

**RONCUS JELASNICAE, A NEW EPIGEAN PSEUDOSCORPION OF THE
GENUS RONCUS L. KOCH, 1873, FROM EAST SERBIA**

B. P. M. ĆURČIĆ and R. N. DIMITRIJEVIĆ

Institute of Zoology, Faculty of Biology, University of Belgrade, 11000 Belgrade, Serbia

Abstract — A new endemic epigeal species from the Jelašnička Klisura Gorge, near Niš, East Serbia, is erected, described and illustrated. Its main morphometric characters and important diagnostic features are analyzed and compared to those of its two closest congeners, *Roncus jarilo* Ćurčić and *Roncus titilin* Ćurčić, from East and Southeastern Serbia, respectively.

Key words: Pseudoscorpions, Neobisiidae, endemism, *Roncus jelsnicae* n. sp., Serbia

UDC 595.47:591.5(497.11)

INTRODUCTION

A major breakthrough in the study of both epigeal and cavernicolous species of the genus *Roncus* L. Koch, 1873 in Serbia has been carried out during the past 18 years by Ćurčić (1993), Ćurčić et al. (1993, 2004, 2006), and Dimitrijević (2000). The known number of taxa assigned to this genus from seven in 1993 has risen to present 23. Of these, 13 species are cave-dwelling and 10 inhabit leaf-litter and humus. The majority of these species are relict and endemic forms for Serbia.

In this study, careful examination of the collected material from the Jelašnička Klisura Gorge, near Niš, East Serbia, resulted in establishing a new pseudoscorpion species, *Roncus jelsnicae* n. sp., probably an endemic and relict form that inhabits the area studied.

SYSTEMATIC PART

NEOBISIIDAE J. C. CHAMBERLIN, 1930

RONCUS L. KOCH, 1873

RONCUS JELASNICAE

ĆURČIĆ AND DIMITRIJEVIĆ, NEW SPECIES

(Figs. 1-8; Table 1)

Specimen examined. – Holotype female from the

Jelašnička Klisura Gorge, near Niš, East Serbia, collected by I. Karaman on 25 October 2008. Holotype female is deposited in the collection of the Institute of Zoology (IZB), Faculty of Biology, 11000 Belgrade, Serbia.

Etymology. – The new species is named after its type locality, the Jelašnička Klisura Gorge.

Description. – Carapace slightly longer than broad (Table 1). Epistome knob-like and rounded apically (Figs. 5, 6). Carapacial setal formula: 4+6+8+6=24. One small eye present on each side of the carapace (Fig. 6). Carapace reticulate throughout. Preocular microsetae absent. Tergite setation I-X: 6-9-10-10-10-10-10-11-9. Female genital area: sternite II with nine short medially situated setae. Sternite III with 10 setae and three microsetae along each side of the stigma. Nine long setae are present on the sternite IV and 2-3 suprastigmatic setae. Setation of sternites V-X: 11-10-11-11-11-10. Pleural membranes granulostrate. Male genital area: unknown.

Cheliceral galea low (Fig. 8). Cheliceral palm with six setae. Movable finger bears one seta. Fixed and movable cheliceral fingers with 11 and 10 teeth respectively. Flagellum eight-bladed. The proximalmost blade is the smallest, all other blades of same length. All blades are pinnate on the

Table 1. Linear measurements (in millimeters) and morphometric ratios in females of *Roncus jelsnicæ* n. sp., *R. jarilo* Ćurčić, and *R. tintilin* Ćurčić. The distinctive traits of *Roncus jelsnicæ* n. sp. are in bold numbers.

