

New faunistic data on the cave-dwelling spiders in the Balkan Peninsula (Araneae)

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Abstract

The contribution summarizes previously unpublished data and adds records of newly collected cave-dwelling spiders from the Balkan Peninsula. New data on the distribution of 91 species from 16 families, found in 157 (27 newly established) underground sites (caves and artificial galleries) are reported due to 337 original records. Twelve species are new to the spider fauna of the caves of the Balkan Peninsula. The species *Histopona palaeolithica* (Brignoli, 1971) and *Hoplopholcus longipes* (Spassky, 1934) are reported for the first time for the territory of Balkan Peninsula, *Centromerus cavernarum* (L. Koch, 1872), *Diplocephalus foraminifer* (O.P.-Cambridge, 1875) and *Lepthyphantes notabilis* Kulczyński, 1887 are new for the fauna of Bosnia and Herzegovina, *Cataleptoneta detriticola* Deltshev & Li, 2013 is new for the fauna of Greece, *Asthenargus bracianus* Miller, 1938 and *Centromerus europaeus* (Simon, 1911) are new for the fauna of Montenegro and *Syedra gracilis* (Menge, 1869) is new for the fauna of Turkey. Seventy two new species records are announced for 47 caves with known spider fauna. Thus, the number of spiders established in the Balkan caves was increased up to 410 species.

Key words: cave fauna, Balkan countries, new records.

Introduction

The Balkan Peninsula is a region with an extremely rich and diversified cave fauna. The spider fauna have been comparatively well studied due to the efforts of many araneologists from different countries. Deltshev (2008) had reviewed all available published information so far and a total of 326 species from 115 genera and 31 families of Araneae have been established in the caves of the Balkan Peninsula.

The recent publications are due to the investigations of Beron (2015, 2016), Bolzern *et al.* (2013), Bosmans (2009), Bosmans *et al.* (2013), Deltshev (2011a, b), Deltshev *et al.* (2011a, b, 2012, 2013, 2014), Deltshev & Ćurčić (2011), Demircan & Topçu (2015), Gasparo (2011, 2014), Komnenov (2009, 2011, 2014), Kostova *et al.* (2016), Langourov *et al.* (2014), Lopez-Panacorbí *et al.* (2013), Pavicevic *et al.* (2012), Stoev *et al.* 2014, Tanasevitch & Wunderlich (2015), Wang & Li (2010, 2011), Wu *et al.* (2016). The present contribution summarizes previously unpublished data and adds records of newly collected cave-dwelling spiders from the Balkan Peninsula in the period 2009 – 2016.

Material and Methods

The material treated herein originates from 152 caves and 5 artificial galleries (Fig. 1 and Table 1) divided into two principal parts. The first part comprises the original collections made in the period 2009 – 2016 during a cave survey covering most of the countries in the Balkan Peninsula (we perceive the peninsula's boundaries defined in Deltshv (2008)). The second concerns unpublished samples from the collections of the National Museum of Natural History, Sofia (NMNH – Sofia).

The spiders have been collected mainly by hand from the walls, under the stones or from the clayish layers of the caves. The material is deposited in NMNH – Sofia. The taxonomic arrangements follow World Spider Catalog (2016). The ecological classification follows Sket (2008). The approximate geographical coordinates are given in decimal degrees (rounded to the second decimal place).

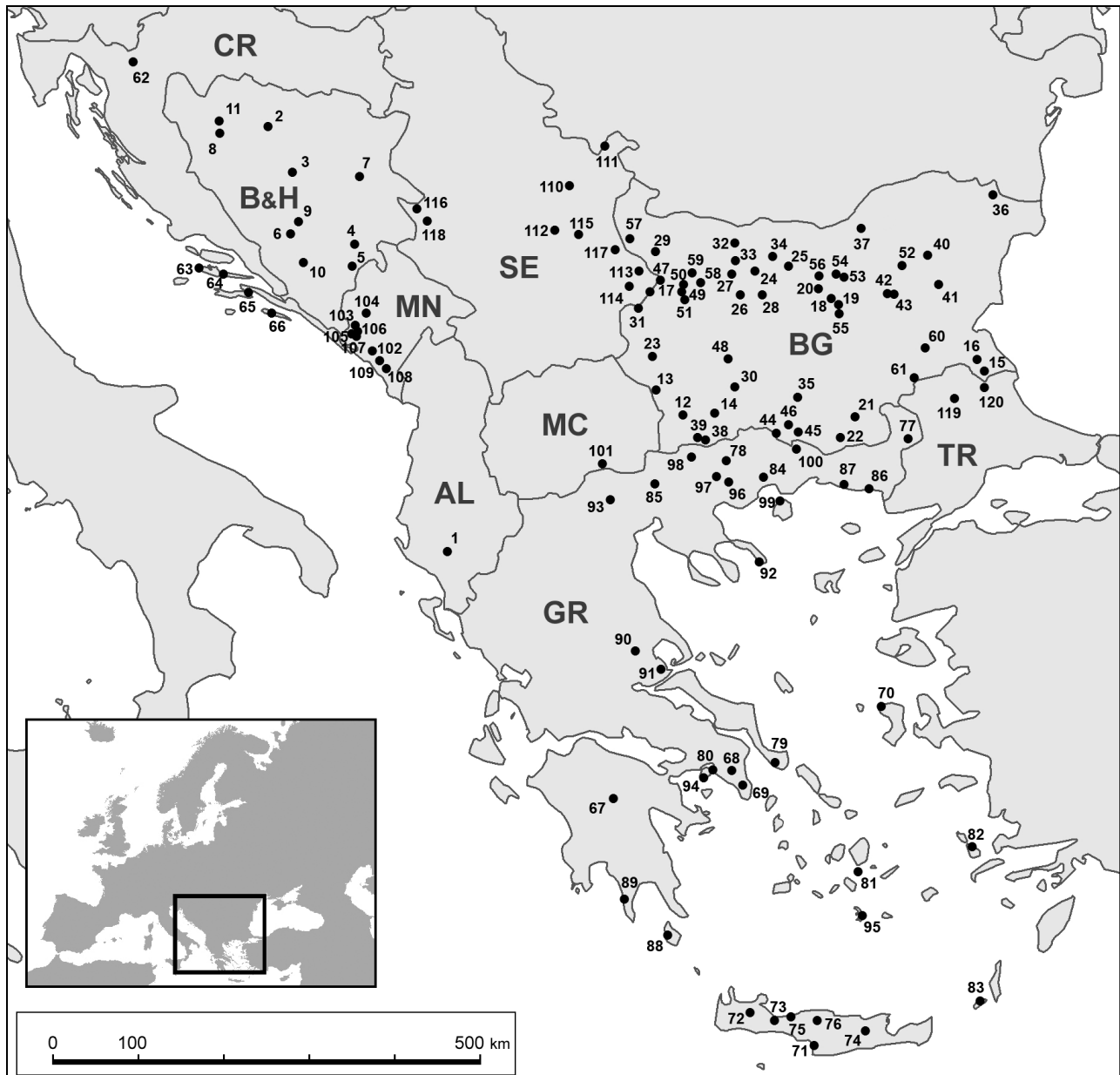


Figure 1. Distribution of the studied sites in the territory of the Balkan Peninsula. Legend: AL – Albania, B&H – Bosnia & Herzegovina, BG – Bulgaria, CR – Croatia, GR – Greece, MC – FYR Macedonia, MN – Montenegro, SE – Serbia, TR – Turkey (European part).

