

# 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 DEELEMANN-REINHOLD & DEELEMANN (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. Vrenosi, 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 informa-

tion 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* DRESKO, 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* DEELEMEN-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 DEELEMEN-REINHOLD & DEELEMEN (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* DEELEMEN-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 DEELEMEN-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

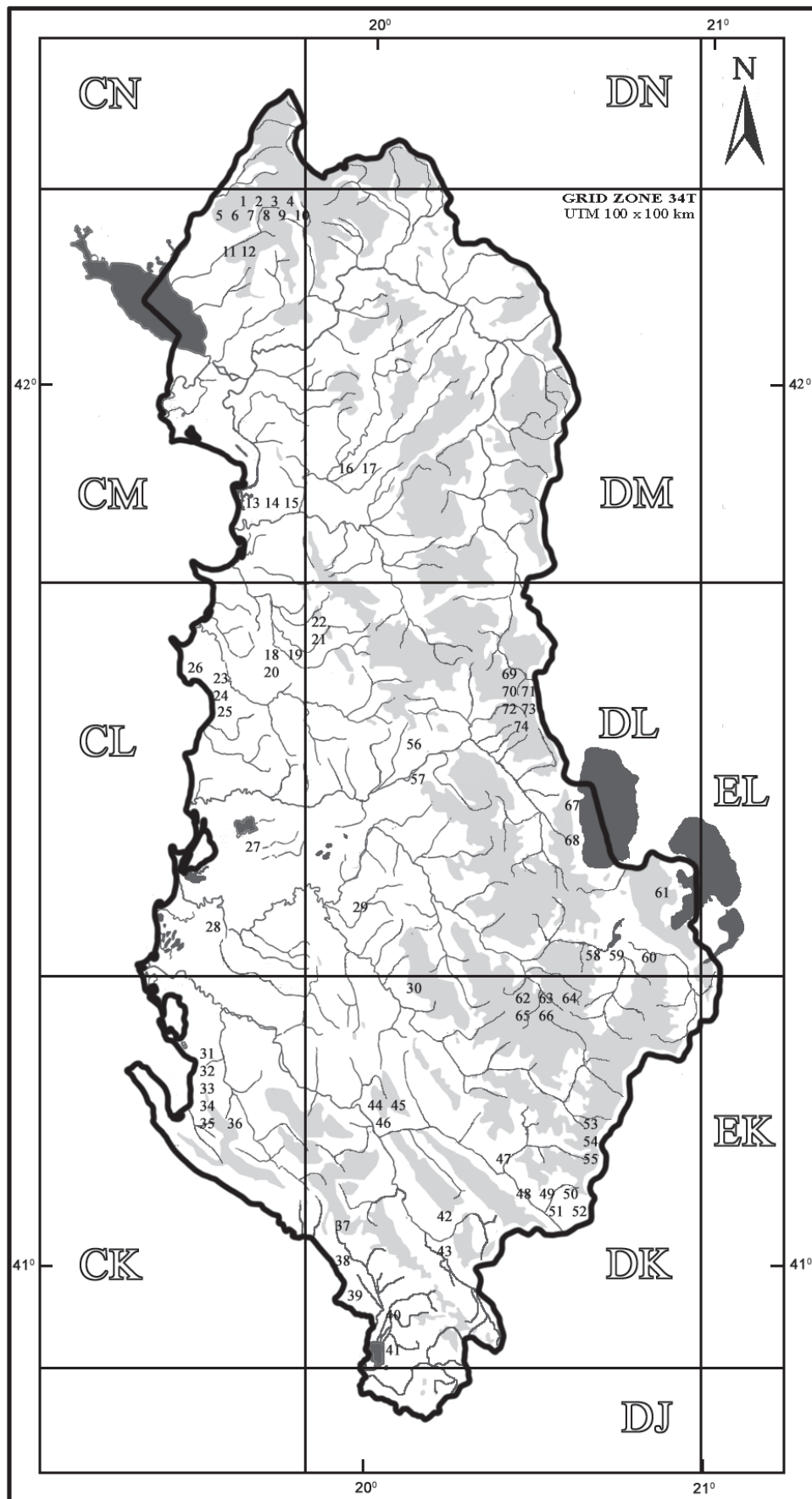


Fig. 1. Map with localities the spiders were collected in Albania.

