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Spiders of Albania – Faunistic and Zoogeographical Review (Arachnida: Araneae)

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Abstract: The spider fauna of Albania is still insufficiently studied. The present list was compiled after a critical review of the existing literature data and taxonomic review of some available collections. The study comprises 335 species from 36 families. In this number, 197 species are new to the spider fauna of the country. According to their current distribution the species can be assigned to 18 zoogeographical categories, grouped into 5 complexes (Cosmopolitic, Holarctic, European, Mediterranean, Endemics). Dominant are Holarctic species (56.4%) followed by European (16.4%) and Mediterranean (16.2%). The endemics (8%) are also well presented and reflect the local character of the fauna and the main role of the Balkan Peninsula in its origin and formation.

Key words: Spiders, Araneae, fauna, Albania

Introduction

Spider fauna of Albania is still poorly investigated. The first reports for Albanian spiders came from Simon (1884) (3 species announced) and Strand (1919) (9 species). Later Caporiacco (1932, 1949) reported 66 species found in the region. At the same time Giltay (1932) also added 3 species. The information for Albanian spiders (7 species) presented in the 'Katalog der echten Spinnen (Araneae) der Balkanhalbinseln' (Drensky 1936) is based on the records of Simon (1884) and Giltay (1932). Schenkel (1947) enlarged the list with another 3 species. Scarce data about dysderid and lycosid spiders from the region can be found in the papers of Deeleman-Reinhold & Deeleman (1988) and Tongiorgi (1966). Deltshev (1999) compiled all faunistic data about Albanian spiders and lists 73 species. Significant contributions during the last decade are presented by Blagoev (2005), Vrenozi & Haxhiu (2008) and Muster (2009). With these papers the number of Albanian spider species increased to 125, which shows that the spider fauna of Albania is still insufficiently studied. The species diversity depends not only on the size of the region, but also on the degree of exploration by researchers. A critical review of the existing literature data, a taxonomic review of some available collections from Albania as well as new faunistic studies by Bulgarian and Albanian zoologists in the last years are opportunities to contribute largely to Albanian spider fauna.

Material and Methods

The material treated herein comes from three major sources. The first part comprises critical incorporation of all available literature records concerning the distribution of spiders in Albania. A second

part results from a review of Albanian spiders kept in the collections of the Natural History Museums in Berlin, Frankfurt and Vienna. The third part comprises original collections made in the period 1993 – 2009 during field surveys covering most of the districts of Albania (Fig. 1, Table 1). These surveys were conducted by Bulgarian and Albanian zoologists and concern 74 collecting sites (0-2550 m a.s.l.) (Table 1). The spiders have been collected mainly by hand, under stones, by sweeping and sewing and less by pitfall traps. The names of collectors: S. Abadzhiev, P. Beron, S. Beshkov, G. Blagoev, S. Golovatch, T. Ivanova, I. Pandoursky, B. Petrov, P. Stoev, T. Troansky, B. Vrenozi, D. Zapryanova and A. Zhalov are mentioned by their abbreviations in Table 1. The taxonomic arrangements of the presented list follow the nomenclature given in Platnick (2011). The material is kept in the following repositories: Institute of Biodiversity and Ecosystem Research, Sofia (IBER), National Museum of Natural History, Sofia (NMNHS), Museum of Natural Sciences, Tirana University (MNSA), Natural History Museum, Berlin (ZMB), Senckenberg Museum, Frankfurt (SMF) and Natural History Museum, Vienna (NHMW).

Results and Discussion

Species composition. The study comprises 335 species belonging to 36 families. Of them, 197 species are new for Albanian spider fauna (marked in the list with *) (Table 2, 3, 4). The number of the established species is not high and does not represent a real picture of the faunistic diversity of the spider species occurring in the region. This is also evident from a comparison with the number of spiders recorded from other countries in Balkan peninsula: Bulgaria – 1012 species (Blagoev *et al*. 2002); Greece – 856 (Bosmans & Chatzaki 2005); Serbia – 618 (Deltshev *et al*. 2003); Croatia – 610 (Deltshev 1999); FYRMacedonia – 558 (Blagoev 2002). This species richness, however, cannot be explained by only the size of the region, but mainly by the degree of exploration by araneologists. The distribution of Albanian species into different districts is presented in Table 4. The highest number of spiders is established into the regions of Tiranë (89 species), Vlorë (81), Sarandë (68) and Shkodër (57). This information is insufficient to reflect the true picture of the real distribution of Albanian spiders, but this first attempt can be regarded as a base for further accumulation of data in the future.

In taxonomical and faunistic aspect the following species need attention.

Sulcia cretica lindbergi Dresco, 1962 was described from a cave in Epirus (Greece). Morphologically, our material corresponds well to the description of this subspecies, except for having thicker spines on the tibia of male palp. The presented drawings contribute to the taxonomic characteristics of the species (Fig. 2, 3).

Dysdera corfuensis Deeleman-Reinhold, 1988 was described and known only from the territory of Ionian Islands Corfu and Levkas. The new record from Albania shows that the species has a wider distribution in Balkan Peninsula. The new drawings based on this material correspond well with the pictures presented by Deeleman-Reinhold & Deeleman (1988). Looking on the problem of geographic variability of populations, the new figures of Albanian material will contribute to better taxonomic knowledge of the species (Fig. 4, 5).

Troglohyphantes pretneri Deeleman-Reinhold, 1978 was described from a cave in Prokletije Mountain (Montenegro). The newly found Albanian material is a male specimen whose morphology corresponds well with the original description Deeleman-Reinhold (1978). However, our material shows differences in the shape of embolus, which is thicker and plumper (Fig. 6-8).

There are several old records by Caporiacco (1932) of species recorded from single localities in Albania. None of those species were found subsequently. We tend to believe that the records of *Dysdera scabricula* Simon, 1882 (currently known only from France and Spain) and *Pardosa proxima poetica* Simon, 1876 (a subspecies known from Portugal, Spain and France), are based on misidentification and thus should be deleted from the Albanian list.

Zoogeographical analysis. According to their current distribution the established 335 species can be classified into 18 zoogeographic categories, grouped into 5 chorological complexes (Cosmopolitan; Holarctic; European; Mediterranean; Endemic) (Table 2, Fig. 14). The data concerning the general

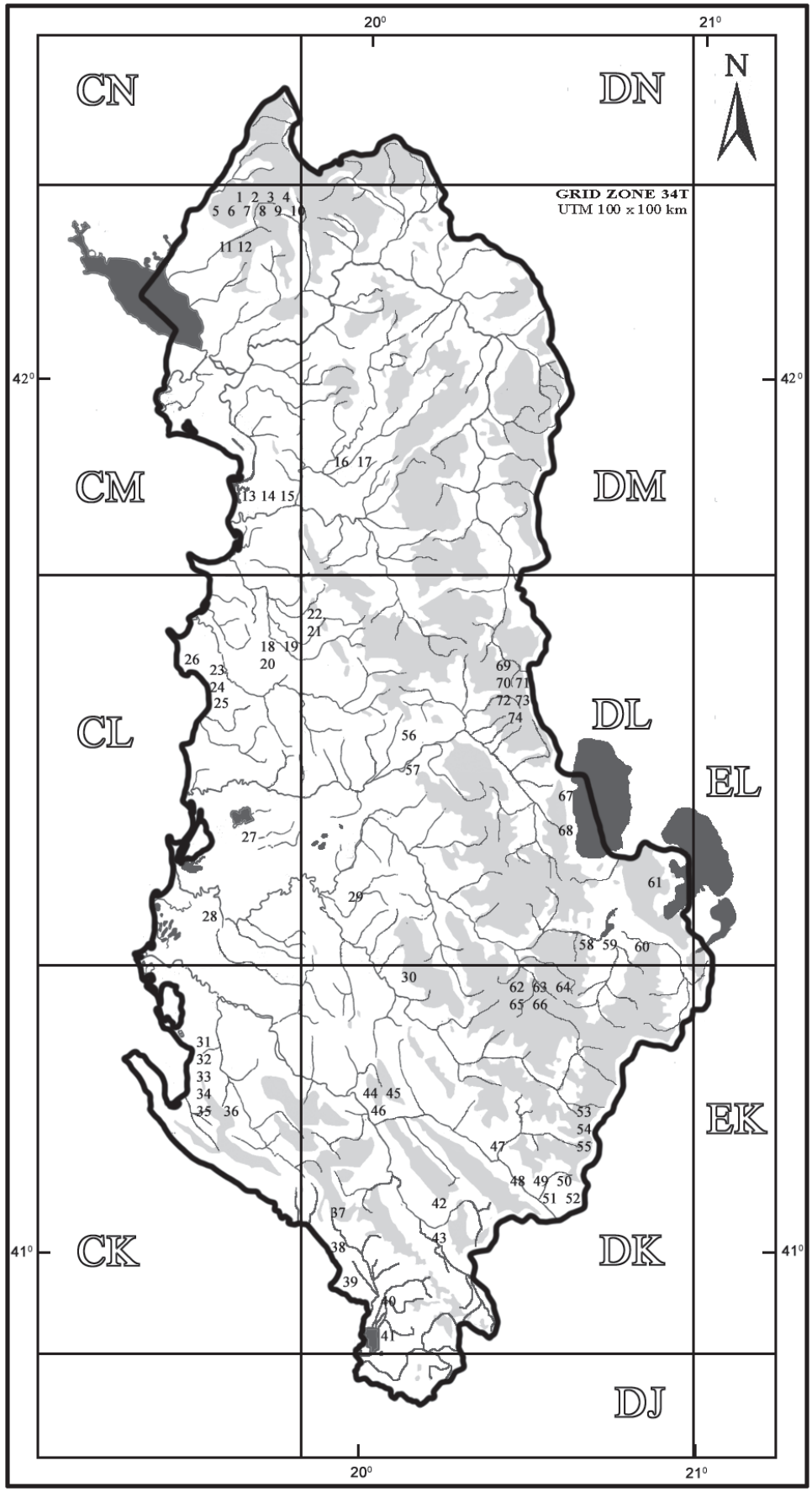


Fig. 1. Map with localities the spiders were collected in Albania.

