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Faunistical data on the spiders (Arachnida: Araneae) of the Lacul Dracului bog complex with new data for the Romanian fauna

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Abstract. The present paper contains faunistical data obtained by the joint research of Babeș-Bolyai and Szeged University. 44 species of 15 families were identified from Lacul Dracului marsh-complex (Harghita Mountains). *Meioneta similis* (Kulczynski 1926) is new for the Romanian fauna. Furthermore the occurrences of two questionable species [*Kaestneria pullata* (O.P.-Cambridge, 1863) and *Trichoncus saxicola* (O.P.-Cambridge, 1861)] are proved.

Key words: Aranea, Lacul Dracului, taxonomy, faunistics

INTRODUCTION

As a consequence of increasing human activity natural and semi-natural peatland are disappearing [7, 8]. In the Eastern Carpathians there are several such peat bogs left, which are known as glacial refuges for different valuable plant and animal species [4, 5, 9, 13, 17, 20]. These habitats bear specific conditions, e.g.: high water level and low annual mean temperature. These factors influence animal species inhabiting the peatlands, supporting a special fauna [14].

As the species composition of these wet habitats is not well known, our aim was to provide further faunistical data for the region.

MATERIALS AND METHODS

The Lacul Dracului marsh-complex (46°29'N, 25°31'E) is an isolated area in a small depression in the Harghita Mts. at 1180 m above sea level. It contains both eutrophic and oligotrophic habitats. The following habitat types were distinguished: peat bog (*Eriophoro vaginati-Sphagnetum recurvi* Hueck 1925), a relatively open area with sparse Scots pines and blueberry bushes, open sedge meadow (*Caricetum elatae* Koch 1926), and the nearby area is a dense and wet forested bog with small spruces (*Piceetum sphagnoso-Polytrichetosum* Soó 1944), spruce forest with *Lycopodium*, dense spruce forest with blueberry [14].

Our research was performed in August 6th – 13th, 2000 period. We used pitfall traps for sampling the spider communities. The traps were plastic jars with 5.6 cm diameter, filled with saturated salt solution.

Spiders were determined using various keys [1, 2, 6, 11, 12, 18, 19, 21]. The species list was ranged taxonomically according to world spider catalogue of Platnick [16].

RESULTS AND DISCUSSIONS

We collected 266 specimens, 118 adults (62 males, 53% and 56 females, 21%) and 148 juveniles (56%), belonging to 44 species of 15 families (Table 1).

The richest families in species are Linyphiidae (29,55%, 13 species), followed by Araneidae (15,91%, 7 species), Lycosidae (11,36%, 5 species), Salticidae (11,36%, 5 species) and Thomisidae (6,82%, 3 species). The rest of ten families (Theridiidae, Tetragnathidae, Pisauridae, Cybaeidae, Hahniidae,

Amaurobiidae, Clubiidae, Gnaphosidae, Zoridae and Philodromidae) are represented by one or two species only (Fig. 1).

The list of the species.

Table 1.

