

Investigation on worm infestation in Persian Gulf *Platycephalus indicus*

Azodi, M.¹; Peyghan, R.²; Razi Jalali, M.H.³ and Ghorbanpoor, M.³

Received: 06.12.2017

Accepted: 25.07.2018

Abstract

In recent years, a lot of mortalities have occurred because of the different parasitism infection. Identification of parasitic contamination in native fish also helps to prevent entree of contamination to farmed farms. Due to the importance of this problem and for the prevention of zoonotic diseases, investigation of fish parasites has great importance. The present study carried out to investigate the worms of *Platycephalus indicus* in the district of Persian Gulf (Ahvaz market). In this study, 100 pieces of *Platycephalus indicus* bought and transferred to the laboratory. After the separation of parasites from the different parts of fish, they transferred in 70% alcohol and then identified by identification keys. In this study, 90% of fish had different worm infestations. The most value of infestation regarding to *Duosphincter zancali* trematode. Identified nematodes in this study including *Capillaria sp.*, *Porrocaecum sp.* and *Hysterothylacium sp.*, that *Hysterothylacium sp.* had the greater frequency. *Serrasentis sp.* Acanthocephal and *Trypanorhyncha sp.* cestode were also observed in this fish.

Key words: Parasitic infestation, Worm, *Platycephalus indicus*, Persian Gulf

1- PhD Student of Aquatic Animal Health, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

2- Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

3- Professor, Department of Pathobiology, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran

Corresponding Author: Azodi, M., E-mail: Mary.azodi@gmail.com

References

- Abdel-Ghaffar, F.; Morsy, K.; Abdel-Gaber, R.; Mehlhorn, H.; Al Quraishy, S. and Mohammed, S. (2014). Prevalence, morphology, and molecular analysis of *Serrasentis sagittifer* (Acanthocephala: Palaeacanthocephala: Rhadinorhynchidae), a parasite of the gilthead Sea bream *Sparus aurata* (Sparidae). *Parasitology Research*, 113 (7): 2445-2454.
- Aho, J.M. and Bush, A.O. (1993). Community richness in parasites of some freshwater fishes from North America. In: Ricklefs, R.E. and Schluter, S., (ed) *Species Diversity in Ecological Communities*. University of Chicago Press, Chicago, USA. Pp: 185-193.
- Anderson, R.C. (2000). *Nematode Parasites of Vertebrates: Their Development and Transmission*. 2nd ed. CABI Publishing, Wallingford, Oxon (UK), P: 672.
- Bilqees, F.M.; Khanum, Z. and Jehan, Q. (1971). Marine fish nematodes of West Pakistan 1. Description of seven new species from Karachi Coast. *Karachi University Journal of Science*, 1: 175-184.
- Borji, H.; Naghibi, A.; Nasiri, M.R. and Ahmadi, A. (2012). Identification of *Dactylogyrus* spp. and other parasites of common carp in northeast of Iran. *Journal of Parasitic Disease*, 36(2): 234-238.
- Bray, R.A.; Gibson, D.I. and Jones, A. (2002). *Keys to the Trematoda*. CAB International and Natural History Museum, London. P: 544.
- Dadar, M.; Alborzi, A.; Peyghan, R. and Adel, M. (2016). Occurrence and Intensity of Anisakid Nematode Larvae in Some Commercially Important Fish Species in Persian Gulf. *Iranian Journal of Parasitology*, 11(2): 239-246.
- Dural, M.; Genc, E.; Sangun, M.K. and Güner, Ö. (2011). Accumulation of some heavy metals in *Hysterothylacium aduncum* (Nematoda) and its host sea bream, *Sparus aurata* (Sparidae) from North-Eastern Mediterranean Sea (Iskenderun Bay). *Environmental Monitoring and Assessment*, 174: 147-155.
- Ebrahimzadeh Mosavi, H.A.; Soltani, M.; Poulin, S.H.; Mobedi, I.; Abdy, K.; Ghadam, M. et al. (2014). Study on the helminth parasites in some species of the Persian Gulf fishes. *Iranian Veterinary Journal* 10 (4): 5-12.
- Galli, P.; Crosa, G.; Mariniello, L.; Ortis, M. and D'Amelio, S. (2001). Water quality as a determinant of the composition of fish parasite communities. *Hydrobiologia*, 452: 173-179.
- Gibson, D. (2002). *Keys to Trematoda*. Natural History Museum, UK, A Jones, The Natural History Museum, London, UK, R Bray, Natural History Museum, UK. 312-314.
- González-Solís, D.; Moravec, F. and Coad, B.W. (1997). Some nematode parasites of fishes from southwestern Iran. *Zoology in the Middle East*, 15: 113-119.
- Jabbar, A.; Fong, R.W.J.; Kok, K.X.; Lopata, A.L.; Gasser, R.B. and Beveridge, I. (2013). Molecular characterization of anisakid nematode larvae from 13 species of fish from Western Australia. *International Journal of Food Microbiology*, 161: 247-253.
- Kong, Q.; Fan, L.; Zhang, J.; Akao, N.; Dong, K.; Lou, D. et al. (2015). Molecular identification of Anisakis and *Hysterothylacium* larvae in marine fishes from the East China Sea and the Pacific coast of central Japan. *International Journal of Food Microbiology*, 199: 1-7.
- Malolahi, A, and Mokhair, B. (2002). Identification of *Zoothamnium* in the shrimp culture farms (Bushehr Province -Helleh Region). *Iranian Scientific Fisheries Journal*. 10(4): 97-105.
- Manter, H.W. and Pritchard, M.H. (1960). Additional Heminrid Trematodes from Hawaiian Fishes. *Helminthological Society*, 27 (2): 165-180.
- Mawson, P.M. (1945). Some parasitic nematodes from South Australian marine fish. *Transactions of the Royal Society of South Australia*, 69: 114-117.
- Mirzaei, M.R.; Azhang, B. and Kazemi, S. (2017). Evaluation of demersal trawl survey data for assessing the Biomass and Catch Per Unit Area (CPUA) of Platycephalidae. *Research in Marine Sciences*, 2(1): 59-64.
- Morsy, K.; Bashtar, A.R.; Abdel-Ghaffar, F.; Mehlhorn, H.; Al Quraishy, S.; El-Mahdi, M. et al. (2012). First record of anisakid juveniles (Nematoda) in the European seabass *Dicentrarchus labrax* (family: Moronidae), and their role as bio-indicators of heavy metal pollution. *Parasitology Research*, 110: 1131-1138.

