

*Cystopteris fragilis* agg. is taxonomically very complicated group of homosporous ferns. There are 4 species of the aggregate in Europe (*C. fragilis*, *C. dickieana*, *C. alpina* and *C. diaphana*), which are morphologically similar and their taxonomic status is still unresolved. Polyploidization, hybridization and the resulting reticulate patterns of evolution together contribute to enormous variation within the complex. Apomictic reproduction through apogamy is a very common phenomenon among ferns and it was also recorded in *C. fragilis* in the past. Gametophyte and sporophyte culture is commonly used to the study of reproductive modes. Pilot results and methods of following diploma thesis are presented in separated chapter.