Table 1. Localities in Albania where spiders have been collected.

No	Locality	Altitude	Date	Publication or Legator
	District of Shkodër			
01.	Alpet Mt. Radohimës	2200-2550 m	29.05.1993	P. B.
02.	Bogë	1000-1100 m	05.06.1993	P. B., B. P.
03.	Prokletie Mt	2000 m	20.07.2000	P. B.
04.	Drugomiri	1400-1500 m	18.06.1994	T. T.
05.	B52 Cave nr. Drugomiri	1500 m	18.06.1994	T. T.
06.	Cave nr. Bochja	1900 m	22.05.1993	P. B.
07.	Cave nr. Maya Harapit	1000 m	27.05.1993	P. B.
08.	K2 Cave nr. Kozhnjë	1800 m	30.08.1996	T. I.
09.	25 Cave nr. Kozhnjë	1800 m	31.08.1996	T. I.
10.	Kozhnjë	1600 m	05.1995	D. K.
11.	Maya Chardakut, nr. Bogë	1400-1800 m	01.06.1993	P. B.
12.	Mal Tarabosh Mt.	100 m	24.11.2002	A. Z.
	District of Lezhë			
13.	Shëngjin			Vrenozi & Haxhiu 2008
14.	Lezhë	200-300 m	10.06.1993	P. B.
15.	Mat River, nr. Milot	220 m	17.05.1994	I. P.
	District of Merditë			
16.	Cave Mercurth nr. Rrëshen	1143 m	11.06.1993	P. B.
17.	Cave nr. Kurbnesh	832 m	11.06.1993	P. B., B.P.
	District of Tiranë			
18.	Tiranë			Schenkel 1947: 5.6., P. S., B. P.
19.	Vorrë, nr. Tiranë	70-90 m	27.06.1995	S. A. Vrenozi & Haxhiu 2008
20.	Botanical Garden, Tiranë	120 m	08.05.1995	S. G., P. S., B. P.
21.	Artifitial gallery nr. Petrela,		09.05.1995	P. S.
22.	Dajti Mt	600-1000 m	09.05.1995 05.06.2007	S. G., P. S., B. P.; B. V.
	District of Durrës			
23.	Kavaja			Caporiacco 1932,
24.	Shkumbin			Vrenozi & Haxhiu 2008
25.	Patok			Vrenozi & Haxhiu 2008
26.	Durrës	0 m	26.05.1993	Giltay 1932 P. S., D. Z.
	District of Lushnjë			
27.	Divjaka National Park,	30 m	10.05.1995	S. G., P. S., B. P.
	District of Fier			
28.	Apoloni	54 m	28.08.2007	Vrenozi & Haxhiu 2008 B. V.
	District of Berat			
29.	Berat	304 m		Caporiacco 1949
	District of Skrapar			
30.	Prërrenjas	740-750 m		Blagoev 2005
	District of Vlorë			
31.	Vlorë	0-5 m	07.06.1995	Strand 1919 G. B.
32.	Tartar Mt			Caporiacco 1949
33.	Dhërmi	25 m	02.05.1994	P. S.
34.	Dukati	450 m	10.05.1995	S. G., P. S., B. P.
35.	Llogora Pass	1025 m	06.06.1995	G. B.
36.	Cave nr. Dhërmi	0-5 m	06.06.1995	G. B.

Table 1. Continued.

No	Locality	Altitude	Date	Publication or Legator
	District of Sarandë			
37.	Himarë	40	04.05.1994	P. S.
38.	Cave nr. Himarë	40	04.05.1994	P. S.
39.	Lukovë	0-110 m	05.06.1995	G. B.
40.	Sarandë	150-157 m	03.06.1995	G. B.
41.	Butrinti	0 m	05.06.1995	G. B.
	District of Gjirokastër			
42.	Gjirokastër, the castle	320 m	06.05.1994	P. S.
43.	Jorgucati	430-450 m	23.06.1995	S. A.
	District of Tepelenë			
44.	Tepelenë	100-200 m	02.06.1994	Blagoev 2005; G. B.
45.	Drin River	100 m	03.06.1995	G. B.
46.	Dragot, Vijoshe River	600-700 m	01.06.1994	G. B.
	District of Përmet			
47.	Artificial gallery nr. Petran	300 m	07.05.2995	S. G., P. S., B. P.
48.	Cave 1 nr. Leskovik	800 m	01.06.1994	T. Ivanova
49.	Cave 2 nr. Leskovik	800 m	01.06.1994	T. Ivanova
50.	Përmet	220-250 m	02.06.1994	G. B.
51.	Pellumbat	395-400 m	02.06.1994	G. B.
52.	Leskovik	780-790 m	01.06.1994	G. B.
	District of Ersekë			
53.	Langatitsa River	1100-1200 m	02.06.1995	G. B.
54.	Këri Defile	1360-1360 m	01.06.1995	G. B.
55.	Ersekë	1050-1100 m	07.05.1995	S. G., P. S., B. P.
	District of Elbasan			
56.	Elbasan			Caporiacco 1932 Giltay 1932
57.	Prrenjas, Çorovodë	740-750 m	07.05.1995	S. G., P. S., B. P.
	District of Korcë			
58.	Maliqit lake			Caporiacco 1932
59.	Zvezda			Caporiacco 1932
60.	Kula Lums	250 m	06.1918	A. P.
61.	Prespa lake	840 m	07.10.1993	P. B.
62.	Maligradska Cave nr. Mali Grad	830 m	05.10.1994	P. B.
63.	Shpela Uikut Cave nr. Tren	1167 m	03.10.1994	P. Beron, T. Ivanova
64.	Shpela Zebjes Cave nr. Tren	1167 m	03.10.1994	P. Beron, T. Ivanova
65.	Artificial gallery nr. Pustes	850 m	05.10.1994	P. Beron, T. Ivanova
66.	Gubilisteto Cave nr. Pustes	850 m	06.10.1994	P. Beron, T. Ivanova
	District of Pogradec			
67.	Ochrid Lake			Caporiacco 1932
68.	Grabovicë			Caporiacco 1932
	District of Librazhd			
69.	Librazd	450 m		Caporiacco 1932; B. P.
70.	Hadzhii Massif	1200-1343 m	13.08.2002	A. Z.
71.	Hadzhii Malit Cave nr. Steblevë,	1200 m	05.08.2006	A. Z.
72.	Borova, Lumi, Steblevë	870-880 m	12.08.2002	A. Z.
73.	Spela Alles Cave nr. Borova	940 m	12.08.2002	A. Z.
74.	Golobordë, Steblevë	1100-1200 m	22.06.2007	P. B.

Table 2. Species composition and distribution of spiders established on the territory of Albania.