Table 1. List of the localities per countries. Legend: No – order number, S – unique simbol used in Figure 1 and Table 2, Lat – latitude, Lon – longitude, Alt – altitude in m a.s.l., * – underground site where spiders have not been reported till now, vill. – village, distr. – district, nr – near, Mts. – mountain, Isl. – island, art. – artificial.

No	Locality	S	Lat	Lon	Alt	Collector
ALBANIA						
1	*Tepelenë distr., Spella Mezghoranit cave	1	40.29°	20.02°	332	P. Beron
BOSNIA & HERZEGOVINA						
2	Čelinac distr., Mišarica cave	2	44.71°	17.30°	470	I. Napotnik
3	Doboj distr., Kozara Mts., Mala Bukovica vill., Kamena Kuća Pećina cave	3a	44.24°	17.70°	944	J. Mulaomerović
4	Doboj distr., Kozara Mts., Mala Bukovica vill., Vojskova vill., unnamed cave	3b	44.24°	17.70°	945	I. Napotnik
5	Foča distr., Izbišno vill., Peruc cave	4a	43.51°	18.63°	514	D. Antić, A. Bajraktarević, J. Mulaomerović
6	Foča distr., Miljevina vill., Ledenjača cave	4b	43.49°	18.66°	773	D. Antić, A. Bajraktarević
7	Ilijaš distr., Čemerno vill., cave 1	5	43.27°	18.61°	911	D. Antić
8	Jablanica distr., Zalipske Stene Ridge, Grabovica vill., unnamed cave	6	43.60°	17.70°	222	J. Mulaomerović
9	Kladanj distr., Djevojačka Pećina cave	7	44.22°	18.68°	659	J. Mulaomerović
10	*Ključ distr., Sanica vill., Soviljska Pećina cave	8	44.62°	16.60°	456	
11	Kostajnica distr., Konjic town, nr Pješčar river, unnamed cave	9	43.73°	17.81°	394	
12	Mostar distr., Podvelež Ridge, Blagaj town, Šehina Pećina cave	10a	43.30°	17.90°	687	J. Mulaomerović
13	Mostar distr., Podvelež Ridge, Golovranjka Pećina cave	10b	43.31°	17.90°	655	J. Mulaomerović
14	Sanski Most distr., Dabarska Pećina cave	11a	44.74°	16.59°	474	
15	Sanski Most distr., Hrustovo vill., Hrustovača Pećina cave	11b	44.74°	16.58°	474	J. Mulaomerović
16	Sanski Most distr., Pećina Na Malom Vrelu cave, nr Dabarska Pećina cave	11c	44.67°	16.71°	272	
17	Sanski Most distr., Tješnica Vrelo spring, Pećina Vrelo cave	11d	44.72°	16.75°	368	
BULGARIA						
18	*Blagoevgrad distr., Banski Suhodol, BS 24, BFSp N 5303	12a	41.79°	23.39°	2416	B. Petrov
19	Blagoevgrad distr., Ilindentsi vill., Sharaliyska Pesyhtera cave	12b	41.71°	23.31°	1661	B. Petrov, P. Stoev
20	Blagoevgrad distr., Logotash vill., Boychova Peshtera cave	13	41.98°	22.94°	775	P. Beron
21	Blagoevgrad distr., Ribново vill., Manuilovata cave	14	41.72°	23.76°	1094	C. Deltshv
22	*Burgas distr., Malko Tarnovo town, Trietazhnata cave	15	42.01°	27.57°	372	B. Petrov
23	*Burgas distr., Strandzha Mts., Kalovo vill., Kalovo cave	16	42.13°	27.48°	155	B. Petrov
24	Dragoman distr., Kalotina vill., Temnata Dupka cave	17	43.01°	22.89°	677	I. Borissov
25	Gabrovo distr., Dryanovo area, Andaca cave	18a	42.95°	25.43°	335	P. Beron
26	*Gabrovo distr., Tryavna town, Zmeyova Dupka cave	18b	42.88°	25.48°	512	I. Alexandrova, S. Delchev, B. Petrov
27	Gabrovo distr., Stanchov Han vill., Kiliite (Suhata) cave	19a	42.80°	25.58°	508	S. Delchev, A. Pavlova, B. Petrov
28	Gabrovo distr., Stanchov Han vill., Mechata Dupka cave	19b	42.81°	25.58°	570	S. Delchev, A. Pavlova, B. Petrov
29	Gabrovo distr., Yantra vill., Izvora cave	20	42.98°	25.30°	267	P. Beron
30	*Haskovo distr., Dolno Cherkovishte vill., Zandana cave	21	41.62°	25.72°	150	B. Petrov
31	*Kardzhali distr., Ribino vill., Samara cave	22	41.41°	25.50°	370	S. Delchev, A. Hubancheva, A. Pavlova, B. Petrov

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NEW DATA ON THE CAVE-DWELLING SPIDERS IN THE BALKAN PENINSULA

Table 1. (Continued)

32	Kyustendil distr., Gorna Koznitsa vill., Asan Deliya cave	23	42.34°	22.90°	688	B. Petrov, V. Zhelyazkova
33	*Lovech distr., Bezhanovo vill., Kanchiyskoto Ezero cave	24a	43.20°	24.40°	255	P. Beron
34	Lovech distr., Bezhanovo vill., Parnitsite cave	24b	43.20°	24.42°	262	B. Petrov, P. Stoev
35	Lovech distr., Devetaki vill., Devetashkata Pestera cave	25	43.23°	24.89°	125	I. Pandurski
36	Lovech distr., Brestnitsa vill., Saeva Dupka cave	26a	43.05°	24.19°	520	B. Petrov
37	Lovech distr., Glogovo vill., Rushovata Peshtera cave	26b	42.98°	24.31°	472	C. Deltshv
38	Lovech distr., Glozhene vill., Mecha Dupka cave	26c	42.96°	24.18°	698	B. Petrov
39	*Lovech distr., Karlukovo vill., Divachkata cave BFSp N:4661	27a	43.18°	24.07°	240	N. Toshkova
40	Lovech distr., Karlukovo vill., Kontrabasa cave	27b	43.18°	24.07°	204	C. Deltshv, N. Simov
41	Lovech distr., Vasilyovska Mts., Golyama Zhelyazna vill., Toplya cave	28	42.95°	24.49°	525	P. Beron
42	Montana distr., Belimel vill., Parasinskata Propast cave	29	43.44°	22.98°	400	B. Petrov
43	Pazardzhik distr., Rakitovo town, Obitalishteto cave	30	41.99°	24.05°	1072	P. Beron
44	*Pernik distr., Butrointsi vill., Bezhanskata Peshtera cave	31	42.84°	22.72°	886	A. Zhalov
45	*Pleven distr., cave No 2	32	43.50°	24.12°	152	A. Zhalov
46	Pleven distr., Deventsi vill., Haydushka Peshtera cave	33	43.32°	24.13°	113	B. Petrov, N. Toshkova, V. Zhelyazkova
47	Pleven distr., Bohot vill., Vodnitsata (Kirov Vartop) cave	34a	43.30°	24.71°	278	P. Beron
48	Pleven distr., Tuchenitsa vill., Razbititsa cave	34b	43.34°	24.67°	217	P. Beron
49	*Plovdiv distr., Mostovo area, Mandrata cave	35	41.85°	24.93°	924	S. Stojcheva
50	*Ruse distr., Krasen vill., Gabarnika cave	36	43.85°	27.89°	212	I. Borissov
51	Ruse distr., Pepelina vill., Orlova Chuka cave	37	43.59°	25.96°	156	I. Borissov
52	Sandanski distr., Goleshevo vill., Starshelitsa cave	38	41.44°	23.62°	1076	B. Petrov
53	Sandanski distr., Petrovo vill., Rupata cave	39	41.47°	23.51°	814	P. Beron, B. Petrov
54	Shumen distr., Shumen town, Zandana cave	40	43.27°	26.89°	429	P. Beron
55	*Shumen distr., Veselinovo vill., unnamed cave	41	42.95°	27.02°	332	B. Petrov
56	Sliven distr., Kipilovo vill., Shaplaka (Choveshkata Peshtera) cave	42a	42.90°	26.21°	407	P. Beron
57	Sliven distr., Kipilovo vill., Yamata cave	42b	42.89°	26.28°	930	S. Goranov, N. Toshkova
58	Sliven distr., Kotel town, Zelenich area, Prikazna cave	43a	42.88°	26.37°	768	P. Beron
59	*Sliven distr., Kotel town, Zlostena area, Subatta cave	43b	42.88°	26.36°	737	P. Beron
60	*Smolyan distr., Borikovo vill., Borikovska Peshtera cave	44	41.48°	24.61°	1104	T. Ivanova
61	*Smolyan distr., Madan town, Sharenka ward, art. gallery	45a	41.49°	24.91°	790	B. Petrov
62	Smolyan distr., Madan town, Sharenka ward, Sharenka cave	45b	41.49°	24.91°	876	B. Petrov, A. Hubancheva
63	Smolyan distr., Zhrebevo vill., Glinenata Propast cave	46	41.57°	24.79°	1342	A. Zhalov
64	Sofia distr., Gintsi vill., Dinevata Pesht cave	47	43.07°	23.10°	1082	B. Petrov
65	Sofia distr., Golak vill., Golashka Peshtera cave	48	42.29°	23.97°	678	N. Simov
66	Svoige distr., Bov vill., Mechata Dupka cave	49a	43.00°	23.41°	935	D. Chobanov, C. Deltshv, D. Delchev, A. Georgieva, I. Gyonov, M. Langourov, S. Lazarov, M. Naumova, B. Petrov, N. Simov
67	Svoige distr., Tserovo vill., Vodnata Peshtera cave	49b	43.01°	23.34°	540	B. Petrov

