

ON NEW AND LITTLE-KNOWN PSEUDOSCORPIONS (PSEUDOSCORPIONES, ARACHNIDA) FROM THE ROMANIAN CARPATHIANS

R. N. DIMITRIJEVIĆ¹, B. P. M. ĆURČIĆ¹, S. B. ĆURČIĆ¹, S. E. MAKAROV¹,
VICTORIA ILIE², and A. GUIRGINCA²

¹Institute of Zoology, Faculty of Biology, University of Belgrade, 11000 Belgrade, Serbia

²Emil G. Racovitza Institute of Speleology, Romanian Academy of Sciences, 50711 Bucharest, Romania

Abstract — We studied pseudoscorpions of the genera *Roncus* L. Koch, 1873 and *Acanthocreagris* Mahnert, 1976 (Neobisiidae) from some caves in Romania. One new species - *Roncus zburatorul* n. sp. - is described; supplementary descriptions of the hitherto unknown male of *R. ciobanmos* Ćurčić, Poinar, and Sarbu, 1993 and a second female of *A. callaticola* (Dumitresco and Orghidan, 1964) are also presented. The specimens studied are thoroughly described and illustrated. Taxonomic interrelationships and geographic distribution are briefly discussed.

Key words: Pseudoscorpions, evolution, biogeography, phylogeny, the Carpathians, Romania

UDC 595.47(498)(234.421)

INTRODUCTION

Only three epigeal or cave species of *Roncus* L. Koch, 1843 and two species of *Acanthocreagris* Mahnert, 1976 (Neobisiidae) are at present known from Romania, viz., *R. transsilvanicus* Beier, 1928; *R. dragobete* Ćurčić, Poinar, and Sarbu, 1993, *R. ciobanmos* Ćurčić, Poinar, and Sarbu, 1993, *A. callaticola* (Dumitresco and Orghidan, 1964), and *A. mahnerti* (Dumitresco and Orghidan, 1986). The first *Roncus* species inhabits soil and leaf-litter in Transylvania, while the second two live in the Movile Cave in Southern Dobruja. The pseudoscorpion *A. callaticola* is a cave form inhabiting the Peștera de la Limanu Cave near Mangalia (Southern Dobruja) (Beier, 1963; Mahnert, 1976; Ćurčić, 1976), while *A. mahnerti* inhabits soil and leaf-litter in Oltenia.

The aim of this study is to present a description of a new species of *Roncus* and supplementary descriptions of *R. ciobanmos* and *A. callaticola*.

MATERIAL AND METHODS

We examined material from three samples of pseudoscorpions collected in Romania. The first

sample (from the Peștera Dubova Cave) contained a new taxon: *Roncus zburatorul*, new species. The second sample [from the Foraj Peștera Cave (- 9 m) near Mangalia] contained *Roncus ciobanmos*. These two species are probably cave-dwelling endemic forms. The third sample included a relict and endemic taxon: *Acanthocreagris callaticola*.

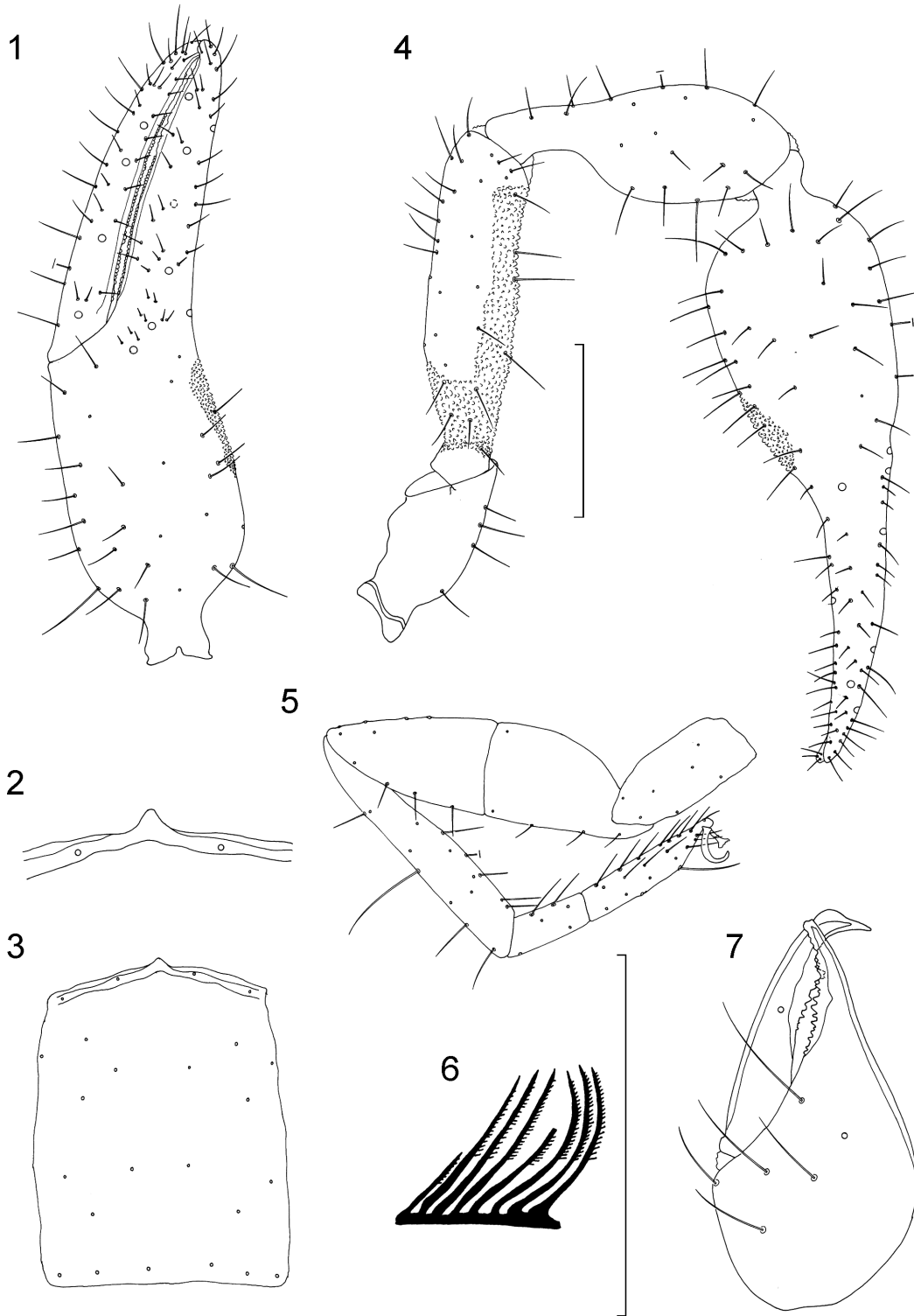
All pseudoscorpion specimens studied were mounted on slides in Swan's fluid (gum chloral medium) and deposited in the collection of the Emil G. Racovitza Institute of Speleology, Romanian Academy of Sciences, Bucharest, Romania. Trichobothrial designations are in accordance with Beier (1963). Terminology for pedipalpal and pedal podomeres follows Ćurčić (1982).

