

Abstract

The vegetation provides an ecological space for birds and its structure reflects the availability of this place and resources. What specific influence does the vegetation structure have on bird abundance and which vegetation parameters are the most essential for bird species are classic, but still topical questions. The aim of this work was to find an answer using a study focused on birds in floodplain forests and to determine whether microhabitat characteristics affect the distribution of bird species within a single habitat. The data of this work were collected by the point counting method in six floodplain forests of the Czech Republic and Slovakia and statistically evaluated using regression, correlation and redundancy analysis. The birds were observed on a larger and smaller spatial scale. It was also used the study of the saturation of the environment by bird species over time and for the first time the analysis of habitat photo documentation as an alternative way for describing the vegetation structure. Results show that the analysis of vegetation photographs can be used to explain and predict avian abundance and thus create a new suitable method for birds' studies. Some bird species such as the collared flycatcher (*Ficedula albicollis*) and the Eurasian blue tit (*Cyanistes caeruleus*) have responded to more descriptive vegetation parameters than other species, which may be related both to their way of life and influencing by local conditions and to well-defined vegetation preferences. Also, some descriptive vegetation parameters affected bird species more than others - especially the herbaceous layer, as the strongest parameter on a larger spatial scale or old trees with the greatest influence on a smaller spatial scale. Results also suggest that for some species the relationship between species occurrence and the vegetation structure over time is stronger than for others.

Key words: abundance, habitat preferences, vegetation parameters, spatial scale, analysis of vegetation photographs