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Table 1. (Continued)

68	Svoge distr., Lakatnik railway station, Kozarskata Pestera cave	50a	43.08°	23.37°	477	P. Beron, B. Petrov, N. Toshkova
69	Svoge distr., Lakatnik vill., Yavoretska Pestera cave	50b	43.05°	23.41°	905	P. Beron
70	Svoge distr., Thompson vill., art. gallery	51	42.93°	23.38°	493	P. Beron
71	Targoviste distr., Prolaz vill., Prolazkata Peshtera cave	52	43.18°	26.51°	398	P. Beron
72	Veliko Tarnovo distr., Arbanasi vill., Arbanashkata Peshtera cave	53a	43.09°	25.69°	427	B. Petrov
73	Veliko Tarnovo distr., Arbanasi vill., Kalugerova Dupka cave	53b	43.09°	25.67°	345	B. Petrov
74	Veliko Tarnovo distr., Belyakovets vill., Golyamata Peshtera cave	54a	43.13°	25.58°	348	P. Beron
75	Veliko Tarnovo distr., Belyakovets vill., Malkata (Tonevata) Peshtera cave	54b	43.13°	25.57°	344	P. Beron
76	Veliko Tarnovo distr., Borushitsa vill., Toplata Dupka cave	55	42.71°	25.58°	863	I. Borissov
77	Veliko Tarnovo distr., Emen vill., Emenska Pestera cave	56a	43.12°	25.33°	239	P. Beron
78	Veliko Tarnovo distr., Emen vill., Troana cave	56b	43.12°	25.31°	368	P. Beron
79	Vidin distr., Varbovo vill., Golemi Pech cave	57	43.58°	22.61°	540	C. Deltshev
80	Vratsa distr., Cherepish railway station, Serapionova cave	58	43.10°	23.62°	370	I. Borissov
81	Vratsa distr., Vratsa town, Ledenika cave	59	43.20°	23.49°	851	B. Petrov, P. Stoev
82	Yambol distr., Leyarovo vill., Mecha Dupka cave	60	42.29°	26.77°	291	B. Petrov
83	*Yambol distr., Sakar Mts., Lesovo vill., art. gallery	61	41.99°	26.58°	325	B. Borisov, R. Seizogov
CROATIA						
84	Ogulin distr., Ogulin town, Kustrovka cave	62	45.31°	15.25°	378	P. Beron
85	Hvar Isl., Hvar town, Markova (Grčka) Špilja cave	63	43.19°	16.40°	33	S. Lazarov, B. Petrov
86	Hvar Isl., Humac vill., Grabčina Špilja cave	64	43.14°	16.76°	341	S. Lazarov, B. Petrov
87	Korčula Isl., Korčula town, Pišurka (Paganetijeve Pećina) cave	65	42.96°	17.13°	58	S. Lazarov, B. Petrov
88	Mljet Isl., Ropa vill., nr Nereznom Dolu place, Špilja cave	66a	42.76°	17.44°	158	S. Lazarov, B. Petrov
89	Mljet Isl., Blato vill., Velika Špilja cave	66b	42.76°	17.47°	115	S. Lazarov, B. Petrov
90	Mljet Isl., Ropa vill., on Bugara hill, Špilja cave	66c	42.75°	17.47°	121	S. Lazarov, B. Petrov
GREECE						
91	*Arcadia distr., Trinolelos cave	67	37.69°	22.26°	1390	A. Bartisiokas
92	*Athen distr., Hymettos Mts., Peana cave	68a	37.96°	23.81°	615	P. Beron
93	*Athen distr., Hymettos Mts., Siligari cave	68b	37.95°	23.80°	719	P. Beron
94	Athen distr., Peania town, Koutouki cave	68c	37.95°	23.84°	251	A. Bartisiokas, C. Deltshev, S. Lazarov
95	Athen distr., Panion Mts., Keratea cave	69	37.80°	23.97°	267	C. Deltshev
96	Chios Isl., Haghia Gala vill., Hagiogalousiana cave	70	38.56°	25.87°	267	P. Beron
97	Crete Isl., 12.8 km W of Iraklion, nr Kamilari vill., small unnamed cave	71	35.03°	24.79°	144	P. Beron, V. Beschkov
98	Crete Isl., Chania, Gouverneto Gorge, Agios Ioannis cave (cave of Gouverneto)	72a	35.42°	23.99°	575	C. Deltshev, S. Lazarov, K. Paragamian
99	Crete Isl., Chania, Gouverneto Gorge, Arkoudas cave (Panagia Arkouditisa cave)	72b	35.40°	23.98°	649	C. Deltshev, S. Lazarov, K. Paragamian
100	Crete Isl., Chania, Kournas vill., cave of Kournas	73	35.31°	24.29°	334	C. Deltshev, S. Lazarov, K. Paragamian
101	Crete Isl., Irakleion, Tzermadion vill., Trapeza cave	74	35.16°	25.45°	1069	C. Deltshev, S. Lazarov, K. Paragamian

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Table 1. (Continued)