SYSTEMATIC PART

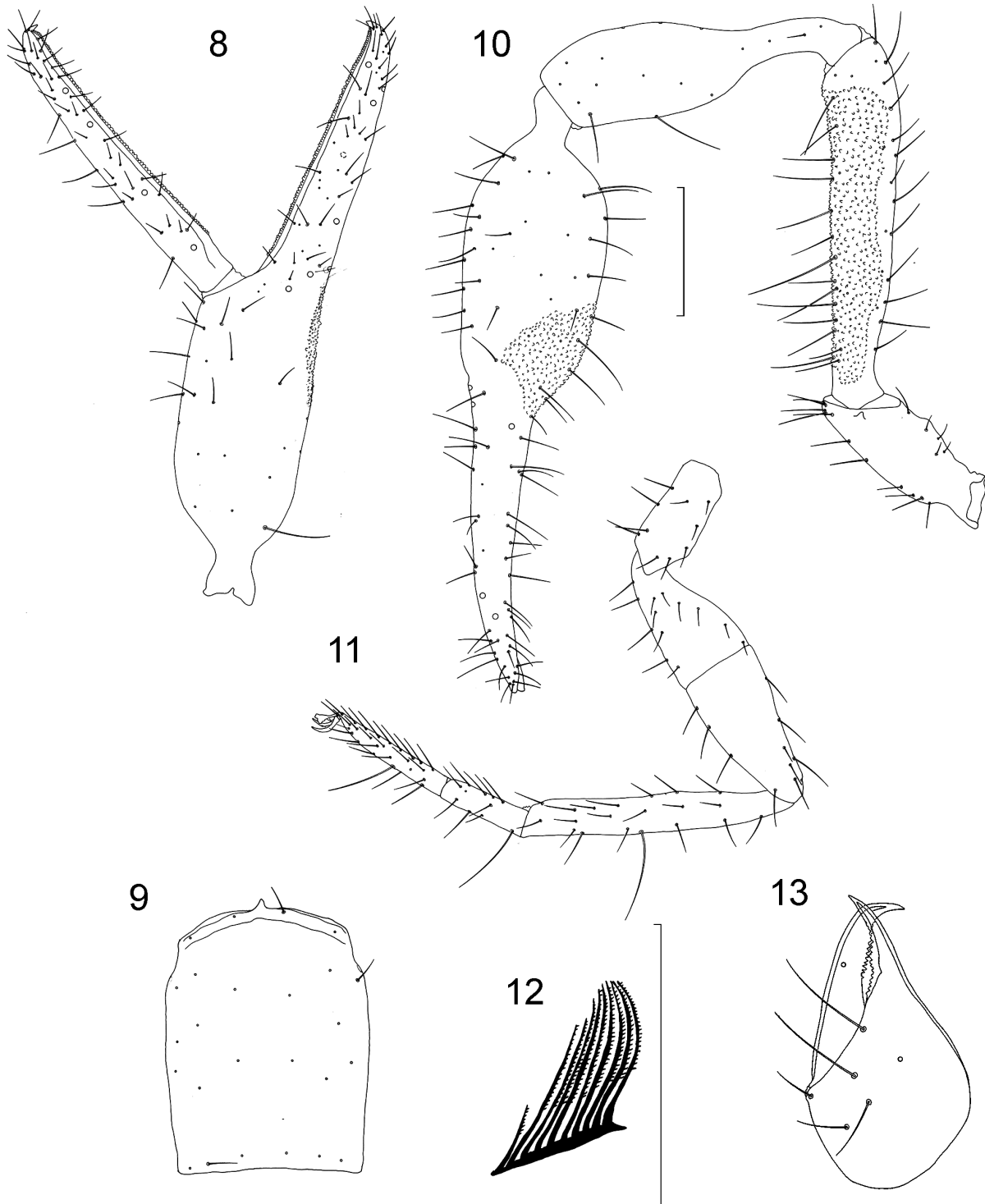
RONCUS L. KOCH

RONCUS ZBURATORUL ĆURČIĆ & DIMITRIJEVIĆ,
NEW SPECIES (Figs. 1-7; Table 1)

