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A NEW PSEUDOSCORPION FROM BOSNIA: *RONCUS BOSNIENSIS* N. SP. (NEOBISIIDAE, PSEUDOSCORPIONES)

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Abstract — A new species of troglobitic false scorpion, *Roncus bosniensis* n. sp. (Neobisiidae, Pseudoscorpiones), is described from inside an underground habitat, the Jama Pored Puta Pit, nr. Jajce, Bosnia and Herzegovina. The analyzed pseudoscorpion proves to differ from all other congeners, but is closest to *R. hajnehaj* Ćurčić & Dimitrijević. It is possible that the subterranean pseudoscorpion analyzed represents a relict of an old tropical faunal pattern of the Mediterranean.

Key words: False scorpions, Neobisiidae, new species, *Roncus bosniensis* n. sp., karst fauna, caves, Bosnia and Herzegovina

INTRODUCTION

Palaeoendemic pseudoscorpions are taxa of a tropical stock (Ćurčić, 1988), which have been left behind from the Mesozoic or early Cenozoic and survived in isolation after the ancient distributional continuum was disrupted. It is not easy to analyze the origin and history of the endemic pseudoscorpions of the Dinaric underground habitats because they represent an adaptive and selected fauna. The colonization of the Dinaric subterranean milieu must have begun a long time ago and passed through successive stages during the different geological times, accompanied by the development of karstic phenomena. Therefore, it is probable that the Dinaric area was colonized at the beginning of its existence by false scorpions, which already inhabited Mediterranean forests.

The study of the cave pseudoscorpions inhabiting the Dinaric karst has offered further proofs of their great age and probably different origin. These species and genera represent the last vestiges of an old fauna, which found their shelter in the underground domain of the Balkans and elsewhere (Ćurčić, 1986; 1988).

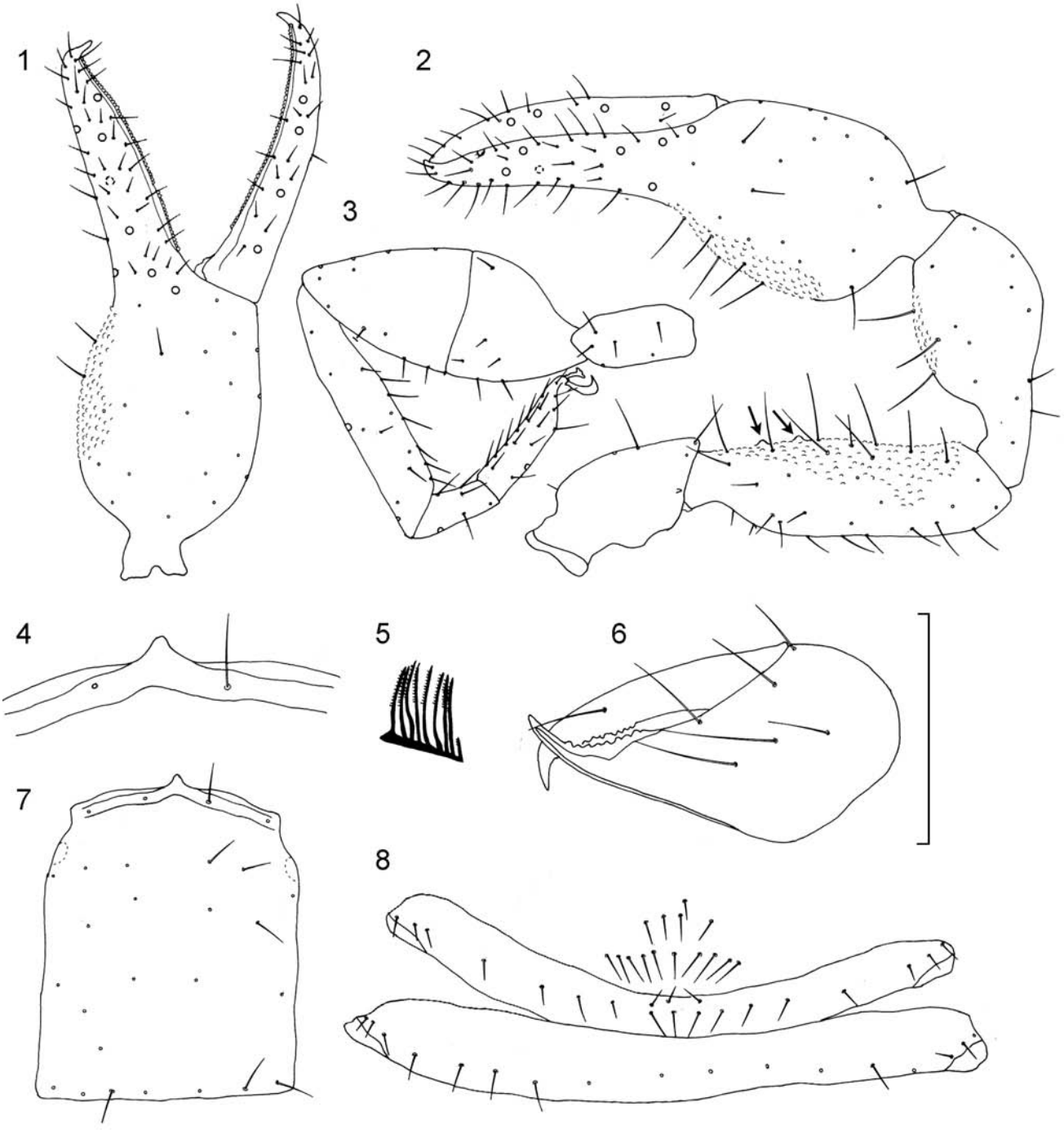
The discovery (2012) of a pseudoscorpion new to science revealed an underground ecosystem, that of the Jama Pored Puta Pit, nr. Jajce, Bosnia and Herzegovina. This species has been described as *Roncus bosniensis* n. sp. Here is the exact study of the newly found species (Figs. 1–8, Table 1).

