

Morphometric and Molecular identification of *Gyrodactylus sprostonae* in Guilan Province warm water fishes with an attitude of intensity and prevalence in selected farms

Daghigh Roohi, J.¹; Dalimi Asl, A.H.²; Pourkazemi, M.³; Ghasemi, M.⁴ and Shamsi, Sh.⁵

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Abstract

Gyrodactylus, a member of Platyhelminthes, is one of the most common external parasites on freshwater and marine fish. This parasite mostly appears on skin and fins but rarely on gills of fish. *Gyrodactylus* can cause disease and mortality in wild and domestic populations of fish. In this study *Gyrodactylus* specimens removed by wet mounts of skin and fins of *Cyprinus carpio*, *Hypophthalmichthys molitrix* and *Hypophthalmichthys nobilis* in Guilan Province fish ponds and analyzed by a light microscope. The morphometrical identification of *Gyrodactylus* specimens was performed using the measurements and drawing of opisthaptor hard parts like as anchor, marginal hook, ventral bar and dorsal bar. The molecular species description was based on polymerase chain reaction (PCR) of a partial sequence of the 5.8S region of ribosomal RNA, and a partial sequence of the internal transcribed spacer 2 (ITS2) of ribosomal RNA. The nucleotide sequences of the PCR products were compared with other sequences registered in GenBank. Based on the morphometric analysis and sequencing, the *Gyrodactylus* specimens were identified as *Gyrodactylus sprostonae*. The abundance of this parasite in investigated fish ponds of Guilan Province were 21.42, 6.17, 21.95 and zero for *C. carpio*, *H. molitrix*, *H. nobilis* and *Ctenopharyngodon idella* respectively.

Key words: *Gyrodactylus sprostonae*, molecular, warm water fish, Morphometrical, Guilan, parasitic

1- Research Instructor, Department of Parasitology, Inland water Aquaculture Research Center, Iranian fisheries Sciences Research Institute, Agricultural Research Education and Extension Organization (AREEO), Bandar-e-Anzali, Iran

2- Professor, Department of Parasitology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

3- Professor, Department of Genetic and Breeding of Aquatic animals, Iranian Fisheries Research Institute, Agricultural Research Education and Extension Organization (AREEO), Tehran, Iran

4- Assistant Professor, Department of Health and Disease of Aquatic Animals, Inland water Aquaculture Research Center, Iranian fisheries Science Research Institute, Agricultural Research Education and Extension Organization (AREEO), Bandar-e-Anzali, Iran

5- Associate Professor, Department of Parasitology, Faculty of Animal and Veterinary Sciences, Charles Sturt University, NSW, Australia

Corresponding Author: Dalimi Asl, A.H., E-mail: dalimi_a@modares.ac.ir

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