	Taxa	Locality (sex)	Chorotype
	SCYTODIDAE		
*	*Scytodes thoracica* (Latreille, 1802)	14, 20, 26, 27, 34, 39, 40, 52, 55	H
	LEPTONETIDAE		
*	*Sulcia* pr. *cretica lindbergi* Dresco, 1962	63	BP
	PHOLCIDAE		
	Holocnemus pluchei (Scopoli, 1763)	26, 33,48, 50, 66 (Caporiacco 1932)	M
	Hoplopholcus forskali (Thorell, 1871)	34 (Caporiacco 1949)	SEE
*	*Pholcus opilionoides* (Schrank, 1781)	11, 22	H
	Pholcus phalangioides (Fuesslin, 1775)	18, 25, 28 (Vrenozi & Haxhiu 2008), 31, 38,	COS
*	*Stygopholcus photophilus* Senglet, 1971	8, 26, 46, 47, 49	BP
	SEGESTRIIDAE		
	Segestria senoculata (Linnaeus, 1758)	28 (Vrenozi & Haxhiu 2008), 40	P
	Segestria bavarica C.L. Koch, 1843	26 (Caporiacco 1932)	E
	DYSDERIDAE		
	Dysdera bellimundi Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988), 2, 12	BP
*	*Dysdera cephalonica* Deeleman-Reinhold, 1988	34	BP
*	*Dysdera corfuensis* Deeleman-Reinhold, 1988	31	BP
	Dysdera crocata C. L. Koch, 1838	18 9 (Vrenozi & Haxhiu 2000), 32 (Caporiacco 1932)	COS
	Dysdera dubrovninnii Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988)	BP
	Dysdera erythrina (Walckenaer, 1802)	18 (Vrenozi & Haxhiu 2008)	E
	Dysdera granulata Kulczynski, 1897	NA (Deeleman-Reinhold 1988)	BP
	Dysdera murphiorum Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988)	BP
	Dysdera ninnii Canestrini, 1868	34 (Caporiacco 1949)	MSE
*	*Dysdera pectinata* Deeleman-Reinhold, 1988	20	BP
	Dysdera punctata C. L. Koch, 1838	30 (Strand 1919)	BP
	Dysderocrates storkani (Kratochvíl, 1935)	NA (Deeleman-Reinhold 1988), 22	BP
	Harpactea albanica (Caporiacco, 1949)	26, 34 (Caporiacco 1949)	AL
*	*Harpactea kulczynskii Brignoli, 1976*	52	BP
*	*Harpactea lepida* (C. L. Koch, 1838)	55	E
*	*Harpactea nausicaae* Brignoli, 1976	22, 33, 34, 55, 61	BP
*	*Harpactea saeva* (Herman, 1879)	20, 31, 61	EE
	OONOPIDAE		
	Oonops domesticus Dalmas, 1916	18 (Vrenozi & Haxhiu 2008)	E
	PALPIMANIDAE		
	Palpimanus gibbulus Dufour, 1820	31 (Strand 1919)	M
*	*Palpimanus orientalis* Kulczynski, 1909	12, 26, 52	BP
	ERESIDAE		
	Eresus kollari Rossi, 1846	26 (Giltay 1932), 46	ECA
	OECOBIIDAE		
	Uroctea durandi (Latreille, 1809)	26 (Caporiacco 1932), 34, 40, 41	M
	ULOBORIDAE		
	Uloborus walckenaerius Latreille, 1806	2, 26 (Caporiacco 1932)	P

Table 2. Continued.

	Taxa	Locality (sex)	Chorotype
	NESTICIDAE		
*	*Nesticus cellulanus* (Clerck, 1757)	21, 71	H
*	*Nesticus eremita* Simon, 1879	52, 63, 64, 65	NM
	THERIDIIDAE		
	Argyrodes argyrodes (Walckenaer, 1841)	26 (Caporiacco 1932)	M
	Asagena phalerata (Panzer, 1801)	NA (Knoflach 1996), 18 (Vrenozi & Haxhiu 2008), 22, 26, 30, 31, 69, 71	P
*	*Crustulina guttata* (Wider, 1834)	74	P
*	*Crustulina scabripes* Simon, 1881	39	M
*	*Crustulina sticta* (O.P.-Cambridge, 1861)	41	H
*	*Cryptachea blattea* (Urquhart, 1886)	44	COS
*	*Dipoena braccata* (C. L. Koch, 1841)	60	M
*	*Dipoena melanogaster* (C.L. Koch, 1837)	52	WP
*	*Enoplognatha latimana* Hippa & Oksala, 1982	22	H
*	*Enoplognatha ovata* (Clerck, 1757)	39	H
*	*Enoplognatha quadripunctata* Simon, 1884	14	M
*	*Enoplognatha thoracica* (Hahn, 1833)	26	H
*	*Euryopis episinoides* (Walckenaer, 1847)	26, 40	MCA
*	*Kochiura aulica (C. L. Koch, 1838)*	26, 28	E
	Lasaeola prona (Menge, 1868)	26 (Caporiacco 1932)	H
*	*Pholcomma gibbum* (Westring, 1851)	20, 31	WP
*	*Platnickina tincta* (Walckenaer, 1802)	41, 52	H
	Robertus frivaldszkyi (Chyzer, 1894)	18 (Schenkel 1947)	SEE
	Anelosimus vittatus (C.L. Koch, 1836)	23 (Caporiacco 1932)	P
*	*Simitidion simile* (C. L. Koch, 1836)	22, 33, 39, 45, 51	H
	Steatoda albomaculata (De Geer, 1778)	31, 56 Caporiacco 1932	COS
*	*Steatoda bipunctata* (Linnaeus, 1758)	39	H
	Steatoda paykulliana (Walckenaer, 1805)	26 (Caporiacco 1932), 31 (Strand 1919), 33, 39, 40	EMC
	Steatoda triangulosa (Walckenaer, 1802)	26, 28 (Vrenozi & Haxhiu 2008), 47	COS
*	*Theridion cinereum* Thorell, 1875	39	MSE
	Theridion impressum L. Koch, 1881	58 (Caporiacco 1932)	H
*	*Theridion melanurum* Hahn, 1831	22, 39	H
*	*Theridion mystaceum* L. Koch, 1870	32	P
*	*Theridion nigrovariegatum* Simon, 1873	22, 44	P
*	*Theridion varians* Hahn, 1833	23	H
	LINYPHIIDAE		
	Agnyphantes expunctus (O. P.-Cambridge, 1875)	28 (Vrenozi & Haxhiu 2008)	P
	Bolyphantes luteolus (Blackwall, 1833)	18 (Vrenozi & Haxhiu 2008)	P
*	*Centromerus acutidentatus* (Deltshev, 2002)	27	BP
*	*Centromerus cavernarum* (L. Koch, 1872)	16	E
*	*Ceratinella brevis* (Wider, 1834)	2	P
*	*Dyplostyla concolor* (Wider, 1834)	69	H
*	*Erigone dentipalpis* (Wider, 1834)	33	H

Table 2. Continued.

	Taxa	Locality (sex)	Choro-type
*	*Erigonoplus jarmilae* (Miller, 1943)	74	MSEE
	Floronia bucculenta (Clerck, 1757)	18 (Vrenozi & Haxhiu 2008)	E
*	*Frontinellina frutetorum* (C. L. Koch, 1834)	2, 20, 22, 26, 33, 35, 45, 52, 54, 60	P
*	*Improphantes pr. improbulus* (Simon, 1929)	9	P
*	*Lepthyphantes leprosus* (Ohlert, 1865)	62	H
	Lepthyphantes minutus (Blackwall, 1833)	18 (Vrenozi & Haxhiu 2008)	H
	Linyphia triangularis (Clerck, 1757)	24 (Vrenozi & Haxhiu 2008)	P
*	*Mansuphantes mansuetus* (Thorell, 1875)	11	P
*	*Mecopisthes silus* (O. P.-Cambridge, 1872)	44	E
*	*Meioneta rurestris* (C. L. Koch, 1836)	26, 39, 44, 4	P
*	*Meioneta saxatilis* (Blackwall, 1844)	39	E
*	*Micrargus herbigradus* (Blackwall, 1854)	10	P
	Microlinyphia pusilla (Sundevall, 1830)	26 (Caporiacco 1932)	H
*	*Microneta viaria* (Blackwall, 1841)	11, 22	H
	Nematogmus sanguinolentus (Walckenaer, 1841)	26 (Caporiacco 1932)	P
*	*Neriene clathrata* (Sundevall, 1830)	60	H
*	*Oedothorax apicatus* (Blackwall, 1850)	26, 60	P
*	*Palliduphantes pillichi* (Kulczyński, 1915)	42, 31	MSEE
*	*Piniphantes pinicola* (Simon, 1884)	2	P
	Pityohyphantes phrygianus (C. L. Koch, 1836)	28, 24 (Vrenozi & Haxhiu 2008)	P
*	*Prinerigone vagans* (Audouin, 1826)	22, 26, 39, 44	OW
*	*Silometopus ambiguus* (O. P.-Cambridge, 1905)	31	E
	Stemonyphantes lineatus (Linnaeus, 1758)	26 (Caporiacco 1932)	P
*	*Tapinocyba pallens* (O.P.-Cambridge, 1872)	2	E
*	*Tenuiphantes tenuis* (Blackwall, 1852)	4, 20, 22	WP
*	*Trichoncus affinis* Kulczynski, 1894	2, 22, 41	P
*	*Troglohyphantes draconis* Deeleman-Reinhold, 1978	5, 6, 7	BP
*	*Troglohyphantes pretneri* Deeleman-Reinhold, 1978	9	BP
	TETRAGNATHIDAE		
*	*Meta menardi* (Latreille, 1804)	19, 66	E
*	*Metellina mengei* (Blackwall, 1870)	2	E
*	*Metellina merianae* (Scopoli, 1763)	19, 21, 36, 40, 65, 73	E
*	*Metellina segmentata* (Clerck, 1757)	35	P
*	*Tetragnatha extensa* (Linnaeus, 1758)	23, 28, 44	H
	Tetragnatha flava (Audouin, 1826)	67 (Caporiacco 1932)	M?
*	*Tetragnatha montana* Simon, 1874	40	P
*	*Tetragnatha nigrita* Lendl, 1886	28	P
*	*Tetragnatha nitens* (Audouin, 1826)	45	COS
	ARANEIDAE		
	Aculepeira ceropegia (Walckenaer, 1802)	28, 31 (Vrenozi & Haxhiu 2008)	P
	Agalenatea redii (Scopoli, 1763)	31 (Vrenozi & Haxhiu 2008), 26, 52, 54	P
*	*Araneus alsine* (Walckenaer, 1802)	19	P
	Araneus angulatus Clerck, 1757	28 (Vrenozi & Haxhiu 2008), 31, 35, 40	P
	Araneus circe (Audouin, 1826)	26 (Caporiacco 1932)	P

Table 2. Continued.

