



The first report and molecular characterization of *Dactylogyrus minutus* Kulwiec, 1927 (Monogenea: Dactylogyridae) from cultivated common carp (*Cyprinus carpio*) in Iran

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Abstract

Common carp (*Cyprinus carpio*) is one of the most popular farmed cyprinids in Iran. In this study 112 common carp (*Cyprinus carpio*) were collected from 10 fish farms in Guilan province. In total 5427 *Dactylogyrus* specimens were isolated and identified using morphometric measurements of hard parts, the morphology of haptor parts and the shape of the male copulatory organ. Four species *D.extensus*, *D.anchoratus*, *D.vastator* and *D.achmerowi* were previously reported but This is the first report of *Dactylogyrus minutus* from Iran as a new locality report. The prevalence of *D. minutus* in fish specimens was %11.6. The highest infection of *D. minutus* was recorded in winter. For molecular investigation the genomic DNA was extracted from one parasite specimen and the 28S rDNA and 18S rDNA regions of specimens were amplified by related primers in PCR. Sequences were deposited in GenBank with accession numbers MF926269.1 and MG821489.1 for the 28S rDNA and 18S rDNA regions respectively. This is the first record of 18S and 28S genes of *D. minutus* in NCBI GenBank. These findings provide a foundation for future research in to the genetic make-up of dactylogirid family and also for parasite identificatin. The tree topologies derived from the phylogenetic analysis depicted that *D. minutus* and *D. extensus* are genetically closely related.

Keywords: common carp, molecular, Guilan, *Dactylogyrus minutus*