibia) (10)	0.24-0.25	0.275	0.34-0.37
Ratio 9/10	2.20-2.33	2.33	2.73-2.79
Length of chela (11)	1.16	1.39	2.10-2.31
Breadth of chela (12)	0.37-0.39	0.41	0.49-0.56
Ratio 11/12	2.97-3.315	3.39	4.125-4.285
Length of chelal palm (13)	0.52-0.54	0.68	1.00-1.06
Ratio 13/12	1.33-1.46	1.66	1.89-2.04
Length of chelal finger (14)	0.62-0.64	0.71	1.10-1.25
Ratio 14/13	1.15-1.23	1.04	1.10-1.18
Leg IV			
Total length	2.34-2.385	2.76	3.345-3.60
Length of coxa	0.36-0.37	0.40	0.45-0.46
Length of trochanter (15)	0.29-0.295	0.34	0.41-0.43
Breadth of trochanter (16)	0.13-0.14	0.14	0.17-0.18
Ratio 15/16	2.11-2.23	2.43	2.39-2.41
Length of femur + patella (17)	0.63-0.64	0.74	0.92-0.93
Breadth of femur + patella (18)	0.22-0.23	0.26	0.26-0.275
Ratio 17/18	2.78-2.86	2.85	3.34-3.55
Length of tibia (19)	0.53-0.55	0.65	0.855-0.92
Breadth of tibia (20)	0.11-0.16	0.12	0.13-0.15
Ratio 19/20	3.31-5.00	5.42	6.13-6.58
Length of metatarsus (21)	0.20	0.24	0.26-0.35
Breadth of metatarsus (22)	0.08-0.09	0.09	0.09
Ratio 21/22	2.22-2.50	2.67	2.89-3.89
Length of tarsus (23)	0.33	0.39	0.45-0.51
Breadth of tarsus (24)	0.07	0.08	0.08-0.09
Ratio 23/24	4.71	4.875	5.625-5.67
TS ratio - tibia IV	0.59-0.615	0.625	0.58
TS ratio - metatarsus IV	0.175-0.20	0.21	0.26-0.32
TS ratio - tarsus IV	0.31-0.33	0.34	0.26-0.32

er linear measurements and morphometric ratios of different body parts, including the appendages (Table 1).

In addition, it should be noted that the new species differs from its other congener, *R. radji* B. Ćurčić, Rađa, S. Ćurčić, and N. Ćurčić from western Serbia in almost all quantitative and qualitative characters, as is the case with *R. krupanjensis*.

Distribution and remarks. — According to present knowledge (Ćurčić, 1972, 1984, 1988, 1992a, b; Ćurčić and Beron, 1981; Ćurčić et al., 1993, 2004, 2010a, b, c, d, e, f, g; 2011a, b, c, d, e, f, g, h; Hadži, 1937), the new species of *Roncus* inhabits only the slopes of Mt. Medvednik in western Serbia. It is regarded as an endemic neobisiid from the central area of the Balkan Peninsula. It should be noted that *R. ursi* n. sp. carries a number of microsetae proximal to **eb** and **esb**; some other species of the genus carry one or two large tubercles on the interior and lateral side of the pedipalpal femur. Both characters, however, are lacking in other species of this taxon. Therefore, it is possible that they reflect some supraspecific relations, which are yet not clearly understood.

Acknowledgment — This study is financially supported by the Serbian Ministry of Education and Science (Grant # 173038).

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