

Abstract

Cladocera (Crustacea, Branchipoda) are a diverse group of planktonic crustaceans. There are many cryptic species which form species complexes. Families Daphniidae and Chydoridae who live in water bodies around the whole world, have not completely resolved taxonomy so far. Morphological and genetic analyses are used for identifying species. It is often preferable to study their genetic distances, because they frequently hybridize. The genetic markers (DNA sequences that are unique to each species) are used for the genetic analysis of taxa. Although mitochondrial genes provide better results on a species level, nuclear genes may also be used. Cytochrome c oxidase subunit I (COI), 12S and 16S rDNA are the most used mitochondrial genes. However, the situation in families Daphniidae and Chydoridae is complicated and assigning precise genetic distance for delineation of the species is not easy, although these genes allow well-supported phylogenetic trees. The future studies should examine more closely the dating events and create molecular clocks, especially for the family Chydoridae, which is often neglected despite its species diversity.

Key words: Daphniidae, Chydoridae, genetic markers, COI, 12S rDNA, 16S rDNA