Setal designations follow Beier (1963).

SYSTEMATIC PART

NEOBISIIDAE J. C. CHAMBERLIN, 1930

RONCUS L. KOCH, 1873
RONCUS BOSNIENSIS
B. ĆURČIĆ & RAĐA, NEW SPECIES
(Figs. 1-8; Table 1)



Figs. 1 – 8. *Roncus bosniensis* n. sp., holotype male from the Jama Pored Puta Pit, nr. Jajce, Bosnia and Herzegovina; 1 – pedipalpal chela, 2 – pedipalp, 3 – leg IV, 4 – epistome, 5 – flagellum, 6 – chelicera, 7 – carapace, 8 – male genital area. Scale lines = 0.25 mm (Figs. 1 – 3, and 7) and 0.50 mm (Figs. 4 – 6, and 8).

Etymology — The new species is named after its type locality *sensu lato* – the region of Bosnia.

Material examined — Holotype male from the Jama Pored Puta Pit, nr. Jajce, Bosnia and Herzegovina; 18 November 2012, collected by Tonći Rađa.

Description — The dorsal side of the cephalothorax is with eyespots; in general, it is longer than wider (Fig. 7, Table 1). The anterior margin of the carapace is wider than the posterior and the carapace resembles an irregular parallelepiped (Fig. 7). The epistome is low and apically rounded (Figs. 4 and 7). The carapace bears 29 setae and these lie in four rows. Four setae constitute the anterior row, eight setae belong to the ocular series, nine to the median and intermedian rows and eight setae constitute the posterior series. No preocular setae are developed in each preocular recess (Fig. 7).

The setal formula of abdominal tergites I – X can be expressed as 10 – 12 – 11 – 12 – 12 – 12 – 11 – 12 – 12 – 11. Sternite II of the male has 15 setae along the posterior margin; sternite III carries 3 anterior and 9 posterior and 3 suprastigmal microsetae on either side. The fourth sternite has 11 marginal setae and 3 microsetae along each of the stigma. Sternites V – X carry 13 – 12 – 12 – 12 – 11 – 10 posterior setae.

The cheliceral spinneret is represented by a low sclerotic knob on the movable finger (Fig. 6). Immediately below there are teeth of irregular size that diminish both proximally and distally. On the fixed cheliceral finger the teeth are smaller. Fixed cheliceral finger with six setae, movable cheliceral finger with only a single seta (Fig. 6).

Pedipalpal coxae carry four long setae. The femur is 3.65 times as long as broad and 1.01 times longer than the carapace. The patella (tibia) is tulip-like; at its distal end it is broader than the femur (Fig. 2); the ratio of patella length to breadth is 2.22 (Table 1). The flagellum is eight-bladed, characteristic of the genus (Fig. 5).

Eight trichobothria are carried on the fixed and four on the movable chelal fingers (Figs. 1 and 2). The chelal palm is 2.79 times as long as the chela (Table 1). The teeth of the fixed finger (60) are triangular, close-set and occupy almost the whole length of the finger; proximal and distal teeth of this finger are smaller and basal teeth merge into dental lamella (Fig. 1). Movable chelal finger with 56 small and close-set teeth (Fig. 1).

