

Abstract

Bats (Chiroptera) are usually considered as a group greatly endangered by destructing their habitats through the human activity. However, a significant part of bat species at the central Europe use human buildings as shelters, moreover the natural shelters are marginal or unknown in several species. Considering the linkage of the great part of our bat species to the fragmented area and in connection with a long term human influence on the central european landscape we ask whether at least part of our species see human activity through providing proper shelters as positive. Based on the analysis of landscape structure and ruggedness effect on density, diversity and population structure of bat assamblages acquired by standardized mist net captures located in lowlands (elevations below 500 m) of Czech Republic (204 localities, 3585 bats, 22 bat species), we found that even though most of reactions were species specific and few species seemed to be positively associated with urban environments, most of the bat species rely on the broad-leaved forest cover and other natural habitats such as water bodies. The most significant factor influencing sexual segregation for bats was ruggedness of surrounding landscape.

Keywords: Bats, Chiroptera, fragmentation, Europe, temperate zone