	Taxa	Locality (sex)	Chorotype
	Araneus diadematus Clerck, 1757	18, 28, 31 (Vrenozi & Haxhiu 2008)	H
	Araneus grossus (C. L. Koch, 1844)	56 (Caporiacco 1932)	ECA
	Araneus quadratus Clerck, 1757	28 (Vrenozi & Haxhiu 2008)	P
*	*Araneus sturmi* (Hahn, 1831)	54	P
	Araneus triguttatus (Fabricius, 1793)	26 (Caporiacco 1932), 28 (Vrenozi & Haxhiu 2008)	P
	Araniella alpica (L. Koch, 1869)	26 (Caporiacco 1932), 11	ECA
	Araniella cucurbitina (Clerck, 1757)	31 (Vrenozi & Haxhiu 2008)	P
*	*Araniella opisthographa* (Kulczynski, 1905)	2, 22	ECA
	Argiope bruennichi (Scopoli, 1772)	26 (Caporiacco 1932), 28, 31 (Vrenozi & Haxhiu 2008)	P
	Argiope lobata (Pallas, 1772)	26 (Caporiacco 1932)	OW
	Cyclosa conica (Pallas, 1772)	28 (Vrenozi & Haxhiu 2008), 22	H
	Cyclosa insulana (Costa, 1834)	24 (Vrenozi & Haxhiu 2008)	SCO
	Cyclosa oculata (Walckenaer, 1802)	24 (Vrenozi & Haxhiu 2008)	P
*	*Cyclosa sierrae* Simon, 1870	54	E
*	*Cyrtophora citricola* (Forsskål, 1775)	26	SCO
	Hypsosinga heri (Hahn, 1831)	28 (Vrenozi & Haxhiu 2008)	P
	Larinioides cornutus (Clerck, 1757)	28, 31 (Vrenozi & Haxhiu 2008), 50	H
	Larinioides ixobolus (Thorell, 1873)	28 (Vrenozi & Haxhiu 2008)	P
*	*Larinioides suspicax* (O. P.-Cambridge, 1876)	2, 28, 40, 45	ECA
	Mangora acalypha (Walckenaer, 1802)	28 (Vrenozi & Haxhiu 2008), 2, 50	P
	Neoscona adianta (Walckenaer, 1802)	26 (Caporiacco 1932), 19, 31, 39, 40, 44	P
*	*Neoscona subfusca* (C.L. Koch, 1837)	39, 40, 50	OW
*	*Nuctenea umbratica* (Clerck, 1757)	40	ECA
	Singa lucina (Audouin, 1826)	26 (Caporiacco 1932)	MCA
*	*Zilla diodia* (Walckenaer, 1802)	52	WP
	LYCOSIDAE		
	Alopecosa accentuata (Latreille, 1817)	26 (Caporiacco 1932), 1, 12 (Blagoev 2005), 22	P
*	*Alopecosa aculeata* (Clerck, 1757)	10	H
	Alopecosa albofasciata (Brulle, 1832)	31 (Caporiacco 1932), 26, 40, 42	MCA
	Alopecosa pulverulenta (Clerck, 1757)	28 (Vrenozi & Haxhiu 2008), 22	P
	Alopecosa solitaria (Herman, 1879)	32 (Caporiacco 1949)	E
	Alopecosa trabalis (Clerck, 1757)	1, 4 (Blagoev 2005)	ECA
	Arctosa cinerea (Fabricius, 1777)	26, 57, 67 (Caporiacco 1932), 44, 55 (Blagoev 2005)	P
	Arctosa leopardus (Sundevall, 1833)	58, 67, 68 (Caporiacco 1932), 40, 55 (Blagoev 2005)	P
	Arctosa variana C.L. Koch, 1847	56 (Giltay 1932)	MCA
	Hogna radiata (Latreille, 1817)	26 (Caporiacco 1932), 19, 39, 41, 43, 50, 52, 70 (Blagoev 2005), 22	ECA
	Lycosa praegrandis C.L. Koch, 1836	46 (Blagoev 2005)	NM
	Lycosa praegrandis discoloriventer Caporiacco, 1949	32 (Caporiacco 1949)	AL

Table 2. Continued.

	Taxa	Locality (sex)	Chorotype
	Pardosa agricola (Thorell, 1856)	14 (Blagoev 2005), 18 (Vrenozi & Haxhiu 2008)	ECA
	Pardosa alacris (C. L. Koch, 1833)	1, 2, 11 (Blagoev 2005)	E
	Pardosa albatula (Roewer, 1951)	18 (Schenkel 1947), 4, 11 (Blagoev 2005)	MSEE
	Pardosa atomaria (C. L. Koch, 1847)	10, 39, 45, 52 (Blagoev 2005)	NEM
	Pardosa cribrata Simon, 1876	26 (Caporiacco 1932), 39, 50 (Blagoev 2005), 28	M
	Pardosa hortensis (Thorell, 1872)	30, 35, 44, 52, 54 (Blagoev 2005), 22, 74	P
	Pardosa lugubris (Walckenaer, 1802)	52 (Blagoev 2005), 74	P
	Pardosa mixta (Kulczyński, 1887)	1(Blagoev 2005)	E
	Pardosa monticola (Clerck, 1757)	2 (Blagoev 2005)	P
	Pardosa prativaga (L. Koch, 1870)	31 (Blagoev 2005)	
	Pardosa proxima (C. L. Koch, 1847)	32 (Caporiacco 1932), 40 (Blagoev 2005), 22	P
	Pardosa pullata (Clerck, 1757)	26, 56, 69 (Caporiacco 1932), 28 (Vrenozi & Haxhiu 2008)	ECA
	Pardosa tatarica (Thorell, 1875)	67 (Caporiacco 1932)	P
	Pirata knorri (Scopoli, 1763)	72 (Blagoev 2005)	P
	Pirata latitans (Blackwall, 1841)	44, 45 (Blagoev 2005)	E
	Pirata piraticus (Clerck, 1757)	26 (Caporiacco 1932)	H
	Trabea paradoxa Simon, 1876	50 (Blagoev 2005)	NM
	Trochosa hispanica Simon, 1870	69	MCA
	Trochosa robusta (Simon, 1876)	18 (Vrenozi & Haxhiu 2008)	P
	Trochosa ruricola (De Geer, 1778)	32, 58 (Caporiacco 1932)	P
	Trochosa terricola Thorell, 1853	18, 24 (Vrenozi & Haxhiu 2008)	H
*	*Xerolycosa miniata* (C. L. Koch, 1834)	22, 67	P
	PISAURIDAE		
	Pisaura mirabilis (Clerck, 1757)	31 (Vrenozi & Haxhiu 2008), 22, 33, 39, 41, 52, 74	P
	OXYOPIDAE		
	Oxyopes heterophthalmus (Latreille, 1804)	18 (Vrenozi & Haxhiu 2008), 39, 50, 51	P
	Oxyopes lineatus Latreille, 1806	18 (Vrenozi & Haxhiu 2008), 26, 33, 39	P
	ZOROPSIDAE		
	Zoropsis oertzeni Dahl, 1901	31 (Strand 1919), 31, 37, 45	NEM
	Zoropsis spinimana (Dufour, 1820)	29 (Caporiacco 1949)	M
	ZORIDAE		
*	*Zora manicata* Simon, 1878	22	E
*	*Zora nemoralis* (Blackwall, 1861)	22, 55	P
*	Zora *spinimana* (Sundevall, 1833)	22	P
	AGELENIDAE		
	Agelena labyrinthica (Clerck, 1757)	26 (Caporiacco 1932), 40	P
	Agelescape livida Simon 1875	32 (Caporiacco 1949)	M
*	*Allagelena gracilens* (C. L. Koch, 1841)	33	MCA
*	*Histopona laeta* (Kulczyński, 1897)	1	MEE
*	*Histopona luxurians* (Kulczyński, 1897)	9, 10	SEE

Table 2. Continued.

