

Checklist of the pseudoscorpions (Arachnida: Pseudoscorpiones) of Serbia

Реестр ложноскорпионов (Arachnida: Pseudoscorpiones) Сербии

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КЛЮЧЕВЫЕ СЛОВА: ложноскорпионы, членистоногие, эндемики, фауна, разнообразие, Балканский полуостров.

ABSTRACT. A checklist of all representatives of the order Pseudoscorpiones (Arachnida) from Serbia is provided, based on the available literature. A total of 76 species belonging to 12 genera and four families is recorded in Serbia. Eight species lack precise locality data. General and local distributions of each species are reported. Notes on identification changes and comments on some old records are given for certain species.

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РЕЗЮМЕ. На основании доступной литературы дан реестр всех представителей отряда Pseudoscorpiones (Arachnida) Сербии. В Сербии отмечено 76 видов, принадлежащих к 12 родам и четырем семействам. Для восьми видов нет точных данных о местонахождениях. Для каждого вида даны сведения по общему распространению и находкам в регионе. Для некоторых видов даны уточнения по определениям и комментарии по старым находкам.

Introduction

Small arthropods with a cosmopolitan distribution, pseudoscorpions resemble little scorpions, but lack the metasoma and sting, and are considered close relatives to sun spiders (Solifugae) [Ćurčić *et al.*, 2004; Harvey, 2013]. Currently, this order includes around 3,800 species and subspecies grouped into 27 families [Harvey, 2013]. The number of recorded taxa varies from country to country. Due to insufficient investigations, a low number of pseudoscorpion taxa is known for some countries (e.g., Uddström, Rinne, 2014; Ćurčić, Dimitrijević, 2016; Kolesnikov *et al.*, 2019). According to Harvey [2007, 2013], the countries with the largest numbers of recorded species are the USA (424 spe-

cies), Italy (226), Spain (213), Australia (179), Brazil (165), Mexico (161), India (160), South Africa (135), Kenya (133) and France (124). In the Balkan countries, the highest numbers of species have been recorded in Greece (122) and Croatia (112) [Ozimec, 2004; Harvey, 2013].

Taxonomic, faunistic and biogeographical studies of the pseudoscorpion fauna of the Balkan Peninsula have a long tradition. The first pseudoscorpion taxon described from the Balkans was found in Postojna Cave in Slovenia. It was described in 1847 as *Blothrus spelaeus* Schiödte, 1847, and was later transferred to *Neobisium* (*Blothrus*) *spelaeum*. At that time, there were only a few native arachnologists (Ferdinand Joseph Schmidt, Eugen Adolf Jurinac, Rikard Gasperini), and occasional investigations of the pseudoscorpion fauna were mostly conducted by foreign researchers. During the 19th century and at the beginning of the 20th century, the main contributions to the study of Balkan pseudoscorpions were made by the Hungarian zoologists Ödön Tömösváry and Jenő Daday, the French arachnologist Eugène Simon, the Norwegian zoologist Edvard Ellingsen and the Italian entomologist Giuseppe Müller [Ćurčić *et al.*, 2004]. In 1929, the Serbian zoologist Jovan Hadži, who was born in Romania and worked in the former Yugoslavia (now Slovenia), described a new species from southern Serbia (now the Republic of North Macedonia) — *Neobisium* (*Blothrus*) *karamani* (Hadži, 1929). His studies resulted in the establishment of a number of new pseudoscorpion taxa: one genus, 23 species and five subspecies [Hadži, 1930a, b, 1933a, b, c]. During that period, the Austrian arachnologist Max Beier also made a significant contribution to the knowledge of Balkan pseudoscorpions, describing one genus, 55 species and 24 subspecies in the families Chthoniidae and Neobisiidae [Beier, 1939]. During the 1960s and 1970s, the studies of Jovan Hadži and personal contact with him inspired the Serbian arachnologist Božidar P.M. Ćurčić to begin studies of epigeal, endogean and cave-dwelling pseudoscorpions

in Serbia and other Balkan countries. His systematic investigations resulted in the establishment of six genera and 174 species new to science from the Balkan Peninsula (Serbia, Croatia, Bosnia and Herzegovina, the Republic of North Macedonia, Montenegro, Albania, Greece, Romania, Bulgaria) [Dimitrijević, 2016]. In studying the Serbian pseudoscorpion fauna, Božidar Ćurčić alone or together with his collaborators described one genus and 53 species new to science over a period of 42 years (1972–2013), i.e., 69% of the total number of pseudoscorpion species recorded in the country.

The Republic of Serbia is situated in Southeastern Europe and lies in the central part of the Balkan Peninsula, where three large tectonic units meet — the Dinaric mountain system, the Carpatho-Balkan mountain system and the Rhodopian mass. It covers an area of 88,499 km² [Gavrilović, 2017] and is bounded by Hungary in the north, Romania and Bulgaria in the east, the Republic of North Macedonia and Albania in the south, and Croatia, Bosnia and Herzegovina, and Montenegro in the west. According to the Nomenclature of Statistical Territorial Units (NSTJ) classification, the territory of the Republic of Serbia includes five units: Belgrade, Vojvodina, Šumadija and western Serbia, southern and eastern Serbia, and the UN-administered territory of Kosovo and Metohija [Vuković *et al.*, 2011; Gavrilović, 2017].

The comprehensive checklist of Harvey [2013] in-

corporates the Serbian fauna and from it some data for Serbia can be segregated. Certain checklists [Ćurčić, 1974; Dimitrijević, 2000] and faunal monographs [Ćurčić *et al.*, 2004] include records for Serbia, but are now outdated.

The aims of this study are twofold: (i) to summarize the current pseudoscorpion fauna in Serbia in the form of a complete checklist containing data on the distributions of taxa both in the world and in Serbia; and (ii) to indicate taxa with unreliable records of presence in the country. The study facilitates access to data on the distribution of pseudoscorpions both in Serbia and on the Balkan Peninsula. We list below 76 species, belonging to 12 genera and four families (taking into account doubtful citations), and include information about their distribution. For certain species, notes on identification changes and comments on some old records are added.

Material and methods

We collected all available data published on Serbian pseudoscorpions, including records from the UN-administered territory of Kosovo. Dubious findings of pseudoscorpions in the country are marked with an asterisk in the checklist. A table of localities mentioned in the list with their geographical coordinates and altitude is provided (Table 1).

Table 1. List of precise localities of pseudoscorpions from Serbia.
Таблица 1. Список местонахождений ложноскопционов Сербии.