The measurements and morphometric ratios of the different structures, as well as the tactile seta ratios, are presented in Table 1 and in Figs. 1–8. The tibia IV, metatarsus IV and tarsus IV each carry a long tactile seta (Fig. 3, Table 1).

Remarks — The new species is easily distinguished from its closest congener, *Roncus hajnehaj* from Montenegro, in a great number of morphometric ratios and linear measurements, as well as in the form of the pedipalpal and pedal podomeres (Figs. 1 – 3).

Morphometric ratios and linear measurements are presented in Table 1.

Distribution — It is probable that the distribution of the new subterranean *Roncus* species from nr. Jajce, Bosnia and Herzegovina, is considered relict of the Miocene northern areas of once tropical or subtropical regions. Its present area probably preserves the old biogeographical distribution and is therefore in line with contemporary worldwide records (Ćurčić, 1972, 1988; Ćurčić et al., 1993, 2004, 2010a, b, c, d, e, f, g; 2011a, b, c, d, e, f, g, h; 2012a, b, c, d, e, f; 2013a, b; Hadži, 1937).

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In spite of its precise taxonomic position, the new species bears a slight similarity to some species of *Archaeoroncus* Ćurčić & Rađa (the presence of tiny tubercles on the proximal and interior side of the pedipalpal femur). A more definite taxonomic position of the new species will only be possible when more specimens are available for study.

Table 1. Linear measurements (in millimeters) and morphometric ratios in *Roncus bosniensis* n. sp., and *R. hajnehaj* Ćurčić & Dimitrijević. Abbreviations: M = male, FF = females.

	R. bosniensis	*R. hajnehaj*
Character	M	FF
Body		
Length (1)	2.47	2.73-2.795
Cephalothorax		
Length (2)	0.72	0.90-0.91
Breadth (2a)	0.58	0.66-0.71
Ratio 2/2a	1.24	1.28-1.36
Abdomen		
Length	1.75	1.83-1.885
Chelicerae		
Length (3)	0.40	0.53-0.60
Breadth (4)	0.21	0.285
Length of movable finger (5)	0.285	0.38
Ratio 3/5	1.40	1.39-1.58
Ratio 3/4	1.90	1.86-2.105
Pedipalps		
Length with coxa (6)	3.41	4.965-5.30
Ratio 6/1	1.38	1.82-1.90
Length of coxa	0.54	0.70-0.75
Length of trochanter	0.44	0.59-0.63
Length of femur (7)	0.73	1.05-1.11
Breadth of femur (8)	0.20	0.26-0.285
Ratio 7/8	3.65	3.89-4.04
Ratio 7/2	1.01	1.17-1.22
Length of patella (tibia) (9)	0.61	0.87-0.92
Breadth of patella (tibia) (10)	0.275	0.33-0.37
Ratio 9/10	2.22	2.49-2.64
Length of chela (11)	1.09	1.755-1.89
Breadth of chela (12)	0.39	0.50-0.56
Ratio 11/12	2.79	3.375-3.51
Length of chelal palm (13)	0.57	0.845-0.92
Ratio 13/12	1.46	1.64-1.69
Length of chelal finger (14)	0.52	0.91-0.97
Ratio 14/13	0.91	1.05-1.08
Leg IV		
Total length	2.41	3.33-3.485
Length of coxa	0.35	0.47-0.48
Length of trochanter (15)	0.305	0.42-0.44
Breadth of trochanter (16)	0.13	0.16-0.18
Ratio 15/16	2.35	2.44-2.625
Length of femur + patella (17)	0.66	0.89-0.92
Breadth of femur + patella (18)	0.275	0.295-0.34
Ratio 17/18	2.40	2.705-3.02
Length of tibia (19)	0.60	0.835-0.87
Breadth of tibia (20)	0.11	0.13-0.15
Ratio 19/20	5.45	5.80-6.42
Length of metatarsus (21)	0.19	0.285-0.295
Breadth of metatarsus (22)	0.09	0.09-0.11
Ratio 21/22	2.11	2.59-3.28
Length of tarsus (23)	0.305	0.42-0.49
Breadth of tarsus (24)	0.07	0.09-0.10
Ratio 23/24	4.36	4.20-5.44
TS ratio - tibia IV	0.54	0.59-0.61
TS ratio - metatarsus IV	0.26	0.17-0.18
TS ratio - tarsus IV	0.63	0.365-0.375

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