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BIODIVERSITY OF *RONCUS* L. KOCH IN MONTENEGRO – *RONCUS TEUTAE* N. SP. FROM MT. ORJEN (NEOBISIIDAE, PSEUDOSCORPIONES)

B. P. M. ĆURČIĆ[1], R. N. DIMITRIJEVIĆ[1], V. T. TOMIĆ[1], S. E. MAKAROV[1], NINA B. ĆURČIĆ[2] and S. B. ĆURČIĆ[1]

[1] *Institute of Zoology, Faculty of Biology, University of Belgrade,* 11000 Belgrade, Serbia
[2] *Geographical Institute "Jovan Cvijić" SASA,* 11000 Belgrade, Serbia

Abstract — A single species of *Roncus* L. Koch, 1873, which was collected in the Baretina Lokva on Mt. Orjen, Montenegro, is new to science (*R. teutae* n. sp.) and described herein. Its diagnostic characters are illustrated and their distribution is provided. The possible establishment of this species of *Roncus* is presented briefly in view of the importance and analysis of its diagnostic characters.

Key words: Pseudoscorpiones, Neobisiidae, *Roncus teutae* n. sp., evolution, zoogeography, Mt. Orjen, Montenegro, Balkan Peninsula

INTRODUCTION

Over the past four decades there has been a marked increase in our knowledge of the Neobisiidae of southeastern Europe (the Balkan Peninsula), and especially of the representatives of the genus *Roncus* L. Koch, 1873, which occur in leaf litter, soil and caves (Ćurčić, 1988; Ćurčić et al., 2004). Increased interest in the soil/litter and cave ecosystems and improved sampling techniques has contributed to this knowledge. During a study of the ontogeny and postembryonic development of pseudoscorpions in Montenegro, one hitherto undescribed species of *Roncus* was found.

This paper provides descriptions of *Roncus teutae* n. sp., with some details of the comparative morphology of its closest congener.

All specimens are mounted on slides in Swan's fluid (gum chloral medium) and all are deposited in the Institute of Zoology, Faculty of Biology, University of Belgrade, Belgrade, Serbia.

Setal designations follow Beier (1963).