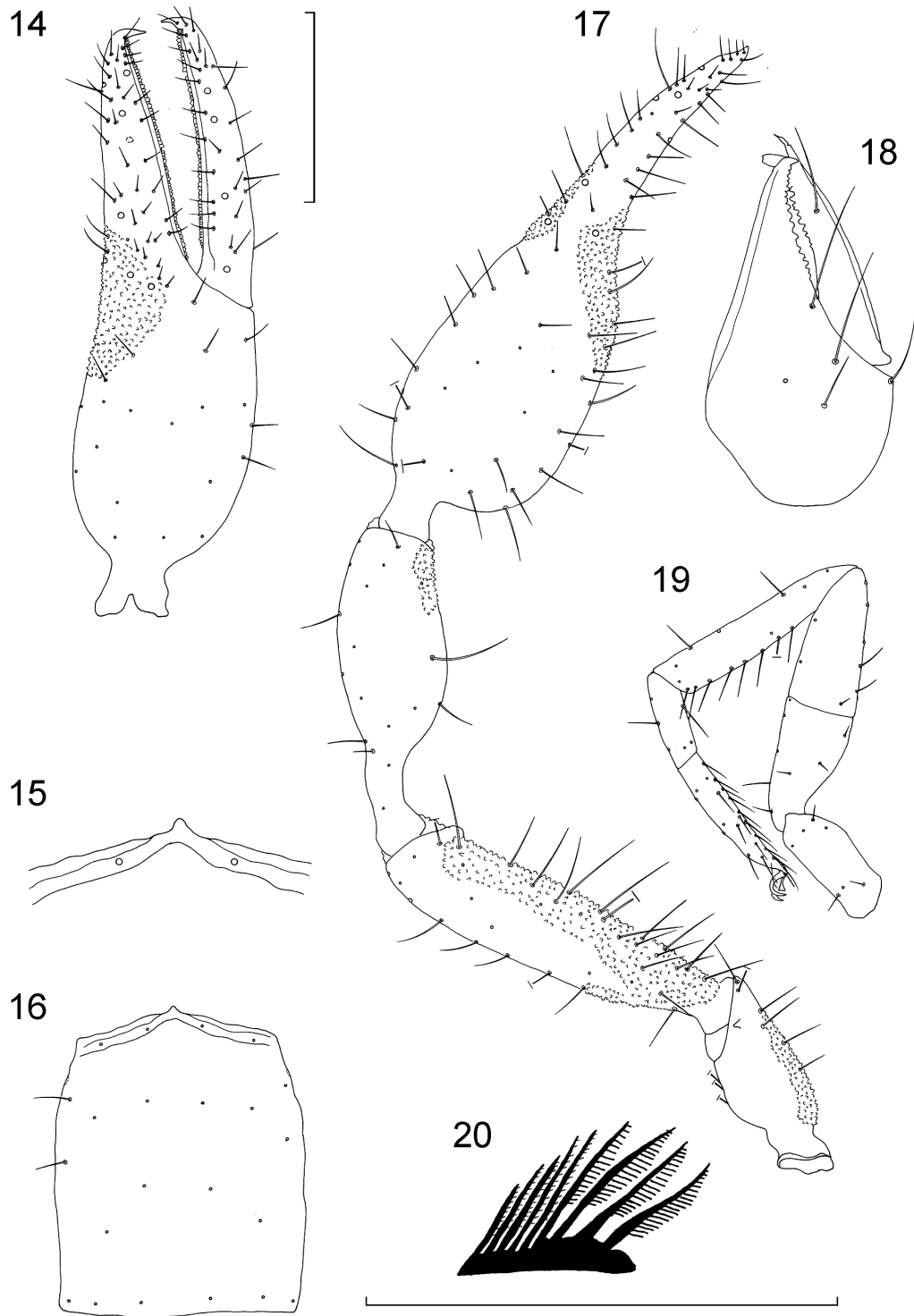
Etymology. - After the Romanian mythical patron of joy and entertainment (Vulcănescu, 1985).