	TAXON	MALE	FEMALE	JUVENILE	SUM
I	Theridiidae		1		1
1	<i>Enoplognatha latimana</i> Hippa & Oksala 1982		1		1
II	Linyphiidae	3	16	13	32
2	<i>Agyneta conigera</i> (O.P.-Cambridge, 1863)		1		1
3	<i>Bolyphantes alticeps</i> (Sundevall, 1833)	1	1		2
4	<i>Dismodicus bifrons</i> (Blackwall, 1841)		1		1
5	<i>Dismodicus elevatus</i> (C.L.Koch, 1838)		1		1
6	<i>Gonatium rubellum</i> (Blackwall, 1841)		3		3
7	<i>Kaestneria pullata</i> (O.P.-Cambridge, 1863)		1		1
8	<i>Labulla thoracica</i> (Wider, 1834)	1			1
9	<i>Meioneta similis</i> (Kulczynski 1926)	1			1
10	<i>Notioscopus sarcinatus</i> (O. P. – Camb. 1872)		1		1
11	<i>Oedothorax apicatus</i> (Blackwall, 1850)		2		2
12	<i>Oedothorax gibbosus</i> (Blackwall, 1841)		3		3
13	<i>Trichoncus saxicola</i> (O.P.-Cambridge, 1861)		1		1
14	<i>Walckenaeria kochi</i> (O.P.-Cambridge, 1872)		1		1
III	Tetragnathidae			2	2
15	<i>Metellina segmentata</i> (Clerck, 1757)			2	2
IV	Araneidae	8	6	32	46
16	<i>Aculepeira ceropegia</i> (Walckenaer, 1802)	4	1		5
17	<i>Araneus diadematus</i> Clerck, 1757	2	1		3
18	<i>Araneus marmoreus</i> Clerck, 1757	2	1		3
19	<i>Araneus nordmanni</i> (Thorell, 1870)		1		1
20	<i>Araneus quadratus</i> Clerck, 1757		2		2
21	<i>Argiope bruennichi</i> (Scopoli, 1772)			1	1
22	<i>Singa hamata</i> (Clerck, 1757)			1	1
V	Lycosidae	4	20	39	63
23	<i>Pardosa amentata</i> (Clerck, 1757)		1		1
24	<i>Pardosa lugubris</i> (Walckenaer, 1802)		1		1
25	<i>Pirata hygrophilus</i> Thorell, 1872	1	14	1	16
26	<i>Trochosa spinipalpis</i> (F.O.P.-Cambridge, 1895)	2	4		6
27	<i>Xerolycosa nemoralis</i> (Westring, 1861)	1			1
VI	Pisauridae			2	2
28	<i>Dolomedes fimbriatus</i> (Clerck, 1757)			2	2
VII	Cybaeidae	2	2		4
29	<i>Cybaeus angustiarum</i> L. Koch, 1868	2	2		4
VIII	Hahniidae	3			3
30	<i>Antistea elegans</i> (Blackwall, 1841)	2			2
31	<i>Chryphoea silvicola</i> (C. L. Koch 1834)	1			1
IX	Amaurobiidae	39	2	15	56
32	<i>Coelotes terrestris</i> (Wider, 1834)	39	2		41
X	Clubionidae		1	5	6
33	<i>Clubiona stagnatilis</i> Kulczynski, 1897		1		1
XI	Gnaphosidae			1	1
34	<i>Gnaphosa sp.</i>			1	1
XII	Zoridae	1			1
35	<i>Zora nemoralis</i> (Blackwall, 1861)	1			1
XIII	Thomisidae	2	1	17	20
36	<i>Misumena vatia</i> (Clerck, 1757)			1	1
37	<i>Ozyptila trux</i> (Blackwall, 1846)	2	1		3
38	<i>Xysticus sabulosus</i> (Hahn, 1832)				0
XIV	Philodromidae		1		1
39	<i>Philodromus collinus</i> C.L.Koch, 1835		1		1
XV	Salticidae	4	6	10	20
40	<i>Evarcha arcuata</i> (Clerck, 1757)	1	1		2
41	<i>Evarcha falcata</i> (Clerck, 1757)	3	3		6
42	<i>Heliophanus sp.</i>			7	7
43	<i>Leptorchestes berlinensis</i> (C.L.Koch, 1846)		1		1
44	<i>Sitticus caricis</i> (Westring, 1861)	0	1	0	1

Most of specimens belong to the family Lycosidae (24,06%, 64 specimens) followed by Amaurobiidae (21,05%, 56 specimens), Araneidae (16,54%, 44 specimens), and only after that succeed Linyphiidae (12,103%, 32 specimens) which is the richest family in species (Fig. 1.). This distribution of families and species was determined by the ecological condition of studied ecosystems and the collection methods, too. The pitfall traps captured successfully the epigeical species, the ground wandering spiders, with active hunter lifestyle, when running free on the soil surface. The arboreal species, the web builders or plant wanderers falls into the traps accidentally.

