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Spiders of Doupovské Hory Mts.

Abstract. Spiders of nine localities in Doupovské Hory Mts. were investigated. A total of 134 spider species were collected. The occurrence of both, psychrophilous mountain species (*Pardosa sordidata, Bathyphantes similis*), and thermophilous species (*Araniella opisthographa, Theridion betteni, Drassyllus praeficus, Micaria fulgens* and *Heliophanus cupreus*) is characteristic for the territory investigated. *Tmeticus affinis* (Blackwall, 1855) is a new record for the Czech Republic.

Introduction

Doupovské Hory Mountains are situated in western Bohemia nearby the town of Karlovy Vary. They represent the second biggest stratovolcano in the Europe. Hradiště Mt. reaches 934 m. The annual average temperature is 6 °C. Original beech forests occur in higher altitudes with adequate precipitation, however the main part of them was transferred in meadows and pastures. Characteristic shrub forest steppe occur in lower altitudes with annual precipitation of about 550 mm. Deep gorges are characteristic for marginal parts.

Doupovské Hory Mts. laid rather outside the interest of naturalists. The first zoological excursion in this territory was organised in 1919 (KOMÁREK 1920). Prevailing part of Doupovské Hory Mts. serves from fifties as military training area (KOMÁR 1993). At present, Doupovské Hory Mts. represent an ecologically valluable territory thanks longtime absence of agricluture activities. Basic botanical and zoological research is organised from the end of eightees. Very activ "Klub přátel Doupovských hor" (The Club of Friends of Doupovské Hory Mts.) organises numerous activities. Doupovské Hory Mts. are only site in the Bohemia in which *Elaphe longissima* occur, *Ciconia nigra* and *Tetrao tetrix* have here one of largest nesting locality, numerous birds of prey occur here. The finding of common spider *Amaurobius fenestralis* (lgt. J. Štorkán) – it was up to now only record about the arachnofauna of Doupovské Hory Mts. (BAUM 1929).

Materials and Methods

Localities

The names of localities are given according to the Geographical Lexicon of the Czech Republic (NOVÁKOVÁ 1991). The number of the grid square (BUCHAR 1982) is given in parenthess.

1. Verušičky, former village Albeřice (5845) – a quarry
2. Hradiště (district of K. Vary), Stolová Hora hill (5844) – southeast exposed lava rock wall up to 25 m high
3. Stružná, Zelený Rybník pond (5844) – wetlands at pond margins, littoral sedge grass stands
4. Hradiště (district of K. Vary), Tišina pond (5744) – the highest water reservoir in Doupovské Hory Mts. (810 m), wetlands at pond margins, littoral sedge grass stands
5. Valeč (district of K. Vary), Číhaná hill, 740 m (5745) – forested crest with remnants of oldest original beech forests (200–250 years)
6. Mašťov-Konice, former town Doupov (5744), Jánský Vrch hill, 715 m (5745) – hill with

graslands above the town
7. Okounov-Krupice, Humnický Vrch hill and Havran hill (5644) – charakteristic dry hills in northern part of Doupovské Hory Mts. with stony slopes and various stages of overgrowing of cultural steppe with shrubs
8. Kadaň (5645) – rock steppe on south exposed slope of Ohře river under the Kadaň town
9. Stráž n. O.-Korunní (5644) – cold valley of Korunní Potok brook

The excursion of the Arachnological Section of the Czech Entomological Society were organised from 12th to 14th June 1997. Spiders were collected by hand picking, sweeping and seeving, conserved in 80% alcohole and then processed in laboratory. Milan Antuš, Petr Antuš, Mgr. Jan Dolanský, Doc. RNDr. Jaromír Hajer, CSc. and Doc. MUDr. Pavel Kasal, CSc. took part in the collection of material and in its determination.

The nomenclature follows the check list of the spiders of the Czech Republic (BUCHAR et al. 1995).

Results and Discussion

A total of 422 spider specimens belonging to 134 species were collected (Tab. 1). Both, typical cold-adapted species, characteristic for our high mountains, and typical thermophilous species are presented in the material.

