

Abstract

This study aims to compare morphological and genetic diversity of Central European populations of *Acanthocyclops vernalis-robustus* species group.

To assess a genetic differentiation on a species level, 12S rRNA gene was used because of suitable evolution rate. Additional analysis of otherwise widely used CO I gene was not successful as the PCR amplification of this gene was successful only for some *A. trajani* populations, and it failed for the others.

Genetic analysis of 12S rRNA validated the recent morphological redescription and establishment of three separate species: *A. vernalis* (Fischer, 1853) *A. trajani* and *A. einslei* (Mirabdullayev and Defaye, 2002; 2004). In general on 12S rRNA, the intraspecific variation was negligible in comparison to interspecific one.

All of four analyzed populations of *A. einslei* shared one haplotype, as well as 12 from 14 populations of *A. trajani* did. The highest intra-specific variability was recorded in 5 populations of *A. vernalis* (0.5 – 5.6 %).

Morphological determination and morphometrics of all analyzed individuals has been performed without using so called micro-characters, on which the description of *A. einslei* and *A. trajani* (Mirabdullayev & Defaye 2002, 2004) mainly relies on. From my morphometric analyses, the shape and armature of distal endopodal segment in fourth swimming leg is the most reliable distinguishing character. In general, my morphological results are consistent with the data in other studies.