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

No	Locality	Altitude	Date	Publication or Legator
	<b>District of Shkodër</b>			
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.
	<b>District of Lezhë</b>			
13.	Shëngjin			Vrenosi & Haxhiu 2008
14.	Lezhë	200-300 m	10.06.1993	P. B.
15.	Mat River, nr. Milot	220 m	17.05.1994	I. P.
	<b>District of Merditë</b>			
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.
	<b>District of Tiranë</b>			
18.	Tiranë			Schenkel 1947: 5.6., P. S., B. P.
19.	Vorrë, nr. Tiranë	70-90 m	27.06.1995	S. A. Vrenosi & Haxhiu 2008
20.	Botanical Garden, Tiranë	120 m	08.05.1995	S. G., P. S., B. P.
21.	Artificial 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.
	<b>District of Durrës</b>			
23.	Kavaja			Caporiacco 1932,
24.	Shkumbin			Vrenosi & Haxhiu 2008
25.	Patok			Vrenosi & Haxhiu 2008
26.	Durrës	0 m	26.05.1993	Giltay 1932 P. S., D. Z.
	<b>District of Lushnjë</b>			
27.	Divjaka National Park,	30 m	10.05.1995	S. G., P. S., B. P.
	<b>District of Fier</b>			
28.	Apoloni	54 m	28.08.2007	Vrenosi & Haxhiu 2008 B. V.
	District of Berat			
29.	Berat	304 m		Caporiacco 1949
	District of Skrapar			
30.	Prërrenjas	740-750 m		Blagoev 2005
	<b>District of Vlorë</b>			
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
	<b>District of Sarandë</b>			
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.
	<b>District of Gjirokastrë</b>			
42.	Gjirokastrë, the castle	320 m	06.05.1994	P. S.
43.	Jorgucati	430-450 m	23.06.1995	S. A.
	<b>District of Tepelenë</b>			
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.
	<b>District of Përmet</b>			
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.
	<b>District of Ersekë</b>			
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.
	<b>District of Elbasan</b>			
56.	Elbasan			Caporiacco 1932 Giltay 1932
57.	Prrenjas, Çorovodë	740-750 m	07.05.1995	S. G., P. S., B. P.
	<b>District of Korçë</b>			
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
	<b>District of Pogradec</b>			
67.	Ochrid Lake			Caporiacco 1932
68.	Grabovicë			Caporiacco 1932
	<b>District of Librazhd</b>			
69.	Librazhd	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)	Choro-type
	SCYTODIDAE		
*	<i>Scytodes thoracica</i> (Latreille, 1802)	14, 20, 26, 27, 34, 39, 40, 52, 55	H
	LEPTONETIDAE		