	Taxa	Locality (sex)	Chorotype
*	*Histopona myops* (Simon, 1885)	38	SEE
*	*Inermocoelotes karlinskii* (Kulczynski, 1906)	2	BK
*	*Inermocoelotes microlepidus* de Blauwe, 1973	35	NEM
*	*Inermocoelotes xinpingwangi* Deltshev, 2009	1, 2, 4	BK
	Maimuna vestita (C.L. Koch, 1841)	34 (Caporiacco 1949)	EM
	Malthonica nemorosa Simon, 1916	26, 34 (Caporiacco 1932), 21, 31, 33, 42, 50	NM
*	*Pseudotegenaria animata* (Kratochvíl & Miller, 1940)	7	BP
*	*Pseudotegenaria bosnica* Kratochvil & Miller, 1940	26	BP
*	*Tegenaria domestica* (Clerck, 1757)	28	COS
*	*Textrix denticulata* (Olivier, 1789)	13	E
	HAHNIIDAE		
*	*Hahnia nava* (Blackwall, 1841)	41	P
	DICTYNIDAE		
*	*Argenna patula* (Simon, 1874)	22	P
	Cicurina cicur (Fabricius, 1793)	13 (Vrenozi & Haxhiu 2008)	ECA
*	*Dictyna arundinacea* (Linnaeus, 1758)	44, 45	H
*	*Dictyna latens* (Fabricius, 1775)	20, 39	ECA
	Nigma puella (Simon, 1870)	31 (Vrenozi & Haxhiu 2008)	E
*	*Marilynia bicolor* (Simon, 1870)	26	ECA
	AMAUROBIIDAE		
*	*Amaurobius erberi* (Keyserling, 1863)	21	E
*	*Amaurobius phaeacus* Thaler & Knoflach, 1998	2, 21, 50	BK
	TITANOECIDAE		
*	*Nurscia albomaculata* (Lucas, 1846)	18	WP
	Titanoeca quadriguttata (Hahn, 1833)	28 (Vrenozi & Haxhiu 2008)	P
*	*Titanoeca tristis* Koch, 1872	74	ECA
	MITURGIDAE		
*	*Cheiracanthium elegans* Thorell, 1875	74	E
*	*Cheiracanthium mildei* L. Koch, 1864	39	H
*	*Cheiracanthium punctorium* (Villers, 1789)	18	ECA
	Cheiracanthium virescens (Sundevall, 1833)	28 (Vrenozi & Haxhiu 2008)	P
	ANYPHENIDAE		
*	*Anyphaena sabina* L. Koch, 1866	33, 34, 40	NM
	LIOCRANIDAE		
*	*Mesiotelus tenuissimus* (L. Koch, 1866) ?	42	M
	CLUBIONIDAE		
	Clubiona brevipes (Blackwall, 1841)	26, (Caporiacco 1932), 28 (Vrenozi & Haxhiu 2008)	P
	Clubiona caerulescens L. Koch, 1867	31 (Vrenozi & Haxhiu 2008)	P
*	*Clubiona comta* C.L. Koch, 1839	27	WP
	Clubiona corticalis (Walckenaer, 1802)	18 (Vrenozi & Haxhiu 2008)	ECA
	Clubiona diversa O.P.-Cambridge, 1862	18 (Vrenozi & Haxhiu 2008)	P
*	*Clubiona genevensis* L. Koch, 1866	2	P
*	*Clubiona reclusa* O. P.-Cambridge, 1863	22	P

Table 2. Continued.

	Taxa	Locality (sex)	Choro-type
	Clubiona terrestris Westring, 1851	26 (Caporiacco 1932)	E
	CORINNIDAE		
*	*Cetonana laticeps* (Canestrini, 1868)	22	E
*	*Phrurolithus festivus* (C. L. Koch, 1835)	2, 4, 20, 22, 52	P
*	*Phrurolithus szilyi* Herman, 1879	7, 26, 40, 55	E
	ZODARIIDAE		
	Zodarion elegans (Simon, 1873)	31 (Strand 1919)	M
*	*Zodarion frenatum* Simon, 1884	20, 39	NEM
*	*Zodarion graecum* (C. L. Koch, 1843)	39	NEM
*	*Zodarion musarum* Brignoli, 1984	34, 50, 52	BP
*	*Zodarion ohridense* Wunderlich, 1973	22, 54, 55	BP
	GNAPHOSIDAE		
*	*Anagraphis pallida* (Hadjissarantos, 1940)	31	BP
*	*Berlandina cinerea* (Menge, 1872)	39	ECA
*	*Callilepis nocturna* (Linnaeus, 1758)	2, 4, 52, 54, 55	P
	Drassodes cupreus (Blackwall, 1834)	18 (Vrenozi & Haxhiu 2008), 34	E
	Drassodes lapidosus (Walckenaer, 1802)	1, 2, 17, 26, 31, 33, 35, 39, 40, 41, 43, 44, 45, 54	P
	Drassodes lutescens (C.L. Koch, 1839)	26 (Caporiacco 1932)	M
	Drassyllus praeficus (L. Koch, 1866)	19 (Vrenozi & Haxhiu 2008), 2, 31	
*	*Gnaphosa lapponum* (L. Koch, 1866)	1, 2	ECA
	Gnaphosa lucifuga (Walckenaer, 1802)	26 (Caporiacco 1932), 44, 71	P
*	*Haplodrassus dalmatensis* (L. Koch, 1866)	26, 39	P
*	*Haplodrassus signifer* (C.L. Koch, 1839)	2, 35, 69, 74	H
*	*Micaria albovittata* (Lucas, 1846)	22, 74	WP
	Nomisia aussereri (L. Koch, 1872)	26 (Caporiacco 1932)	M
	Nomisia exornata (C. L. Koch, 1839)	31 (Strand 1919), 26, 33, 39, 41, 52, 54	ECA
	Scotophaeus blackwalli (Thorell, 1871)	18 (Vrenozi & Haxhiu 2008)	COS
	Scotophaeus scutulatus (L. Koch, 1866)	28 (Vrenozi & Haxhiu 2008)	WP
*	*Trachyzelotes barbatus* (L. Koch, 1866)	18	E
*	*Trachyzelotes lyonneti* (Audouin, 1826)	39, 41	MCA
*	*Trachyzelotes pedestris* (C.L. Koch, 1837)	26	E
*	*Zelotes apricorum* (L. Koch, 1876)	2	E
*	*Zelotes balcanicus* Deltshev, 2006	20, 27	BK
*	*Zelotes cingarus* (O. P.-Cambridge, 1874)	31	BK
*	*Zelotes oblongus* (C.L. Koch, 1833)	34, 35, 54	E
*	*Zelotes segrex* (Simon, 1878)	54	P
*	*Zelotes similis* (Kulczyński, 1887)	2, 55	E
*	*Zelotes tenuis* (L. Koch, 1866)	39, 44	M
	SPARASSIDAE		
*	*Micrommata ligurina* (C.L. Koch, 1845)	31	MCA
	Micrommata virescens (Clerck, 1757)	18, 31 (Vrenozi & Haxhiu 2008), 26	P
	PHILODROMIDAE		
*	*Philodromus aureolus* (Clerck, 1757)	3, 52, 55	P

Table 2. Continued.

	Taxa	Locality (sex)	Choro-type
*	*Philodromus cespitum* (Walckenaer, 1802)	2	H
*	*Philodromus dispar* Walckenaer, 1826	22	ECA
	Philodromus pentheri Muster, 2009	NA (Muster 2009)	BAN
*	*Philodromus praedatus* O.P.-Cambridge, 1871	35	E
*	*Philodromus pulchellus* Lucas , 1846	31	M
*	*Philodromus rufus* Walckenaer, 1826	22, 44	H
*	*Thanatus sabulosus* (Menge, 1874)	2	P
*	*Thanatus vulgaris* Simon, 1870	39	H
*	*Tibellus oblongus* (Walckenaer, 1802)	18	H
	THOMISIDAE		
*	*Cozyptila blackwalli* Simon, 1875	20, 41	P
*	*Cozyptila thaleri* Marusik & Kovblyuk, 2005	74	BAN
*	*Diaea livens* Simon, 1876	20	H
	Heriaeus hirtus (Latreille, 1819)	28 (Vrenozi & Haxhiu 2008)	E
	Misumena vatia (Clerck, 1757)	28 (Vrenozi & Haxhiu 2008), 2	H
*	*Monaeses paradoxus* (Lucas, 1846)	26	NM
*	*Ozyptila atomaria* (Panzer, 1801)	2	P
*	*Ozyptila confluens* (C.L. Koch, 1845)	31	NM
*	*Ozyptila sanctuaria* (O. P.-Cambridge, 1871)	31	E
*	*Ozyptila simplex* (O.P.-Cambridge, 1862)	20	P
	Runcinia grammica (C.L. Koch, 1837)	26 (Caporiacco 1932), 24 (Vrenozi & Haxhiu 2008)	OW
	Synema globosum (Fabricius, 1775)	26 (Caporiacco 1932), 33, 44, 52	P
*	*Synema plorator* (O.P.-Cambridge, 1872)	40	ECA
	Thomisus onustus Walckenaer, 1805	26 (Caporiacco 1932), 8, 28, 31 (Vrenozi & Haxhiu 2008), 45	P
*	*Tmarus piger* (Walckenaer, 1802)	26	P
	Xysticus acerbus Thorell, 1872	A (Simon 1884), 26 (Caporiacco 1932), 31, 55	ECA
*	*Xysticus brevidentatus* Wunderlich, 1995	1, 2, 4	AL
*	*Xysticus caperatus* Simon, 1875	39, 43	M
*	*Xysticus pr. cribratus* (Simon, 1885)	54	M
	Xysticus cristatus (Clerck, 1757)	18 (Vrenozi & Haxhiu 2008)	P
*	*Xysticus edax* (O.P.-Cambridge, 1872)	15	NEM
*	*Xysticus graecus* C.L. Koch, 1837	58	EM
*	*Xysticus gymnocephalus* Strand, 1915	1	ECA
	Xysticus kochi Thorell, 1872	26 Giltay 1932), 54	EMC
*	*Xysticus robustus* (Hahn, 1832)	1	ECA
*	*Xysticus sabulosus* (Hahn, 1832)	45	P
	Xysticus striatipes L. Koch, 1870	24 (Caporiacco 1932), 45	P
	SALTICIDAE		
	Aelurillus v-insignitus (Clerck, 1757)	18 (Vrenozi & Haxhiu 2008), 51, 52	P
*	*Asianellus festivus* (C.L. Koch, 1834)	44	P
	Carrhotus xanthogramma (Latreille, 1819)	28 (Vrenozi & Haxhiu 2008)	P
*	*Chalcoscirtus infimus* (Simon, 1868)	26, 39	ECA

Table 2. Continued.

