

Abstract

Sexual reproduction is essential part of life for numerous ascomycetes. Based on their requirement for opposite partner to produce fruiting bodies with ascospores, fungi can be in general divided into two mating systems – homothallism and heterothallism. However, several recent studies suggest that this division is clearly simplified and homothallism is an umbrella term for diverse sexual behaviours. First part of this thesis is focused on the reproduction, mating systems and their evolution in division Ascomycota. The main part summarizes present knowledge about the mating systems of the fungi from order Pezizales. Observations about the members of individual families are discussed, summed up and reviewed in the light of phylogeny and ecology.