*	<i>Sulcia</i> pr. <i>cretica lindbergi</i> Dresco, 1962	63	BP
	PHOLCIDAE		
	<i>Holocnemus pluchei</i> (Scopoli, 1763)	26, 33, 48, 50, 66 (Caporiacco 1932)	M
	<i>Hoplopholcus forskali</i> (Thorell, 1871)	34 (Caporiacco 1949)	SEE
*	<i>Pholcus opilionoides</i> (Schrank, 1781)	11, 22	H
	<i>Pholcus phalangioides</i> (Fuesslin, 1775)	18, 25, 28 (Vrenosi & Haxhiu 2008), 31, 38,	COS
*	<i>Stygopholcus photophilus</i> Senglet, 1971	8, 26, 46, 47, 49	BP
	SEGESTRIIDAE		
	<i>Segestria senoculata</i> (Linnaeus, 1758)	28 (Vrenosi & Haxhiu 2008), 40	P
	<i>Segestria bavarica</i> C.L. Koch, 1843	26 (Caporiacco 1932)	E
	DYSDERIDAE		
	<i>Dysdera bellimundi</i> Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988), 2, 12	BP
*	<i>Dysdera cephalonica</i> Deeleman-Reinhold, 1988	34	BP
*	<i>Dysdera corfuensis</i> Deeleman-Reinhold, 1988	31	BP
	<i>Dysdera crocata</i> C. L. Koch, 1838	18 9 (Vrenosi & Haxhiu 2000), 32 (Caporiacco 1932)	COS
	<i>Dysdera dubrovninnii</i> Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988)	BP
	<i>Dysdera erythrina</i> (Walckenaer, 1802)	18 (Vrenosi & Haxhiu 2008)	E
	<i>Dysdera granulata</i> Kulczynski, 1897	NA (Deeleman-Reinhold 1988)	BP
	<i>Dysdera murphiorum</i> Deeleman-Reinhold, 1988	NA (Deeleman-Reinhold 1988)	BP
	<i>Dysdera ninnii</i> Canestrini, 1868	34 (Caporiacco 1949)	MSE
*	<i>Dysdera pectinata</i> Deeleman-Reinhold, 1988	20	BP
	<i>Dysdera punctata</i> C. L. Koch, 1838	30 (Strand 1919)	BP
	<i>Dysderocrates storkani</i> (Kratohvil, 1935)	NA (Deeleman-Reinhold 1988), 22	BP
	<i>Harpactea albanica</i> (Caporiacco, 1949)	26, 34 (Caporiacco 1949)	AL
*	<i>Harpactea kulczynskii</i> Brignoli, 1976	52	BP
*	<i>Harpactea lepida</i> (C. L. Koch, 1838)	55	E
*	<i>Harpactea nausicaae</i> Brignoli, 1976	22, 33, 34, 55, 61	BP
*	<i>Harpactea saeva</i> (Herman, 1879)	20, 31, 61	EE
	OONOPIDAE		
	<i>Oonops domesticus</i> Dalmas, 1916	18 (Vrenosi & Haxhiu 2008)	E
	PALPIMANIDAE		
	<i>Palpimanus gibbulus</i> Dufour, 1820	31 (Strand 1919)	M
*	<i>Palpimanus orientalis</i> Kulczynski, 1909	12, 26, 52	BP
	ERESIDAE		
	<i>Eresus kollari</i> Rossi, 1846	26 (Giltay 1932), 46	ECA
	OECOBIIDAE		
	<i>Uroctea durandi</i> (Latreille, 1809)	26 (Caporiacco 1932), 34, 40, 41	M
	ULOBORIDAE		
	<i>Uloborus walckenaerius</i> Latreille, 1806	2, 26 (Caporiacco 1932)	P



