Abstract

The first part of this thesis focuses on the family Geotrupidae, with special focus on the representatives of the genus *Jekelius*. It summarizes the present and historical taxonomic concepts and phylogenetic relationships within this family. Moreover, the morphology of adults and larvae and the geographical distribution of individual taxa are described. In the section on the biology and ecology of the family, emphasis is placed especially on feeding strategies, breeding behaviour and parental care.

The results of this thesis consist of three parts, 1) taxonomy, 2) molecular analyses, and 3) flow cytometry. The first part brings a taxonomic revision of the *Jekelius brullei* species complex defined here. This part focuses on redescribing each known species, as well as describing additional species not yet formally described. This thesis defines the distribution ranges of each species based on previously published literature and our own data. Molecular analyses performed in this thesis generated a phylogenetic tree including a significant part of the species of the *Jekelius brullei* species complex. The last part of the thesis presents results obtained by flow cytometry for representatives of the species complex *Jekelius brullei* and a number of other taxa of the family Geotrupidae. The discussion then reviews and compares the morphological, molecular and cytometric data in the context of the evolutionary history of the group and the possible delimitations of the species.

Key words: taxonomy, phylogeny, Coleoptera, Geotrupidae, Mediterranean