

Hybridization, introgression and polyploidy, especially in their combination, belong to the most important speciation processes in vascular plants. Although basic features of these processes are generally well known, their cases in particular groups of plants and concrete cases differ a lot and their studies often bring interesting results. In the genus *Arabidopsis* several cases of combined hybrid and polyploid speciation are known (e.g. *A. kamchatica*, *A. suecica*) and there are also cases where we expect introgressive hybridization (e.g. between *A. arenosa* and *A. petraea*).

The aim of the bachelor thesis is an evaluation of known cases of homo- and heteroploid introgressive hybridization and hybrid speciation in the genus *Arabidopsis* in the context of similar cases in the family Brassicaceae and perhaps also other families of vascular plants.

Next aim is to design method of detailed evaluation of the introgressive zone of *A. arenosa* and *A. petraea* (= *A. lyrata* subsp. *petraea*) in Central Europe using morphological, cytometric and molecular evidence as well as ecological parameters of studied localities. Set of morphological characters will be tested on the currently available material of *A. arenosa* that is cultivated at CEITEC Brno as part of the finalised GACR project.