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SPIDERS (ARANEAE) FROM THE VORA HILLS, WESTERN ALBANIA

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Abstract

Records of 176 spiders, belonging to 19 species and 9 families are presented, based on spider material collected using pitfall traps in the rural, degraded and protected natural forest of a typical hilly ecosystem in the Vora hills, Tirana district, Albania. The most abundant of the families was Thomisidae with 101 individuals belonging to three species. Altogether we document four new species for the Albanian spider fauna, including one species respectively for the families of Nemesiidae, Dysderidae, Thomisidae and Salticidae. Data on the habitat preferences of the new-established species and their zoogeographical distribution are also presented. A rural habitat with *Olea europaea* is well represented with 109 individuals. Balkan endemics (21.1%) and Mediterranean species (31.6%) emphasize the local character of this fauna.

Key-words: Albanian spiders, Tirana hills, new records, zoogeography, rural habitats

1. Introduction

The spider species composition of the Vora hills has not been studied before. Western Albania is the most studied region regarding to the spider fauna, data on which can be found in the papers of [1, 2, 3, 5, 7, 8, 13, 23, 24, 25]. New and additional data can be found in publications by the first author; e.g. [6, 28, 29], Vrenozi (in prep.), Vrenozi & Jäger a, b (in prep.), Vrenozi & Dunlop (in prep.). Some of these papers have mentioned the data on the spider composition of the Vora hills; while new records for Albania resulted from the present study. This paper summarises faunistic data, supplemented by zoogeographical notes about the spider's species collected in this area. This contribution on Albanian spiders was made possible during the doctoral study of the first author.

2. Study area and Methods

This contribution is part of the doctoral study of the first author. The Vora hills are a part of the hilly chain Cape of Rodoni-Vora-Erzeni with longitude about 40 km, situated in the north-west of Tirana city, western Albania. This area comprise the mediterranean bushes, especially of Arbutus sp. and Erica sp., which are found up to 100- 300 m above the sea level. Olea europaea has a considerable cover across much of the area from 100 - 400 m [10, 20]. Spiders were collected during February 2010 to 2011. The methodology used is described in [30] and Vrenozi & Jäger a (in prep.). Specimens were preserved in 70 % ethanol and were identified at the Institute of Biodiversity and Ecosystem Research, Sofia, during April 2010. They are deposited in the collection of BV at the Museum of Natural Sciences, Tirana.

The main literature used for identification was [4, 9, 11, 14, 15, 16, 17, 19, 21, 22, 27]. Nomenclature and order of families in the species list follows [18]. Data concerning the general distribution of spiders are taken from [12, 18, 26].

2.1 Localities (Figs. 1–4)

Different localities were analysed according to their habitats, altitude and latitude.

L1. Guri i Bollës, top of the Vora hill with degraded forest of associations of Arbutus unedo and Erica arborea, clay and stony soil, open area, 195 m, N 41°22.922′, E 19°38.966′,. **L2.** Rural area with Olea europaea, the bottom of the Vora hill, leaf litter, 144 m, N 41°22.934′, E 19°39.284′. **L3.** Artificial forest with Robinia pseudacacia, the bottom of the Vora hill, moist soil, 157 m, N 41°22.710′, E 19°39.298′.

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Figures. 1 – 4: **1** – Sketch of Albania, **2** - Guri i Bollës, **3** – *O. europaea*, **4** – *R. pseudoaccacia*

3. Results and Discussion

3.1 Species composition

A total of 176 spiders, belonging to 19 species and 9 families were found in this study (Table 1). The family with the highest number of specimens was Thomisidae with 101 individuals belonging to three species. Four new records from the Vora hills – *Brachythele media* (Nemesiidae), *Dysdera pandazisi* (Dysderidae), *Xysticus bufo* (Thomisidae) *and Euophrys herbigrada* (Salticidae) – could be documented as new also for the Albanian spider fauna; increasing the number of species known so far for this country.

Rural habitats with *Olea europaea* have the highest number of species and individuals (6 and 109 respectively), while two other areas with degraded (2 and 32) and protected natural forest (4 and 35), have an almost equal number. There is a small difference between the common number of species of these areas, whereby between L1 and L2 it is 5 species; one individual more in comparison with L2 / L3 and L1 / L3 which have an equal number of four species. This shows that despite the different habitats where the spiders were collected, the species richness is almost equal across the Vora hills.

Notes on the new faunistic and taxonomic records are presented. *Brachythele media* has a Balkans distribution and is otherwise known from the Adriatic coast (Slovenia and Croatia). This new locality in Albania extends its distribution southwards. *Dysdera pandazisi* has been recorded from the Ionian coast (Greece), of the Balkan Peninsula. The new locality in the Adriatic coast in Albania extends its distribution in a north-easterly direction. *Xysticus bufo* is widely distributed across the Mediterranean region and this new locality in Albania extends adds to the distribution records in this general area. *Euophrys herbigrada* has, by contrast, a European distribution. The new locality in Albania thus extends its distribution.

