

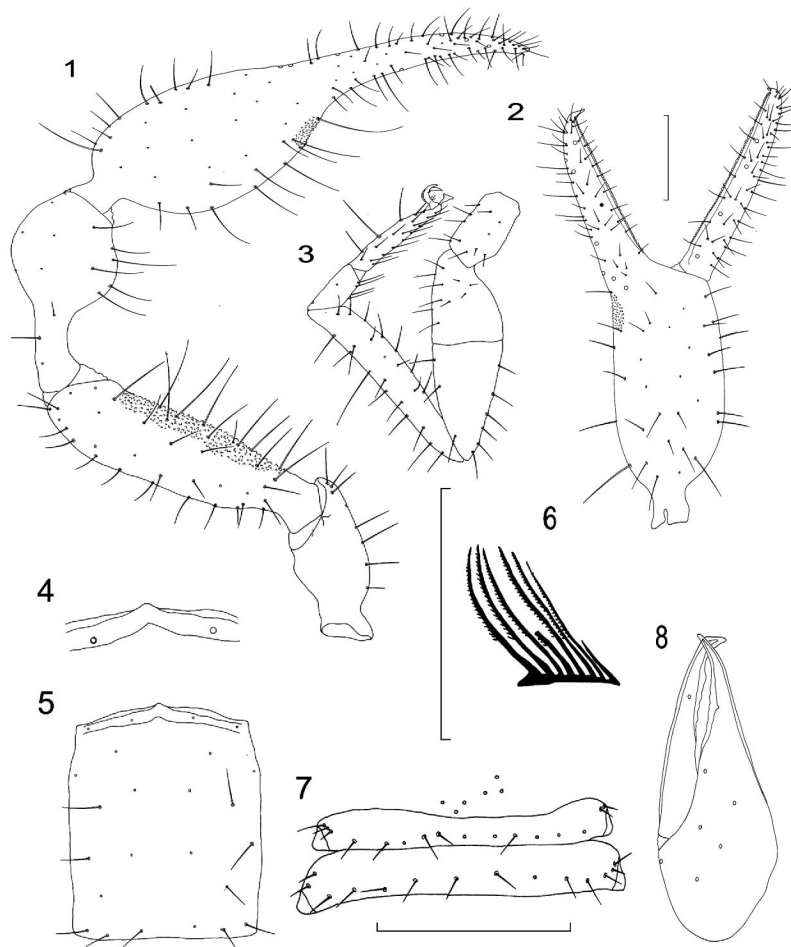
**ON EXTERNAL MORPHOLOGY OF THE FEMALE OF *RONCUS ORAO* ĆURČIĆ, 2004 (NEOBISIIDAE, PSEUDOSCORPIONES) FROM MONTENEGRO. R. N. Dimitrijević<sup>1</sup> and I. Karanman<sup>2</sup>. <sup>1</sup>Institute of Zoology, Faculty of Biology, University of Belgrade, 11000 Belgrade, Serbia and Montenegro; <sup>2</sup>Faculty of Biology, University of Novi Sad, 21000 Novi Sad, Serbia and Montenegro**

UDC 595.47(497.16)

The assumption expressed by Vandel (1964) and Ćurčić (1988) that Montenegro and bordering regions are extremely rich in epigeal and subterranean pseudoscorpion species has been corroborated in the past several years (Ćurčić, Dimitrijević, and Makarov, 1997; Ćurčić, Makarov, and Lučić, 1998; Ćurčić, Dimitrijević, and Legakis, 2004; Ćurčić, Dimitrijević, Ćurčić, and Mitić, 2004) by the establishment of several new

pseudoscorpion species belonging to the families Chthoniidae and Neobisiidae. According to Ćurčić, Dimitrijević, and Legakis (2004), 45 species of pseudoscorpions inhabit Montenegro. Of these, the majority are species inhabiting various underground habitats as well as endemics.

A new cavernicolous pseudoscorpion species from Montenegro -



Figs. 1-8. *Roncus orao* Ćurčić, 2004: Female, from the Megara Pećina Cave, Montenegro; 1 - pedipalp; 2 - pedipalpal chela; 3 - leg IV; 4 - epistome; 5 - carapace; 6 - flagellum; 7 - genital area; 8 - chelicera. Scale lines = 0.25 mm (Figs. 6 and 8) and 0.50 mm (Figs. 1, 2, 3, 4, 5, and 7).

Table 1. Linear measurements (in millimeters) and morphometric ratios in *Roncus orao* Ćurčić from Montenegro. Abbreviations: F = female, M = male, T = tritonymph.

