# 3. Summary and key words

The dragonflies (Odonata) of calcareous fens were studied in order to: describe so far poorly studied fauna on the background of factors shaping it, analyse the influence of habitat transformation on dragonfly populations, and collect reference data that can be used in the future to assess the status of these fens on the basis of their odonatofauna. Own data and archival materials were used in the thesis. For the purposes of the analysis, these data were divided into period I (2007-09) and period II (2015-18). A total of 50 dragonfly species were found (67.6% of the national fauna). Their occurrence in both periods was characterised and population change trends were indicated. The fauna of the different habitats within the fens was described, showing variation in: species richness, abundance and habitat specificity. The fauna from both study periods was compared, showing significant changes in its composition and abundance – general and in particular habitats. The influence of selected environmental factors, including anthropogenic ones, on dragonfly assemblages was described. The dragonflies were directly affected by the properties of the water (mainly pH, ORP and temperature), the structure of the aquatic and shoreline vegetation and the character of the site surroundings, including the presence of roads and railway tracks. The overriding factor, emerging especially from analyses of faunal change over time, appeared to be climate change and the associated warming and droughts. Habitat drying in particular made that the role of anthropogenic water, especially peat pools, was taking over as crucial for the survival of dragonflies in carbonate fens. The effectiveness of survey methods for dragonflies in calcareous fens was compared and it was found that observations of imagines were the most effective. The effect of reserve protection on the occurrence of dragonflies was also analysed: it was found to be minor and manifested mainly in a higher species richness of the fauna in nature reserves.

The data presented in this dissertation greatly enhance our knowledge on the fauna and ecology of dragonflies of calcareous fens. It will allow to develop new research plans and conservation approaches.

**Key words:** Odonata, habitats, conservation, calcareous fens, climate change.

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