ABSTRACT

Non-productive habitats are the key elements for biodiversity in agricultural landscapes. These habitats include vegetation along unpaved roads that provide refuges for populations of numerous bird species. Such road networks are a typical feature of agricultural landscapes in Central Europe and they often represent one of a few semi-natural habitats surrounded by large arable fields. The aim of this thesis was to find out the characteristics of the vegetation along unpaved roads in agricultural landscape that are crucial for supporting bird species richness.

I counted birds along 90 sections of unpaved roads in farmland of Broumovská Kotlina, Czechia, and measured various environmental characteristics. Those include total area of vegetation and whether it has been mowed, the presence of nettles and bushes, the area of woody vegetation and whether it was present on one or on both sides of a given road, and diversity and species composition of woody plants. In addition, I considered the influence of respective land cover types surrounding the focal sections.

In total, I recorded 32 forest and non-forest bird species, and some of them were protected at the national level. Factors showing significant influence on bird species richness were: (i) the area of woody vegetation, (ii) the diversity of woody vegetation and (iii) the species composition of woody plants. Forest bird species were mainly influenced by the area of woody vegetation – the larger the area, the more species. For non-forest species, diversity of woody vegetation was the most important factor – the higher diversity tree species grew on the transect, the more species of birds were observed. Non-forest birds preferred fruit trees and shrubs over the forest tree species and the same applies for protected bird species.

In conclusion, if we want to support the occurrence of these birds, it is desirable to plant along the roads various woody plant species with a considerable representation of fruit trees and bushes.