Table 2. Continued.

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

Table 2. Continued.

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



Table 2. Continued.

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

Table 2. Continued.

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

Table 2. Continued.

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

Table 2. Continued.

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

Table 2. Continued.

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

Table 2. Continued.

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

Legend: \* – new species for the study area, COS – cosmopolitan; SCO – subcosmopolitan; 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:	<b>335</b>	<b>100 %</b>

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*

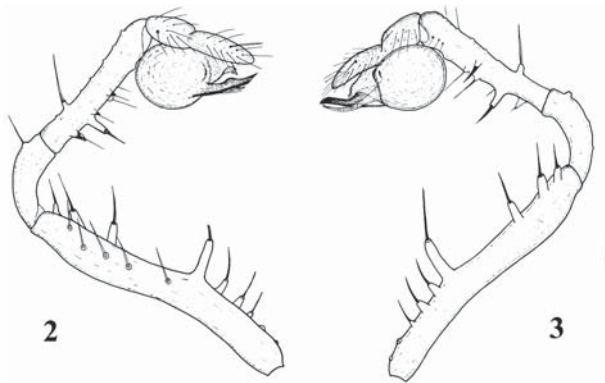
**Table 4.** Number of spiders found in different districts of Albania

Districts	Species number	Species %
Albania	3	3
North Albania	7	7
Shkodër	57	57
Lezhë	6	6
Mërkur	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

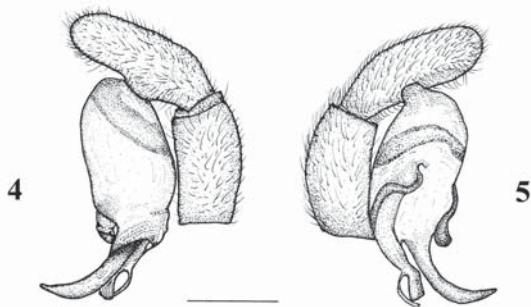
*phalangioides*, *Steatoda albomaculata*, *S. triangulosa*, and *Tegenaria domestica* are connected with human buildings, in contrast to the species *Cryptachea blattea*, *Cyclosa insulana*, *Cyrtophora citricola* and *Tetragnatha nitens*, all characteristic for lowlands and coastal habitats.

**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*, *Frontinella frutetorum*, *Microneta viaria*, *Mangora acalypha*, *Piniphantes pinicola*, *Pityohyphantes phrygianus*, *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; 3 – male palp, lateral view. Scale: 0.3 mm. (Drawn by C. Deltshev).

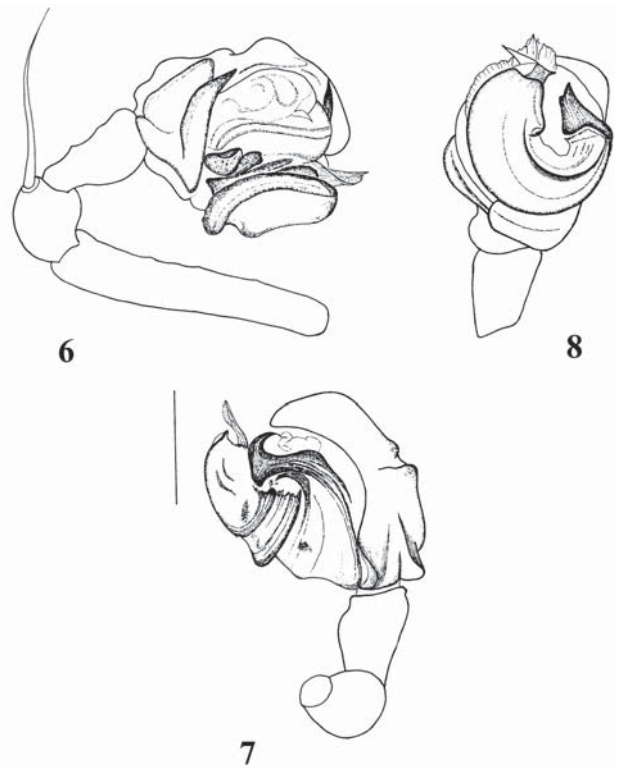


**Figs. 4, 5.** *Dysdera corfuensis* DEELEMEN-REINHOLD, 1988: 4 – male palp, prolateral view; 5 – male palp, lateral view. Scale: 0.5 mm. (Drawn by S. Lazarov)

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%).