	Taxa	Locality (sex)	Choro-type
*	*Cyrba algerina* (Lucas, 1846)	41	NM
*	*Euophrys frontalis* (Walckenaer, 1802)	26, 31, 33, 39	P
*	*Euophrys rufibarbis* (Simon, 1868)	2, 39, 52	P
*	*Evarcha falcata* (Clerck, 1757)	2, 22	P
*	*Evarcha jucunda* (Lucas, 1846)	33, 39, 40, 41, 44	M
*	*Evarcha laetabunda* (C.L. Koch, 1846)	31, 39	P
*	*Heliophanus auratus* C. L. Koch, 1835	2, 22, 44, 52, 61	P
*	*Heliophanus cupreus* (Walckenaer, 1802)	22, 33	P
*	*Heliophanus dubius* C. L. Koch, 1835	52	P
*	*Heliophanus equester* L. Koch, 1867	44	E
*	*Heliophanus flavipes* (Hahn, 1832)	22, 15	P
*	*Heliophanus kochii* Simon, 1868	26, 52, 54	M
*	*Heliophanus lineiventris* Simon, 1868	31, 39	P
	Heliophanus melinus L. Koch, 1867	A (Simon 1884), 2, 31, 39, 41, 52, 54	M
*	*Heliophanus patagiatus* Thorell, 1875	44, 45	P
*	*Heliophanus simplex* Simon, 1868	44, 51	P
	Heliophanus tribulosus Simon, 1868	28 (Vrenozi & Haxhiu 2008), 33, 35, 39	ECA
*	*Icius hamatus* (C. L. Koch, 1846)	31	M
*	*Macaroeris flavicomis* (Simon, 1884)	39, 44	NEM
*	*Macaroeris nidicolens* (Walckenaer, 1802)	21, 51	MCA
*	*Mendoza canestrinii* (Ninni, 1868)	26	P
*	*Menemerus semilimbatus* (Hahn, 1829)	28, 26, 39, 40, 41	NEM
*	*Neon levis* (Simon, 1871)	31, 55	E
*	*Pellenes allegrii* Caporiacco, 1935	18	ECA
	Pellenes arciger (Walckenaer, 1837)	59 (Caporiacco 1932)	NM
	Philaeus chrysops (Poda, 1761)	31 (Vrenozi & Haxhiu 2008), 2, 4, 26, 31, 35, 52, 54, 55	P
*	*Phlegra bresnieri* (Lucas, 1846)	40	NM
	Phlegra fasciata (Hahn, 1826)	67 (Caporiacco 1932), 20	P
*	*Pseudeuophrys obsoleta* (Simon, 1868)	22, 52, 54	ECA
*	*Pseudicius kulczynskii* Nosek, 1905	31	NEM
*	*Salticus propinquus* Lucas, 1846	26	M
*	*Salticus scenicus* (Clerck, 1757)	13	H
*	*Salticus unciger* (Simon, 1868)	50	NM
*	*Salticus zebraneus* (C.L. Koch, 1837)	39	P
*	*Sitticus atricapillus* (Simon, 1882)	1, 3	MSEE
*	*Sitticus distinguendus* (Simon, 1868)	44	P
	Sitticus pubescens (Fabricius, 1775)	28 (Vrenozi & Haxhiu 2008)	E

Legend: *– new species for the study area, COS – cosmopolitic; SCO – subcosmopolitic; H – Holarctic; OW – Old World; P – Palearctic; WPA – West-Palearctic; EMC – Europeo-Mediterrano-Central Asiatic: ECA – European-Central Asiatic; E – European; MEE – Middle-East European; MSE – Middle South European; MSEE – Middle-Southeast European; SEE – Southeast European; MCA – Mediterranean-Central Asiatic; M – Mediterranean; EME – East Mediterranean; NME – North Mediterranean; NEM – Northeast Mediterranean; BAN – Balkan Anatolian; BP – Balkan endemics; AL – Albanian endemics.

Table 3. Family composition of the spiders of Albania.

	Family	Species number	%
1	Scytodidae	1	0.3
2	Leptonetidae	1	0.3
3	Pholcidae	5	1.5
4	Segestriidae	2	0.6
5	Dysderidae	17	5.3
6	Oonopidae	1	0.3
7	Palpimanidae	2	0.6
8	Eresidae	1	0.3
9	Oecobiidae	1	0.3
10	Uloboridae	1	0.3
11	Nesticidae	2	0.6
12	Theridiidae	30	8.9
13	Linyphiidae	35	10.4
14	Tetragnathidae	9	2.6
15	Araneidae	30	8.9
16	Lycosidae	34	10.4
17	Pisauridae	1	0.3
18	Oxyopidae	2	0.6
19	Zoropsiidae	2	0.6
20	Zoriidae	3	0.9
21	Agelenidae	15	3.5
22	Hahnidae	1	0.3
23	Dictynidae	6	1.8
24	Amaurobiidae	2	1.5
25	Titanoecidae	3	0.9
26	Miturgidae	4	1.2
27	Anyphaenidae	1	0.3
28	Liocranidae	1	0.3
29	Clubionidae	8	2.3
30	Corinidae	3	0.9
31	Zodariidae	5	1.5
32	Gnaphosidae	26	7.7
33	Sparassidae	2	0.6
34	Philodromidae	10	2.9
35	Thomisidae	27	8.0
36	Salticidae	41	12.2
	Total:	**335**	**100** %

distribution and chorological characteristics of spiders are taken from Platnick (2011) and Vigna Taglianti *et al*. (1999).

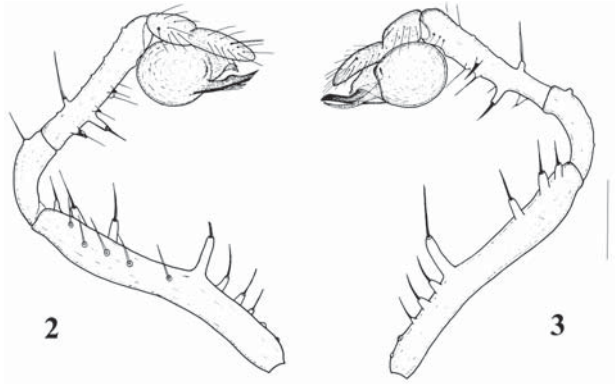
Cosmopolitan species complex (COS + SCO) includes only 10 (3.0%) species, all widespread in Albania. The species *Dysdera crocata*, *Pholcus phalangioides*, *Steatoda albomaculata*, *S. triangulosa*, and *Tegenaria domestica* are connected with human buildings, in contrast to the species *Cryptachea blattea, Cyclosa insulana*, *Cyrtophora citricola* and *Tetragnatha nitens*, all characteristic for lowlands and coastal habitats.

Table 4. Number of spiders found in different districts of Albania

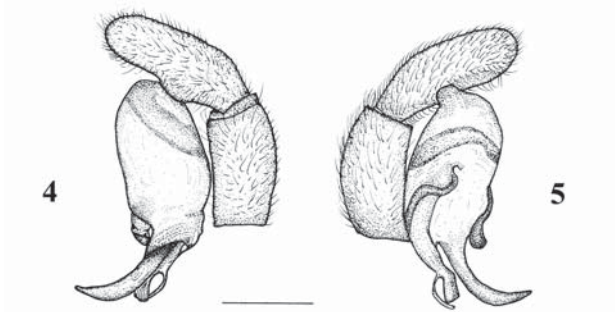
Districts	Species number	Species %
Albania	3	3
North Albania	7	7
Shkodër	57	57
Lezhë	6	6
Merditë	9	9
Tiranë	89	89
Durrës	99	99
Lushnjë	4	4
Fier	36	36
Berat	1	1
Skrapar	3	3
Vlorë	81	81
Sarandë	68	68
Gjirokastër	7	7
Tepelenë	26	26
Përmet	52	52
Ersekë	33	33
Elbasan	5	5
Korcë	16	16
Pogradec	7	7
Librazhd	16	16

Holarctic species complex (H + OW + P + WP + ECA) is best represented and comprises 189 (56.4%) species. The Palearctic species are dominant (107 species, 32.0%), followed by Holarctic (38 species, 11.3%); European-Central-Asiatic (31 species, 9.2%), West Palearctic (9 species, 2.6%) and Old World (4 species, 1.2%).