Locality	Coordinates (N, E)	Altitude (m, a.s.l.)
Aleksići, village of Vrbaje, Pridvorica, near Ivanjica	43°28'29.68", 20°23'20.28"	877
An unnamed cave, above the source of the Vrelo River, Perućac, near Bajina Bašta	43°57'24.19", 19°25'35.37"	243
An unnamed cave, left bank of the Timok River, village of Kalna, near Knjaževac	43°25'25.00", 22°25'10.50"	360
An unnamed cave, Mt. Stol, near Bor	44°10'16.53", 22°08'13.38"	1,034
An unnamed cave, village of Pričevići, near Valjevo	44°16'53.57", 19°46'37.49"	317
Babin Zub peak, Stara Planina Mts.	43°22'12.01", 22°36'42.60"	1,741
Belgrade	44°48'12.49", 20°27'38.45"	116
Belgrade vicinity	44°38'22.83", 20°24'08.72"	232
Bogovinska Pećina Cave, village of Bogovina, near Boljevac	43°53'49.65", 21°55'31.36"	291
Božja Vrata Cave, village of Beloinje, near Svrlijig	43°23'27.72", 22°09'55.77"	414
By the Donje Jezero Lake, valley of the Grza River, near Paraćin	43°53'43.34", 21°38'36.61"	414
By the Gradac River, village of Bogatić, near Valjevo	44°12'09.64", 19°50'39.40"	459

Table 1 (continued).
Таблица 1 (продолжение).

Locality	Coordinates (N, E)	Altitude (m, a.s.l.)
By the Ivanštica River, resort settlement of Grza, near Paraćin	43°53'50.70", 21°38'51.30"	424
By the Šoferska Noć restaurant, near the village of Rujište, Mt. Rtanj	43°43'23.11", 21°59'25.75"	547
By the Velika Pećina Cave, village of Rti, near Kotraža	43°44'09.82", 20°14'55.56"	394
Close to the Kovačevića Pećina Cave, village of Cerova, near Krupanj	44°23'40.82", 19°22'55.78"	395
Crni Kamen Cave, village of Dimce, near Kačanik	42°13'39.06", 21°15'25.18"	479
Čarapičev Brest, Mt. Avala, near Belgrade	44°41'44.27", 20°31'16.03"	318
Deliblato Sands	44°54'18.76", 21°06'38.31"	163
Devojački Bunar, Deliblato Sands	44°59'39.20", 20°57'28.40"	158
Đeverica Cave, village of Vlasi, near Dimitrovgrad	42°59'55.04", 22°37'58.93"	505
Fuša Špela Cave, village of Đeneral Janković, near Kačanik	42°08'55.87", 21°17'52.55"	370
Golema Porica Pit, Mt. Rtanj	43°46'07.74", 21°52'33.25"	1,050
Gornja Lenovačka Pećina Cave, village of Lenovac, Mt. Tupižnica, near Zaječar	43°47'56.36", 22°10'22.58"	311
Goveđa Pećina Cave, village of Crnoklište, near Bela Palanka	43°14'03.78", 22°27'53.10"	376
In front of the Pećina u Vrelu Cave, village of Jelovica, Stara Planina Mts., near Pirot	43°10'54.90", 22°49'47.90"	757
Jelašnica Gorge, near Niš	43°16'48.01", 22°03'52.56"	350
Jevremovac Botanical Garden, Belgrade	44°48'57.16", 20°28'24.30"	98
Košutnjak Park, Belgrade	44°46'02.70", 20°26'07.21"	137
Kršikuće Cave, village of Ugao, near Tutin	43°03'01.09", 20°02'59.02"	1,332
Kulina peak, Mt. Medvednik, near Mionica	44°12'35.01", 19°38'20.81"	1,222
Lepterijska, near Sokobanja	43°38'12.54", 21°53'15.90"	322
Ludi Vir Cave, village of Krivi Vir, near Boljevac	43°49'33.44", 21°45'05.17"	410
Lukića Pećina Cave, village of Lipenović, near Krupanj	44°22'13.00", 19°23'08.89"	303
Manastirska Pećina 1 Cave, by the Suvodol Monastery, village of Minićevo, near Zaječar	43°40'59.87", 22°17'32.43"	196
Manastirska Pećina 2 Cave, by the Suvodol Monastery, village of Minićevo, near Zaječar	43°42'00.30", 22°21'09.20"	377
Milkina (= Mitrova) Pećina Cave, village of Senje, near Čuprija	43°55'34.67", 21°22'28.62"	124
Mt. Avala, near Belgrade	44°41'21.00", 20°30'58.00"	493
Mt. Fruška Gora, near Sremski Karlovci	45°09'26.16", 19°43'39.53"	441

Table 1 (continued).
Таблица 1 (продолжение).

Locality	Coordinates (N, E)	Altitude (m, a.s.l.)
Mt. Kosmaj, near Mladenovac	44°28'19.02", 20°34'32.41"	508
Mt. Tara	43°50'53.24", 19°27'34.45"	1,530
Near Istok	42°46'54.26", 20°29'30.97"	477
Ogorelička Pećina Cave, village of Sićevo, Svrljiške Planine Mts., near Niš	43°20'28.54", 22°05'01.79"	377
Pećina pod Kapilijama Cave, village of Šitkovo, Mt. Javor, near Nova Varoš	43°28'47.80", 19°58'59.40"	1,032
Pećina u Arsovića Kršu Cave, village of Maskova, Mt. Javor, near Nova Varoš	43°30'40.65", 20°03'04.70"	896
Pećina u Brdu Kale Cave, village of Kalna, near Knjaževac	43°24'32.35", 22°25'35.57"	398
Pećina u Kožuvarskoj Glami Cave, village of Novo Korito, near Zaječar	43°38'20.68", 22°26'38.57"	428
Pećina u Vrelu Cave, village of Jelovica, Stara Planina Mts., near Pirot	43°10'54.38", 22°49'47.32"	757
Peć u Brdu Lolinski Rt Cave, Beženište, village of Gornja Kamenica, near Svrljig	43°28'00.40", 22°21'37.97"	297
Petnička Pećina Cave, village of Petnica, near Valjevo	44°14'43.30", 19°56'08.56"	202
Petrovaradin vicinity	45°14'33.82", 19°52'55.12"	81
Poganovo Monastery, village of Poganovo, near Dimitrovgrad	42°58'47.74", 22°38'14.79"	502
Pripor Cave, village of Resnik, near Babušnica	43°06'25.22", 22°21'09.04"	601
Rajkova Pećina Cave, near Majdanpek	44°26'29.18", 21°57'11.43"	467
Ralenovići, village of Bažale, on the road from Ivanjica to the Studenica Monastery	43°31'58.51", 20°22'40.06"	1,264
Ravana hill, Ivanjica	43°34'12.37", 20°14'34.88"	474
Ravnište, village of Dubovo, Žitorađa, near Prokuplje	43°06'48.40", 21°41'42.78"	341
Sesalačka Pećina Cave, village of Sesalac, near Sokobanja	43°41'54.97", 21°59'16.76"	612
Sokobanja	43°38'15.40", 21°53'15.50"	322
Sremčica	44°40'34.48", 20°23'32.99"	225
Sveta Dupka Cave, village of Gulenovci, near Dimitrovgrad	43°07'18.06", 22°49'04.11"	1,082
Sveta Voda Cave, between the villages of Lis and Turica, near Guča	43°48'08.00", 20°12'51.08"	328
Šitkovska Pećina Cave, village of Šitkovo, Mt. Javor, near Nova Varoš	43°29'00.04", 19°58'59.79"	1,117
Topčider Park, Belgrade	44°46'40.94", 20°26'19.85"	81
Vaskova Dupka Cave, village of Lozan, near Svrljig	43°22'05.84", 22°16'30.89"	555
Velika Balanica Cave, village of Sićevo, near Niš	43°20'15.10", 22°05'04.30"	338

Table 1 (continued).
Таблица 1 (продолжение).