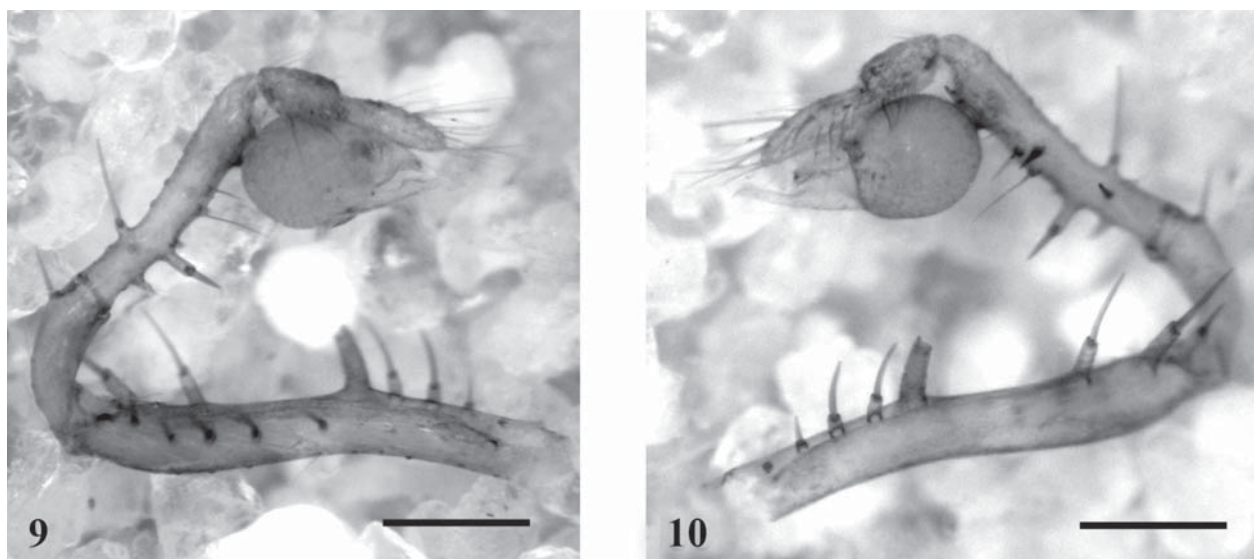
The complex includes widespread species which inhabit lowlands, woodlands and mountains. The group of European mountain species is best represented in the forest and subalpine belts. Mountain elements are *Segestria bavarica*, *Pardosa albatula*, *P. mixta*, *Drassodes cupreus* and *Zelotes apricorum*.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



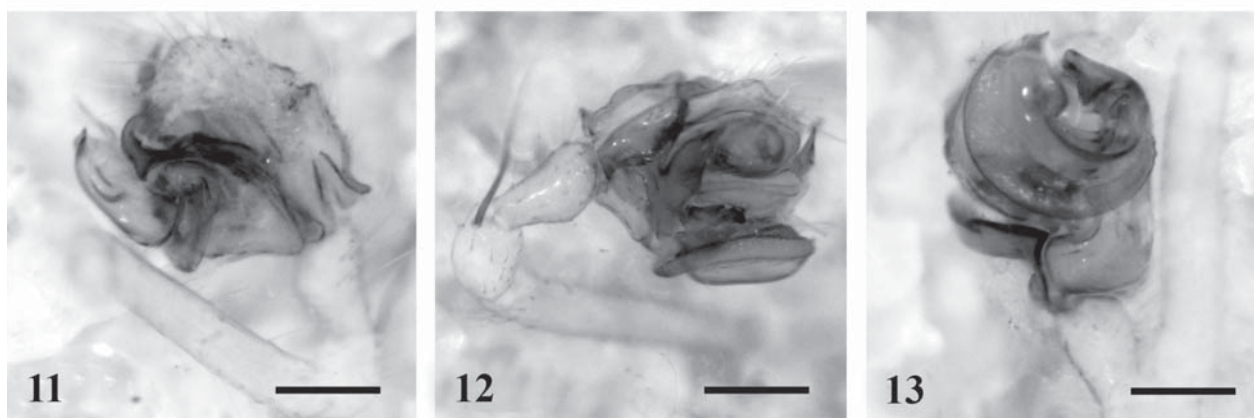
**Figs. 6-8.** *Troglodyphantes pretneri* DEELEMEN-REINHOLD, 1978: 4 – male palp, prolateral view; 5 – male palp lateral view; 6 – embolus. Scale: 0.3 mm. (Drawn by C. Deltshev).