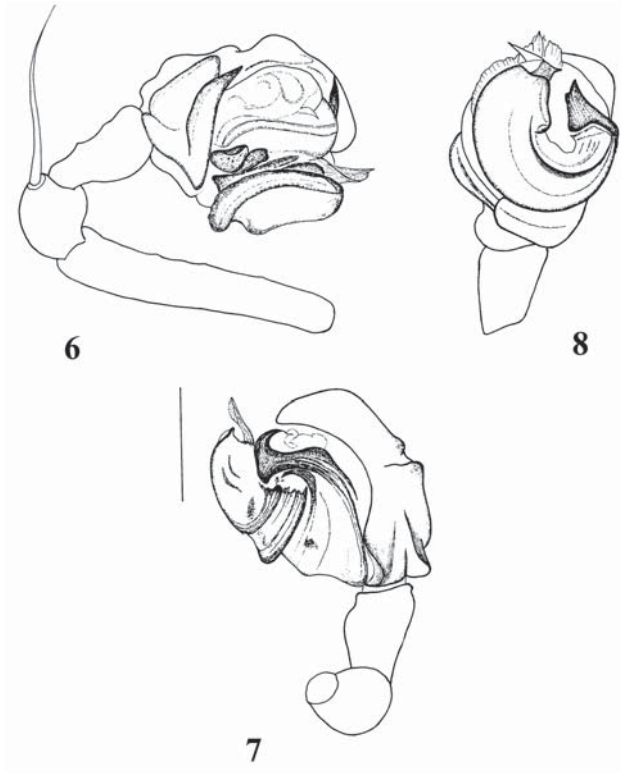
This complex includes especially widespread species associated with lowlands, woodlands, mountains and caves. Characteristic mountain elements are *Nesticus cellulanus* (caves), *Bolyphantes luteolus*, *Erigone dentipalpis*, *Frontinelina frutetorum*, *Microneta viaria*, *Mangora acalypha*, *Piniphantes pinicola*,*Pityohyphantesphrygianus,Stemonyphantes lineatus, Pardosa hortensis, Drassodes lapidosus, Haplodrassus signifer, Synaema globosum, Xysticus acerbu* and *X. kochi*. Some xenotopic species are



Figs. 2, 3. *Sulcia cretica* lindbergi Dresco, 1962: 2 – male palp, prolateral view; 2 – male palp, lateral view. Scale: 0.3 mm. (Drown by C. Deltshev).



Figs. 4, 5. *Dysdera corfuensis* Deeleman-Reinhold, 1988: 4 – male palp, prolateral view; 5 – male palp, lateral view. Scale: 0.5 mm. (Drown by S. Lazarov)



Figs. 6-8. *Troglohyphantes pretneri* Deeleman-Reinhold, 1978: 4 – male palp, prolateral view; 5 – male palp lateral view; 6 – embolus. Scale: 0.3 mm. (Drown by C. Deltshev).

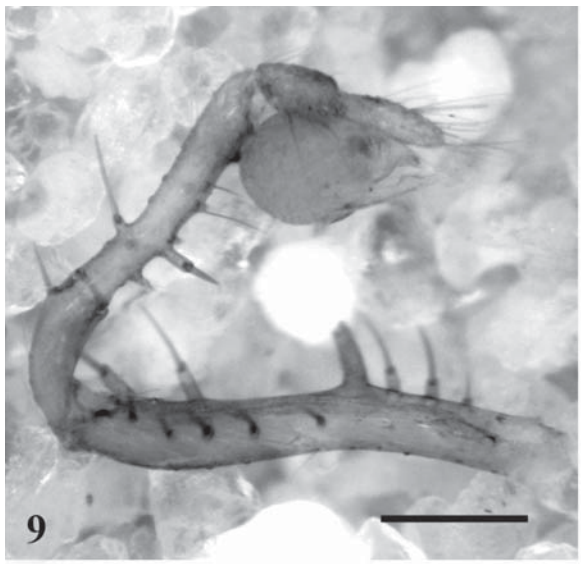
widely distributed in the mountains and reach the highest summits as aeronauts (Thaler 1988). To this group belong *Meioneta rurestris* and *Oedothorax apicatus*, which inhabit the mountain zone in dense populations (Deltshev 1990, 1995).

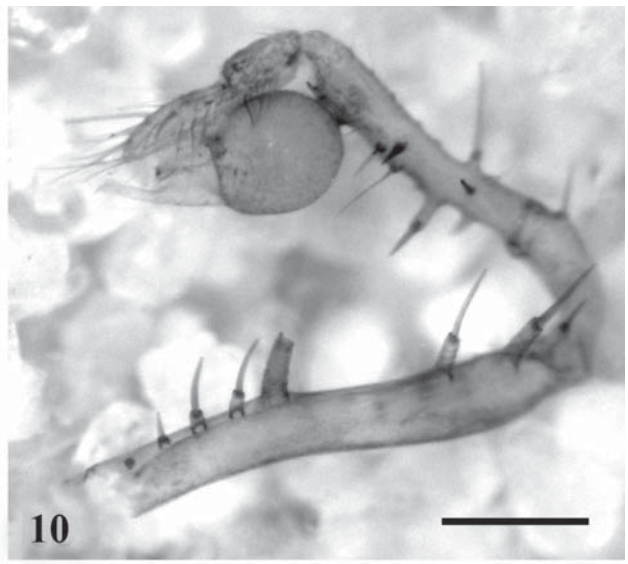
European species complex (E + SEE + MSE + MSEE) comprises 55 (16.4%) species widespread in Europe and Bulgaria. European species are dominant (41 species, 12.2%), followed by Middle and Southeast European (7 species, 2.1%), Southeast European (5 species, 1.5%) and Middle and Southeast European (2 species, 0.6%).

The complex includes widespread species which inhabit lowlands, woodlands and mountains. The group of European mountain species is best represented in the forest and subalpine belts. Mountain elements are *Segestria bavarica*, *Pardosa albatula, P. mixta*, *Drassodes cupreus* and *Zelotes apricorum*. The species *Centromerus cavernarum*, *Meta menardi* and *Metellina merianae* are common in caves.

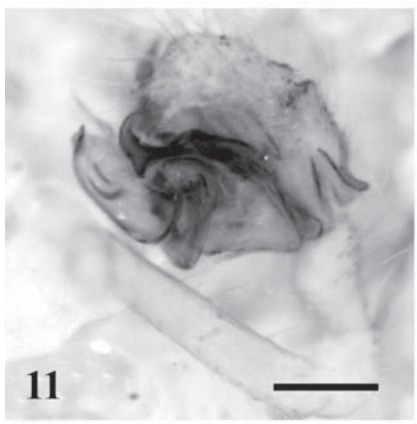
Mediterranean species complex (MCA + M + SE + NM + NEM) includes 54 (16.2%) species. Mediterranean species are dominant (22 species, 6.5%), followed by North-East-Mediterranean (12 species, 3.6%), North-Mediterranean (11 species, 3.3%), Mediterranean-Central-Asiatic – 7 species (2.1%) and Balkan-Anatolian 2 species, 0.6%). The main part of the established species are presented in lowlands, coastal habitats, and xerothermic oak forests and meadows. Mountain-Mediterranean elements are not established but the high altitude sites are scarcely studied. A cavernicolous element is the species *Nesticus ermita*, known only from caves. Balkan-Anatolian sub/endemic *Cozyptila thaleri* can be considered as mountain element.

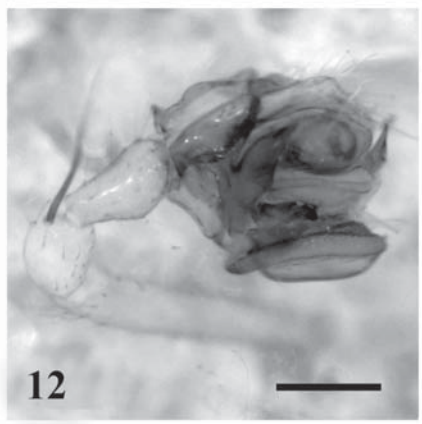
Endemic species complex (BP + ALB) comprises 26 species (7.9%). The group of Balkan endemic species – 24 species (7.1%) are known from Albania and other Balkan countries and comprises mainly, coastal, cavernicolous and mountain elements. *Dysdera cephalonica, D. corfuensis*, *D. granulata, Harpactea kulczynskii, H. nausicaae*, *Palpimanus orientalis,* and *Zelotes argo-*

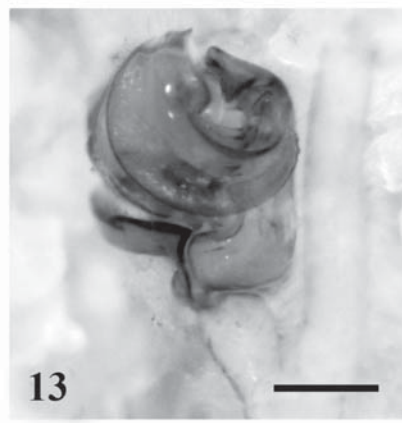




Figs. 9, 10. *Sulcia cretica lindbergi* Dresco, 1962: 2 – male palp, prolateral view; 2 – male palp, lateral view. Scale: 0.3 mm. (Drown by C. Deltshev).