Character	<i>R. jelsnicæ</i> n. sp.	<i>R. jarilo</i> Ćurčić	<i>R. tintilin</i> Ćurčić
Body			
length (1)	2.21	2.85-3.47	3.10-3.58
Carapace			
length (2)	0.56	0.71-0.79	0.77-0.91
breadth	0.52	0.58-0.65	0.64-0.77
Abdomen			
length	1.65	2.195-2.74	2.26-2.74
Chelicerae			
length (3)	0.40	0.445-0.50	0.49-0.58
breadth (3a)	0.21	0.22-0.26	0.25-0.305
length of movable finger (4)	0.275	0.29-0.35	0.34-0.39
ratio 3/4	1.45	1.37-1.55	1.45-1.53
ratio 3/3a	1.90	1.81-2.08	1.69-2.20
Pedipalps			
length with coxa (5)	2.97	3.35-3.805	3.97-4.57
ratio 5/1	1.34	1.02-1.27	1.13-1.45
length of coxa	0.45	0.535-0.61	0.61-0.71
length of trochanter	0.40	0.42-0.47	0.47-0.55
length of femur (6)	0.56	0.67-0.775	0.82-0.91
breadth of femur (7)	0.20	0.21-0.23	0.24-0.27
ratio 6/7	2.80	3.045-3.38	3.22-3.58
ratio 6/2	1.00	0.92-1.00	0.96-1.08
length of tibia (8)	0.51	0.555-0.67	0.67-0.78
breadth of tibia (9)	0.25	0.26-0.29	0.31-0.36
ratio 8/9	2.04	2.07-2.31	2.055-2.23
length of chela (10)	1.05	1.16-1.29	1.40-1.65
breadth of chela (11)	0.37	0.38-0.44	0.42-0.49
ratio 10/11	2.84	2.93-3.24	3.04-4.07
length of chelal palm (12)	0.52	0.58-0.67	0.71-0.84
ratio 12/11	1.405	1.49-1.63	1.53-2.10
length of finger (13)	0.53	0.58-0.64	0.69-0.87
ratio 13/12	1.02	0.925-1.03	0.95-1.035
Leg IV			
total length	1.985	2.40-2.56	2.655-3.00
length of coxa	0.315	0.40-0.425	0.45-0.47
length of trochanter (14)	0.25	0.29-0.33	0.315-0.38
breadth of trochanter (15)	0.12	0.135-0.15	0.15-0.17
ratio 14/15	2.08	2.07-2.44	1.89-2.31
length of femur (16)	0.55	0.63-0.68	0.69-0.795
breadth of femur (17)	0.19	0.22-0.25	0.26-0.31
ratio 16/17	2.89	2.60-3.02	2.42-2.925
length of tibia (18)	0.46	0.55-0.60	0.64-0.75
breadth of tibia (19)	0.10	0.11-0.12	0.12-0.14
ratio 18/19	4.60	4.83-5.60	5.21-5.615
length of basitarsus (20)	0.15	0.205-0.23	0.21-0.25
breadth of basitarsus (21)	0.08	0.08-0.11	0.09-0.11
ratio 20/21	1.875	1.91-2.625	2.27-2.50
length of telotarsus (22)	0.26	0.31-0.34	0.35-0.39
breadth of telotarsus (23)	0.07	0.075-0.08	0.085-0.10
ratio 22/23	3.71	3.875-4.53	3.80-4.33
TS ratios			
tibia IV	0.58	0.475-0.65	0.52-0.63
basitarsus IV	0.20	0.19-0.23	0.16-0.21
telotarsus IV	0.35	0.265-0.36	0.33-0.37