Pardosa sordidata was collected at Stolová Hora hill and in former town of Doupov; this species was still recorded only from our border regions in Šumava and Krkonoše Mts. (BUCHAR 1995). *Bathyphantes similis* was recorded in the inverse valley of Korunní Potok brook; prevailing part of records of this species originated from Krkonoše Mts., solitery records originated from cold valleys and peat bogs. *Tmeticus affinis* is a new record for the Czech Republic. The occurrence in Doupovské Hory Mts. represents the most southern record of this northern species in Central Europe. PALMGREN (1976) points to solitery records of this species and asks for its ecological demands: are they not very special? Three females of *Tmeticus affinis* were collected in littoral bend of Zelený Rybník pond from high sedge grass. The preferring of littoral stands is the reason of low number of records; it is the same situation as in another species inhabiting this unaccessible habitats (RŮŽIČKA & HOLEC 1998), e.g. in *Microlinyphia impigra*. The occurrence of *Larinioides cornutus* is alo known only from higher altitudes (*Larinioides folium* inhabits reed swamp and another wetlands in lower altitudes).

The findings of thermophilous species (BUCHAR 1993) *Araniella opisthographa*, *Theridion betteni*, *Drassyllus praeficus*, *Micaria fulgens* a *Heliophanus cupreus* characterize warm climate of Humnický Vrch hill. Thermophilous species *Phlegra fasciata* was recorded on a top of Jánský Vrch hill at an altitude of 715 m. The records of thermophilous species *Ero aphana*, *Dictyna latens* and *Misumenops tricuspidatus* at rock steppe on a slope of the Ohře river valley are of some value.

The material obtained enriches our knowledges about the distribution of some spider species in the Czech Republic. An analysis of material documents specific character of Doupovské Hory Mts. and the necessity of protection and specific management especially of non-forest localities.

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Souhrn

Pavouci Doupovských hor

V práci jsou uvedeny výsledky arachnologické exkurze, přinášející první obsáhlejší údaje o pavoucích Doupovských hor. Celkem bylo sbíráno na devíti lokalitách a byl zjištěn výskyt 134 druhů pavouků. Zjistili jsme výskyt jak chladnomilných, tak teplomilných druhů. Výskyt druhu *Pardosa sordidata* byl dosud znám výhradně z Krkonoš a ze Šumavy, nálezy druhu *Bathyphantes similis* mimo Krkonoš jsou pouze ojedinělé. *Tmeticus affinis* nalezený v litorálních ostřicích Zeleného rybníka je novým druhem pro arachnofaunu České republiky a Doupovské hory jsou nejjižnějším místem výskytu tohoto druhu ve střední Evropě. Mnohé teplomilné druhy byly nalezeny na Humnickém vrchu (*Araniella opisthographa*, *Theridion betteni*, *Drassyllus praeficus*, *Micaria fulgens* a *Heliophanus cupreus*) a na skalní stepi v údolí Ohře pod Kadaní (*Ero aphana*, *Dictyna latens* a *Misumenops tricuspidatus*). Získané výsledky obohacují naše vědomosti o rozšíření některých druhů pavouků v České republice a dokládají potřebu ochrany zvláště nelesních lokalit.

Table 1. Survey of material collected. Number of specimens is given. The numbering of localities as in the text. The initials of a collector are given in that cases, in which the species was collected by one collector only.

druh	1	2	3	4	5	6	7	8	9	lgt.
Pholcidae										
Pholcus opilionoides (Schrank, 1781)								1		VR
Segestriidae										
Segestria senoculata (Linné, 1758)					1		4			
Mimetidae										
Ero aphana (Walckenaer, 1802)								1		VR
Ero furcata (Villers, 1789)									1	PK
Nesticidae										
Nesticus cellulanus (Clerck, 1757)									2	JD
Theridiidae										
Enoplognatha ovata (Clerck, 1757)		1				1	1			
Enoplognatha thoracica (Hahn, 1833)		1								VR
Robertus lividus (Blackwall, 1836)					1					MA
Rugathodes bellicosus (Simon, 1873)							1			VR
Theridion betteni Wiehle, 1960	2						1			VR
Theridion bimaculatum (Linné, 1767)		15			1	2	1		1	
Theridion impressum L. Koch, 1881		1						3		
Theridion sisyphium (Clerck, 1757)		2							1	
Theridion varians Hahn, 1833	1									VR
Linyphiidae										
Araeoncus humulis (Blackwall, 1841)									1	PK
Bathyphant. approximatus (O. P.-Cbr., 1871)				2						PK
Bathyphantes nigrinus (Westring, 1851)		1	1	4						
Bathyphantes similis Kulczyński, 1894									1	MA
Centromerus sylvaticus (Blackwall, 1841)					1					VR
Diplocephalus cristatus (Blackwall, 1833)									1	MA
Diplocephalus picinus (Blackwall, 1841)							1			PK
Diplostyla concolor (Wider, 1834)				1	1				1	
Dismodicus bifrons (Blackwall, 1841)		1		1		6			1	
Entelecara congenera (O. P.-Cbr., 1879)									1	PK
Entelecara erythropus (Westring, 1851)		2		1						

