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THE CHALLENGES TO MODERN NATURE CONSERVATION – BUTTERFLIES AS A MODEL GROUP

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Summary

Butterflies are a model group of animals in studies of conservation biology and landscape ecology. Many butterfly species are recognized as biodiversity indicators and umbrella species. The interest in butterflies was a foundation stone in insect conservation and landscape management. In this paper, I present the contemporary threats to biodiversity with butterflies as an exemplary model group. I explain the concepts of the habitat and habitat fragmentation, which understanding is necessary for successful conservation actions. I review the response of butterflies to the human-induced changes in the environment and propose practical conservation recommendations. The most difficult task for conservation biologists is to determine what a habitat of the target species is. There are two main approaches. The first arises from the classic metapopulation theory and it assumes that habitat is patchily distributed in landscape and habitat patches are surrounded by the inhospitable environment called matrix. The second approach is a resource-based habitat concept that considers all possible species requirements into account. The main global problem in conservation of butterflies is habitat fragmentation which leads to changes in configuration of landscape and habitat patches. Other major conservation issues are changes in the land use intensity, invasion of alien plants and climate change. An understanding of these phenomena is essential to efficient conservation of species both at the habitat patch and landscape scales.