

Notes to the catalogue of spiders of the Czech Republic

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Abstract

A summary and graph of the rate of discovery of spiders in the Czech Republic is given. The principal contributors to the discovery of spider species in the Czech Republic, and the main authorities describing these species are mentioned. Several notes on the legend of the catalogue and to the structure of the Czech arachnofauna are given.

Key words: Czech Republic, spiders, catalogue, rate of discovery

INTRODUCTION

A catalogue of spiders of the Czech Republic, containing data on 830 spider species known up to 2000, was published in 2002 (Buchar & Růžička 2002). The publication of this catalogue is the result of cooperation of arachnologists working in the Arachnological Section of the Czech Entomological Society and the work of authors supported by the Grant Agency of the Czech Republic. The catalogue is also dedicated to the memory of the centenary of birth of Prof. František Miller.

RATE OF DISCOVERY

The first notes on spiders in Bohemia originated from the end of the 18th century. The first species lists were published in the second half of the 19th century by museum assistant Prach (1860, 1866), and grammar school teachers Bárta (1869) and Nosek (1895). Nosek cooperated with W. Kulczyński, and his survey includes a list of species collected by spa doctor A. Palliardi and determined by L. Koch. Schenkel (1929, 1930) determined material collected by E. Nielsen.

Systematic research on the arachnofauna of the territory of the present Czech Republic

started in the 1930s and continues up to the present time. The ten principal contributors to the collection of new species in the Czech Republic are given in Table 1. Collections of grammar school teacher J. Martínek were published by Buchar (1981). In total, 77 collectors were involved in the discovery of the spider fauna of the Czech Republic; Prof. Miller alone discovering a quarter of the species. Since the 1950s the rate of increase of new species is an average of about 4.7 species per year, although since 1970 this has reduced to about 3.2 species annually (Fig. 1).

An identification key (Miller 1971) represents a key work of Prof. F. Miller and the present catalogue represents a key work of Prof. J. Buchar.

British arachnology led by authorities such as Blackwall and O. P.-Cambridge developed faster. The number of species known in the Czech Republic and the United Kingdom was equal, at about 575, after World War II. Then, the species potential of the United Kingdom started to diminish and since the early 1950s the rate of increase of British spiders has remained at an average of about 1.5 species per year (Merrett & Murphy 2000).

Table 1. Principal contributors to the collection of new species in the Czech Republic. Where a species was collected by several collectors in the same year, the discovery is apportioned between the collectors and shown in the 'Common' column.

Collector	Solo	Common	Total
F. Miller	212	1.5	213.5
F. Prach	145	-	145
A. Nosek	88	1.5	89.5
A. Palliardi	89	-	89
J. Buchar	57	0.33	57.33
J. Kratochvíl	28	1	29
E. Bárta	22	-	22
J. Martínek	17	-	17
V. Růžička	14	0.5	14.5
E. Nielsen	12	0.5	12.5

Table 2. Principal authorities describing spider species in the Czech Republic. Solo descriptions and descriptions in cooperation with another authority are distinguished.

Authority	Solo	In coop	Total
O. P.-Cambridge	78	0	78
L. Koch	70	0	70
C.L. Koch	69	0	69
E. Simon	68	0	68
J. Blackwall	67	0	67
C. Clerck	53	0	53
T. Thorell	47	0	47
C. A. Walckenaer	44	0	44
W. Kulczyński	36	0	36
N. Westring	33	0	33
Wider	23	0	23
F. Miller	15	7	22