Locality	Coordinates (N, E)	Altitude (m, a.s.l.)
Velika Pećina Cave, village of Donja Držina, near Pirot	43°05'58.19", 22°36'19.42"	423
Village of Adžine Livade, Gledičke Planine Mts., near Kragujevac	43°54'14.09", 20°52'19.90"	534
Village of Asanovac, Žitorađa, near Prokuplje	43°08'16.10", 21°38'44.15"	728
Village of Bare, near Sjenica	43°16'27.25", 20°00'11.63"	1,004
Village of Bratljevo, on the road from Šančevi to Kovilje, near Ivanjica	43°28'59.74", 20°10'08.77"	967
Village of Crvena Gora, Mt. Javor, near Ivanjica	43°24'49.39", 20°04'24.86"	1,300
Village of Golijaska Reka, Mt. Golija, near Ivanjica	43°21'18.75", 20°15'18.32"	1,417
Village of Kovačevac, near Kačanik, Šar Planina Mts.	42°14'33.81", 21°13'58.40"	505
Village of Kumanica, Mt. Golija, near Ivanjica	43°28'02.23", 20°14'00.25"	660
Village of Močioci, Mt. Mučanj, near Ivanjica	43°33'26.62", 19°58'01.18"	887
Village of Obrež, near Belgrade	44°44'09.81", 19°58'38.61"	75
Village of Ovčar Banja, Mt. Debeli Gora	43°53'51.02", 20°11'07.61"	293
Village of Pazarište, near Novi Pazar	43°07'51.70", 20°25'12.22"	567
Village of Ravnište, Žitorađa, near Prokuplje	43°11'20.89", 21°42'44.00"	218
Virovska Pećina Cave, village of Virovo, near Arilje	43°46'15.34", 20°08'07.26"	459
Zlotska (= Lazareva) Pećina Cave, village of Zlot, near Bor	44°01'46.01", 21°57'44.44"	313
Žitorađa vicinity, near Prokuplje	43°11'20.89", 21°42'44.00"	218

Localities written in bold are from the UN-administered territory of Kosovo.
Полужирным шрифтом выделены находки в Косово.

Checklist of the Pseudoscorpiones of Serbia

Family CHELIFERIDAE *Chelifer* Geoffroy, 1762

1. *Chelifer cancroides* (Linnaeus, 1758)

Distribution in Serbia: Belgrade [Čurčić *et al.*, 2004]; central Serbia, without precise locality [Čurčić, 1976b]; southern Serbia, without precise locality [Čurčić, 1976b].

World distribution: widespread in the Holarctic, with fewer records in the Southern Hemisphere [Harvey, 2013, 2014].

Dactylochelifer Beier, 1932

*2. *Dactylochelifer latreillii* (Leach, 1817)

Distribution in Serbia: Serbia, without precise locality [Tömösváry, 1884; Daday, 1889].

World distribution: Europe [Harvey, 2013].

Note. The only two records of this species from Serbia are very old. It is possible that it does not occur in Serbia, and that the old records are misidentifications.

Rhacochelifer Beier, 1932

*3. *Rhacochelifer maculatus* (L. Koch, 1873)

Distribution in Serbia: Serbia, without precise locality [Daday, 1889].

World distribution: Mediterranean [Harvey, 2013].

Note. The only record of this species from Serbia is very old. It is possible that it does not occur in Serbia, and that the old record is a misidentification.

Family CHERNETIDAE *Allochernes* Beier, 1932

4. *Allochernes balcanicus* Hadži, 1938

Distribution in Serbia: Crni Kamen Cave, village of Dimce, near Kačanik [Beier, 1963].

World distribution: Republic of North Macedonia and Serbia [Harvey, 2013].

Chernes Menge, 1855

***5. *Chernes cimicoides* (Fabricius, 1793)**

Distribution in Serbia: Serbia, without precise locality [Tömösváry, 1884; Daday, 1889].

World distribution: Europe and the Near East [Harvey, 2013].

Note. The only two records of this species from Serbia are very old. It is possible that it does not occur in Serbia, and that the old records are misidentifications.

Family CHTHONIIDAE *Chthonius* C.L. Koch, 1843

6. *Chthonius aquasanta* Ćurčić et Rađa, 2011

Distribution in Serbia: Sveta Voda Cave, between the villages of Lis and Turica, near Guča [Ćurčić *et al.*, 2011c].
World distribution: Serbia [Ćurčić *et al.*, 2011c; Harvey, 2013].

7. *Chthonius bogovina* Ćurčić, 1972

Distribution in Serbia: Bogovinska Pećina Cave, village of Bogovina, near Boljevac [Ćurčić, 1972d].

World distribution: Serbia [Ćurčić *et al.*, 2004; Harvey, 2013].

8. *Chthonius ischnocheles* (Hermann, 1804)

Distribution in Serbia: Jevremovac Botanical Garden, Belgrade [Ćurčić, Dimitrijević, 1987; Ćurčić *et al.*, 1995]; Mt. Avala, near Belgrade [Ćurčić *et al.*, 1995]; Sremčica [Ćurčić *et al.*, 1995]; Topčider Park, Belgrade [Ćurčić, Dimitrijević, 1987; Poinar, Ćurčić, 1994; Ćurčić *et al.*, 1995].

World distribution: Europe, Afro-tropical region and Nearctic [Harvey, 2013].

9. *Chthonius iugoslavicus* Ćurčić, 1972

Distribution in Serbia: Sveta Dupka Cave, village of Gulenovci, near Dimitrovgrad [Ćurčić, 1972a]; Velika Balanica Cave, village of Sicevo, near Niš [Ćurčić, 1988]; Velika Pećina Cave, village of Donja Držina, near Pirot [Ćurčić, 1972a].

World distribution: Serbia [Ćurčić *et al.*, 2004; Harvey, 2013].

10. *Chthonius kosovensis* Ćurčić, 2011

Distribution in Serbia: near Istok [Ćurčić *et al.*, 2011b].
World distribution: Serbia [Ćurčić *et al.*, 2011b].

11. *Chthonius latidentatus* Ćurčić, 1972

Distribution in Serbia: Milkina (= Mitrova) Pećina Cave, village of Senje, near Čuprija [Ćurčić, 1972a].

World distribution: Serbia [Ćurčić *et al.*, 2004; Harvey, 2013].

12. *Chthonius lesnik* Ćurčić, 1994

Distribution in Serbia: Peć u Brdu Lolinski Rt Cave, Beženište, village of Gornja Kamenica, near Svrlijig [Ćurčić, 1994].