102	Crete Isl., Rethymnon, Melidonion vill., Gerondospilios cave (cave of Melidoni)	75	35.34°	24.50°	237	C. Deltshev, S. Lazarov, K. Paragamian
103	*Crete Isl., Zoniana vill., unnamed cave	76	35.29°	24.84°	748	P. Beron
104	Didimoteicho distr., Koufovouno vill., Koufovouno cave	77	41.36°	26.44°	56	P. Beron, B. Petrov, P. Stoev, S. Beshkov
105	Drama distr., Angitis vill., Maara cave	78	40.99°	23.92°	77	C. Deltshev, S. Lazarov
106	Eobuea Isl., Karystos vill., Agia Triada cave	79	38.02°	24.41°	13	P. Beron
107	Ioannina distr., Perama vill., cave of Perama	80	37.97°	23.59°	212	C. Deltshev, S. Lazarov
108	Iraklia Isl., Agios Ioannis cave	81	36.84°	25.45°	152	P. Beron, A. Bartiyokas
109	Kalimnos Isl., Skalia vill., cave of Skalia	82	37.04°	26.96°	366	P. Beron
110	Kassos Isl., Stylokamara cave	83	35.41°	26.94°	229	P. Beron
111	Kavala distr., Zigos vill., Agia Helleni cave	84a	41.01°	24.39°	212	B. Petrov, P. Stoev, S. Beshkov
112	Kavala distr., Zigos vill., Mavri Tripa cave	84b	41.03°	24.40°	363	B. Petrov, P. Stoev, S. Beshkov
113	Kilkis distr., Kilkis town, Agios Georgios cave	85	41.00°	22.89°	264	P. Beron
114	Komotini distr., Maronia town, Cyclops Polyphemos cave	86	40.86°	25.86°	43	P. Beron
115	Komotini distr., Maronia town, cave of Maronia	87	40.91°	25.51°	122	C. Deltshev, S. Lazarov
116	Kythira Isl., Mylopotamos vill., Agia Sophia cave	88	36.24°	22.94°	343	A. Bartisiokas
117	Lakonia distr., Pirgos Dirou vill., Glyphada Dirou cave	89	36.62°	22.38°	148	C. Deltshev, S. Lazarov
118	Lamia distr., Othris Mts. Fylaki vill., Fylaki cave	90	39.24°	22.58°	586	P. Beron
119	Lamia distr., Othris Mts. Pteleos vill., Kokalya Spilia cave	91a	39.04°	22.92°	168	P. Beron
120	*Lamia distr., Othris Mts. Pteleos vill., Nero Spilia cave	91b	39.05°	22.93°	301	P. Beron
121	*Mount Athos, Agia Anna monastery, The Lost Glasses cave	92	40.14°	24.30°	394	A. Zhalov
122	Pella distr., Lutraky vill., Arcudaspileo cave (Bear cave)	93	40.84°	22.27°	43	P. Beron
123	Salamina Isl., Peristeria vill., Peristeria cave	94	37.89°	23.46°	104	P. Beron
124	Santorini Isl., Kamari vill., Zoodochos cave	95	36.37°	25.48°	195	P. Beron, V. Beschkov
125	Seres distr., Alistrati vill., Alistrati cave	96	41.07°	23.99°	85	P. Beron, V. Beschkov
126	Seres distr., Menikio Mts., monastery, Piladele cave	97	41.06°	23.75°	152	S. Beshkov, B. Petrov, P. Stoev
127	*Seres distr., Sidirokastro town, Abri cave	98	41.27°	23.41°	196	I. Borissov, M. Langourov, B. Petrov
128	Thassos Isl., Scala Rachoniou vill., art. gallery	99	40.77°	24.62°	158	C. Deltshev, P. Stoev
129	*Xanthi distr., Pachni vill., Dupkata cave	100	41.31°	24.88°	994	S. Beshkov, B. Petrov, P. Stoev
FYR MACEDONIA						
130	Gevgelija distr., Sermenin vill., small unnamed cave	101	41.22°	22.17°	1263	D. Chobanov, M. Langourov
MONTENEGRO						
131	Cetinje distr., Cetinje town, unnamed cave above the Monastery	102	42.39°	18.92°	665	B. Petrov, S. Lazarov
132	Nikšić distr., Grahovo vill., Gorno Krivošije, Dakovića Pećina cave	103	42.66°	18.68°	837	B. Petrov, S. Lazarov
133	Nikšić distr., Podkita vill., Sirbaba cave	104	42.79°	18.82°	873	B. Petrov, S. Lazarov
134	Risan distr., Crkvice vill., Dolno Krivošije, 2 small potholes nr Shuto Blagojević monastery	105a	42.57°	18.62°	1101	B. Petrov, S. Lazarov
135	Risan distr., Crkvice vill., Dolno Krivošije, art. gallery on the road to Han vill.	105b	42.56°	18.63°	1080	B. Petrov, S. Lazarov
136	Risan distr., Crni Nugli vill., Dragalsko Polje, Gorno Krivošije, Selakov Dol place, Čora Pećina cave	106a	42.59°	18.71°	756	B. Petrov, S. Lazarov

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Table 1. (Continued)

137	Risan distr., Crni Nugli vill., Dragalsko Polje, Gorno Krivošije, unnamed cave	106b	42.59°	18.70°	677	B. Petrov, S. Lazarov
138	Risan distr., Dolno Krivošije, Pokljuka Gornja cave	107	42.54°	18.69°	591	B. Petrov, S. Lazarov
139	Virpazar distr., Seoca vill., Golubova Pećina cave	108	42.21°	19.13°	351	B. Petrov, S. Lazarov
140	Virpazar distr., Trnovo vill., Baba Tuša cave	109a	42.29°	19.03°	556	S. Lazarov, B. Petrov
141	Virpazar distr., Trnovo vill., Spilia cave	109b	42.29°	19.04°	332	B. Petrov, S. Lazarov
SERBIA						
142	Despotovac distr., Strmosten vill., Izviđačka Pećina cave	110	44.15°	21.74°	910	D. Antić
143	Iron Gate distr., Miroč Mts., Rakin Ponor cave	111	44.56°	22.27°	384	I. Napotnik
144	Nišava distr., Ražanj vill., Jamina cave	112	43.68°	21.52°	322	
145	Pirot distr., Bela vill., Suva Dupka cave	113	43.24°	22.74°	863	D. Antić
146	Pirot distr., Petriash vill., Petriashka Pećina cave	114a	43.08°	22.59°	622	P. Beron
147	Pirot distr., Rsovci vill., nr Vladikine Ploče cave, unnamed cave	114b	43.17°	22.74°	910	
148	Soko Banja distr., Soko Banja town, Ozrenska Pećina cave	115	43.63°	21.87°	575	D. Antić, S. Ćurčić
149	Tara Mts., cave 4-1-3-27	116a	43.86°	19.48°	1246	
150	Tara Mts., Predov Krst, Vukova Pećina cave	116b	43.94°	19.32°	959	
151	Tara Mts., Račanska Šljivovica, nr Sovljak river, unnamed cave	116c	43.89°	19.52°	1050	
152	Tara Mts., Solotuša vill., unnamed cave	116d	43.92°	19.62°	506	
153	Zaječar distr., Kalna vill., small cave by the road	117	43.46°	22.39°	337	S. Beshkov
154	Zlatibor distr., Čajetina town, Šljivovica vill., cave 2	118a	43.77°	19.68°	840	
155	Zlatibor distr., Čajetina town, Šljivovica vill., cave 3	118b	43.76°	19.67°	965	
TURKEY						
156	Kirklareli distr., Koyunbaba vill., Koyunbaba Magarasi cave	119	41.75°	27.12°	153	B. Petrov
157	Kirklareli distr., Strandzha Mts., Sarp Dere vill., Dupnisa Magarasi cave	120	41.84°	27.56°	409	P. Beron, D. Duhlov, T. Ivanova, S. Lazarov, P. Stoev

Results and discussion

The study comprises 91 species from 16 families (Tables 2 and 3) found in 157 (27 newly established) underground sites (caves and artificial galleries) due to 337 original records. The species are distributed in the different territories as follow: Albania – 3, Bosnia & Herzegovina – 10, Bulgaria – 35, Croatia – 15, Greece – 36, FYR Macedonia – 2, Montenegro – 12, Serbia – 13 and Turkey – 10 (Tables 1, 2 and 4).