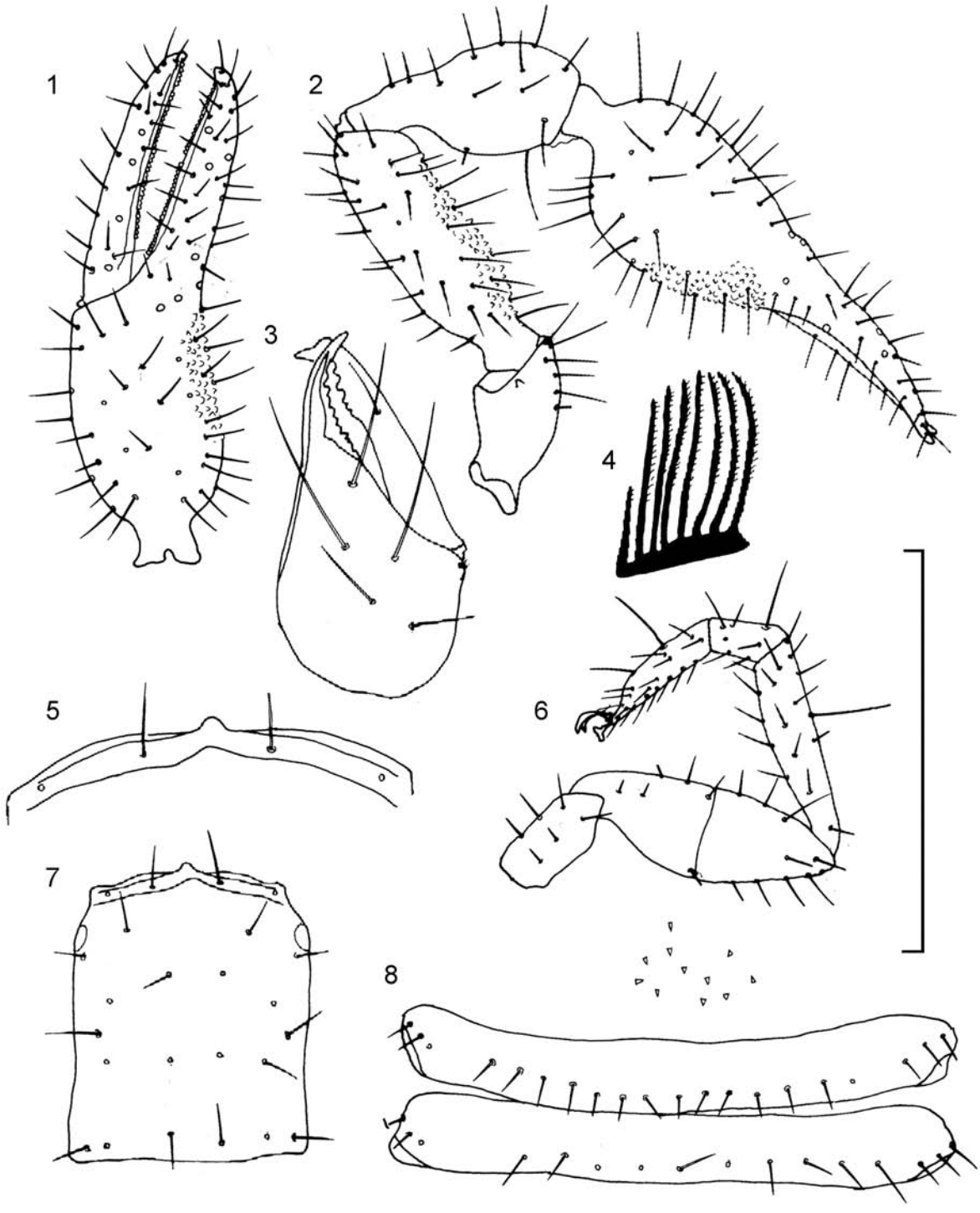
SYSTEMATIC PART

NEOBISIIDAE J. C. CHAMBERLIN, 1930

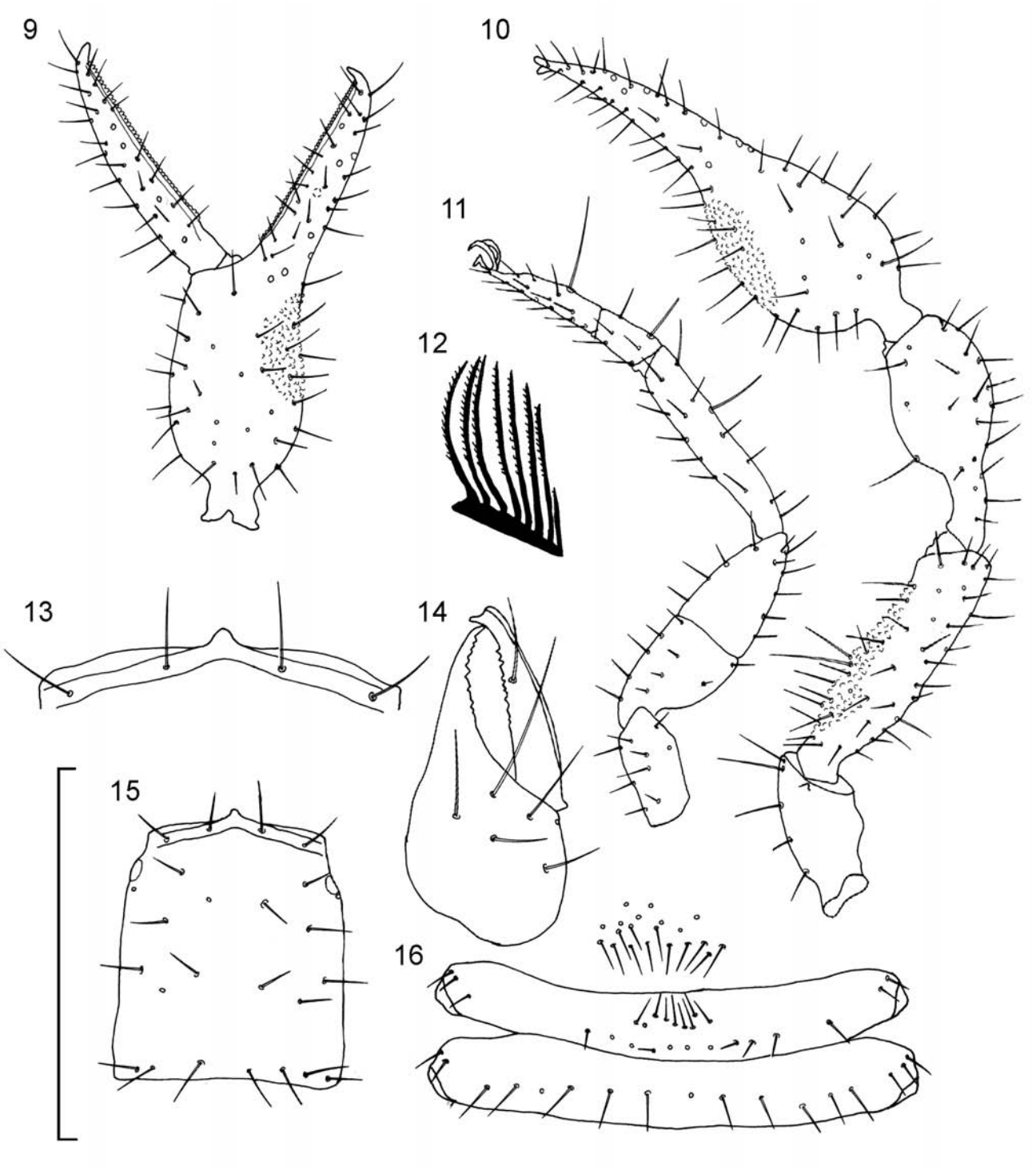
RONCUS L. KOCH, 1873

RONCUS TEUTAE B. ĆURČIĆ, NEW SPECIES
(Figs. 1-16; Table 1)

Etymology — After the Illyrian Queen Teuta, who reigned from approximately 231 BC to 228 BC and



Figs. 1 – 8. *Roncus teutae* n. sp., from Montenegro; holotype female: 1 – pedipalpal chela, 2 – pedipalp, 3 – chelicera, 4 – flagellum, 5 – epistome, 6 – leg IV, 7 – carapace, and 8 – female genital area. Scale lines: 0.25 mm (Figs. 1, 2, 6, and 7) and 0.50 mm (Figs. 3 – 6).



Figs. 1 – 9. *Roncus teutae* n. sp., from Montenegro; allotype male: 9 – pedipalpal chela, 10 – pedipalp, 11 – leg IV, 12 – flagellum, 13 – epistome, 14 – chelicera, 15 – carapace, 16 – male genital area. Scale lines: 0.25 mm (Figs. 9 – 11, and 15) and 0.50 mm (Figs. 12 – 14, and 16).

Table 1. Linear measurements (in millimeters) and morphometric ratios in *Roncus teutae* n. sp., and *R. bosniensis* B. Ćurčić & Rađa. Abbreviations: F = female, M = male.

	R. teutae n. sp.		*R. bosniensis*
	F	M	M
Character			
Body			
Length (1)	2.91	2.76	2.47
Cephalothorax			
Length (2)	0.75	0.71	0.72
Breadth (2a)	0.62		0.58
Ratio 2/2a	1.21	1.145	1.24
Abdomen			
Length	2.05	2.16	1.75
Chelicerae			
Length (3)	0.44	0.43	0.40
Breadth (4)	0.23		0.21
Length of movable finger (5)	0.275	0.285	0.285
Ratio 3/5	1.60	1.51	1.40