Figs. 1-7. *Roncus zburatorul* n. sp., holotype female, from Romania. 1 - pedipalpal chela; 2 - epistome; 3 - carapace; 4 - pedipalpal chela; 5 - leg IV; 6 - flagellum; 7 - chelicera. Scales = 0.25 mm (Figs. 2, 6, 7) and 0.50 mm (Figs. 1, 3-5).



Figs. 8-13. *Roncus ciobanmos* Ćurčić, Poinar & Sarbu, male, from Romania. 8 - pedipalpal chela; 9 - carapace; 10 - pedipalp; 11 - leg IV; 12 - flagellum ; 13 - chelicera. Scales = 0.25 mm (Figs. 12, 13) and 0.50 mm (Figs. 8-11).



Figs. 14 - 20. *Acanthocreagris callaticola* (Dumitresco & Orghidan), female, from Romania. 14 - pedipalpal chela; 15 - epistome; 16 - carapace; 17 - pedipalp; 18 chelicera; 19 - leg IV; 20 - flagellum. Scales = 0.25 mm (15, 18, 20) and 0.50 mm (14, 16, 17, 19).

Table 1. Linear measurements (in millimeters) and morphometric ratios in *Roncus zburatorul* n. sp., *R. ciobanmos* Ćurčić, Poinar & Sarbu, and *Acanthocreagris callaticola* (Dumitresco & Orghidan) from Romania. Abbreviations: F = female, M = male.

Character/species	<i>R. zburatorul</i>	<i>R. ciobanmos</i>	<i>A. callaticola</i>
	F	M	F
Body			
Length (1)	4.00	3.87	3.31
Cephalothorax			
Length (2)	1.00	1.04	0.815
Breadth (2a)	0.71	0.77	0.63
Abdomen			
Length	3.00	2.83	2.50
Chelicerae			
Length (3)	0.57	0.61	0.48
Breadth (4)	0.295	0.315	0.24
Length of movable finger (5)	0.42	0.43	0.34
Ratio 3/5	1.36	1.42	1.41
Ratio 3/4	1.93	1.94	2.00
Pedipalps			
Length with coxa (6)	5.02	6.685	4.595
Ratio 6/1	1.255	1.73	1.39
Length of coxa	0.67	0.805	0.59
Length of trochanter	0.60	0.75	0.57
Length of femur (7)	1.08	1.54	1.00
Breadth of femur (8)	0.25	0.27	0.23
Ratio 7/8	4.32	5.70	4.35
Ratio 7/2	1.08	1.48	1.23
Length of patella (tibia) (9)	0.87	1.19	0.855
Breadth of patella (tibia) (10)	0.35	0.37	0.285
Ratio 9/10	2.485	3.22	3.00
Length of chela (11)	1.80	2.40	1.58
Breadth of chela (12)	0.50	0.54	0.47
Ratio 11/12	3.60	4.44	3.36
Length of chelal palm (13)	0.87	1.22	0.825
Ratio 13/12	1.74	2.26	0.355
Length of chelal finger (14)	0.93	1.18	0.75
Ratio 14/13	1.07	0.97	0.91
Leg IV			
Total length	3.29	4.11	2.72
Length of coxa	0.43	0.55	0.41
Length of trochanter (15)	0.39	0.49	0.34
Breadth of trochanter (16)	0.18	0.20	0.16
Ratio 15/16	2.17	2.45	2.125
Length of femur + patella (17)	0.93	1.16	0.71
Breadth of femur + patella (18)	0.275	0.31	0.18
Ratio 17/18	3.38	3.74	3.94
Length of tibia (19)	0.815	1.05	0.62
Breadth of tibia (20)	0.14	0.15	0.11
Ratio 19/20	5.82	7.00	5.64
Length of metatarsus (21)	0.275	0.36	0.24
Breadth of metatarsus (22)	0.11	0.10	0.09
Ratio 21/22	2.50	3.60	2.67
Length of tarsus (23)	0.45	0.50	0.40
Breadth of tarsus (24)	0.10	0.08	0.08
Ratio 23/24	4.50	6.25	5.00
TS ratio - tibia IV	0.56	0.56	0.52
TS ratio - metatarsus IV	0.185	0.17	0.29
TS ratio - tarsus IV	0.39	0.39	0.28

Material examined. - Holotype female from the Peștera Dubova Cave (guano), 12 October 1961 (813), leg. Ștefan Negrea and I. Avramescu, village of Dubova, Orșova, Mehedinți County, Almăjului Mountains, Romania.

Description. - The carapace is considerably longer than broad (Fig. 3; Table 1). The epistome is small, apically rounded, and knob-like (Figs. 2, 3). Neither eyes nor eye-spots are developed. The carapacial formula is $4 + 8 + 6 + 6 = 24$ setae (Fig. 3).

In the holotype female, tergites I-X carry 6-7-8-9-12-13-12-13-11-11 setae. Twelfth abdominal segment with two pairs of small setae. Pleural membranes granulostriate.