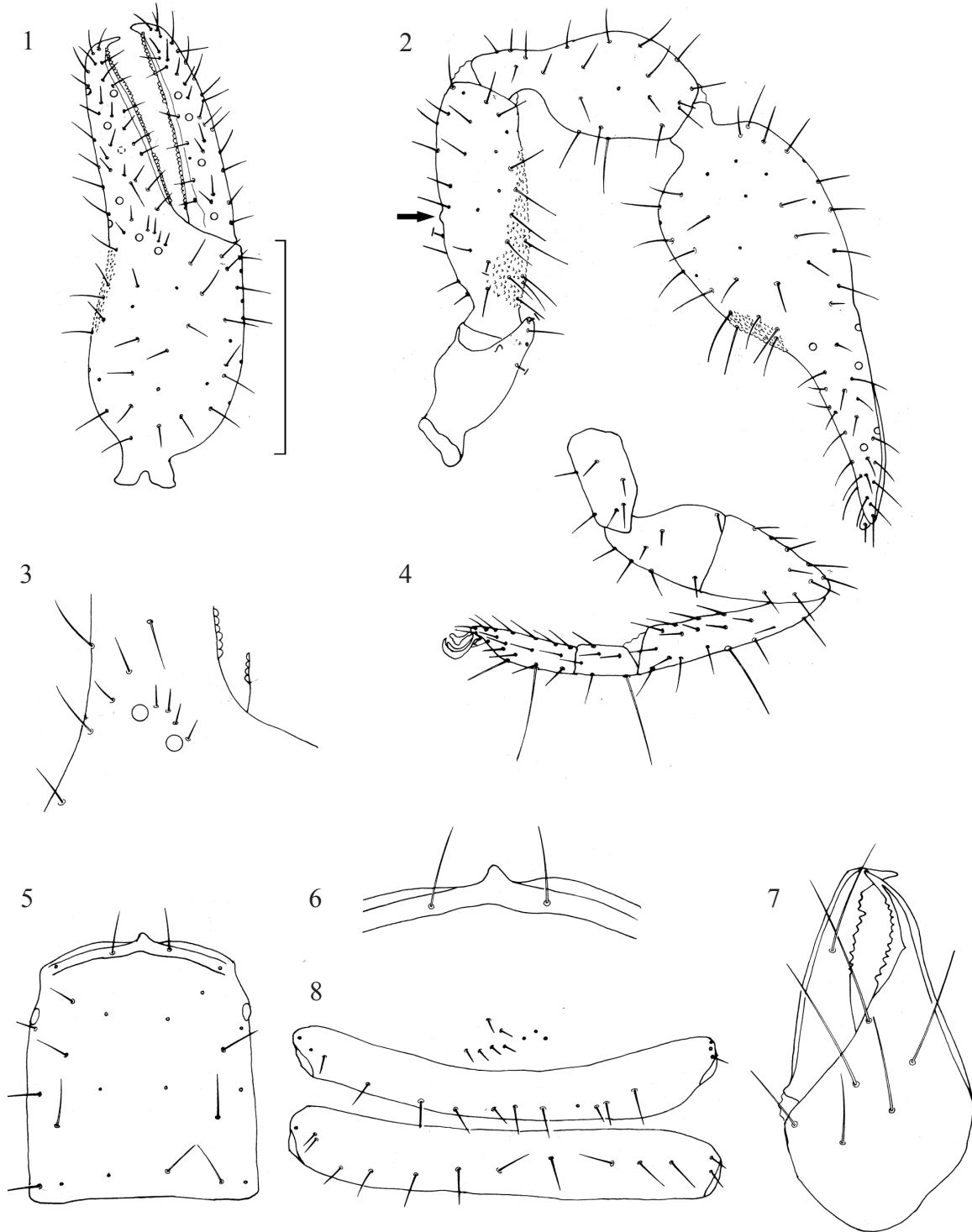


Fig. 1. 1 - pedipalpal chela; 2 - pedipalp; 3 - setae distal to *eb* and *esb*; 4 - leg IV; 5 - carapace; 6 - epistome; 7 - chelicera; 8 - female genital area. Scale lines = 0.50 mm (Figs. 1, 2, 4, 5, 7) and 0.25 mm (Figs. 3, 6, 8).

anterior side. Chelicera is 1.45 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. Interior and lateral granulations are found on the pedipalpal femur and chelal palm. All other pedipalpal articles smooth (Figs. 1, 2). The fixed and movable chelal fingers carry 50 and 46 small and contiguous teeth respectively (Fig. 1).