World distribution: Serbia [Ćurčić *et al.*, 2004; Harvey, 2013].

13. *Chthonius persimilis* Beier, 1939

Distribution in Serbia: village of Bare, near Sjenica [Beier, 1939].

World distribution: Serbia [Harvey, 2013].

14. *Chthonius stevanovici* Ćurčić, 1986

Distribution in Serbia: an unnamed cave, left bank of the Timok River, village of Kalna, near Knjaževac [Ćurčić, 1986].

World distribution: Serbia [Harvey, 2013].

***15. *Chthonius tenuis* L. Koch, 1873**

Distribution in Serbia: Serbia, without precise locality [Ćurčić, 1974].

World distribution: Europe and the Mediterranean [Harvey, 2013].

Note. Gardini [2009a] redescribed this species based on study of the type specimens. It is possible that the old citation indicating the presence in Serbia [Ćurčić, 1974] refers to another species — *C. ischnocheles* — such as in the case of a number of the old records in Italy [Gardini, 2009a].

***Ephippiochthonius* Beier, 1930**

16. *Ephippiochthonius bidentatus* (Beier, 1939)

Distribution in Serbia: Petnička Pećina Cave, village of Petnica, near Valjevo [Beier, 1939].

World distribution: Serbia [Harvey, 2013].

17. *Ephippiochthonius kemza* (Ćurčić, Lee et Makarov, 1993)

Distribution in Serbia: Pećina u Kožuvarskoj Glami Cave, village of Novo Korito, near Zaječar [Ćurčić *et al.*, 1993b].

World distribution: Serbia [Harvey, 2013].

18. *Ephippiochthonius metohicus* (Ćurčić, 2011)

Distribution in Serbia: near Istok [Ćurčić *et al.*, 2011d].
World distribution: Serbia [Ćurčić *et al.*, 2011d].

19. *Ephippiochthonius microtuberculatus* (Hadži, 1937)

Distribution in Serbia: village of Kovačevac, near Kačanič, Šar Planina Mts. [Ćurčić, 1976b].

World distribution: Bulgaria, Republic of North Macedonia and Serbia [Harvey, 2013].

20. *Ephippiochthonius tetrachelatus* (Preysler, 1790)

Distribution in Serbia: an unnamed cave, village of Pričevići, near Valjevo [Ćurčić, 1972c]; Bogovinska Pećina Cave, village of Bogovina, near Boljevac [Đurović, 1998]; eastern Serbia, without precise locality [Ćurčić, 1976b]; Mt. Avala, near Belgrade [Dimitrijević, 1992]; Petrovaradin vicinity [Hadži, 1933c]; Srem, without precise locality [Ćurčić, 1976b]; Šumadija, without precise locality [Ćurčić, 1976b]; Topčider Park, Belgrade [Poinar, Ćurčić, 1994]; western Serbia, without precise locality [Ćurčić, 1976b].

World distribution: Holarctic, Neotropical region and Australian region [Harvey, 2013].

Note. Gardini [2009a] designated and described a male neotype of this species, since the only existing type specimen is believed to have been lost or destroyed. It is possible that more than one species are confused under *E. tetrachelatus* [Harvey, 1987; Gardini, 2009b], which might be true for

certain records from Serbia, especially the older ones [Hadži, 1933c; Ćurčić, 1972c, 1976b].

21. *Ephippiochthonius timacensis* (Ćurčić et Stojanović, 2012)

Distribution in Serbia: by the Donje Jezero Lake, valley of the Grza River, near Paraćin [Ćurčić *et al.*, 2012a].

World distribution: Serbia [Ćurčić *et al.*, 2012a].

***Globochthonius* Beier, 1931**

22. *Globochthonius pancici* (Ćurčić, 1972)

Distribution in Serbia: an unnamed cave, above the source of the Vrelo River, Perućac, near Bajina Bašta [Ćurčić, 1972c].

World distribution: Serbia [Harvey, 2013].

23. *Globochthonius polychaetus* (Hadži, 1937)

Distribution in Serbia: village of Kovačevac, near Kačanić, Šar Planina Mts. [Hadži, 1937].

World distribution: Serbia [Harvey, 2013].

24. *Globochthonius purgo* (Ćurčić, Lee et Makarov, 1993)

Distribution in Serbia: Pećina u Kožuvarskoj Glami Cave, village of Novo Korito, near Zaječar [Ćurčić *et al.*, 1993b].

World distribution: Serbia [Harvey, 2013].

***Neobalkanella* Ćurčić, 2013**

25. *Neobalkanella psoglavi* (Ćurčić, 1990)

Distribution in Serbia: Manastirska Pećina 1 Cave, by the Suvodol Monastery, village of Minićevo, near Zaječar [Ćurčić, 1990, 2013].

World distribution: Serbia [Ćurčić, 2013; Harvey, 2013].

Family NEOBISHIDAE

***Acanthocreagris* Mahnert, 1974**

26. *Acanthocreagris ludiviri* Ćurčić, 1976

Distribution in Serbia: Ludi Vir Cave, village of Krivi Vir, near Boljevac [Ćurčić, 1976a].

World distribution: Serbia [Harvey, 2013].

***Neobisium* Chamberlin, 1930**

27. *Neobisium (Blothrhus) babusnicae* Ćurčić, 1980

Distribution in Serbia: Pripor Cave, village of Resnik, near Babušnica [Ćurčić, 1980a].

World distribution: Serbia [Harvey, 2013].

28. *Neobisium (Blothrhus) remyi* Beier, 1939

Distribution in Serbia: Krškuće Cave, village of Ugao, near Tutin [Beier, 1939].

World distribution: Montenegro and Serbia [Harvey, 2013].

29. *Neobisium (Blothrhus) stankovici* Ćurčić, 1972

Distribution in Serbia: Velika Pećina Cave, village of Donja Držina, near Pirot [Ćurčić, 1972b].

World distribution: Serbia [Harvey, 2013].

30. *Neobisium (Blothrhus) stitkovense* Ćurčić et Dimitrijević, 2003

Distribution in Serbia: Šitkovska Pećina Cave, village of Šitkovo, Mt. Javor, near Nova Varoš [Ćurčić *et al.*, 2003b].

World distribution: Serbia [Harvey, 2013].

31. *Neobisium (Neobisium) babinzub* Ćurčić, Dimitrijević, Tomić et Mitić, 2007

Distribution in Serbia: Babin Zub peak, Stara Planina Mts. [Ćurčić *et al.*, 2007].

World distribution: Serbia [Harvey, 2013].

32. *Neobisium (Neobisium) boreense* B. Ćurčić, Dimitrijević et N. Ćurčić, 2011

Distribution in Serbia: an unnamed cave, Mt. Stol, near Bor [Ćurčić *et al.*, 2011a].

World distribution: Serbia [Harvey, 2013].

***33. *Neobisium (Neobisium) carcinoides* (Hermann, 1804)**

Distribution in Serbia: western Serbia, without precise locality [Ćurčić, 1976b].