Ratio 3/4	1.91	1.87	1.90
Pedipalps			
Length with coxa (6)	3.79	3.72	3.41
Ratio 6/1	1.30	1.35	1.38
Length of coxa	0.56	0.54	0.54
Length of trochanter	0.47	0.45	0.44
Length of femur (7)	0.76	0.78	0.73
Breadth of femur (8)	0.23	0.21	0.20
Ratio 7/8	3.30	3.71	3.65
Ratio 7/2	1.01	1.10	1.01
Length of patella (tibia) (9)	0.62	0.63	0.61
Breadth of patella (tibia) (10)	0.295	0.285	0.275
Ratio 9/10	2.10	2.21	2.22
Length of chela (11)	1.38	1.32	1.09
Breadth of chela (12)	0.42	0.41	0.39
Ratio 11/12	3.285	3.22	2.79
Length of chelal palm (13)	0.68	0.64	0.57
Ratio 13/12	1.62	1.56	1.46
Length of chelal finger (14)	0.70	0.68	0.52
Ratio 14/13	1.03	1.06	0.91
Leg IV			
Total length	2.535	2.595	2.41
Length of coxa	0.38	0.36	0.35
Length of trochanter (15)	0.315	0.305	0.305
Breadth of trochanter (16)	0.16	0.15	0.13
Ratio 15/16	1.97	2.03	2.35
Length of femur + patella (17)	0.68	0.76	0.66
Breadth of femur + patella (18)	0.23		0.275
Ratio 17/18	2.96	3.30	2.40
Length of tibia (19)	0.60	0.61	0.60
Breadth of tibia (20)	0.12		0.11
Ratio 19/20	5.00	5.08	5.45
Length of metatarsus (21)	0.20	0.21	0.19
Breadth of metatarsus (22)	0.09		0.09
Ratio 21/22	2.22	2.33	2.11
Length of tarsus (23)	0.36	0.35	0.305
Breadth of tarsus (24)	0.08		0.07
Ratio 23/24	4.50	4.375	4.36
TS ratio - tibia IV	0.63		0.54
TS ratio - metatarsus IV	0.20	0.19	0.26
TS ratio - tarsus IV	0.31	0.38	0.63

chose Risan (Rhizon) as her capital during the war against the Romans.

