

## Abstract

The thesis deals with the genus *Neotinea* from the phylogenetic, molecular and ecologic points of view. Most of its species have been classified in the genus *Orchis* until the use of molecular methods. Within the Orchidoideae, *Neotinea* forms a sister clade to the genera *Anacamptis*, *Serapias*, *Ophrys* and *Himantoglossum*. Six species are accepted now. The current taxonomic circumscription calls for a revision under the influence of new knowledge. Especially in *N. tridentata*, which contains several well-differentiated lineages and is the ancestor of the tetraploid *N. commutata*. Also the relationship between *N. lactea* and *N. conica* remains unresolved. The genome size within the genus ranges from 6.48 pg in *N. maculata* to 31.14 pg in *N. lactea*. All species except *N. commutata*, whose tetraploid origin is debated, are diploid ( $2n = 42$ ). Partial endoreplication is present in the genus. The range of endoreplicated DNA is relatively narrow regardless of differences in genome size. Species prefer open, slightly basic habitats. In mycorrhizal interactions they appear generalistic with a preference for Ceratobasidiaceae. At the level of reproductive strategies, the genus *Neotinea* prefers the generative mode over the vegetative one. *N. maculata* is autogamous, the other species are allogamous, food deceptive, with some degree of a sexual deception in *N. ustulata*.