Character	F	M	T
Body			
Length (1)	3.10	3.05	2.99
Cephalothorax			
Length (2)	1.05	0.98	0.70
Breadth (2a)	0.88	0.95	0.62
Ratio 2/2a	1.19		
Abdomen			
Length	2.05	2.07	2.28
Chelicerae			
Length (3)	0.63	0.54	0.49
Breadth (4)	0.34	0.26	0.24
Length of movable finger (5)	0.48	0.39	0.33
Ratio 3/5	1.31	1.38	1.48
Ratio 3/4	1.85	2.08	2.04
Pedipalps			
Length with coxa (6)	6.195	5.51	3.965
Ratio 6/1	1.998	1.81	1.33
Length of coxa	0.845	0.68	0.51
Length of trochanter	0.71	0.64	0.49
Length of femur (7)	1.26	1.19	0.825
Breadth of femur (8)	0.34	0.285	0.23
Ratio 7/8	3.705	4.171	3.59
Ratio 7/2	1.20	1.21	1.07
Length of patella (tibia) (9)	1.07	0.99	0.63
Breadth of patella (tibia) (10)	0.46	0.40	0.295
Ratio 9/10	2.33	2.475	2.135
Length of chela (11)	2.31	2.01	1.51
Breadth of chela (12)	0.72	0.58	0.42
Ratio 11/12	3.21	3.465	3.595
Length of chelal palm (13)	1.14	0.93	0.71
Ratio 13/12	1.58	1.60	1.69
Length of chelal finger (14)	1.17	1.08	0.79
Ratio 14/13	1.03	1.16	1.11
Leg IV			
Total length	3.88	3.655	2.51
Length of coxa	0.52	0.47	0.39
Length of trochanter (15)	0.46	0.42	0.27
Breadth of trochanter (16)	0.21	0.18	0.14
Ratio 15/16	2.19	2.33	1.93
Length of femur+patella (17)	1.09	1.00	0.65
Breadth of femur+patella (18)	0.305	0.285	0.24
Ratio 17/18	3.57	3.51	2.71
Length of tibia (19)	0.96	0.98	0.64
Breadth of tibia (20)	0.15	0.17	0.13
Ratio 19/20	6.40	5.76	4.92
Length of metatarsus (21)	0.33	0.295	0.20
Breadth of metatarsus (22)	0.12	0.11	0.09
Ratio 21/22	2.75	2.68	2.22
Length of tarsus (23)	0.52	0.49	0.36
Breadth of tarsus (24)	0.10	0.10	0.08
Ratio 23/24	5.20	4.90	4.50
TS ratio - tibia IV	0.57	0.61	0.58
TS ratio - metatarsus IV	0.22	0.21	0.30
TS ratio - tarsus IV	0.39	0.375	0.31

*Roncus orao* has been described recently (Ćurčić *et al.* 2004). This new species was erected on the basis of analysis of male and tritonymph specimens from the Megara Pećina Cave, near Podgorica in Montenegro.

Recent analysis of the small pseudoscorpion sample from the Megara Pećina Cave in Mareza near Podgorica collected on February 5, 1997 by I. Karaman revealed the presence of the topotype female of *Roncus orao*.

*Description.* - Carapace longer than broad (Fig. 5, Table 1). Epistome small and knob-like (Fig. 4). Neither eyes nor eyespots developed. Setal formula of the carapace: 4+8+6+8=24. Tergite I with six setae, tergite II with nine, and tergite III with 10. Sternites IV, V, VI, VII, VIII, and IX carry 12, 13, 12, 13, 12, and 12 setae, respectively. Tergite X with 10 setae. Setal formula of the tergites I-X: 6-9-10-12-13-12-13-12-10. Sternite II with six setae. Eleven setae developed on sternite III. Nine setae present on sternite IV. Two and three microsetae developed along each stigma on sternites III and IV.

The galea is low and inconspicuous. The movable cheliceral finger carries one seta, while six setae are present on the fixed cheliceral finger. Flagellum with eight blades, of which seven are long distal blades and one a short proximal blade. All blades are serrated along the anterior side. No distinct teeth can be distinguished on either cheliceral finger, suggesting that the specimen is older.

Manducatory process bearing four long setae. Femur with interior granulations. Patella (tibia) smooth. Chelal palm with some interior granulations (Figs. 1 and 2). The fixed chelal finger carries 80 teeth, while 77 are developed on the movable chelal finger (Fig. 2, Table 1). Chelal finger slightly longer than chelal palm (Table 1) and somewhat shorter than pedipalpal femur (Table 1). The position of trichobothria is as presented in Figs. 1 and 2. Pedipalpal tibia length to breadth ratio is 2.33, the pedipalpal femur length to breadth ratio 3.705, and the pedipalpal chelal length to breadth ratio 3.21. Total length of leg IV is 3.88 mm. Tibia IV, metatarsus IV, and tarsus IV each carry a single long tactile seta (Fig. 3). Morphometric ratios and linear measurements of different body structures are presented in Table 1.

*Diagnosis.* - From *Roncus belbogi* Ćurčić, Makarov, and Lučić, 1998 from Montenegro, *Roncus orao* differs clearly in: form of the epistome (small and inconspicuous vs. knob-like); pedipalpal chelal granulation (poorly developed vs. well developed); body size/length (3.39-3.51 vs. 3.10 mm); the pedipalpal femur length to breadth ratio (4.14-4.24 vs. 3.705); the pedipalpal tibia length to breadth ratio (2.605-2.65 vs. 2.33); etc.

*Remarks.* - According to present knowledge, *Roncus orao* is endemic to a single cave in Montenegro and probably represents a relict of Tertiary origin.

*References:* Ćurčić, B. P. M. (1988). Cave-dwelling Pseudoscorpions of the Dinaric Karst. Acad. Sci. Art. Slov., Cl. IV, Opera, Ljubljana, **26**, 1-191. - Ćurčić, B. P. M., Dimitrijević, R. N., Ćurčić, S. B., Mitić, B. M. (2004). *Rec. rapp. Com. Karst Spéléol., Acad. serbe sci. arts, Ed. spéc., DCLVI*, **2**, 83-93. - Ćurčić, B. P. M., Dimitrijević, R. N., Legakis, A. (2004). The Pseudoscorpions of Serbia, Montenegro, and the Republic of Macedonia. 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 for Nature Conservation of Serbia, Monographs, **9**, 1-394, Belgrade-Athens. - Ćurčić, B. P. M., Dimitrijević, R. N., Makarov, S. E. (1997). *Arch. Biol. Sci.*, Belgrade **49**, 55-62. - Vandel, A. (1964). La biospéologie - la biologie des animaux cavernicoles. Gauthiers-Villars, Paris, 1-619.