**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.** *Troglodyphantes 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*, *Troglodyphantes dragonis*, *T. pretneri*, *Tegenaria animata* and *T. bosnica* are characteristic element for Balkan caves; *Dysdera bellimundi*, *Inermocoelotes karlinskii*, *I. xinpingswangi*, *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 Mediterranean species emphasize the local character of the fauna, but their low percentag (8%) suggests an important process of colonization.

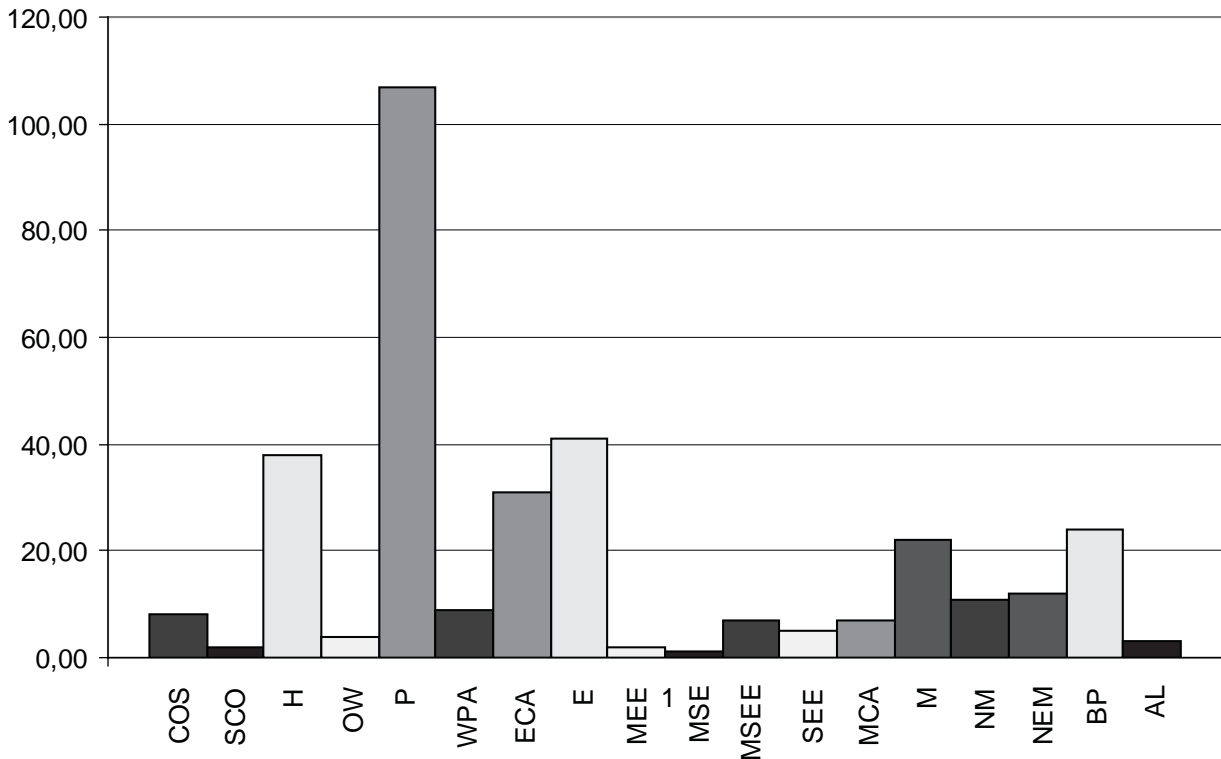


Fig. 14. Zoogeographical classification of Albanian spiders.

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