ABSTRACT

The urbanization affects the natural ecosystems as the human population grows all over the world. Urban ecosystems gradually expand and cover a considerable amount of the Earth´s surface. However, their influence on other ecosystems is considerably larger, however not very well understood. My research conducted in Prague, Czech republic has focused on the influence of vegetation and other habitat attributes, overall patch size and urbanization gradient on species richness of local bird communities. After corroborating the prominent role of the overall patch size and distance to the city margin in determining overall urban bird species richness as well as the richness of different species guilds, I focused on the influence of vegetation characteristics and other variables on the very local level. These are becoming increasingly interesting, since large scale management actions are not very feasible in cities. The proportion of area coverd by herb layer, tree species richness and presence of water bodies are the most important variables affecting the bird speciess richness. Correlations of these variables with other factors lead to alternative conclusions regarding the role of shrub cover, tree age structure and the potentially most valuable habitats to be conserved in the urban environment. Retaining as much natural habitat cover of native plant species with proper age class composition, avoiding unnecessary paving and retaining natural vegetation along water bodies seem to be the most feasible management measures to be taken in order to support richer bird communities in Prague. Many relatively sensitive bird species belonging to the insectivorous, specialist and ground-nesting guild could benefit from such activities. Retaining older tree age classes and the preservation of richer shrub cover are supposed to compensate for effects caused by the overall small size of central remnant forest patches and parks. However, further examination is needed to find out details about the legitimacy of this hypothesis in the highly dynamic and variable urban environment.

Key words: urban birds, species richness, guilds, vegetation structure, urbanization gradient, patch size, fragmentation