Material examined — Holotype female and allotype male from the Baretina Lokva, Mt. Orjen, Montenegro, collected on 04 July 1997.

Description — The dorsal side of the carapace is longer than broad (Table 1). The epistome is small, triangular, setal formulae are 4 + 6 + 8 +6 =24 (female) and 4 + 6 + 8 + 8 = 26 (male). A single pair of eyes removed from the anterior bodyline by about one and a half ocular diameter (Figs. 7 and 15).

The number of setae carried on tergites I – X is variable. In the female, tergite I carries 7 setae, tergite II – 10, tergite III – 12, tergite IV – 12, tergite V – 13, tergite VI – 14, tergite VII – 13, tergite VIII – 13, tergite IX – 12, and tergite X – 11 setae. In the male, tergites I – X carry 7 – 10 – 11 – 12 – 11 – 12 – 13 – 12 – 12 – 10 setae. Pleural membranes granulostriate. Twelfth abdominal segment with two pairs of small setae.

The first visible sternite represents sternite II. In the female, sternite II has 11 tiny setae; sternite III has 14 posterior setae and 3 suprastigmatic microsetae on each side. Sternite IV has 10 posterior setae and 3 small setae along each of the stigma. Sternites V – X carry 15 – 15 – 16 – 15 – 15 – 14 setae. In the male, sternite II carries a dense cluster of 20 setae; of these 9 setae are found on the posterior sternal margin. Sternite III has 9 anterior, 11 posterior, and 2 or 3 suprastigmatic microsetae on either side; sternite IV has 12 posterior setae and 2 or 3 microsetae along each stigma. Sternites V – X have 15 – 14 – 14 – 14 – 13 – 13 setae.

The form of the chelicerae is similar in both sexes (Figs. 3 and 14); the tubercle of the movable cheliceral finger is a low hyaline convexity (Figs. 3 and 14). The movable and fixed cheliceral fingers have a variable number of teeth with proximal and distal members of each series the smallest. The teeth of the movable finger end just below the galeal seta (*gl*). Six setae occur along the palm of the chelicera (Figs. 3 and 14). The cheliceral flagellum carries one short proximal blade and seven longer distal blades (Figs. 4 and 12). All are pinnate on at least the terminal half of the upper surfaces. In general, the chelicera is less than two-fold longer than broad (Table 1).

The manducatory process of the pedipalpal coxa carries 4 long setae. The pedipalpal femur is granulated anteriorly as is the interior and lateral part of the pedipalpal chela (Figs. 1, 2, 9, and 10). These tubercles are absent on the pedipalpal tibia.

The movable finger of the pedipalpal chela carries 46 (female) and 51 (male) teeth that are square-topped in the proximal range of the series and are similar on the fixed finger. The form of the teeth on the fixed finger is variable (38 in female, 41 in male); the most distal pointed teeth, slightly asymmetrical, give way to teeth with rounded tops and these are gradually replaced proximally by shorter flattened teeth.

Four trichobothria are carried on the movable finger and eight on the fixed finger of the chela (Figs. 1 and 9). Two to four small setae are found distal to the trichobothria *eb* and *esb* (Figs. 1 and 9). The pedipalpal femur is 3.30 (female) and 3.70 (male) times as long as broad (Table 1). This podomere is as short as the carapace (Table 1). The pedipalpal patella (tibia) is 2.10 (female) and 2.21 (male) times as long as broad. The pedipalpal chela length-to-breadth ratio is between 3.285 (female) and 3.22 (male).

Leg IV (Figs. 6 and 11): tibia, metatarsus, and tarsus each carry a long tactile seta. The measurements of different body structures and morphometric ratios are presented in Table 1.

Remarks and distribution — The discovery of the new representative of *Roncus* in Montenegro supports the fact that the taxonomy of this genus is still far from being complete (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; 2012a, b, c, d, e, f; 2013a, b; Hadži, 1937). The variety of cave-dwelling species of *Roncus* described

elsewhere by Ćurčić et al. (2004), offers further proof that this taxon at present subjected to intensive radiation or divergent differentiation into new species. Furthermore, the diversity of *Roncus* representatives in the Balkan regions bordering on Montenegro (Ćurčić, 1984; Ćurčić and Beron, 1981), compared to the same features in the other areas, points to the Balkan Peninsula as a center of origin and genesis of numerous forms of this taxon. In addition, the occurrence of numerous *Roncus* species with extremely limited distribution areas demonstrates their endemic nature.

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