World distribution: Palaearctic and Afro-tropical region [Harvey, 2013].

34. *Neobisium (Neobisium) carpaticum* Beier, 1935

Distribution in Serbia: Belgrade vicinity [Ćurčić *et al.*, 1999b]; by the Gradac River, village of Bogatić, near Valjevo [Dimitrijević, 2001, 2002]; Čarapićev Brest, Mt. Avala, near Belgrade [Ćurčić, Dimitrijević, 1983a, b, 1984]; Deliblato Sands [Ćurčić, Dimitrijević, 1988b]; Devojački Bunar, Deliblato Sands [Ćurčić, 1989a]; Jevremovac Botanical Garden, Belgrade [Ćurčić, Dimitrijević, 1988a; Ćurčić *et al.*, 1996a, 1999a]; Košutnjak Park, Belgrade [Ćurčić, Dimitrijević, 1981, 1982, 1988b; Ćurčić, 1989a]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b, 1989a; Ćurčić *et al.*, 1981a, b, 1983, 1994b, 1995; Krunić, Ćurčić, 1981; Ćurčić, Dimitrijević, 1985b, 1986a, b, 1988b; Dimitrijević, 1985]; Mt. Fruška Gora, near Sremski Karlovci [Ćurčić *et al.*, 1981b, 1983]; Mt. Kosmaj, near Mladenovac [Ćurčić *et al.*, 1981b, 1983]; Petnička Pećina Cave, village of Petnica, near Valjevo [Ćurčić, Dimitrijević, 1997]; Ravnište, village of Dubovo, Žitorađa, near Prokuplje [Zlatković, 1989]; Srem, without precise locality [Ćurčić, 1976b]; Sremčica [Ćurčić, Dimitrijević, 1988b; Ćurčić, 1989a]; Šumadija, without precise locality [Ćurčić, 1976b]; Topčider Park, Belgrade [Ćurčić, Dimitrijević, 1985b, 1986a, b, 1988b; Dimitrijević, 1985, 1998; Ćurčić, 1989a; Poinar, Ćurčić, 1994; Ćurčić *et al.*, 1996a]; village of Obrež, near Belgrade [Ćurčić *et al.*, 1994a, 1996b, c, 1999c; Ćurčić, Tomić, 1999]; Zlotska (= Lazareva) Pećina Cave, village of Zlot, near Bor [Ćurčić *et al.*, 1997b].

World distribution: Carpathian Mountains (Poland, Romania, Slovakia and Serbia) [Harvey, 2013].

35. *Neobisium (Neobisium) cephalonicum* (Day, 1888)

Distribution in Serbia: Čarapićev Brest, Mt. Avala, near Belgrade [Ćurčić, Dimitrijević, 1985a]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b, 1989b; Krunić, Ćurčić, 1981; Dimitrijević, 1985; Ćurčić, Dimitrijević, 1986a, 1988b; Ćurčić *et al.*, 1995, 1999a]; Šumadija, without precise loca-

lity [Ćurčić, 1976b]; Topčider Park, Belgrade [Dimitrijević, 1985; Ćurčić, Dimitrijević, 1986a].

World distribution: Balkan Peninsula and the Near East [Harvey, 2013].

***36. *Neobisium (Neobisium) crassifemoratum* (Beier, 1928)**

Distribution in Serbia: Serbia, without precise locality [Ćurčić, 1974].

World distribution: Central and Eastern Europe, Balkan Peninsula and the Near East [Harvey, 2013].

37. *Neobisium (Neobisium) deltshevi* B. Ćurčić, Dimitrijević et N. Ćurčić, 2010

Distribution in Serbia: Sesalačka Pećina Cave, village of Sesalac, near Sokobanja [Ćurčić *et al.*, 2010a].

World distribution: Serbia [Harvey, 2013].

38. *Neobisium (Neobisium) doderoi* (Simon, 1896)

Distribution in Serbia: Fuša Špela Cave, village of Đeneral Janković, near Kačanik [Hadži, 1937].

World distribution: Mediterranean, Central Europe and the Near East [Harvey, 2013].

***39. *Neobisium (Neobisium) erythrodactylum* (L. Koch, 1873)**

Distribution in Serbia: Serbia, without precise locality [Ćurčić, 1974].

World distribution: Balkan and Apennine Peninsulas, Central and Eastern Europe and the Near East [Harvey, 2013].

40. *Neobisium (Neobisium) fuscimanum* (C.L. Koch, 1843)

Distribution in Serbia: Čarapićev Brest, Mt. Avala, near Belgrade [Ćurčić, Dimitrijević, 1986a]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b, 1989b; Ćurčić *et al.*, 1981b, 1983; Dimitrijević, 1985; Ćurčić, Dimitrijević, 1986a, 1988b]; Šumadija, without precise locality [Ćurčić, 1976b]; village of Asanovac, Žitorađa, near Prokuplje [Ćurčić, Dimitrijević, 1991].

World distribution: Balkan and Apennine Peninsulas, Central and Eastern Europe and the Near East [Harvey, 2013].

41. *Neobisium (Neobisium) macrodactylum* (Day, 1888)

Distribution in Serbia: Čarapićev Brest, Mt. Avala, near Belgrade [Ćurčić, Dimitrijević, 1985a, b]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b; Krunić, Ćurčić, 1981; Dimitrijević, 1985; Ćurčić, Dimitrijević, 1986a; Ćurčić *et al.*, 1994b, 1995]; Mt. Fruška Gora, near Sremski Karlovci [Krnić, Ćurčić, 1981]; Šumadija, without precise locality [Ćurčić, 1976b]; Topčider Park, Belgrade [Ćurčić, Dimitrijević, 1985a, b, 1986a; Dimitrijević, 1985].

World distribution: Balkan Peninsula, Central Europe and the Near East [Harvey, 2013].

42. *Neobisium (Neobisium) rajkodimitrijevići* Ćurčić, 2006

Distribution in Serbia: Rajkova Pećina Cave, near Majdanpek [Ćurčić, Tomić, 2006].

World distribution: Serbia [Harvey, 2013].

43. *Neobisium (Neobisium) sylvaticum* (C.L. Koch, 1835)

Distribution in Serbia: Belgrade vicinity [Ćurčić *et al.*, 1999b]; central Serbia, without precise locality [Ćurčić, 1976b]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b, 1989b; Dimitrijević, 1985; Ćurčić, Dimitrijević, 1986a, 1988b; Ćurčić *et al.*, 1995]; Mt. Fruška Gora, near Sremski Karlovci [Ćurčić *et al.*, 1981a]; northern Serbia, without precise locality [Ćurčić, 1976b]; Topčider Park, Belgrade [Ćurčić, Dimitrijević, 1985a, 1986a, 1988b; Dimitrijević, 1985; Ćurčić, 1989b]; Vojvodina Province, without precise locality [Ćurčić, 1974].

World distribution: Europe (except its north) and the Near East [Harvey, 2013].