3.2 Zoogeographical analyses

The zoogeographical distribution (Table 2), shows that the Mediterranean complex is well represented (31.6%), followed by the Holarctic species (26.3%) and the European complex (21.1%). Four Balkan endemics (*Brachythele media, Dysdera pandazisi, Dysdera pectinata* and *Harpactea nausicae*) comprise 21.1% from which two are new species. Balkan endemics (21.1%) and Mediterranean species (31.6%) thus emphasize the local character of this fauna

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Table 1. Species composition and zoogeographical distribution of the spiders in the Vora hills (*species name–new species for Albania; EE–East Europe; HOL–Holarctic; MCA–Mediterranean Central Asian; ECA–European-Central Asian; PAL–Palaearctic; EUR–European; NM–Nord Mediterranean; MED–Mediterranean)

No	**Families**/ Species	**Number/ Sex**	**Localities**	**Legate date**	**Chorotypes**
	Nemesiidae				
1	*Nemessia p. pannonica* Herman, 1879	1♂	L2	10/10/2010	EE
2	**Brachythele media* Kulczynski, 1897	2♂	L2	07/11/2010	Balkan
	Scytodidae				
3	*Scytodes thoracica* (Latreille, 1802)	1 subadult ♀	L3	06/09/2010	HOL
	Dysderidae				
4	**Dysdera pandazisi* Hadjissarantos, 1940	2♂	L3	08/06/2010	Balkan
		3♀	L3	11/04/2010	
		1♂	L3	07/03/2010	
		1♀	L1	09/07/2010	
		1♂	L2	08/05/2010	
		1♂	L3	08/08/2010	
5	*Dysdera pectinata* Deeleman-Reinhold, 1988	1♂	L3	11/04/2010	Balkan
6	*Harpactea nausicae* Brignoli, B451976	1♂	L3	07/02/2010	Balkan
	Lycosidae				
7	*Alopecosa albofasciata* (Brullé, 1832)	1♀	L2	06/02/2011	MCA
		2 subadult ♀	L2	09/01/2011	
8	*Hogna radiata* (Latreille, 1817)	1♂	L2	08/08/2010	ECA
		3♀, 10 juvenil	L2	07/11/2010	
		3♀, 1♂	L2	10/10/2010	
		1♀, 10 juvenil	L1	10/10/2010	
		3♂	L3	06/09/2010	
9	*Trochosa hispanica* Simon, 1870	1♂	L2	06/02/2011	MCA
	Pisauridae				
10	*Pisaura mirabilis* (Clerck, 1757)	1 juvenil	L1	10/10/2010	PAL
		1 juvenil	L3	06/09/2010	
		1 juvenil	L3	09/01/2011	
	Agelenidae				
11	*Inermocoelotes falciger* (Kulczynski, 1897)	4♂	L2	06/02/2011	EE
		4♂	L3	09/01/2011	
		4♂	L2	09/01/2011	
	Gnaphosidae				
12	*Trachyzelotes barbatus* (L. Koch, 1866)	2♀	L2	08/08/2010	MCA
13	*Trachyzelotes pedestris* (C. L. Koch, 1837)	2♀	L3	09/07/2010	EUR
	Thomisidae				
14	*Ozyptila confluens* (C. L. Koch, 1845)	1♀	L3	07/03/2010	NM
		1♀	L3	11/04/2010	
		1♀	L1	07/03/2010	
		1♀	L1	11/04/2010	
		1♀	L3	11/12/2010	
		2♂	L1	07/11/2010	
		3♂, 3♀	L3	07/11/2010	
		41♂, 2♀	L2	07/11/2010	
		8♂	L2	10/10/2010	
		11♂, 1♀	L1	10/10/2010	
		1♂, 1 subadult ♀	L3	10/10/2010	
		2 juvenils	L3	06/09/2010	
		1♀	L3	09/01/2011	
16	**Xysticus bufo* (Dufour, 1820)	5♂	L2	10/10/2010	MED
		5♂, 3 subadult ♀	L2	10/10/2010	
		1♂	L1	06/09/2010	
15	*Xysticus caperatus* Simon, 1875	6♂	L2	08/08/2010	MED
	Salticidae				
17	**Euophrys herbigrada* (Simon, 1871)	1♀	L1	11/12/2010	EUR
18	*Euophrys rufibarbis* (Simon, 1868)	1♂	L1	10/10/2010	PAL

No	**Families**/ Species	**Number/ Sex**	**Localities**	**Legate date**	**Chorotypes**
19	*Phlegra fasciata* (Hahn, 1826)	1♀	L2	10/10/2010	PAL
		2♀	L1	09/07/2010	

Table 2: Chorotypes and species number according to complexes

Complexes	**Chorotypes**	**Code**	**species**	**%**
Holarctic	Holarctic	HOL	1	5.3
	Palaearctic	PAL	3	15.8
	European-Central Asian	ECA	1	5.3
	Total		**5**	**26.3**
European	European	EUR	2	10.5
	East European	EE	2	10.5
	Total		**4**	**21.1**
Mediterranean	Mediterranean and Central Asian	MCA	3	15.8
	Nord Mediterranean	NM	1	5.3
	Mediterranean	MED	2	10.5
	Total		**6**	**31.6**
Endemics	Balkan	Balkan	4	21.1
	Total		**4**	**21.1**

4. Conclusions and perspectives

The araneofauna of the Vora hills was not studied previously and crab spiders (Thomisidae) proved particularly abundant among the spider species. These new established species records should encourage future studies in the Vora hills. Rural area with humus and humid habitats are more abundant in terms of both species and specimens. Endemics are well represented in artificial protected forest areas, and emphasize the local character of this fauna. Based on this present paper, further work should focus on these areas – which may reveal an unknown and endemic araneofauna.

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