Trichobothriotaxy: Eight and four trichobothria are present on the fixed and movable cheliceral fingers respectively (Fig. 1). Trichobothrium **ST** closer to **T** than to **SB**; **SB** closer to **ST** than to **B**. Trichobothrium **IST** closer to **EST** than to **ISB**. Six microsetae present anterior to **EB** and **ESB** (Fig. 4). Chelal finger slightly longer than chelal palm (Table 1). The pedipalpal chelal length to breadth ratio is 1.05. Pedipalpal femur is 2.80 times longer than broad. The pedipalpal tibia is 2.04 times longer than wide.

Tibia IV, basitarsus IV, and tarsus IV each with a single long tactile seta (Fig. 3). Subterminal tarsal seta furcate, each branch with a few tiny spinules.

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

Setal designations follow Beier (1932).

Distribution. – According to the present knowledge, the new species inhabits only the Jelašnička Klisura Gorge. It is regarded as an endemic neobisiid from Southeastern Serbia.

Differential diagnosis. – *Roncus jelsnicae* n. sp. is easily distinguished from *Roncus jarilo* Ćurčić and *Roncus tintilin* Ćurčić, its phenetically similar congeners sharing the same important feature – the absence of microsetae proximal to **EB** and **ESB**.

Females of *Roncus jelsnicae* n. sp. can easily be distinguished from its complement, *Roncus jarilo*, from Central Serbia, by the smaller body size (shorter vs. longer) (Table 1); smaller length of all appendages (chelicerae, pedipalps, walking legs IV); smaller number of teeth, both on fixed and movable

cheliceral fingers (11-10 vs. 16 and 20 vs. 13/15); the pedipalpal femur length to breadth ratio (2.80 in *R. jelsnicae* n. sp. vs. 3.045-3.38 in *R. jarilo*); the ratio of the pedipalpal tibia length to breadth ratio (2.04 in *R. jelsnicae* n. sp. vs. 2.07-2.31 in *R. jarilo*); the pedipalpal chela length to breadth ratio (2.84 in *R. jelsnicae* n. sp. vs. 2.93-3.24 in *R. jarilo*); and the chelal finger length to breadth ratio (1.405 in *R. jelsnicae* n. sp. vs. 1.45-1.63 in *R. jarilo*).

Qualitative distinctions between females of these two species include: absence of tiny dorsal denticulations on trochanter (present in *R. jarilo*, absent in *R. jelsnicae* n. sp.); interior granulations on the pedipalpal femur and chelal palm (more developed in *R. jarilo* than in *R. jelsnicae* n. sp.); the shape of the pedipalpal tibia (more oval-like in *R. jarilo* than in *R. jelsnicae* n. sp.); the form of the epistome (distinctly triangular in *R. jarilo*, knob-like with rounded top in *R. jelsnicae* n. sp.); and the relative disposition of the trichobothrium **IST** (in *R. jelsnicae* n. sp. it is closer to **EST** and in *R. jarilo* this trichobothrium is closer to **ISB**).

As in the case of the females of *R. jarilo*, females of *Roncus jelsnicae* n. sp. differ from females of *Roncus tintilin* from East Serbia in generally smaller body size (Table 1). Further differences include: the pedipalpal femur length to breadth ratio (2.80 in *R. jelsnicae* n. sp. vs. 3.22-3.58 in *R. tintilin*); the pedipalpal tibia length to breadth ratio (2.04 in *R. jelsnicae* vs. 2.055-2.34 in *R. tintilin*); the pedipalpal chela length to breadth ratio (2.84 in *R. jelsnicae* n. sp. vs. 3.04-4.07 in *R. tintilin*); the ratio of the chelal palm length to chelal breadth (1.45 in *R. jelsnicae* n. sp. vs. 1.53-2.10 in *R. tintilin*); and the relative disposition of the trichobothrium **IST** (in *R. jelsnicae* n. sp. **IST** is closer to **EST**, in *R. tintilin* **IST** is equidistant from **EST** and **ISB**). Pedipalpal granulations are more developed on the interior side of the pedipalpal femur in *R. tintilin* than in *R. jelsnicae* n. sp. Pedipalpal trochanter in *R. jelsnicae* n. sp. lacks tiny denticulations present on the same article in females of *R. tintilin*.