44. *Neobisium (Neobisium) tarae* Ćurčić, Dimitrijević, Tomić et Mitić, 2007

Distribution in Serbia: Mt. Tara [Ćurčić *et al.*, 2007].

World distribution: Serbia [Harvey, 2013].

***Roncus* L. Koch, 1873**

45. *Roncus bauk* Ćurčić, 1991

Distribution in Serbia: Pećina u Brdu Kale Cave, village of Kalna, near Knjaževac [Ćurčić, 1991b].

World distribution: Serbia [Harvey, 2013].

46. *Roncus crnobog* Ćurčić, 2013

Distribution in Serbia: Ogorelička Pećina Cave, village of Sićevo, Svrljiške Planine Mts., near Niš [Ćurčić *et al.*, 2013].

World distribution: Serbia [Ćurčić *et al.*, 2013].

47. *Roncus golijae* Ćurčić, 1997

Distribution in Serbia: village of Kumanica, Mt. Golija, near Ivanjica [Ćurčić *et al.*, 1997a].

World distribution: Serbia [Harvey, 2013].

48. *Roncus gruiae* Ćurčić et Dimitrijević, 2006

Distribution in Serbia: village of Ovčar Banja, Mt. Debeli Gora [Ćurčić *et al.*, 2006].

World distribution: Serbia [Harvey, 2013].

49. *Roncus ivanjicae* B. Ćurčić et S. Ćurčić, 1995

Distribution in Serbia: Aleksići, village of Vrbaje, Pridvorica, near Ivanjica [Ćurčić *et al.*, 1997a]; by the Velika Pećina Cave, village of Rti, near Kotraž [Ćurčić *et al.*, 1997a]; Ralenovići, village of Bažale, on the road from Ivanjica to the Studenica Monastery [Ćurčić *et al.*, 1997a]; Ravana hill, Ivanjica [Ćurčić, Ćurčić, 1995]; village of Crvena Gora, Mt. Javor, near Ivanjica [Ćurčić *et al.*, 1997a]; village of Goljska Reka, Mt. Golija, near Ivanjica [Ćurčić *et al.*, 1997a]; village of Kumanica, Mt. Golija, near Ivanjica [Ćurčić *et al.*, 1997a]; village of Močioci, Mt. Mućanj, near Ivanjica [Ćurčić *et al.*, 1997a].

World distribution: Serbia [Harvey, 2013].

50. *Roncus ivansticae* Ćurčić, 2012

Distribution in Serbia: by the Ivanštica River, resort settlement of Grza, near Paraćin [Ćurčić *et al.*, 2012d].

World distribution: Serbia [Ćurčić *et al.*, 2012d].

51. *Roncus jarevid* Ćurčić, 2013

Distribution in Serbia: Gornja Lenovačka Pećina Cave, village of Lenovac, Mt. Tupižnica, near Zaječar [Ćurčić *et al.*, 2013].

World distribution: Serbia [Ćurčić *et al.*, 2013].

52. *Roncus jarilo* Ćurčić, 1991

Distribution in Serbia: Ravnište, village of Dubovo, Žitorada, near Prokuplje [Zlatković, 1989; Ćurčić *et al.*, 1991]; village of Asanovac, Žitorada, near Prokuplje [Ćurčić, 1991a; Ćurčić *et al.*, 1991, 1992b, 1996a]; Žitorada vicinity, near Prokuplje [Ćurčić *et al.*, 1996a].

World distribution: Serbia [Harvey, 2013].

Note. Zlatković [1989] and Ćurčić *et al.* [1991] identified the specimens from the villages of Asanovac and Ravnište as *Roncus* aff. *lubricus*, but later it was recognized that they belong to a separate species, *R. jarilo* [Ćurčić, 1991a; Ćurčić *et al.*, 2004].

53. *Roncus jelskicae* Ćurčić et Dimitrijević, 2009

Distribution in Serbia: Jelašnica Gorge, near Niš [Ćurčić, Dimitrijević, 2009].

World distribution: Serbia [Harvey, 2013].

54. *Roncus krupanjensis* B. Ćurčić, Rađa, S. Ćurčić et N. Ćurčić, 2010

Distribution in Serbia: close to the Kovačevića Pećina Cave, village of Cerova, near Krupanj [Ćurčić *et al.*, 2010b].

World distribution: Serbia [Harvey, 2013].

55. *Roncus pannoniensis* Ćurčić, Dimitrijević et Karamata, 1992

Distribution in Serbia: Belgrade vicinity [Ćurčić *et al.*, 1999b]; Čarapićev Brest, Mt. Avala, near Belgrade [Ćurčić, Dimitrijević, 1983b, 1985a]; Mt. Avala, near Belgrade [Ćurčić, 1980b, 1982b, 1989b; Ćurčić, Dimitrijević, 1986a, 1988b; Ćurčić *et al.*, 1994b, 1995, 1999a]; Petnička Pećina Cave, village of Petnica, near Valjevo [Ćurčić, Dimitrijević, 1997]; Topčider Park, Belgrade [Ćurčić, Dimitrijević, 1985a, 1986a; Ćurčić *et al.*, 1996a, 1999a]; village of Obrež, near Belgrade [Ćurčić, 1992a, 1992c; Ćurčić *et al.*, 1992a, 1994a, 1995, 1996a, b, c; Poinar, Ćurčić, 1994].

World distribution: Serbia [Harvey, 2013].

Note. Ćurčić [1980b, 1982b, 1989b] and Ćurčić & Dimitrijević [1983b, 1985a, 1986a, 1988b] identified the specimens from Mt. Avala as *Roncus lubricus* L. Koch, 1873, as did Ćurčić & Dimitrijević [1985a, 1986a] for the specimens from Topčider Park, but later it was recognized that they belong to a separate species, *R. pannoniensis* [Ćurčić, 1992c; Ćurčić *et al.*, 1992a].

56. *Roncus pantici* Ćurčić et Dimitrijević, 2004

Distribution in Serbia: Pećina pod Kapilijama Cave, village of Šitkovo, Mt. Javor, near Nova Varoš [Ćurčić, Dimitrijević, 2004].

World distribution: Serbia [Harvey, 2013].

57. *Roncus parablothroides* Hadži, 1937

Distribution in Serbia: Manastirska Pećina 1 Cave, by the Suvodol Monastery, village of Minićevo, near Zaječar [Ćurčić, 1982a; Đurović, 1998]; Manastirska Pećina 2 Cave, by the Suvodol Monastery, village of Minićevo, near Zaječar [Đurović, 1998].

World distribution: Balkan Peninsula and the Near East [Harvey, 2013].

58. *Roncus pljakici* Ćurčić, 1973

Distribution in Serbia: Pećina u Vrelu Cave, village of Jelovica, Stara Planina Mts., near Pirot [Ćurčić, 1973].

World distribution: Serbia [Harvey, 2013].

59. *Roncus radgost* Ćurčić, 2013

Distribution in Serbia: Golema Porica Pit, Mt. Rtanj [Ćurčić *et al.*, 2013].

