

Light is essential component of forest ecosystem, as limited light availability in forest-floor restricts herb and tree seedlings growth. Importance of light availability for maintaining plant species diversity and community structure wasn't sufficiently evaluated in the Czech Republic. This study focus on the ecological relevance of light availability on both landscape and local scale. Relationship of light to cover, diversity and species composition was quantified in the thesis. Dominant tree species affected light availability and its spatial variability. Light availability was along the soil reaction and slope most influential factor for large-scale species diversity. Within-site light variability affected plant diversity more than soil reaction variability. Measuring light by means of hemispherical photography seems to be an appropriate for studies like this. Light availability influence on community composition is weak in comparison with other environmental gradients.