

## Abstract

This bachelor thesis summarizes known information about hybridization (anthropohybridization) crab apple with orchard apple. Next it follows up mainly genetic and morphometric methods that haven't been used in the hybridization studies yet.

Crab apple (*Malus sylvestris*) is the only one wild species in *Malus* genus in Europe. However in the last few decades these populations are endangered by orchard apple (*Malus ×domestica*), that originates from central Asia. It often outspreads into the free nature and thereby closer to wild apple plants, that leads to easier hybridization of these two woods. This process leads up to decreasing number of genetically pure crab apple individuals and also to slow hybrid plants expansion.

This trend, which was called anthropohybridization, can be observed also in the *Prunus* genus, where there hybridizes wild species European dwarf cherry *Prunus fruticosa* with tart cherry *Prunus cerasus*. Recent studies though refers to following genetic aspects of *Malus domestica*, namely formation by triple hybridisation.

Several locations of crab apple were observed and analysed in Europe in the last few years for study of anthropohybridization degree with *Malus ×domestica*. There were observed hybrid plants in common with genetically pure *Malus sylvestris*.

Key words: crab apple, orchard apple, *Malus sylvestris*, *Malus ×domestica*, apples, anthropohybridization, hybridization, microsatellites, SSRs