Abstract

Bees (Anthophila) are one of the most important pollinators in the majority of Earth's biotopes. They interact with almost one-fifth of flowering plants and together with other pollinators they secure one-third of human food sources. Since the end of World war II,along-term decrease in numbers of bees and other insects is observed due to degradation of natural habitats, expansion of agriculture, pesticide usage, parasites, and infections. In North America and Europe, several studies reported a significant loss of bee diversity and abundance. The situation in tropics is unclear and there is not enough evidence if bees are threatened there. Specific changes in relation to the decrease of the bee population are observed in the case of honey bee (*Apis mellifera*). Due to human beekeeping activities and specific honey bee attributes such as bigger body size or tolerance to lower temperature, honey bees show different trends in their abundance than other bees. This study discusses the causes of these losses and possible future consequences, for example, the collapse of ecosystems as a result of pollination crisis or lack of human food. On the other hand, several phenomena such as extensive agriculture, green cities, or wildfires have a positive impact on bee abundance and diversity. This thesis presents possible solutions to this problem and accentuates the need for high-quality data which would show real-world trends concerning bees and emphasizes the need of implementing certain measures, which would lead to sustainable bee populations.

Key words

Bees, Anhthophila, Insect, population decrease, loss, diversity, habitat change, climate change