Sternite II carries a cluster of eight setae; sternite III with nine posterior setae and three suprastigmatic setae on either side. Sternite IV with 11 posterior setae and three microsetae along each stigmatic plate. Sternites V-X with 11-12-13-12-13-12 setae.

The form of the chelicera is as shown in Fig. 7; galea a distinct hyaline convexity (Fig. 7). The dentition of both movable and fixed fingers is presented in Fig. 7. The movable cheliceral finger has one large tooth; proximally, its teeth end just below the site of insertion of the galeal seta (Fig. 7). Six setae occur on the cheliceral palm (Fig. 7) and a single seta is present on the movable finger. The flagellum consists of one short proximal blade and seven long blades distally; all blades are pinnate anteriorly (Fig. 6). The movable finger is longer than the cheliceral breadth; each chelicera is almost twice as long as broad (Table 1).

The manducatory process carries four long acuminate setae. The pedipalpal trochanter is smooth; the femur has distinct granulations on its interior lateral surface; proximally, this article has some dorsal and exterior lateral granulations (Fig. 4). The chelal palm has some interior granulations (Fig. 4). The pedipalpal tibia is elongated, tulip-shaped, and smooth (Fig. 4).

The movable chelal finger carries 71 teeth, the fixed one 79. The teeth of the movable finger are square-topped in the proximal range of the series and similar to those on the fixed chelal finger; the

most distal pointed teeth, slightly asymmetrical, give way to teeth with rounded tops, which are gradually replaced proximally by shorter flattened teeth.

Four trichobotria are carried on the movable finger and eight on the fixed finger of the chela (Fig. 1). The **et** and **it** trichobotria are in the distal quarter and these together with **t**, **est**, **st**, and **ist** are all in the distal half. The proximal quarter contains **ib**, **esb**, **b**, and **eb**. The **ist** trichobothrium lies above **sb** and is equidistant from the finger tip and the **eb** and **esb** trichobotria. No microsetae are developed proximal to the **eb** and **esb** trichobotria (Fig. 1); instead, eight or nine small setae are present distal to these two trichobotria (Fig. 1).

The pedipalpal femur is 4.32 times as long as broad; this podomere is slightly longer than the carapace (Table 1). The pedipalpal patella is 2.485 times longer than its breadth. The pedipalpal chela length to breadth ratio is 3.60 (Table 1). The pedipalpal chelal fingers are 1.07 times as long as broad (Table 1).

Tibia IV, metatarsus IV, and tarsus IV each carry a single sensitive seta (Fig. 5); the tactile seta ratio of tibia IV exceeds 0.50 (Table 1).

Measurements of different body structures and morphometric ratios (in *mm*) are presented in Table 1.

Remarks. - From the epigeal *R. transsilvanicus*, the new cave species *R. zburatorul* n. sp. differs in the following characters: the presence/absence of eyes (absent *vs.* present); location of granulations on pedipalpal femur (only mediodistally *vs.* both distally, proximally, and dorsally); the pedipalpal femur length to breadth ratio (4.10 *vs.* 4.32); the pedipalpal chelal length to breadth ratio (3.30 *vs.* 3.60); and habitat preference (soil, humus, and leaf-litter *vs.* caves).

R. zburatorul n. sp. differs considerably from *R. dragobete* in the presence/absence of granulations on pedipalpal chelal patella (absent *vs.* present); the presence/absence of eye-spots (absent *vs.* present); the number of teeth on the movable (71 *vs.* 52) and fixed (79 *vs.* 54) chelal fingers; body length (4.00

mm vs. 1.89 *mm*); pedipalpal length (5.02 *mm* vs. 1.89 *mm*); pedipalpal femur length to breadth ratio (4.32 vs. 3.61); and leg IV length (3.29 *mm* vs. 2.225 *mm*).

Distribution and ecology. - The new species is a cave relict, endemic to the Carpathian Arc in Romania. Its origin is to be sought among proto-Balkan pseudoscorpions of Tertiary age (Ć u r ĉ i ć and D e c u , 2005).

RONCUS CIOBANMOS ĆURĆIĆ,
POINAR & SARBU, 1993 (Figs. 8-13; Table 1)

Material examined. - One male from a borehole in the vicinity of the Foraj Peșteră (-9 m depth), 24 May 1998, near Mangalia, Constanța County, Romania (without name of the collector).

Description. - The carapace is distinctly longer than broad (Table 1). The epistome is triangular and only slightly rounded apically (Fig. 9). The carapacial setal formula is: 4 + 8 + 8 + 6 = 26. A single pair of tiny eye-spots is developed (Fig. 9).

The number of setae borne on tergites I-X is variable: 6-7-9-12-12-13-12-13-11-12. Twelfth abdominal segment with two pairs of small setae. Pleural membranes granulostriate.

Sternite II carries a cluster of 16 small setae on its median and posterior parts, thinning out anteriorly; of these, 10 setae are found on the posterior sternal margin. Sternite III has six anterior setae, 10 posterior setae, and three suprastigmatic microsetae on either side. Sternite IV carries 12 posterior setae and three small setae along each stigmatic plate. Sternites V-X carry 14-14-14-15-12-12 setae.

