FLORISTIC DIVERSITY OF PLANT COMMUNITIES
IN SELECTED POST-AGRICULTURAL AREAS
OF THE KAMPINOS NATIONAL PARK

Key words: afforestation, meadows, post-agricultural areas, secondary succession

Summary

Studies were carried out in 2004 and 2005, in village Wiersze in the Kampinos National Park. The paper shows the results of studies on changes of five groups of plant communities. They occupied a mown meadow, meadow abandoned for 10 years and meadow overgrown by 15 years old oak. There were significant changes in communities with Agrostis canina, Deschampsia caespitosa and in Magnocaricion alliance. The results were checked with Wilcoxon test, based on the comparison of mean number of taxa in syntaxonomic groups.

On mown meadow the succession of plant communities was hampered by mowing. Their similarity was higher there than on other meadows. Floristic individuality $O_f$; floristic value $W_f$ and Shannon diversity index were smaller.

Secondary succession was noted on abandoned meadow and afforested meadow. The first forest plants which appeared there were trees and shrubs. Their localization depended on habitat conditions. The area occupied by meadows was not flat. Elevations differed by even 80 cm. Communities with Agrostis canina and Magnocaricion alliance grew in depressions. Sites of higher elevation were overgrown by communities with Festuca rubra, Deschampsia caespitosa and Molinia caerulea. Communities with Molinia caerulea grew particularly at the border between wet and fresh habitats on abandoned meadows. Trees and shrubs appeared first at the border between wet and fresh habitats. Generally, floristic individuality $O_f$ and floristic value $W_f$ decreased in communities of abandoned meadow.

Unstable communities with shrubs and trees on the whole surface were noted on the afforested meadow. Differences in altitude faded there due to afforestation. Plants of wet habitats grew in ploughed strips. Plants of fresh habitats were noted between the strips. These artificial conditions caused a higher number of taxa in communities with Agrostis canina and Deschampsia caespitosa. In these communities Shannon diversity index and floristic individuality $O_f$ increased. In communities with Festuca rubra, Molinia caerulea the indices decreased. Individual species of grasses started to dominate there. Stenotopic species disappeared. Floristic individuality decreased in communities with Magnocaricion alliance due to spreading of common plant species of fresh and wet habitats.

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