

Abstract

A large part of the declining forest biodiversity (saproxylic insects, birds, fungi, bryophytes, lichens etc.) is linked to microhabitats that occur on structures typical of old-growth forests and are relatively rare in managed forests. In recent decades, alternative, more close-to-nature management practices have been slowly gaining ground, but their impact on microhabitats, and thus their potential value for forest biodiversity, has not yet been assessed.

Therefore, I made a comparison of the occurrence and quality of microhabitats in 4 forest plots (8,3 to 42,5 ha) representing different forest management methods (traditional clearcutting management, alternative selective management and forest reservation at the time of data collection 65 years without intervention) in the natural conditions of the Central Bohemia. In the plots, using the adopted methodologies, I conducted an inventory of the presence of microhabitats on living trees and an inventory of deadwood and their assessment.

The highest abundance and quality of microhabitats and deadwood were in the nature reserve, which at the same time completely exhausted the gamma diversity of all plots studied. The occurrence of microhabitats in clearcut and selective management forests was comparable and mostly low. The positive factors influencing the presence and heterogeneity of microhabitats were the absence of forest management, the presence of deciduous trees, the presence of trees with higher DBH (above 60 cm) and the specific morphology of the site (terrain ruggedness) not allowing the full development of the clearcut management concept. Alternative selective management in its intensive form (without preservation of habitat trees and deadwood) has not proven to be a significantly more positive environment for forest biodiversity than traditional clearcut forestry. The work includes recommendations for improving the representation of microhabitats in managed forests.

Keywords: microhabitats, biodiversity, forest management, selective management, clear-cut management