

DRAGONFLIES (ODONATA) IN THE VEĽKÁ FATRA MOUNTAINS

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Súhrn: *Vážky (Odonata) Veľkej Fatry.* Intenzívny výskum fauny vážok (Odonata) územia Veľkej Fatry prebiehal od roku 1974 a pokračoval do dnešných čias. Zistené výsledky boli publikované vo viacerých prácach, ktorých zoznam je priložený. Autori sa zamerali na všetky druhy pre túto skupinu vhodných biotopov, pričom bol robený prieskum rašelinísk pri Rojkove a Rakši, na vodných lokalitách v dolinách a to v Kantorskej, Necnalskej, Blatnickej, Gaderskej a Seleneckej doline, vo Veľkej skalnej v pralese Padva až po ústie do Turčianskej kotliny. Výskum sa robil aj v hrebeňovej časti Veľkej Fatry a na pramenisku pri Suchom vrchu. Vcelku bolo sledovaných 30 lokalít (rybníky, tečúce vody, prameniská, dočasné vodné nádrže ale i suché lokality vedľa nich) a viac ako 10 z nich bolo sledovaných v priebehu celého roka. Na študovanom území bolo takto zistených 19 druhov vážok, čo je 24% ich fauny na Slovensku. Boli tu nájdené aj veľmi vzácne a ohrozené druhy *Ophiogomphus cecilia* a *Orthetrum coerulescens*, ako aj ďalšie 3 zraniteľné druhy, ktoré si tu zaslúžia zvýšenú ochranu.

Key words: Faunistic, Central Slovakia.

Introduction

An extensive entomofaunistic research programme of dragonflies has been carried out in the Veľká Fatra Mountains in the period 1974 – 2001. This is historically the first field research of dragonflies in this region (Straka 1985, Okáli 1994). Studied area is bordered by the points Rojkovo (peat bog), Kantorská dolina valley, Necnalská dolina valley, Gaderská dolina and Blatnická dolina valleys, Rakša (peat bog), Padva (virgin forest), Veľká Skalná dolina valley, Selenecká dolina valley and Suchý vrch hill and by the border between the Veľká Fatra Mts. and Turčianska kotlina basin. More than 30 water bodies (ponds, running waters, temporal waters, artificial waters) distributed within the whole mentioned area were semiquantitatively sampled (more than 10 of them were studied regularly in all seasonal aspects), and their biodiversity was examined. This paper represents very short preliminary report dealing with the results of mentioned research, briefly summarizes the biodiversity of dragonflies in the studied area, and emphasizes the important role of the Veľká Fatra Mountains as a biocentre of these water insects. The aim of this paper is also to show which dragonfly species of the fauna of the Slovak Republic live in the Veľká Fatra Mountains.

Results

19 dragonflies species were found in all water types of studied area. The list of species is presented in Table I. as well as the relative frequency of their occurrence in the Veľká Fatra Mountains, and status according to how endangered the species is.

Tab. 1 List of dragonflies found in the Veľká Fatra Mountains in the period 1974 – 2001. SR – Slovak Republic, VFM – Veľká Fatra Mountains, Threat: RE – endangered or very rare species, RR – relatively rare species with occurrence only in a few localities in the Slovak Republic, COM – relatively common species: + only single specimens (1 – 5) were found, ++ – tens of specimens were collected, +++ – relatively common species in VFM. Threat: EN – Endangered, LR – Lower Risk, with subcategory – nt: Near Threatened, NE – Not Evaluated and VU – Vulnerable, by David (2001).

Name	SR	VFM	Treat
<i>Aeschna affinis</i> Van der Linden 1823	RR	+	LR:nt
<i>Aeschna cyanea</i> (Müller, 1764)	COM	+++	NE
<i>Anax imperator</i> (Leach, 1815)	COM	++	NE
<i>Calopteryx splendens</i> (Harris, 1782)	COM	+	NE
<i>Calopteryx virgo</i> (Linnaeus, 1758)	COM	+	NE
<i>Coenagrion ornatum</i> (Selys, 1850)	RR	+	VU
<i>Coenagrion puella</i> (Linnaeus, 1758)	COM	+++	NE
<i>Cordulegaster bidentatus</i> (Selys 1854)	RR	++	VU
<i>Cordulegaster boltoni</i> (Donovan, 1807)	RR	+	VU
<i>Enallagma cyathigerum</i> (Charpentier, 1840)	COM	+++	NE
<i>Ischnura pumilio</i> (Charpentier, 1825)	RR	+	LR:nt
<i>Libellula depressa</i> (Linnaeus, 1758)	COM	++	NE
<i>Libellula quadrimaculata</i> (Linnaeus, 1758)	COM	++	NE
<i>Ophiogomphus cecilia</i> (Fourcroy, 1758)	RE	+	EN
<i>Orthetrum coerulescens</i> (Fabricius, 1798)	RR	+	EN
<i>Pyrrhosoma nymphula</i> (Sulzer, 1776)	COM	+++	NE
<i>Sympetrum flaveolum</i> (Linnaeus, 1758)	COM	++	NE
<i>Sympetrum sanguineum</i> (Müller, 1764)	COM	++	NE
<i>Sympetrum vulgatum</i> (Linnaeus, 1758)	COM	+++	NE

Discussion and conclusions

The dragonfly fauna of Central Europe is relatively poor in comparison with the world fauna. The 75 species by David (2001) (4 species was not found in the last 50 years) were recorded in the Slovak Republic and 36 species by Straka (1982, 1984, 1987, 1990, 1999) in the Turiec basin, and adjacent part of the Veľká Fatra Mountains. The fauna of Veľká Fatra Mountains is relatively numerous in comparison with Slovak fauna (24 %), and with fauna of Turiec basin (48 %) too. Finds of some species, e.g., *Ophiogomphus cecilia* (syn. *serpentinus*, Bulánková, 1993) in this area are surprising. The relative abundance of dragonfly species in Veľká Fatra Mountains is probably caused also by high concentration of various types of water bodies in a small area (about 836 km²) except underlying area. The waters are represented mainly by streams and small rivers springing approximately at 1200 – 1500 m a.s.l. at most. After 10 – 20 km they leave this small highland and flow to lowland (about 500 m a.s.l.), where their character rapidly changes to oligotrophic ponds including waters localized in small peat bogs (Rojkovo, Rakša), mesotrophic, and eutrophic ponds, including the polluted ones, artificial water

bodies and astatic waters. Such variability of waters offers of habitats for most of Central-European species. Different biogeographical elements are distributed (or invaded) in the Veľká Fatra Mountains too. For example, relatively rare ponto-mediterranean elements (e.g., *Ophiogomphus cecilia*), European elements with sub-boreal distribution (*Cordulegaster bidentatus*) as well as some mediterranean elements (e.g., *Coenagrion ornatum*, *Aeschna affinis*). These facts illustrate that the Veľká Fatra Mountains represent a valuable dragonfly biocentre or refuge and maybe both.

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