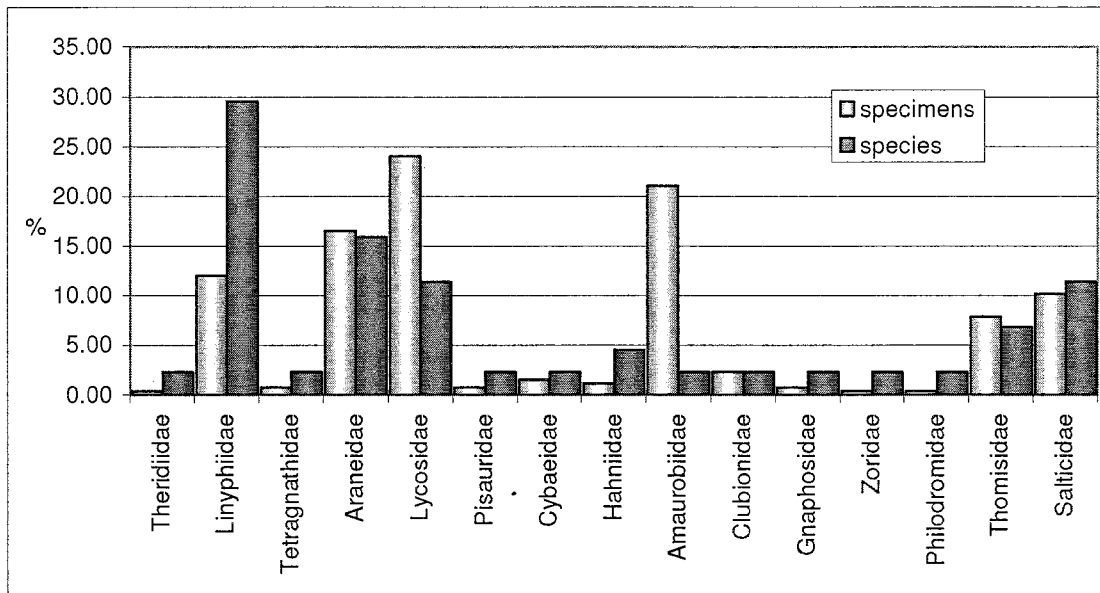


Fig. 1. The percentage representation of the spider families.

Out of these species, *Meioneta similis* (Kulczynski 1926) is new for the Romanian fauna. Specimens of this species were formally collected in Island, North-Europe, Siberia and Czech Republic [6].

The presence of other two species: *Kaestneria pullata* (O.P.-Cambridge, 1863) and *Trichoncus saxicola* (O.P.-Cambridge, 1861), had been questionable, they were included in the fauna lists by Weiss and Petrișor [22], Weiss and Urák [23] on the basis of bibliographical data up to 1970 [3]. Those data could not be confirmed, because of the absence of specimens in collections. *Kaestneria pullata* is widespread but locally rare in Europe. This species occurs in open wet habitats among grass [6]. In Europe *Trichoncus saxicola* was recorded from moss and grass [10]. These species are included in the red lists of several Western European countries [10, 15].

CONCLUSION

Large number of natural peatlands located in Northern Europe, but they are rare in Central Europe [7]. Although the proportion of peatlands in Romania is very low, several small patches are located in the higher mountains. Even if the sapling period was short (one week), it is clear that the spider fauna of this peat bog is rich in high of value, rare species. This study together with formal ecological and faunistical studies justifies the conclusion that these peatlands worth protecting.

SUMMARY

Lucrarea de față prezintă materialul arahnologic colectat în complexul de tinoave Balta Dracului (Munții Harghita). Materialul biologic a fost colectat în perioada 6–13 august 2000. Au fost colectate 266 aranee din 44 specii, 11 familii. *Meioneta similis* este semnalată pentru prima dată în fauna României. Se confirmă prezența altor două specii (*Kaestneria pullata* și *Trichoncus saxicola*).

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