World distribution: Serbia [Ćurčić *et al.*, 2013].

60. *Roncus radji* B. Ćurčić, Rađa, S. Ćurčić et N. Ćurčić, 2010

Distribution in Serbia: Lukića Pećina Cave, village of Lipenović, near Krupanj [Ćurčić *et al.*, 2010b].

World distribution: Serbia [Harvey, 2013].

61. *Roncus remesianensis* Ćurčić, 1981

Distribution in Serbia: Goveđa Pećina Cave, village of Crnoklište, near Bela Palanka [Ćurčić, 1981; Dimitrijević, 1994, 1997].

World distribution: Serbia [Harvey, 2013].

62. *Roncus satoi* Ćurčić et Dimitrijević, 1994

Distribution in Serbia: village of Pazarište, near Novi Pazar [Ćurčić, Dimitrijević, 1994].

World distribution: Serbia [Harvey, 2013].

63. *Roncus sotirovi* Ćurčić, 1982

Distribution in Serbia: Đeverica Cave, village of Vlasi, near Dimitrovgrad [Ćurčić, 1982a].

World distribution: Serbia [Harvey, 2013].

64. *Roncus starivlahi* Ćurčić et Dimitrijević, 1998

Distribution in Serbia: village of Bratljevo, on the road from Šančevi to Kovilje, near Ivanjica [Ćurčić, Dimitrijević, 1998].

World distribution: Serbia [Harvey, 2013].

65. *Roncus strahor* Ćurčić, 1993

Distribution in Serbia: Poganovo Monastery, village of Poganovo, near Dimitrovgrad [Ćurčić *et al.*, 1993a].

World distribution: Serbia [Harvey, 2013].

66. *Roncus sumadijae* Ćurčić, 2012

Distribution in Serbia: village of Adžine Livade, Gledičke Planine Mts., near Kragujevac [Ćurčić *et al.*, 2012b].

World distribution: Serbia [Ćurčić *et al.*, 2012b].

67. *Roncus svanteviti* Ćurčić, 1992

Distribution in Serbia: Pećina u Kožuvarskoj Glami Cave, village of Novo Korito, near Zaječar [Ćurčić, 1992b].

World distribution: Serbia [Harvey, 2013].

68. *Roncus svarozići* Ćurčić, 1992

Distribution in Serbia: in front of the Pećina u Vrelu Cave, village of Jelovica, Stara Planina Mts., near Pirot [Ćurčić, 1992b].

World distribution: Serbia [Harvey, 2013].

69. *Roncus svetavodae* Ćurčić et Dimitrijević, 2002

Distribution in Serbia: Sveta Voda Cave, between the villages of Lis and Turica, near Guča [Ćurčić, Dimitrijević, 2002].

World distribution: Serbia [Harvey, 2013].

70. *Roncus talason* Ćurčić, Lee et Makarov, 1993

Distribution in Serbia: Vaskova Dupka Cave, village of Lozan, near Svrljig [Ćurčić *et al.*, 1993b].

World distribution: Serbia [Harvey, 2013].

71. *Roncus timacensis* Ćurčić, 1981

Distribution in Serbia: Božja Vrata Cave, village of Beloinje, near Svrljig [Ćurčić, 1981; Dimitrijević, 1994, 1997].
World distribution: Serbia [Harvey, 2013].

72. *Roncus tintilin* Ćurčić, 1993

Distribution in Serbia: by the Šoferska Noć restaurant, near the village of Rujište, Mt. Rtanj [Ćurčić *et al.*, 1993a].
World distribution: Serbia [Harvey, 2013].

73. *Roncus trojan* Ćurčić, 1993

Distribution in Serbia: Lepterijska, near Sokobanja [Ćurčić *et al.*, 1993a]; Sokobanja [Poinar, Ćurčić, 1994].
World distribution: Serbia [Harvey, 2013].

74. *Roncus ursi* Ćurčić, 2012

Distribution in Serbia: Kulina peak, Mt. Medvednik, near Mionica [Ćurčić *et al.*, 2012c].
World distribution: Serbia [Ćurčić *et al.*, 2012c].

75. *Roncus virovensis* Ćurčić et Dimitrijević, 2002

Distribution in Serbia: Virovska Pećina Cave, village of Virovo, near Arilje [Ćurčić, Dimitrijević, 2002].
World distribution: Serbia [Harvey, 2013].

76. *Roncus vitalei* Ćurčić, 2003

Distribution in Serbia: Pećina u Arsovića Kršu Cave, village of Maskova, Mt. Javor, near Nova Varoš [Ćurčić *et al.*, 2003a].
World distribution: Serbia [Harvey, 2013].

Uncertain and old records of previously poorly known species

A total of seven pseudoscorpion species out of the 76 recorded in Serbia are reported for the country, but represent dubious findings, since the localities where they were found are imprecisely noted in Serbia (with no other data on the exact location of their finding).

These findings are mostly cited from Tömösváry [1884], Daday [1889] and Ćurčić [1974, 1976b] and refer to species with a wider distribution that are most likely present in Serbia. Their presence in the country needs to be verified by further investigations. The Serbian records of *D. latreillii*, *R. maculatus* and *C. cimicoides* are very old and it is possible that they are misidentifications.

Some of the old records for Serbia [Hadži, 1933c; Ćurčić, 1972c, 1974, 1976b] of previously poorly known species (e.g., *C. tenuis*, *E. tetrachelatus*) should be verified in the future, since they might refer to another species, as was reported by Gardini [2009a, b], who recently redescribed the aforementioned species.

Discussion

According to the current checklist, a total of 76 pseudoscorpion species belonging to 12 genera and four families are recorded from Serbia, which is significantly more than in previous studies (28 species according to Ćurčić [1974], 65 species according to Ćurčić *et al.* [2004], and 70 species according to Harvey [2013]).

In comparison with the total number of contemporary pseudoscorpion families in the world (27) [Harvey, 2013], the number of families recorded in Serbia (four) represents 14.8%. The number of families recorded is lower than that for many Mediterranean countries [Harvey, 2013]. The most speciose pseudoscorpion families in Serbia are Neobisiidae (51 species or 67.1%) and Chthoniidae (20 species or 26.3%), while the other two recorded families (Cheliferidae and Chernetidae) have notably smaller numbers of species (three or 4.0% and two or 2.6%, respectively) (Fig. 1).