Cheliceral form as in Fig. 13; galea almost inconspicuous (Fig. 13). The movable and fixed fingers carry 17 and 18 teeth, of which the proximal and distal members of each series are the smallest. The teeth of the movable finger end below the insertion side of the galeal seta (**gl**). Six setae occur on the palm of the chelicera (Fig. 13), while a single seta is present on the movable finger (Fig. 13). The cheliceral flagellum carries one short proximal blade and nine longer distal blades. All blades are pinnate on their anterior sides. The movable cheliceral finger is

longer than the cheliceral breadth; the chelicera is almost twice as long as broad (Table 1).

The apex of the pedipalpal coxa carries four long setae. The pedipalpal trochanter is smooth and carries a small tubercle and five small closely-set setae. The pedipalpal femur is granulated interiorly and dorsally, the patella is elongated and smooth, and the chelal palm carries distinct interior and dorsal granulations (Fig. 10). The movable chelal finger carries 92 teeth, while 102 teeth are found on the fixed finger. The teeth of the movable finger are square-topped in the proximal range of the row and similar to those of the fixed finger; the most distal pointed teeth, somewhat asymmetrical, give way to teeth with rounded tops, which are gradually replaced proximally by shorter flattened teeth.

Four trichobothria are present on the movable finger and eight on the fixed finger of the chela (Fig. 8). The **et** and **it** trichobothria are in the distal third and these together with **t**, **est**, **st**, and **ist** are all in the distal half. The proximal third contains **ib**, **esb**, **b**, and **eb**. The **ist** trichobothrium is equidistant from the finger tip and the **eb** and **esb** trichobothria. No microsetae are developed proximal to **eb** and **esb**; instead, four or six microsetae are found distal to these two trichobothria (Fig. 8).

The pedipalpal femur is 5.70 times as long as broad (Table 1). This podomere is considerably longer than the carapace (Table 1). The pedipalpal patella is 3.22 times as long as broad (Table 1). The pedipalpal chelal length to breadth ratio is 4.44. The chelal finger length to chelal palm length ratio is 0.97 (Table 1).

Leg IV: tibia, metatarsus, and tarsus each carry a long tactile seta (Fig. 11). The tactile seta ratio of tibia IV exceeds 0.50 (0.56; Table 1).

The measurements of different body structures (in *mm*) and morphometric ratios are shown in Table 1.

Remarks. - This is the first known male specimen of *R. ciobanmos*, otherwise described on the basis of five females and two tritonymphs (Ć u r ĉ i ć et al., 1993) from the Movile Cave near Mangalia

in Southern Dobruja (Romania). The diagnostic characters of this male specimen generally fit the description and diagnosis of *R. ciobanmos*, presented elsewhere (Ćurčić et al., 1993).

One more item is worth mentioning. In the male studied herein, the pedipalpal trochanter carries five short fine setae (not spines!) (Fig. 10); however, in the holotype and paratype females the trochanter carries 0-3 such long fine setae (Ćurčić et al., 1993). It is quite unusual to find this character state in *Roncus*, since only a single trochanteral seta is present (interiorly) in all other members of this genus. Such an arrangement of setae resembles the disposition of trochanteral spines in representatives of the genus *Acanthocreagris*.

Distribution and ecology. - The specimen studied was found 9 m under the surface in soil cavities in the vicinity of the Foraj Peșteră Cave during pedological and geomorphological studies. An artificial shaft of - 20 m contained Berlese traps for insects and arachnids at every each two meters. Therefore, the male specimen of *R. ciobanmos* is not actually from the cave itself, but rather from the surrounding reticulum of soil and carbonate underground passages, otherwise inaccessible for humans. This phenomenon has been noted before in the cases of some pseudoscorpions from Serbia (Ćurčić, 1988).

ACANTHOCREAGRIS CALLATICOLA DUMITRESCO
& ORGHIDAN, 1964 (Figs. 14-20; Table 1)

Material examined. - One female from the Peștera de la Limanu Cave (Hall X), 4 May 1963, near Mangalia, Constanța County, Romania, leg. Margareta Dumitrescu, Traian Orghidan, Jana Tanasaki, and Maria Georgescu.

Description. - The carapace is considerably longer than broad (Table 1). The epistome is small and apically rounded (Fig. 15). A single pair of tiny eye-spots is present (Fig. 16). The carapacial setal formula is 4 + 6 + 6 + 6 = 22 setae (Fig. 16).

Tergites I-X carry 6-8-8-10-11-12-12-13-12-11 setae. The twelfth abdominal segment has two pairs of microsetae. Pleural membranes granulostriate.

Sternite II carries a cluster of 12 (6 + 6) setae; sternite III has nine setae arranged uniformly in a single row on the posterior margin and three supra-stigmatic setae on either side. Sternite IV has 10 posterior setae and three microsetae along each stigma. Sternite V has two anterior and 11 posterior setae, sternite VI - two anterior and 13 posterior, sternite VII - two anterior and 13 posterior, sternite VIII - two anterior and 12 posterior setae, while sternites IX and X carry 11 and 12 posterior setae, respectively.

