Abstract

Natural habitats of aculeate hymenopterans are rapidly decreasing and strictly specialized species are thus going to be endangered or extinct. However, in the last decades the conservation potential of postindustrial sites has been found. There were many endangered and nationally extinct species recorded along with the drift sand specialists. However, one unclear thing remains - on postindustrial sites there were still no recordings of species that have similar biological traits to the species that are colonizing these sites. The main target of my thesis was to find traits which make it possible for the insects to colonize postindustrial sites. A matrix of 79 traits was made to describe aculeate hymenopterans biotope preferences, phenology, morphology, biogeographical area, nest, food and life history strategies. With these traits I describe 351 species systematically collected on twenty-one localities with finely – grained substrate found in Polabi and South Bohemia. These traits were tested with weighted mean abundances on type of substrate (artificial vs. sandy) with GEE analysis and the type of locality (dumping ground of coal combustion, ore and sand sludge vs. sandpits vs. natural sand) with PCoA analysis. A phylogenetic correction was incorporated in both analyzes. My results show that on artificial substrates are more often stenotopic species. More often there are also species which prefer mesophilic meadows, xerothermophilic steeps with shrubs and wet bare areas. More often there are also species which have nest in reed. On the other hand, species which are more abundant on sandy substrates have more often nest in finely – grained substrates. Also other traits have effects on colonizing. Results of species nest and biotope preferences on postindustrial sites are crucial for effective restoration of these sites.

Key words: postindustrial sites, Aculeata, sand, sandpits, coal combustion wastes, functional traits, restoration ecology, community ecology, finely – grained substrates.