The family Neobisiidae is represented by three genera in Serbia (*Acanthocreagris*, *Neobisium* and *Roncus*), while the family Chthoniidae is represented by four genera in the country (*Chthonius*, *Ephippiochthonius*, *Globochthonius* and *Neobalkanella*) [Zaragoza, 2017]. The family Cheliferidae is represented by three

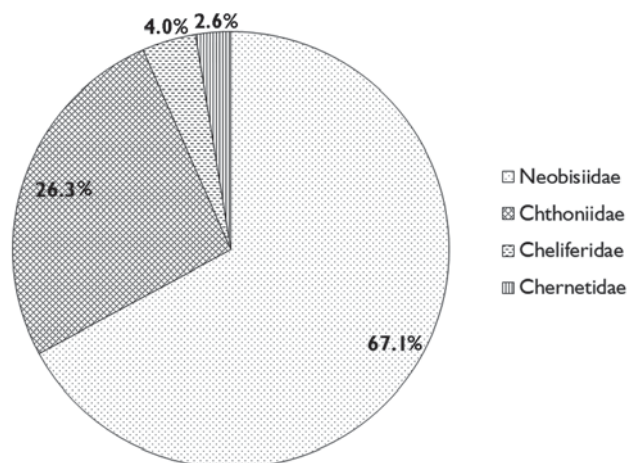


Fig. 1. Composition of Serbian pseudoscorpion species by families.

Рис. 1. Видовой состав фауны ложноскопционных Сербии по семействам.

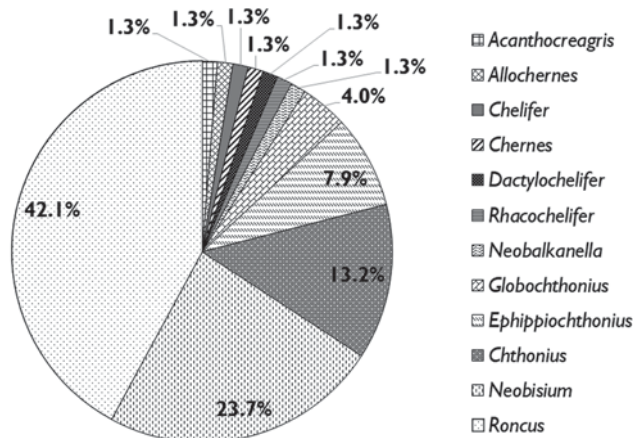


Fig. 2. Composition of Serbian pseudoscorpion species by genera.

Рис. 2. Видовой состав фауны ложноскорпионов Сербии по родам.

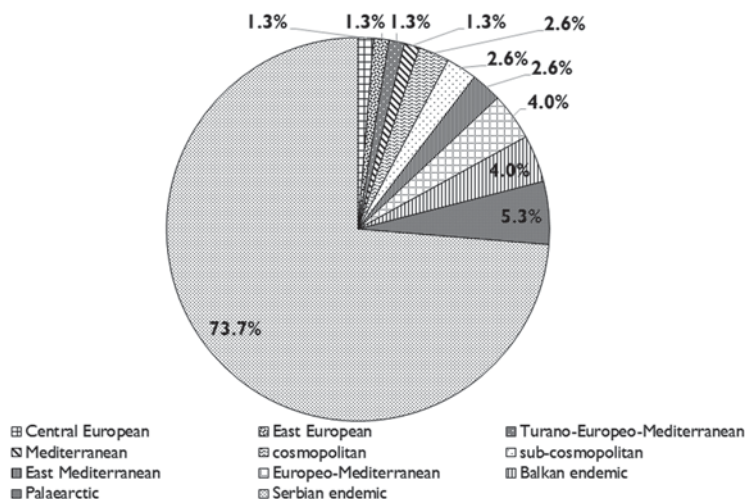


Fig. 3. Zoogeographical composition of Serbian pseudoscorpion fauna (at species level).

Рис. 3. Зоогеографический состав фауны ложноскорпионов Сербии (на видовом уровне).

genera in Serbia (*Chelifer*, *Dactylochelifer* and *Rhacochelifer*), while the family Chernetidae is represented by two genera in the country (*Allochernes* and *Chernes*). The most speciose pseudoscorpion genera in Serbia are *Roncus* (32 species or 42.1%), *Neobisium* (18 species or 23.7%), *Chthonius* (10 species or 13.2%), *Ephippiochthonius* (six species or 7.9%) and *Globochthonius* (three species or 4.0%), while all other genera (*Acanthocreagris*, *Allochernes*, *Chelifer*, *Chernes*, *Dactylochelifer*, *Neobalkanella* and *Rhacochelifer*) are represented with only one species or 1.3% each (Fig. 2).

As for the distribution of pseudoscorpions in Serbia, the greatest number of species inhabit the western, southwestern, eastern and southeastern parts of the country, i.e., the areas with well-developed karst relief, which have been best studied. The territory of Serbia has not been evenly investigated, and the least studied regions are the northern (Vojvodina Province), central

and southern (including Kosovo and Metohija Province) parts of Serbia. Out of a total of 76 species, 35 are subterranean, 32 are epigean, four are endogean, three are mostly epigean (with one record from caves), one is troglomorphic and one is synanthropic.

All recorded pseudoscorpion species in Serbia can be grouped into 11 zoogeographical categories: cosmopolitan, sub-cosmopolitan, Palaeartic, Central European, East European, Turano-European-Mediterranean, European-Mediterranean, Mediterranean, East Mediterranean, Balkan endemic and Serbian endemic species [Vigna Taglianti *et al.*, 1992, 1999] (Fig. 3). Serbian endemic species are dominant and the most abundant (56 species or 73.7%), followed by Palaeartic species (four species or 5.3%); European-Mediterranean and Balkan endemic species (three species or 4.0% each); cosmopolitan, East Mediterranean and sub-cosmopolitan species (two species or 2.6% each); and

Central European, East European, Mediterranean and Turano-European-Mediterranean species (one species or 1.3% each).

Out of the total number of pseudoscorpion species recorded in Serbia, 56 are endemic to the country, three to the Balkan Peninsula and one to the Carpathian Mountains. The family Neobisiidae has the most endemics (with 40 Serbian, one Balkan and one Carpathian endemic species), and within it the genus *Roncus* is the richest in endemics (containing 31 Serbian endemic species), followed by the genera *Neobisium* (with eight Serbian, one Balkan and one Carpathian endemic species) and *Acanthocreagris* (with one Serbian endemic species). Within the family Chthoniidae, 17 endemics were identified (16 Serbian and one Balkan endemic species) within the genera *Chthonius* (containing eight Serbian endemic species), *Ephippiochthonius* (with four Serbian and one Balkan endemic species), *Globochthonius* (with three Serbian endemic species) and *Neobalkanella* (including one Serbian endemic species). Within the family Chernetidae, one Balkan endemic species of the genus *Allochernes* is reported.

The research by Serbian authors has been devoted almost entirely to the ground and cave fauna, with little attention being paid to other habitats. Even common and widespread species like *Cheiridium museorum* (Leach, 1817) have not yet been recorded.

Conclusions

Generally speaking, it can be stated that the pseudoscorpion fauna of Serbia seems to be very rich. The relatively high number of endemics can be explained by the fact that the diverse types of karst relief in the country have shaped the origin and development of the pseudoscorpion fauna [Ćurčić *et al.*, 2004]. After a thorough analysis of the present checklist and the distribution of Serbian pseudoscorpion species, we can say that the Balkan Peninsula is one of the areas with the richest fauna of pseudoscorpions in the world and represents a hot spot of cave biodiversity at the global level.

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