druh	1	2	3	4	5	6	7	8	9	lgt.
Erigone atra Blackwall, 1833	1	1	2	1						
Erigonella hiemalis (Blackwall, 1841)									3	PK
Gonatium rubens (Blackwall, 1833)						1				VR
Gongylidium rufipes (Linné, 1758)						1			4	
Hypomma bituberculatum (Wider, 1834)			7	4						
Kastneria dorsalis (Wider, 1834)	1									VR
Kaestneria pullata (O. P.-Cbr., 1863)			4	4						
Lepthyphantes alacris (Blackwall, 1853)									1	PK
Lepthyphantes flavipes (Blackwall, 1854)							1		1	PK
Lepthyphantes leprosus (Ohlert, 1865)	1									VR
Lepthyphantes mansuetus (Thorell, 1875)							1			MA
Lepthyphantes mengei Kulczyński, 1887			1							MA
Lepthyphantes tenebricola (Wider, 1834)					2				1	
Linyphia hortensis Sundevall, 1830		1			4				2	
Maso sundevalli (Westring, 1851)					1		3		1	
Meioneta rurestris (C. L. Koch, 1836)		1								MA
Meioneta saxatilis (Blackwall, 1844)		1								MA
Micrargus herbigradus (Blackwall, 1854)									1	PK
Microlinyphia impigra (O. P.-Cbr., 1871)				3						VR
Microneta viaria (Blackwall, 1841)							1			PK
Moebelia penicillata (Westring, 1851)		1								VR
Neriene clathrata (Sundevall, 1830)									1	PK
Neriene montana (Clerck, 1757)						1			1	
Neriene peltata (Wider, 1834)									4	
Oedothorax agrestis (Blackwall, 1853)						12			6	
Oedothorax apicatus (Blackwall, 1850)		1								MA
Oedothorax gibbosus (Blackwall, 1841)		1	3	9		3				
Pelecopsis radicicola (L. Koch, 1872)							2			PK
Pocadicnemis pumila (Blackwall, 1841)		1								PK
Porrhomma pallidum Jackson, 1913									1	MA
Tapinocyba affinis (Lessert, 1907)							1			PK
Thyreosthenius parasiticus (Westring, 1851)					4	1				
Tmeticus affinis (Blackwall, 1855)			3							VR
Walckenaeria antica (Wider, 1834)		1								PK

druh	1	2	3	4	5	6	7	8	9	lgt.
Tetragnathidae										
Metellina merianae (Scopoli, 1763)		1							4	
Metellina segmentata (Clerck, 1757)						1			1	
Pachygnatha clercki Sundevall, 1823			1							VR
Pachygnatha listeri Sundevall, 1830		1								
Tetragnatha extensa (Linné, 1758)			11	5		4				
Tetragnatha montana Simon, 1874									1	PK
Tetragnatha pinicola L. Koch, 1870		6	2						1	
Zygiella montana (C. L. Koch, 1839)		1								JD
Araneidae										
Aculepeira ceropegia (Walckenaer, 1802)		3				1	3			
Araniella alpica (L. Koch, 1869)					1					JD
Araniella cucurbitina (Clerck, 1757)	1	1	1						1	
Araniella opisthographa (Kulczyński, 1905)							1			VR
Hypsosinga albovittata (Westring, 1851)								1		VR
Hypsosinga pygmaea (Sundevall, 1832)			1							JD
Larinioides cornutus (Clerck, 1757)			3	3						
Larinioides ixobolus (Thorell, 1873)	1									VR
Larinioides patagiatus (Clerck, 1757)						3				
Mangora acalypha (Walckenaer, 1802)							2			MA
Nuctenea umbratica (Clerck, 1757)		1								JD
Lycosidae										
Alopecosa cuneata (Clerck, 1757)						1				PK
Alopecosa trabalis (Clerck, 1757)							1			MA
Pardosa agrestis (Westring, 1862)									1	MA
Pardosa amentata (Clerck, 1757)		3		1		1			6	
Pardosa lugubris (Walckenaer, 1802)					1	1				
Pardosa palustris (Linné, 1758)						1				JD
Pardosa riparia (C. L. Koch, 1833)							3			
Pardosa sordidata (Thorell, 1875)		1				2				
Pirata hygrophilus Thorell, 1872			1							MA
Pirata piraticus (Clerck, 1757)			1							VR
Trochosa terricola Thorell, 1856					1	1	2			
Xerolycosa nemoralis (Westring, 1861)	1									VR