Figs. 11-13. *Troglohyphantes pretneri* Deeleman-Reinhold, 1978: 4 – male palp, prolateral view; 5 – male palp lateral view; 6 – embolus. Scale: 0.3 mm. (Drown by C. Deltshev).

liensis are characteristic for coastal habitats (0-800 m); *Sulcia lindbergi*, *Stygopholcus photophilus*, *Centromerus acutidentatus*, *Troglohyphantes dragonis*, *T. pretneri*, *Tegenaria animata* and *T. bosnica* are characteristic element for Balkan caves; *Dysdera bellimundi, Inermocoelotes karlinskii*, *I. xinpingwangi, Zodarion ochridense* and *Xysticus brevidentatus* are considered as mountain elements. It should be noted that, depending on their origins, the endemic spiders of Albania belong to two principle faunistic complexes: Mediterranean and European. Mediterranean elements are distributed in caves, forests, coastal sites and single species in the treeless zone of the mountains, while European elements are distributed mainly in forests and high altitude sites. This phenomenon can be regarded as a result of the relative isolation of the mountains compared with the lowlands, in the context of paleo-environmental changes since the Pliocene (Deltshev 2000).

Conclusions

The faunistic diversity of 335 spider species shows that Albania is a territory still poorly investigated. In zoogeographical respect, the character of the reported 335 spider species is defined mainly by presence of Holarctic (56.4%), European (16.4%) and Mediterranean species (16.2%). Endemics, South East European, Balkan-Anatolian and North East Mediterranen species emphasize the local character of the fauna, but their low percentag (8%) suggests an important process of colonization.

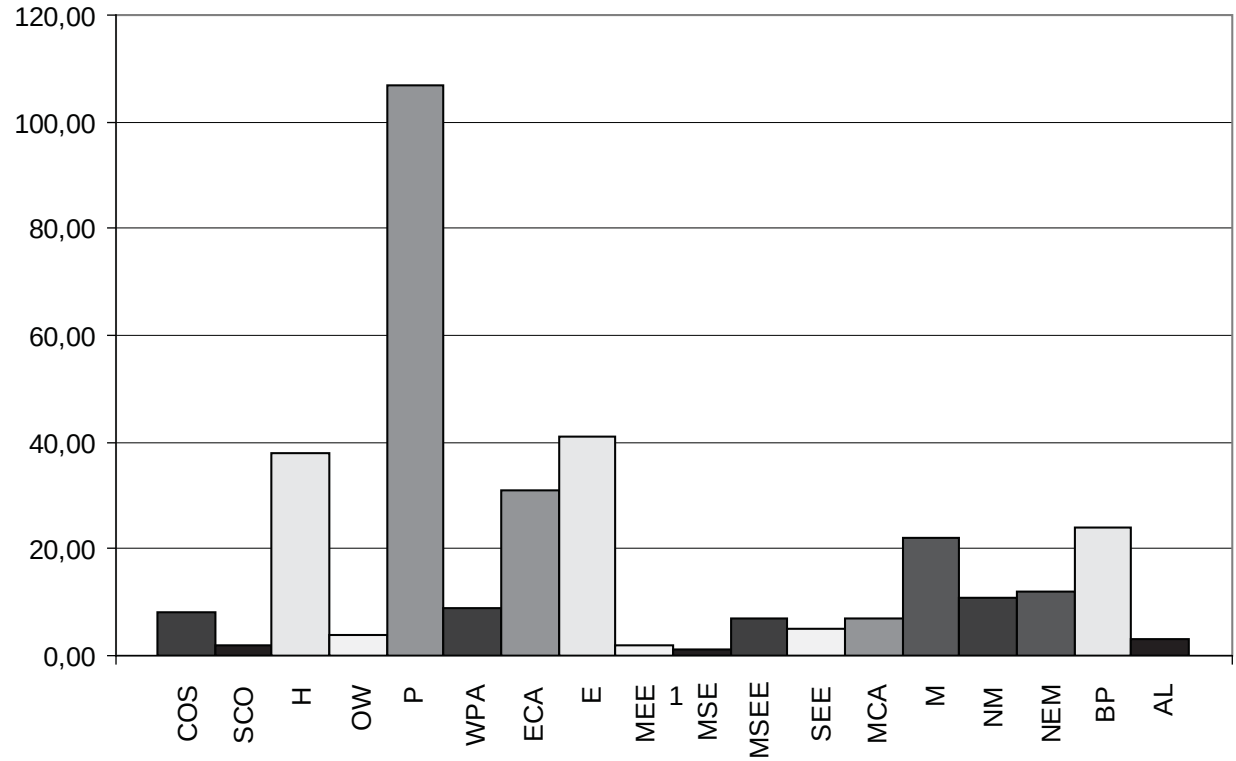


Fig. 14. Zoogeographical classification of Albanian spiders.

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References

Blagoev G. 2005. A contribution to the knowledge of the wolf spiders (Araneae: Lycosidae) of Albania. – *Acta zoologica bulgarica,* **57**: 139-144.

Blagoev G., C. Deltshev and S. Lazarov 2002. The Spiders (Araneae) of Bulgaria. Institute of Zoology, Bulgarian Academy of Sciences. Online at http://cl.bas.bg/bulgarianspiders/.

Bosmans R., Chatzaki M. 2005. A catalogue of the spiders of Greece – A critical review of all spider species cited from Greece with their localities. – *Arachnological Contributions. Newsletter of the Belgian Arachnological Society*, **20:** 1-124.

Caporiacco L. di. 1932. Aracnidi raccolti in Albania dal dott. Pietro Parenzan. – *Atti dell'Accademia Veneto-Trentino-Istriana*, **23:** 93-98.

Caporiacco L. di. 1949. Alcuni aracnidi albanesi. – *Atti del Museo Civico di Storia Naturale di Trieste*, **17:** 122-125.

Deeleman-Reinhold C., Deeleman, P. R.1988. Revision des Dysderinae (Araneae, Dysderidae), les espèces Méditerranénnes occidentales exceptées. – *Tijdschrift voor Entomologie*, **131:** 141-269.

Deltshev C. 1990. The high-altitude spiders (Araneae) in Pirin Mountains, Bulgaria. *Acta zoologica fennica*, **190:** 111-115.

Deltshev C. 1995. Spiders (Araneae) from the high altitude zone of Rila Mountain (Bulgaria). – *Ber. naturw.-med. Ver. Innsbruck*, **82:** 217-225.

Deltshev C. 1999. Faunistic and Zoogeographical Review of the Spiders (Araneae) of the Balkan Peninsula. – *The Journal of Arachnology*, **27:** 255-261.

Deltshev C. 2000. The endemic spiders (Araneae) of the Balkan Peninsula. *Ecologia* (Bratislava), **19:** 59-65.

Drensky P. 1936. Katalog der echten Spinnen (Araneae) der Balkanhalbinsel. – *Sbornik Bulgarska Akademia na Naukite*, **32:** 1-223.

Giltay L. 1932. Arachnides recueillis par M. d'Orchymont au cours de ses voyages aux Balkans et en Asie Mineure en 1929, 1930 et 1931. – *Bulletin du Musée royal d'Histoire naturelle de Belgique*, **8:** 1-40.

Muster C. 2009. Phylogenetic relationships within Philodromidae, with a taxonomic revision of *Philodromus* subgenus *Artanes* in the western Palearctic (Arachnida : Araneae). – *Invertebrate Systematics*, **23:** 135-169

Platnick N. 2011. The world spider catalog, version 11.5. American Museum of Natural History, online at http://research.amnh.org/iz/spiders/catalog/ (accessed February 2011).

Schenkel E. (1947). Einige Mitteilungen uber Spinnentiere. – *Revue Suisse de Zoologie*, **54**(1): 9-10.

Simon E. 1884. Etudes arachnologiques. 16e mémoire. 23. Matériaux pour servir à la faune des Arachnides de la Grèce. – *Annales de la Société entomologique de France*, **4**(6): 305-356.

Strand E. 1919. Spinnen und Opiliones aus Griechenland, Albanien und Kleinasien. – *Archiv für Naturgeschichte* (Berlin), **82:** A. 2, 158-167.

Tongiorgi P. 1966. Italian Wolf Spiders of the Genus *Pardosa* (Araneae: Lycosidae). – *Bulletin of the Museum of Comparative Zoology*, **134:** (8), 275-334.

Vigna Taglianti, A., Audisio, P., A. Biondi, M., Bologna, M., A. Carpaneto, G., M. De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A. and M. Zapparoli 1999. A proposal for a chorotype classification of the Near East fauna, in the framework of the Western Palearctic region. Biogeography, **20:** 31-59.

Vrenozi B., Haxhiu I. 2008. Të dhëna mbi rendin Araneae (Klasa Arachnida) në ultrësirën prërëndimore Adriarike. – Proceedings of International Conference on Biological and Environmental Sciences, 26-28 September 2008, Faculty of Natural Sciences, Tirana, Albania, 297-301.

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