New for the cave-dwelling spider fauna of the Balkan Peninsula are 12 species (marked with two asterisks in the Table 2). The species *Histopona palaeolithica* (Brignoli, 1971) and *Hoplopholcus longipes* (Spassky, 1934) are reported for the first time for the territory of the Balkan Peninsula, *Centromerus cavernarum* (L. Koch, 1872), *Diplocephalus foraminifer* (O.P.-Cambridge, 1875) and *Lepthyphantes notabilis* Kulczyński, 1887 are new for the fauna of Bosnia and Herzegovina, *Cataleptoneta detriticola* Deltshv & Li, 2013 is new for the fauna of Greece, *Asthenargus bracianus* Miller, 1938 and *Centromerus europaeus* (Simon, 1911) are new for the fauna of Montenegro and *Syedra gracilis* (Menge, 1869) is new for fauna of Turkey.

New species records (72) are announced also for 47 caves with known spider fauna (Table 2). Thus, the number of spiders established in Balkan caves was increased to 410 species.

Table 2. Species composition and distribution of spiders. Legend: **taxa – species new for the Balkan`s caves, *locality – new species for the locality; ♂ – male/s, ♀ – female/s, j – juvenile/s.

N	Taxa	Locality (specimens) date
AGELENIDAE		
1.	<i>Histopona bidens</i> (Absolon & Kratochvíl, 1933)	66a (1 ♂, 3 ♀) 13.VIII.2006; 66c (1 ♀) 14.VIII.2006
2.	** <i>Histopona palaeolithica</i> (Brignoli, 1971)	108 (1 ♀) 12.VIII.2006
3.	<i>Inermocoelotes jurinitschi</i> (Drensky, 1915)	*20a (1 ♂, 1 j) 10.IX.2016
4.	<i>Tegenaria animata</i> Kratochvíl & Miller, 1940	103 (4 ♀, j) 28.III.2006; 104 (1 ♀, j) 28.III.2006; 106b (2 ♀, j) 26.III.2006
5.	<i>Tegenaria annulata</i> Kulczyński, 1913	9 (2 ♂) 28.XII.2013
6.	<i>Tegenaria ariadnae</i> Brignoli, 1984	76 (2 ♀, 3 j) 13.V.1984
7.	<i>Tegenaria bayeri</i> Kratochvíl, 1934	109a (1 ♀) 24.III.2006
8.	<i>Tegenaria domestica</i> (Clerck, 1757)	1 (1 ♀) 2.IX.2010; 27b (1 ♀) 20.VIII.2005; *56a (1 ♀) 22.IX.2015; 66c (2 ♀) 14.VIII.2006; 68b (2 j) 26.XII.2002; *90 (1 ♀) 12.VII.2003; 120 (1 ♂, 1 ♀, 5 j) 25.VII.2006
9.	<i>Tegenaria faniapollinis</i> Brignoli, 1978	68a (1 ♀) 24.XII.2002
10.	<i>Tegenaria ferruginea</i> (Panzer, 1804)	*49a (1 ♀) 10.IX.2016
11.	<i>Tegenaria hauseri</i> Brignoli, 1979	*88 (2 ♀) 26.VIII.1982
12.	<i>Tegenaria pagana</i> C. L. Koch, 1840	32 (1 ♀) 12.V.2013; *46 (1 ♀) 11.X.2009; 95 (3 ♀) 25.IX.1983; *97 (1 ♀) 22.IX.2000
13.	<i>Tegenaria parietina</i> (Fourcroy, 1785)	*79 (1 ♀) 4.V.2008; 82 (5 ♀) 4.V.1987; *99 (2 ♀) 4.V.2008
14.	<i>Tegenaria silvestris</i> L. Koch, 1872	19a (1 ♂, 1 ♀) 12.III.2011; 24b (2 ♀) 21.I.1995; *49a (1 ♂) 21.II.2013
AMAUROBIIDAE		
15.	** <i>Amaurobius candia</i> Thaler & Knoflach, 2002	*71 (1 ♂) 29.IX.1974
16.	<i>Amaurobius deeleanae</i> Thaler & Knoflach, 1995	*27b (1 ♂, 1 ♀) 20.VIII.2005
17.	** <i>Amaurobius erberi</i> (Keyserling, 1863)	66c (1 ♀, 24 j) 14.VIII.2006
DICTYNIDAE		
18.	<i>Cicurina cicur</i> (Fabricius, 1793)	*49a (1 ♂) 15.II.2013; 111 (1 ♂) 12.I.2014
DYSDERIDAE		
19.	<i>Folkia haasi</i> (Reimoser, 1929)	65 (1 j) 15.VIII.2006
20.	<i>Folkia inermis</i> (Absolon & Kratochvíl, 1933)	66b (4 j) 13.VIII.2006; 66c (1 j) 14.VIII.2006
21.	<i>Harpactea babori</i> (Nosek, 1905)	61 (1 ♂) 7.IV.1994
EUTICHURIDAE		
22.	** <i>Cheiracanthium erraticum</i> (Walckenaer, 1802)	*26a (1 ♀) 7.VII.2011
LEPTONETIDAE		
23.	<i>Barusia insulana</i> (Kratochvíl & Miller, 1939)	64 (1 ♂, 5 ♀, 4 j) 16.VIII.2006
24.	<i>Barusia laconica</i> (Brignoli, 1974)	88 (1 ♀) 26.VIII.1982; 89 (4 ♂, 10 ♀) 22.IX.2006
25.	<i>Barusia maheni</i> (Kratochvíl & Miller, 1939)	66b (2 ♂, 10 ♀, 10 j) 13.VIII.2006; 66c (2 ♂, 8 ♀) 14.VIII.2006
26.	** <i>Cataleptoneta detriticola</i> Deltshv & Li, 2013	98 (1 ♂, 3 ♀, 1 j) 4.IX.2007
27.	<i>Cataleptoneta sengleti</i> (Brignoli, 1974)	75 (2 ♂, 7 ♀) 19.IX.2006
28.	<i>Leptonetela kanellisi</i> (Deeleman-Reinhold, 1971)	68c (2 j) 20.III.1982, (7 ♀) 21.IX.2006
29.	<i>Leptonetela strinatii</i> (Brignoli, 1976)	69 (4 ♀) 21.IX.2006
30.	<i>Leptonetela thracia</i> Gasparo, 2005	87 (1 ♂, 6 ♀) 23.IX.2006
31.	<i>Sulcia cretica</i> Fage, 1945	72a (13 ♀) 20.IX.2006; *72b (2 ♂, 7 ♀) 20.IX.2006
32.	<i>Sulcia cretica lindbergi</i> Dresco, 1962	80 (4 ♂, 15 ♀) 23.IX.2006
33.	<i>Sulcia mirabilis</i> Kratochvíl, 1938	107 (1 ♂, 3 ♀, j) 27.III.2006
LINYPHIIDAE		
34.	<i>Antrohyphantes balcanicus</i> (Drensky, 1931)	*26c (1 ♂, 1 ♀) 4.VIII.1994; 28 (1 ♂, 3 ♀, 4 j) 23.I.2011
35.	<i>Antrohyphantes rhodopensis</i> (Drensky, 1931)	12a (4 ♀) 2.IX.2012; 12b (6 ♂, 5 ♀) 9.IV.2005 49a (1 ♀) 15.XI.2009, (2 ♀) 21.VI.2010, (2 ♂, 4 ♀) 11.VIII.2012, (3 ♂, 6 ♀) 21.II.2013, (3 j) 4.III.2013, (1 ♀) 13.VIII.2013, (2 ♂, 2 ♀) 21.XI.2013, (3 ♂, 2 j) 15.II.2014
36.	<i>Antrohyphantes sophianus</i> (Drensky, 1931)	
37.	<i>Asthenargus bracianus</i> Miller, 1938	106a (1 ♂) 26.III.2006
38.	<i>Centromerus acutidentatus</i> (Deltshv, 2002)	*49a (1 ♀) 21.VI.2010
39.	<i>Centromerus bulgarianus</i> (Drensky, 1931)	*50a (1 ♂, 3 ♀) 13.II.1983, (1 ♂, 1 ♀, 1 j) 3.XI.2011
40.	<i>Centromerus cavernarum</i> (L. Koch, 1872)	3b (1 ♂) 19.I.2014; 4a (1 ♀) 17.VIII.2014; 116a (1 ♂) 17.X.2014
41.	<i>Centromerus europaeus</i> (Simon, 1911)	108 (1 ♀) 12.VIII.2006