Remarks. – The establishing of new *Roncus* species in Serbia in recent years confirms the opinion of Ćurčić (1993) that the taxonomy of this genus

is still far from being complete. On the grounds of the available data it is evident that this genus is in the process of an intensive radiation and divergent differentiation into new species in Serbia (as well as in regions bordering on Serbia) (Ćurčić and Beron, 1981; Ćurčić, 1984).

Acknowledgment – This study is financially supported by the Serbian Ministry of Science and Technological Development (Grant # 143053).

REFERENCES

- Beier, M. (1932). Pseudoscorpionidea. I. Subordn. Chthoniinea et Neobisiinea. *Das Tierreich* **57**, 1-258.
- Ćurčić, B. P. M. (1984). On two new species of *Roncus* L. Koch, 1873, from Macedonia (Arachnida: Pseudoscorpiones: Neobisiidae). *Senckenbergiana biol.* **65**, 97-104.
- Ćurčić, B. P. M. (1993). A new species of *Roncus* L. Koch, 1873, from Southeastern Europe (Pseudoscorpiones, Neobisiidae). *Proceedings of the Entomological Society of Washington* **94** (4), 447-453.
- Ćurčić, B. P. M., and P. Beron (1981). New and little-known cavernicole pseudoscorpions in Bulgaria (Neobisiidae, Pseudoscorpiones, Arachnida). *Glasnik Srpske akademije nauka, Cl. Sci. Nat.-Math. (Belgrade)* **48**, 63-85.
- Ćurčić, B. P. M., Ćurčić, S. B., Ćurčić, N. B., and S. E. Makarov (1993). Three new epigean representatives of *Roncus* L. Koch, 1873 (Neobisiidae, Pseudoscorpiones) from the Balkan Peninsula. *Bijdragen tot de Dierkunde* **62** (4), 237-248.
- Ćurčić, B. P. M., Dimitrijević, R. N., Giurginca, A., Ilie, V., Radja, T., Ćurčić, S. B., and V. T. Tomić (2006). Four new and endemic species of *Roncus* L. Koch (Neobisiidae, Pseudoscorpiones) from Romania, Serbia, and Montenegro. *Periodicum biologorum* **108** (2), 213-221.
- Ćurčić, B. P. M., Dimitrijević, R. N., and A. Legakis (2004). *The Pseudoscorpions of Serbia, Montenegro, and the Republic of Macedonia. Monographs, Vol. VIII*, 400 pp. Institute of Zoology, Faculty of Biology, University of Belgrade; Hellenic Zoological Society; Committee for Karst and Speleology, Serbian Academy of Sciences and Arts; and Institute of Nature Conservation of the Republic of Serbia, Belgrade-Athens.
- Dimitrijević, R. N. (2000). A check list of cave-dwelling pseudoscorpions (Pseudoscorpiones, Arachnida) from Yugoslavia (Serbia and Montenegro). *Mémoires de biospéologie* **27**, 37-40.

RONCUS JELASNICAE, НОВА ВРСТА ЕПИГЕЈСКИХ ПСЕУДОСКОРПИЈА РОДА RONCUS L. KOCH, 1873 ИЗ ИСТОЧНЕ СРБИЈЕ

Б. П. М. ЋУРЧИЋ И Р. Н. ДИМИТРИЈЕВИЋ

Институт за зоологију, Биолошки факултет, Универзитет у Београду, 11000 Београд, Србија

У овом раду је описана, илустрована и дијагностификована нова врста површинских псеудоскорпија *Roncus jelsnicae* n. sp. из Јелашничке клисуре у источној Србији. Извршена

је анализа сличности појединих морфолошких својстава и дијагностичких одлика нове врсте са истима код *Roncus jarilo* Ćurčić и *Roncus tintilin* Ćurčić из југоисточне и источне Србије.