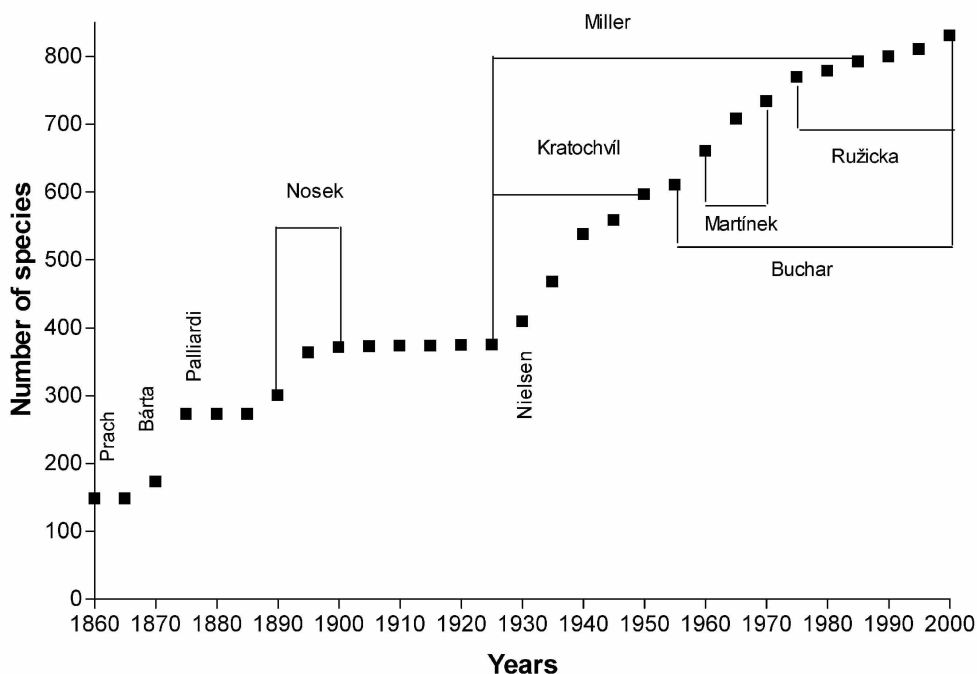


Fig. 1. Rate of discovery of spider species, based on the date of collection when each currently recognised species was first found in Czech Republic. The principal contributors with their main period of activity are indicated. (Where precise date of collection is unknown, an appropriate date has been designated.)

AUTHORITIES OF DESCRIPTIONS

In total, 98 authorities were involved in the description of the arachnofauna of the Czech Republic. We can compare the most productive of them (Table 2) with those authorities describing the spider fauna of Austria (Thaler 1980). The first ten names are identical, in similar sequence. E. Simon and W. Kulczyński were a little more involved in the description of spiders forming part of the present Austrian arachnofauna than the Czech one. Prof. Miller cooperated in the descriptions of new species with usually younger colleagues, guiding their scientific work.

EXPLANATIONS

Each species in the catalogue is presented by a set of data and characteristics.

Synonymy, References and Distribution represent general data on species. Species are classified as cosmopolitan (1%), Holarctic (14%), Palaearctic (44%), and European (41%). Global classification is followed by a detailed characterisation of the area. Detailed explanations include a designation of species recorded in Czech Republic only in Bohemia (75 species), only in Moravia and/or Silesia (10 species) and only in the Pannonian (southern) part of Moravia (68 species). Boreomontane species, species with continuous distribution in the northern territories and disjunctive, island occurrence in lower latitudes, are also designated (20 species).

All other characteristics describe the occurrence of the species in the Czech Republic.

For characterisation of species requirements of light and humidity, we do not designate the species by terms which characterise their microclimatic demands (e.g. photobiont, xerophil), by terms which characterise the extent of conditions tolerated by the species (e.g. euryecious, stenoecious), or by terms which characterise the habitat (e.g. hylobiont, cavernicole) (Tretzel 1952). Consistent application of this principle causes, on the one hand, terminological difficulties and, on the other hand, an “ecological label” in the form of one

or several terms that gives only limited information on the extent of habitat conditions tolerated by species (Duffey 1966). For this reason, we distinguish five types of habitats with respect to **Humidity** (very dry, dry, semi-humid, humid and very humid) and **Light** (open, semi-open, partly shaded, shaded and dark). The basic values are printed in medium font, the markedly preferred values are printed in bold, and some marginal, but not negligible values, are in parentheses. Other characteristics are also expressed in this style.

We distinguish four types of habitats with respect to the **Originality of habitat**: climax, semi-natural, disturbed, artificial.

The Czech Republic is divided into three **Phytogeographic districts**: Thermophyticum, Mesophyticum, and Oreophyticum. We follow this division with one exception: we record separately the occurrence of spider species only in the western part of Thermophyticum as defined by botanists.

The range of **Altitude** and **Stratum** inhabited, and the typical **Habitats** in which the species occurs are given.

The degree of **Vulnerability** is determined based on the criteria of the IUCN for the Czech Republic. We consider 53 species to be critically endangered, 85 species to be endangered, and 71 species to be vulnerable.

All details are given in the case of species with a very low number of **Records**.

We use a Central European grid map for the presentation of species distribution. The **Number of grid squares** is given in the text characteristics.

Occurrence. The abundance in the geographical sense is given at the beginning of the sentence, based on the estimated number and distribution of grid squares, in which the species might occur in the whole Czech Republic according to the presence of suitable habitats. After the characteristics of abundance, a short description of micro- and macrohabitat is given.

The characteristics **Humidity** and **Light** usually describe the macro-habitat of a spe-

cies. The microhabitat is described by the characteristic **Stratum**, and also by the **Occurrence**.

We are aware that nature does not classify; we classify. Any classification brings problems. For example, *Wubanoidea uralensis* (Pakhorukov, 1981) inhabits underground layers in extensive open scree slopes in the subalpine zone. How should one describe the light characteristic of its habitat? "Open" or "dark"? To understand the ecological demands of a species, we must consider all characteristics.

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