The form of the chelicera is presented in Fig. 18; the cheliceral galea is elongated and apically pointed, but it also carries a small subapical denticle (Fig. 18). The movable and fixed fingers have a variable number of teeth (13, 17, and 18, respectively). Five setae occur on the palm of the chelicera, while only one seta is present on the movable finger. The cheliceral flagellum consists of four pinnate blades distally and five proximal blades, the latter being denticulate anteriorly (Fig. 20). The movable finger is considerably longer than the cheliceral breadth; each chelicera is twice as long as broad (Table 1).

The apex of the pedipalpal coxa carries four long setae. The pedipalpal trochanter is elongated, granulated, and bears three distinct spines. The pedipalpal femur has obvious granulations on its interior lateral face, as well as proximally on its exterior and dorsal sides (Fig. 17); a single distinct exterior tubercle is present in the proximal third of this podomere. The pedipalpal patella is elongated and carries some interior granulations distally (Fig. 17). The chelal palm has both interior and exterior granulations (Fig. 17).

The movable finger of the pedipalpal chela carries 64 teeth, while 71 teeth are present on the fixed chelal finger. The teeth of the movable finger are square-topped proximally and similar to those on the fixed chelal finger; the most distal pointed teeth on the fixed finger, slightly asymmetrical, give way to teeth with rounded tops, which are gradually replaced proximally by shorter flattened teeth. The teeth on both fingers end distal to the **b** trichobothrium.

Four trichobothria are present on the movable

finger and eight on the fixed finger of the chela (Fig. 14). The **et**, **it**, **t**, **est**, **st**, and **ist** trichobothria are all in the distal half. The proximal third contains **ib**, **esb**, **b**, and **eb**. The **ist** trichobothrium is distinctly closer to the finger tip than to the **eb** and **esb** trichobothria.

The pedipalpal femur is 4.35 times as long as broad (Table 1). This podomere is considerably longer than the carapace (Table 1). The pedipalpal patella is 3.00 times longer than its breadth. The pedipalpal chela length to breadth ratio is 3.36. The chelal finger length to chelal palm ratio is 0.91 (Table 1).

Tibia IV, metatarsus IV, and tarsus IV each carry a long tactile seta (Fig. 19). The tactile seta ratio of tibia IV is 0.52 (Table 1). Each tactile seta on both metatarsus IV and tarsus IV is located in the proximal third of the relevant podomere (Fig. 19; Table 1).

Measurements of different body structures (in *mm*) and morphometric ratios are presented in Table 1.

Remarks. - From its phenetically close congener *A. ludiviri* Ćurčić, 1976, *A. callaticola* differs clearly in many important respects: the carapacial setal formula (20 vs. 22 setae); the number of setae on sternite II of the female (10 vs. 16); form of the pedipalpal articles [(Fig. 17 (9) and Fig. 28 (3) vs. Fig. 9)]; female body length (3.555 *mm* vs. 2.156-3.31 *mm*); the pedipalpal femur length to breadth ratio (3.60 vs. 4.35-4.615); and leg IV length (2.21-2.23 *mm* vs. 2.72 *mm*) (Table 1). Both *A. callaticola* and *A. ludiviri* seem to be related to their close congener *A. anatolica* (Beier, 1963) from Turkey, Asia Minor.

Distribution and ecology. - The type-locality of this species is the only site of its presence in Romania. Moreover, few species of *Acanthocreagris* are known from Serbia, Greece, and Turkey; in view of its huge distribution area (from Western Europe to Iran), it would be interesting to study the repartition of this genus in Southeast Europe in greater detail in order to determine whether its scarcity in the Balkans is due to a lack of information or to some other reasons.

CONCLUSIONS

The karstic areas of the Carpathian Arc in Romania are inhabited by a great number of endemic and relict cave arachnids (including pseudoscorpions) that belong to the Paleo-Mediterranean, Laurasian, Paleo-Aegean, and South- or North-Aegean (or Proto-Balkan) phyletic series of species and higher taxa (Ćurčić and Jovanović, 2004). The major causes of the variety exhibited by the troglobitic fauna of false scorpions inhabiting the area studied include: i. the presence of a varied epigeal fauna in the Proto-Balkans and adjoining regions in the remote past; ii. continuity of continental phases in different areas of the Balkan Peninsula; iii. the presence of mighty limestone beds and the subsequent evolution of underground karst relief; iv. the succession of suitable climatic conditions favoring the colonization of subterranean habitats; and v. divergent differentiation of different lower and higher taxa in numerous isolated niches underground.

Apart from this, it is apparent that specific aspects of geomorphological and climatic events in the Balkans and adjoining regions, together with peculiarities in the historical development of the pseudoscorpion fauna there, caused the area studied to become the main center of dispersion and colonization of species and groups of species, i.e., the main source for the revitalization and genesis of an outstanding biological diversity, not only in the Mediterranean region, but throughout all of Southeast Europe (Hadži, 1941; Hsü, 1972, 1978; Guéorguiev, 1977; Ćurčić and Jovanović, 2004; Ćurčić et al., 2004; Makarov et al., 2004).

