

Abstract

Green roofs offer interesting multifunctional solutions to many problems at once. In a small area they bring benefits to people and nature. They thermally insulate buildings, improve the local microclimate and reduce the city's heat island effect. Green roofs improve air quality and also help retain water in the landscape. In combination with solar panels and retention tanks, green roofs can contribute to the modern trend of building green – sustainable – buildings. Green roofs can be used for growing food sources and for relaxation as well. Wild plants can spontaneously colonize green roofs and thereby expand their habitats in cities. The plants create habitats for many animals (especially invertebrates) and provide nectar sources to pollinators. Except food habitats, they offer birds habitat for nesting and resting place during their migration. The aim of this thesis was to evaluate the contribution of green roofs to urban biodiversity. At present, however, most scientific studies deal with the advantages of green roofs in connection with environmental protection or the technical side. A small part of the studies examines the biodiversity of green roofs. My goal was to find out which factors influence a biodiversity of green roofs the most and to design an ideal roofs solution with the greatest possible support for biodiversity. I analyzed the most commonly used plant species on roofs and I dealt with the factors that affect their prosperity. Depth of soil, heterogeneity of habitats, height of the buildings and connectivity with the surrounding greenery were proved to be a key factors influencing the species richness of plants and animals. It has been confirmed that building green spaces within cities support the maintenance of biodiversity and the growth population.

Key words

urbanization, biodiversity conservation, species richness, green roofs, invertebrates, vegetation