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Table 2. (Continued)

42.	<i>Centromerus lakatnikensis</i> (Drensky, 1931)	33 (1 ♀) 25.IV.2011; *49a (1 ♀) 21.VI.2010 21 (1 ♀, 1 j) 15.VI.2008; 86 (5 ♂, 2 ♀) 1.X.1983, (2 ♂, 8 ♀, 1 j) 1.VII.1987;
43.	<i>Centromerus milleri</i> Deltshv, 1974	87 (3 ♂, 6 ♀) 23.IX.2006; 120 (2 ♂, 7 ♀, 4 j) 25.VII.2006, (1 ♀) 15.IV.2007
44.	<i>Centromerus serbicus</i> Deltshv, 2002	110 (1 ♂) 24.V.2014
45.	<i>Diplocephalus foraminifer</i> (O.P.-Cambridge, 1875)	4b (1 ♂) 14.VIII.2014; *49b (1 ♀) 31.V.2012
46.	<i>Lepthyphantes beroni</i> Deltshv, 1979	95 (3 ♂, 3 ♀) 25.IX.1983
47.	<i>Lepthyphantes beshkovi</i> Deltshv, 1979	76 (8 ♀, 3 j) 13.V.1984
48.	<i>Lepthyphantes brignolianus</i> Deltshv, 1979	74 (7 ♂, 20 ♀) 19.IX.2006
49.	<i>Lepthyphantes centromeroides</i> Kulczyński, 1914	44 (2 ♀) 1.I.2003; *55 (2 ♀) 18.II.2006; 115 (1 ♂, 2 ♀, 3 j) 24.V.2014, (1 ♀) VI-VII.2014; 116a (1 ♀) 13.III.2014; 116b (1 ♂) 30.III.2014 11a (1 ♀, 1 j) 22.II.2014; 6 (3 ♀) 5.I.2014; *13 (1 ♂, 1 ♀) 20.X.1997; *27b (1 ♂, 1 ♀) 20.VIII.2005; 34b (2 ♀) 7.IV.1981; 36 (1 ♂) 4.V.2005, (1 ♀) 9.VI.2005, (1 j) 2.VIII.2005, (1 ♀) 9.IX.2005; 38 (1 ♂, 2 ♀) 2009; 49a (1 ♂, 1 ♀) 10.IX.2016; 101 (2 ♂) 22.VII.2004; 118b (1 ♂); 119 (1 ♀) 10.IV.2007
50.	<i>Lepthyphantes leprosus</i> (Ohlert, 1865)	10b (1 ♀) 14.VII.2014
51.	** <i>Lepthyphantes notabilis</i> Kulczyński, 1887	*57 (1 ♂) 4.V.1975
52.	<i>Linyphia hortensis</i> Sundevall, 1830	101 (1 ♀) 22.VII.2004
53.	<i>Megalepthyphantes collinus</i> (L. Koch, 1872)	81 (2 ♀, 3 j) 14.IX.1981
54.	** <i>Megalepthyphantes lydiae</i> Wunderlich, 1994	*27b (1 ♀) 20.VIII.2005; 34b (1 ♀) 7.IV.1981; *48 (1 ♀) 10.I.2010
55.	<i>Microctenonyx subitaneus</i> (O.P.-Cambridge, 1875)	37 (1 ♂, 2 j) 4.V.2005, (11 ♂, 3 ♀, 5 j) 7.VI.2005, (6 ♂, 2 ♀) 7.VII.2005, (6 ♂, 2 ♀) 1.IX.2005, (4 ♂, 5 ♀) 1.X.2005, (3 ♂, 3 ♀) 29.X.2005, (1 ♂, 4 ♀, 2 j) 5.XII.2005; *60 (1 ♀) 5.X.2015
56.	<i>Palliduphantes byzantinus</i> (Fage, 1931)	23 (1 ♂, 2 ♀) 20.VII.2011; 42a (1 ♀) 30.VI.1982; 63 (1 ♀) 15.VIII.2006; 77 (1 ♂, 6 ♀) 22.V.1984, (1 ♂, 4 ♀) 29.V.1984, (2 ♂, 3 ♀) 29.IX.2000; 84b (1 ♂, 1 ♀) 23.IX.2000
57.	<i>Palliduphantes istrianus</i> (Kulczyński, 1914)	*42b (1 ♀) 26.VI.2010
58.	<i>Palliduphantes pillichii</i> (Kulczyński, 1915)	*49a (3 ♂, 4 ♀) 11.VIII.2012, (1 ♂) 15.II.2013, (2 ♂, 1 ♀) 10.VII.2013, (2 ♂, 2 ♀) 13.VIII.2013; 113 (1 ♂, 2 ♀) VI-VII.2014
59.	<i>Palliduphantes trnovensis</i> (Drensky, 1931)	116c (1 ♀)
60.	<i>Porrhomma campbelli</i> F. O. Pickard-Cambridge, 1894	2 (1 ♀) 3.II.2014; 4a (2 ♂, 4 ♀) 17.VIII.2014; 4b (1 ♂, 4 ♀, 1 j) 14.VIII.2014; 7 (1 ♀) 31.I.2014; 8 (1 ♀) 2.XI.2013; 14 (1 ♂, 1 ♀) 8.II.1982; 15 (2 ♀) 16.V.2007; 17 (2 ♀) 22.I.2005; 18a (2 ♀) 22.XI.2009; 19b (1 ♂, 2 ♀) 12.III.2011; 22 (1 ♀) 18.I.2009; 24a (2 ♀) 18.VII.1985; *26c (1 ♂) 4.VIII.2015; 34a (2 ♂, 5 ♀) 22.IV.1984, (1 ♂, 4 ♀) 6.IV.1985; *39 (5 ♀) 18.V.2004; 40 (3 ♀) 16.VII.1980; 41 (1 ♂, 2 ♀) 19.VIII.2012; 42a (4 ♀) 30.VI.1982; 43a (1 ♀) 14.IX.1984; 43b (1 ♂, 6 ♀) 21.VI.2014; *45b (3 ♀, 1 j) 4.X.2008; 48 (2 ♀) 10.I.2010; 49a (2 ♀) 15.XI.2009, (1 ♀) 21.II.2013, (2 j) 4.III.2013, (1 ♀) 13.VIII.2013, (1 ♀) 10.IX.2016; *49b (3 ♀) 31.V.2012; 51 (1 ♀) 8.X.1979; 52 (3 ♂, 9 ♀, 2 j) 6.XI.2011; 54a (3 ♀) 18.III.2015; 54b (1 ♂, 4 ♀) 18.III.2015; *56b (3 ♂, 3 ♀) 20.IX.2015; 67 (1 ♀) 17.IX.1982; 78 (4 ♀) 28.IX.2002, (4 ♂, 4 ♀) 25.IX.2006; *97 (1 ♀) 22.IX.2000; *100 (4 ♂, 4 ♀) 25.IX.2000; 114b (1) 1.X.2013; 119 (1 ♀) 10.IV.2007; 120 (2 ♂, 1 ♀) 15.IV.2007
61.	<i>Porrhomma convexum</i> (Westring, 1851)	119 (1 ♂, 2 ♀) 10.IV.2007
62.	** <i>Syedra gracilis</i> (Menge, 1869)	112 (1 ♂) 16.II.2014
63.	<i>Tenuiphantes tenuis</i> (Blackwall, 1852)	62 (5 ♀, 9 j) 18.XI.2015
64.	<i>Troglohyphantes croaticus</i> (Chyzer, 1894)	103 (1 ♂) 28.III.2006; 104 (1 ♂) 28.III.2006; 106a (1 ♂, 1 ♀) 26.III.2006
65.	<i>Troglohyphantes troglodytes</i> (Kulczyński, 1914)	66c (1 ♀) 14.VIII.2006
66.	<i>Typhloniphia reimoseri</i> Kratochvíl, 1936 LIOCRANIDAE	
67.	<i>Liocranum rupicola</i> (Walckenaer, 1830) MIMETIDAE	9 (1 ♀) 28.XII.2013; *39 (1 ♀) 18.V.2004

