

## **Abstract**

The subject of this thesis is to summarise information about use of the habitat suitability models with a focus on orchids modelling. Habitat suitability modelling is used to study the relationship between the occurrence of the species and the environmental factors of its habitat. Modelling orchid species is especially useful for modelling of rare and endangered species, it can accurately predict the occurrence of different species under future climatic conditions and in non-native localities. Appearance of mycorrhizal symbiotic fungi is a specific factor affecting distribution of most orchids, but it is very problematic to include it in modelling. Also, there is an uncertainty about an impact of this factor on orchid distribution. Results of different modelling methods are sometimes controversial, this issue is studied, but there are no such studies in orchids modelling.

**Keywords:** Orchids, spatial distribution, models, distribution, prediction