druh	1	2	3	4	5	6	7	8	9	lgt.
Pisauridae										
Pisaura mirabilis (Clerck, 1757)								1		VR
Agelenidae										
Histopona torpida (C. L. Koch, 1834)					1	1				
Tegenaria silvestris L. Koch, 1872									1	JD
Hahniidae										
Cryphoeca silvicola (C. L. Koch, 1834)		4			5	1				
Dictynidae										
Dictyna latens (Fabricius, 1775)								1		VR
Dictyna pusilla Thorell, 1856		1								VR
Dictyna uncinata Thorell, 1856						1				MA
Amaurobiidae										
Callobius claustrarius (Hahn, 1833)							1			MA
Coelotes terrestris (Wider, 1834)		1			8	1				
Anyphaenidae										
Anyphaena accentuata (Walckenaer, 1802)									1	MA
Liocranidae										
Phrurolithus festivus (C. L. Koch, 1835)						1				JD
Clubionidae										
Cheiracanth. erraticum (Walckenaer, 1802)						1	1			
Clubiona coerulescens L. Koch, 1867							1			MA
Clubiona lutescens Westring, 1851						2				VR
Clubiona neglecta O. P.-Cambridge, 1862		1								PK
Clubiona reclusa O. P.-Cambridge, 1863		2	2	1		1			1	
Clubiona stagnatilis Kulczyński, 1897			1	2						
Gnaphosidae										
Drassyllus praeficus (L. Koch, 1866)	1						1			
Drassodes cupreus (Blackwall, 1834)							2			MA
Drassodes lapidosus (Walckenaer, 1802)	2					2				
Drassodes pubescens (Thorell, 1856)							3			
Micaria fulgens (Walckenaer, 1802)							1			MA
Zelotes latreillei (Simon, 1878)						1				JH
Zelotes subterraneus (C. L. Koch, 1833)	1					1				
Zoridae										

druh	1	2	3	4	5	6	7	8	9	lgt.
Zora spinimana (Sundevall, 1833)				2					3	
Philodromidae										
Philodromus cespitum (Walckenaer, 1802)	3	2					1			
Tibellus oblongus (Walckenaer, 1802)		3					2			
Thomisidae										
Misumenops tricuspidatus (Fabricius, 1775)								1		VR
Ozyptila trux (Blackwall, 1846)		1								JD
Xysticus audax (Schrank, 1803)		1								MA
Xysticus bifasciatus C. L. Koch, 1837		4				2				
Xysticus cristatus (Clerck, 1757)							1			VR
Xysticus ulmi (Hahn, 1831)		3	1	1		1				
Salticidae										
Aelurillus v-insignitus (Clerck, 1757)	2	1								
Bianor aurocinctus (Ohlert, 1865)							1			MA
Euophrys frontalis (Walckenaer, 1802)		1				1	1			
Evarcha arcuata (Clerck, 1757)		1					1	2		
Heliophanus aeneus (Hahn, 1831)	1									VR
Heliophanus cupreus (Walckenaer, 1802)	2						11			
Heliophanus flavipes Hahn, 1832		2								JD
Neon reticulatus (Blackwall, 1853)									1	PK
Phlegra fasciata (Hahn, 1826)						2				VR
Salticus scenicus (Clerck, 1757)		3				1	1	1		