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Table 2. (Continued)

68.	<i>Ero flammeola</i> Simon, 1881 NESTICIDAE	112 (1 ♂) 16.II.2014
69.	<i>Nesticus arenstorffi</i> Kulczyński, 1914	106a (1 ♀, 3 j) 26.III.2006; 106b (1 ♀, j) 26.III.2006; 107 (3 ♀, j) 27.III.2006, 109a (1 ♀) 24.III.2006 4a (1 j) 17.VIII.2014; 4b (1 j) 14.VIII.2014; 11a (1 j) 11.II.2014 ; 11b (1) 6.VIII.2011 , (1 ♀, 1 j) 21.II.2014; 15 (2 ♀) 16.V.2007; 16 (3 ♀, 4 j) 8.VIII.2006; 19a (2 j) 12.III.2011; 19b (1 ♀, 1 j) 12.III.2011 ;*20 (1 ♀) 29.X.1993; 22 (1 ♀, 1 j) 10.IV.2007; 24b (2 ♀) 18.I.2009; 25 (2 ♀) 21.I.1995; 27a (2 j) 5.VI.1994; 33 (2 j) 25.IV.2011; 34b (1 ♀) 7.IV.1981; 35 (5 ♀) 28.VIII.2013; *39 (3 ♂, 1 ♀) 18.V.2004; 41 (1 ♀, 2 j) 19.VIII.2012; 49b (1 j) 31.V.2012; 53b (1 ♀) 13.III.2011; *56b (1 ♀, 1 j) 20.IX.2015; 77 (6 ♀) 22.V.1984, (2 j) 29.IX.2000; 85 (2 ♂, 3 ♀) 8.IX.2009; 96 (3 ♂, 19 ♀) 2.X.1983; *97 (2 j) 22.IX.2000; *100 (3 ♀) 25.IX.2000; 112 (1 j) 5.I.2014; 114a (1 ♂) 4.IX.2016; 116b (1 j) 30.III.2014; 118a (1 ♂, 1 ♀); 119 (2 ♀, 1 j) 27.IX.2002; 120 (1 ♂, 3 ♀, 3 j) 25.VII.2006
70.	<i>Nesticus cellulanus</i> (Clerck, 1757)	1 (5 ♀) 2.IX.2010; 63 (1 ♂, 2 ♀, 20 j) 15.VIII.2006; 64 (3 ♀, 12 j) 16.VIII.2006; 65 (1 ♂, 3 ♀, 3 j) 15.VIII.2006
71.	<i>Nesticus eremita</i> Simon, 1879	109a (1 ♀, 1 j) 24.III.2006
72.	<i>Typhlonesticus absoloni</i> (Kratochvil, 1933) PHOLCIDAE	
73.	<i>Holocnemus pluchei</i> (Scopoli, 1763)	1 (1 ♂) 2.IX.2010; *59 (1 ♀) 22.V.1984; *78 (1 ♂, 2 j) 25.IX.2006
74.	<i>Hoplopholcus forskali</i> (Thorell, 1871)	29 (2 ♀) 28.III.2008
75.	<i>Hoplopholcus labyrinthi</i> (Kulczyński, 1903)	74 (2 ♂, 3 ♀, 1 j) 19.IX.2006; 75 (1 ♂, 2 ♀, 3 j) 19.IX.2006
76.	** <i>Hoplopholcus longipes</i> (Spassky, 1934)	120 (2 ♂, 1 ♀, 1 j) 25.VII.2006
77.	<i>Hoplopholcus minous</i> Senglet, 1971	*83 (1 ♂, 3 ♀) 6.V.1984
78.	<i>Pholcus opilionoides</i> (Schrank, 1781)	76 (1 ♂) 12.V.1984
79.	<i>Pholcus phalangoides</i> (Fuesslin, 1775)	35 (1 ♀) 28.VIII.2013; *70 (1 ♂, 3 j) 13.V.1984; 72a (1 ♂, 2 ♀, 2 j) 20.IX.2006; 95 (6 ♀) 25.IX.1983
80.	<i>Stygopholcus photophilus</i> Senglet, 1971	92 (1 ♂, 1 ♀, 2 j) 8.IX.2012
81.	<i>Stygopholcus skotophilus montenegrinus</i> (Kratochvil, 1940)	102 (1 ♂, 1 ♀, j) 25.III.2006; 103 (1 ♂, 1 ♀, j) 28.III.2006; 104 (3 ♂, 1 ♀, j) 28.III.2006; 105a (2 ♂, 1 ♀) 17.VIII.2006, 106a (5 ♀, j) 26.III.2006; 106b (2 ♂, 2 ♀, j) 26.III.2006; 107 (5 ♂, 6 ♀, j) 27.III.2006; 108 (1 ♂, 1 ♀) 12.VIII.2006, 109a (5 ♂, 5 ♀, 1 j) 24.III.2006
	PHYXELIDIDAE	
82.	<i>Phyxelida anatolica</i> Griswold, 1990 SALTICIDAE	83 (5 ♀) 6.V.1984
83.	** <i>Evarcha jucunda</i> (Lucas, 1846) SICARIDAE	109b (2 ♀) 24.III.2006
84.	<i>Loxosceles rufescens</i> (Dufour, 1820) TETRAGNATHIDAE	68a (4 ♀) 24.XII.2002; 94 (2 ♀) 8.V.1987
85.	<i>Meta bourneti</i> Simon, 1922	66a (1 ♂) 13.VIII.2006; *84b (1 ♂) 23.IX.2000; *87 (1 ♂, 4 j) 23.IX.2006; *90 (1 ♀, 3 j) 12.VII.2003; *91a (1 ♂, 1 ♀, 3 j) 19.VII.2003; *93 (1 ♂, 1 ♀) 2.XI.2007; 120 (2 ♀) 25.VII.2006 5 (1 j) 12.VIII.2014; 11c (1 j) 22.II.2014; 18b (1 ♂) 12.III.2011; 20 (1 ♂) 29.X.1993; 26a (1 ♀) 7.VII.2011; *26b (1 ♂, 1 ♀) 7.VII.2011; *30 (3 j) 18.VII.2011; 31 (4 j) 24.V.2003; 41 (1 ♂, 1 ♀) 19.VIII.2012; *42a (1 j) 30.VI.1982; *47 (1 ♀) 7.VIII.1992; 49a (3 ♀) 4.IV.2013, (4 ♀) 15.II.2014, (5 j) 10.IX.2016; 50b (1 ♂) 1.XI.1992; 55 (1 ♀) 18.II.2006; 59 (1 ♀) 22.V.1984; 91b (2 j) 14.VII.2003; 114a (1 ♂, 2 ♀, 4 j) 4.IX.2016; 116d (1 ♂); 117 (1 ♂, 3 ♀) 31.VIII.1998; 120 (1 j) 15.IV.2007 3a (2 ♀, 2 j) 19.I.2014; 4a (1 ♀) 28.VI.2014, (1 j) 17.VIII.2014; 10a (1 ♂, 1 ♀) 23.XI.2013; 11a (2 j) 22.II.2014; 11c (2 ♀) 22.II.2014; 11d (3 ♀) 22.II.2014; 19b (1 j) 12.III.2011; 24b (1 ♂, 2 ♀) 21.I.1995; *26a (1 ♂, 1 ♀) 7.VII.2011; *26b (1 ♀) 7.VII.2011; 35 (1 j) 28.VIII.2013; 45a (1 ♂, 1 ♀) 18.I.2009; 46 (3 ♀, 2 j) 12.X.2001; 53a (2 ♀) 13.III.2011; 53b (2 ♀) 4.V.2005; 65 (2 ♀) 15.VIII.2006; 66b (1 ♀) 13.VIII.2006; *73 (1 ♀, 3 j) 20.IX.2006; *74 (1 ♀, 2 j) 19.IX.2006; *75 (2 ♀, 3 j) 19.IX.2006; 77 (1 ♀)
86.	<i>Meta menardi</i> (Latreille, 1804)	
87.	<i>Metellina merianae</i> (Scopoli, 1763)	

