

Abstract

This thesis deals with polyploidy in natural populations in the genus *Arabidopsis*. It summarizes information about the relatives of *Arabidopsis thaliana*, a prominent model organism for research on genetics and plant physiology. Literature shows that polyploidy affects ecological, climate and soil requirements, as well as mating system of the plants in genus *Arabidopsis*. Most of the published studies is focused on the study of artificial polyploid hybrids created by crossing experiments – especially with the *Arabidopsis thaliana*. In contrast, my thesis deals with the natural polyploids observed within the genus. In particular, I focus on the nearly unstudied di- polyploid complex of high-altitude populations of *Arabidopsis arenosa* in the Tatra Mountains. This complex represents a unique model system for studying the effects of polyploidization in the wild – thanks to the high morphological and ecological diversity of the hybrids, and to the relative genetic similarity of the parental populations.

Key words:

allopolyploid, *Arabidopsis*, *Arabidopsis arenosa*, autopolyploid, hybridization, polyploidization, Tatra