

Remarks on the peatbog spider fauna in the Šumava Mts. (*Araneida*)

Poznámky k pavoučí fauně rašelinišť na Šumavě (*Araneida*)

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Abstract

A total of 306 spider species have been found in 83 peatbogs of the Šumava Mts. The relict component which consisted of 243 species (79.4 %) markedly prevailed in the quantitative epigeic samples from the core of the peatbogs. On the contrary, the psychrophilic component prevailed both in the number of the species (134, i.e. 43.8 %) and in quantitative epigeic samples obtained by the method of pitfall trapping. The nonspecific component was found to be significantly represented in obtained samples as well (102 species, i.e. 33.3 %). The spider species with faunistic and zoogeographic importance: *Arctosa alpigena lamperti*, *Clubiona norvegica*, *Dictyna major*, *Gnaphosa badia*, *Gnaphosa microps*, *Haplodrassus moderatus* and *Pardosa hyperborea*.

Key words: spider species, relictiness, thermopreference.

Introduction

In 1980–1995, we investigated the spider communities in 83 peatbogs distributed on the territory of the Šumava Mts. A total of 35,152 specimens belonging to 306 spider species has been collected. In the present list the available data obtained by our observations and completed by the findings of other authors are summarized. Part of the data has been already published (BUCHAR 1963, KASAL 1981, KŮRKA 1990, MILLER 1971).

Results

Characteristics of the spider communities inhabiting peatbogs in the Šumava Mts. region

Species spectrum

At present, on the territory of Bohemia the occurrence of approximately 700 spider species is documented (Buchar's check-list 1992 gives 689 species, at least 10 species were found in the recent period). Consequently, 306 spider species found in the peatbogs of the Šumava Mts. represent 44 % of the species spectrum of the Bohemian spider fauna. The resulting ratio is rather high, considering that the peatbogs are severe habitats displaying low diversity. Some additional spider species are expected to occur in the less carefully investigated localities. On the other hand, some spider species were found only on the periphery of the peatbogs (for instance in alder grove, reeds or stands of *Spiraea salicifolia* near Mrtvý luh mire, etc.).

Locality (Peatbogs)	RI+R	E	RI+R	E
Mrtvý luh	80–90 %	8–19 %	64 %	30–35 %
Chalupská slat'	70–96 %	3–28 %	3–28 %	26–63 %
Zhůřská slat'	88 %	12 %	–	–
Mezilesní slat'	80 %	19 %	–	–
Novohůrecká slat'	96 %	4 %	36 %	64 %

Relictness (BUCHAR 1992)

The spider fauna in the respective peatbogs is characterized by a relatively high percentage of the relict component (RI: 97 species–31.7%, R: 146 species–47.7%, RI+R: 243 species –79.4%). The expansive component amounted to 58 species, i.e., 19%.

Quantitative analysis of the epigeic samples obtained by pitfall trapping in some completely explored areas presented a high participation of the relict species (RI+R) in central parts of the peatbogs whereas the degree of relictiness of the spider fauna in the peripheral zones was regularly low.

Thermopreference (BUCHAR 1992)

The climatically-ecological components were represented as follows: 134 psychrophilic (43.8%), 102 nonspecific (33.3%), 54 mesothermic (17.6%) and 5 thermophilic species (1.6%). The prevalence of the psychrophilic component is adequate to the environmental character of the peatbog ecosystems. The psychrophilic spider species made up the most of the relict component. The thermophilic species amounted to the insignificant number of the total sample; they occurred very sporadically and were found to be receding or subreceding in the quantitative epigeic samples.

Findings of faunistic and zoogeographic importance

Research of the peatbogs in the Šumava Mts. performed in 1959–1995 contributed many new important findings and data to the knowledge of the Bohemian as well as Central European spider fauna:

a) New species for Bohemian spider fauna found in the peatbogs in the Šumava Mts.: *Arctosa alpigena lamperti* (BUCHAR 1963), *Clubiona norvegica* (BUCHAR 1963), *Dictyna major* (KASAL 1981), *Gnaphosa badia* (BUCHAR 1963), *Gnaphosa microps* (BUCHAR 1963), *Haplodrassus moderatus* (KŮRKA 1990), *Pardosa hyperborea* (BUCHAR 1963).

b) Species found in the Czech Republic, hitherto, only in the peatbogs in the Šumava Mts.: *Clubiona norvegica*, *Dictyna major*, *Gnaphosa microps*, *Pardosa hyperborea*.

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