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		29.V.1984; *84a (1 ♀) 22.IX.2000; *85 (2 ♀) 4.XI.2007; *90 (1 ♀, 2 j) 12.VII.2003; *91a (1 ♀, 2 j) 19.VII.2003; *91b (1 ♀, 2 j) 14.VII.2003; 98 (1 ♂, 1 ♀) 13.II.2008; 103 (1 ♂, j) 28.III.2006; *104 (1 ♂, 1 ♀, j) 28.III.2006; 105a (1 ♀) 17.VIII.2006; 105b (1 ♀) 17.VIII.2006; 106a (1 ♂, 3 ♀, j) 26.III.2006; 106b (8 ♀) 26.III.2006; 107 (j) 27.III.2006; *108 (1 ♀) 12.VIII.2006; *109b (5 ♀, j) 24.III.2006; 117 (1 ♂, 3 ♀) 31.VIII.1998; 119 (1 ♀) 10.IV.2007; 120 (1 ♀, 1j) 29.VI.2005, (1 ♀, 3 j) 25.VII.2006
THERIDIIDAE		
88.	** <i>Argyrodes argyroides</i> (Walckenaer, 1841)	63 (1 ♀) 15.VIII.2006
89.	** <i>Enoplognatha quadripunctata</i> Simon, 1884	*39 (1 ♀) 18.V.2004
90.	<i>Steatoda grossa</i> (C. L. Koch, 1838)	70 (1 ♀) 12.V.1987
91.	<i>Steatoda triangulosa</i> (Walckenaer, 1802)	*27b (1 ♂) 3.IX.1965; 58 (1 ♂, 1 j) 13.VIII.2005; 66b (1 ♀) 13.VIII.2006; *89 (1 ♀) 22.IX.2006

Table 3. Distribution of the number of established spider species per families.

Family	species
Agelenidae	14
Amaurobiidae	3
Dictynidae	1
Dysderidae	3
Eutichuridae	1
Leptonetidae	11
Linyphiidae	33
Liocranidae	1
Mimetidae	1
Nesticidae	4
Pholcidae	9
Phyxelididae	1
Salticidae	1
Sicaridae	1
Tetragnathidae	3
Theridiidae	4
Total	91

Table 4. Distribution of the localities (LN) and species (spN) per country, and the total number (TotN) of known cave-dwelling spider species per country (including this study).

Country	LN	spN	TotN
Albania	1	3	15
Bosnia & Herzegovina	16	10	59
Bulgaria	66	35	104
Croatia	7	15	71
Greece	39	36	160
Macedonia	1	2	49
Montenegro	11	12	47
Serbia	14	13	66
Turkey	2	10	15

Faunistic notes

Interesting faunistic records are the species:

Hoplopholcus longipes – known from the caves of Georgia (West Caucasus) and Turkey (East Pontic) (Brignoli 1978, Kovblyuk *et al.* 2011). The new record from European Turkey shows that the species has a wider distribution, new established also for the caves of the Balkan Peninsula. The species can be considered as eutroglophile.

Histopona palaeolithica – described by a female and known only from the type locality, a cave in Italy, Liguria. The new record in a cave of Montenegro, also a female, shows that the species is very rare and difficult for finding. The species can be considered as eutroglophile.

Cataleptoneta detriticola – described and known only from the detritus of the Belasitsa Mts., Bulgaria. The finding in a cave in Greece shows that the species has a wider distribution in the Balkan Peninsula and can be considered as eutroglophile.

Megalephyphantes lydiae – described from Naxos Island and Epidaurus, both records without localities (Wunderlich 1994). The new record of the species is from the cave Agios Joannis in the Iraklia Island from where, Beron (2016) announced *Megalephyphantes prope collinus* (L. Koch, 1872), but the revision of the material shows, that it concerns *M. lydiae*. The species can be considered as eutroglophile.

Syedra gracilis – widespread species in Europe (WCS, 2016). The new locality in a cave in European Turkey shows, that the species can be considered as troglaxene.

Pyxelida anatolica – known from a cave near Samendagh, Antakya, Turkey and Troods and Olympus Mts., Cyprus (Thaler & Knoflach 1998). The species is also mentioned from Kassos Island, Greece by Bosmans *et al.* (2013) due to material collected in Stylokamara cave (F. Gasparo in lit.). The species can be considered as subtroglophile.

The new established species: *Amaurobius candia*, *Amaurobius erberi*, *Argyrodes argyrodes*, *Cheiracanthium erraticum*, *Enoplognatha quadripunctata*, *Evarcha jucunda* and *Lepthyphantes notabilis* are also troglaxenes and could be found only in the twilight zone close to the cave entrances.

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