REFERENCES

- Beier, M. (1963). *Ordnung Pseudoscorpionidea (Afterscorpione)*. In: Bestimmungsbücher zur Bodenfauna Europas 1, Akademie Verlag, Berlin.
- Ćurčić, B. P. M. (1976). *Acanthocreagris ludiviri* (Neobisiidae, Pseudoscorpiones, Arachnida), a new species of false scorpions from Serbia. *Bulletin du Muséum d'Histoire naturelle* 31B, 159-168.
- Ćurčić, B. P. M. (1982). Postembryonic development in the Neobisiidae (Pseudoscorpiones, Arachnida). Monographs, DXLV, Serbian Academy of Sciences and Arts, Department of Sciences 56, Belgrade.

- Ćurčić, B. P. M. (1988). Edaphism and cave pseudoscorpions. *Recueil de rapports du Comité pour le Karst et Spéléologie*, 3; *Editions spéciales, Acad. serbe sci. arts, DLXXXIX, Classe sci. nat. math.* **63**, 179-185.
- Ćurčić, B. P. M. and V. M. Jovanović (2004). The cave-dwelling fauna of the Balkan Peninsula: its origin and diversification. *Acta entomologica slovenica* **12** (1), 35-56.
- Ćurčić, B. P. M., and V. Ducu (2006). The pseudoscorpions of Dobruja. *Travaux de l'Institut de Spéologie "Emile Racovitza"* **TXLIII**, 2004; **XLIV**, 2005, 35-44.
- Ćurčić, B. P. M., G. O. Poinar, and S. M. Sarbu (1993). New and little-known species of Chthoniidae and Neobisiidae (Pseudoscorpiones, Arachnida) from the Movile Cave in Southern Dobrogea, Romania. *Bijdragen tot de Dierkunde* **63**, 221-241.
- Ćurčić, B. P. M., R. N. Dimitrijević, and A. Legakis (2004). *The Pseudoscorpions of Serbia, Montenegro, and the Republic of Macedonia*. Monographs **8**, Institute of Zoology, Faculty of Biology, University of Belgrade, Hellenic Zoological Society, Committee for Karst and Speleology, Serbian Academy of Sciences and Arts, Institute of Nature Conservation of the Republic of Serbia, Belgrade-Athens.
- Dumitrescu, M. and T. Orghidan (1964). Contribution à la connaissance des pseudoscorpions de la Dobroudja, 1^{re} note. *Annales de Spéléologie* **19** (3), 599-630.
- Guéorguiev, V. B. (1977). *La faune troglobie terrestre de la péninsule Balkanique*. Ed. Academie bulgare des Sciences, Sofia.
- Hadži, J. (1941). Biospeološki prispevek. *Zbornik Prirodoslovnega društva* **2**, 83-91.
- Hsü, K. (1972). When the Mediterranean dried up. *Scientific American* **227**, 25-36.
- Hsü, K. (1978). When the Black Sea was drained. *Scientific American* **238**, 53-64.
- Mahnert, V. (1976). Zur Kenntnis der Gattungen *Acanthocreagris* und *Roncocreagris* (Arachnida, Pseudoscorpiones, Neobisiidae). *Revue suisse de Zoologie* **83**, 193-214.
- Makarov, S. E., B. P. M. Ćurčić, V. T. Tomić, and A. Legakis (2004). *The Diplopods of Serbia, Montenegro, and the Republic of Macedonia*. Monographs **9**, Institute of Zoology, Faculty of Biology, University of Belgrade, Hellenic Zoological Society, Committee for Karst and Speleology, Serbian Academy of Sciences and Arts, Belgrade-Athens.
- Vulcănescu, R. (1985). *Mitologie română*. Ed. Academiei Republicii Socialiste Româna, București.

О НОВИМ И МАЛО ПОЗНАТИМ ПСЕУДОСКОРПИЈАМА (PSEUDOSCORPIONES, ARACHNIDA) ИЗ РУМУНСКИХ КАРПАТА

Р. Н. ДИМИТРИЈЕВИЋ¹, Б. П. М. ЂУРЧИЋ¹, С. Б. ЂУРЧИЋ¹, С. Е. МАКАРОВ¹,
ВИКТОРИЈА ИЛИЕ² и А. ЂУРЋИНКА²

¹Институт за зоологију, Биолошки факултет, Универзитет у Београду, 11000 Београд, Србија

²Emil G. Racovitza Institute of Speleology, Romanian Academy of Sciences, 50711 Букурешт, Румунија

У овом раду проучаване су псеудоскорпије из родова *Roncus* L. Koch, 1873 и *Acanthocreagris* Mahnert, 1976 (Neobisiidae) из неких пећина у Румунији. Дијагностификована је једна за науку нова врста, *Roncus zburatorul* n. sp., а презентована је и опис до сада непознатог мужјака *R. ciobanmos*

Ćurčić, Poinar, and Sarbu, 1993, као и друге женке *A. callaticola* (Dumitrescu and Orghidan, 1964). Сви наведени примерци су прецизно описани и илустровани. Прилог овој студији чине и анализе таксономских међуодноса наведених форама и њихове географске дистрибуције.