

ABSTRACT

Re-creation and building new small freshwater habitats belong among the important management activities within the Protected Landscape Area Kokořínsko – Máchův kraj (Czech Republic) for almost two decades. These pools keep the water within the landscape and serve as the habitats for vulnerable species of amphibians and invertebrates, which I have studied within this thesis. Most studies focusing on studying metacommunities of small water bodies have been based on the data from one or two seasons, and thus completely neglect the development of composition of these metacommunities over longer periods of time. This thesis builds on previous research on the species composition of small ponds in the Kokořínsko Protected Landscape Area, which had been done in 2005 and 2006. In 2009 and 2017, sampling in the same ponds continued. I investigated the influence of spatial and environmental variables of individual ponds on the species composition of ostracods, copepods and molluscs in specific years and how has the representation of individual species changed among those years. With one exception, I have not observed any new incoming species of copepods and ostracods since 2006; the number of species had in fact decreased. In the case of molluscs, there was a significant exchange of species between individual sampling years, and in 2017 I observed one more species compared with the year 2005, while of the 18 species occurring in 2017, only 14 were native in 2005. In all three groups, with increasing time, the influence of the location of the pond decreased. In case of copepods, explained variability of the species composition by the spatial data decreased from 5,8 % to 1,5 %, in the case of ostracods from 9,4 % to 8,0 % and in the molluscs from 28,2 % to 16,2 %. However, the influence of local conditions has stayed the same or slightly increased.

Key words: copepods, ostracods, molluscs, zooplankton, metacommunities, passive dispersal, ponds, Kokořínsko