- Najjari, M.; Sadjjadi, S.M.; Derakhshanfar, A. and Ebrahimipour, M. (2016). *Hysterothylacium amoyense* in *Platycephalous indicus*: a Persian Gulf fish and its experimental infection of mouse model. *Comparative Clinical Pathology*, 25 (6): 1143-1149.
- Nelson, J.S. (2006). *Fishes of The World*, 4th ed. John Wiley and Sons Inc publisher, New Jersey, Pp: 138-148.
- Paighambari, S.Y. and Daliri, M. (2012). The by-catch composition of shrimp trawl fisheries in Bushehr coastal waters, the northern Persian Gulf. *Journal of the Persian Gulf*, 3(7): 27-36.
- Parveen, S. and Sultana, S. (2015). Infestation of helminth parasites in Gangetic Leaffish *Nandus nandus* (Hamilton, 1822). *Bangladesh Journal of Zoology*, 42(2): 183-190.
- Peyghan, R.; Hoghoghi Rod, N. and Yosef Desfuli, AR. (2004). Determination of parasitic helminthes in Persian Gulf grouper, (*Epinephelus coioides*), and silver pomfret, (*Stromateus cinereus*). *Pajouhesh and Sazadnegi* 17 (1): 49-55.
- Peyghan, R.; Hoghoghi Rod, N.; Mesbah, M. and Rastkerdar, M. (2006). Investigation of the frequency of helminth parasites in croaker (*Otolithes ruber*), black pomfret (*Parastromateus niger*), grunter (*Pomadasy kaakan*) and snappers (*Lutjanus malabaricus*) in the Persian Gulf. *Iranian Veterinary Journal* 10 (4): 5-12.
- Peyghan, R.; Nabavy, L. and Kiani, F. (2008). infestation of yellow-fin seabream (*Acanthopagrus latus*) and twobar seabream (*Acanthopagrus bifasciatus*) to parasites. *Shahid Chamran University Journal of Science* 19: 111-123.
- Rasooli, S. (2015). Study of Anisakidae family nematodes in wild and cultured yellow-fin seabream (*Acanthopagrus latus*) in north coasts of Persian Gulf, Iran. *Journal of Comparative Pathobiology* 11(4): 1437-1446.
- Sadeghi, N. (2001). *Biological and morphological characteristics Fish of south of Iran (Persian Gulf and Oman Sea)*. Naghshe Mehr Press. P: 166.
- Satari, M. (2003). *Ichthyology* (2). Haghshenas Press. P: 502.
- Schludermann, C.; Koneony, R.; Laimgruber, S. and Auteurs, J.W. (2003). Fish macroscopic parasites as indicator of heavy metal pollution in river sites in Austria. *Parasitology*, 30: 201-238.
- Solaimani, A.; Kamrani, E.; Mubedi, I.; ZamaniRad, M. and Kleinertz, S. (2014). Parasitic contamination of Mudskipper (*Boleophthalmus dussumieri*) in coastal waters of Banddar- Abbas. *Iranian Veterinary Journal* 10 (1): 68-76.
- Soulsby, E.J.L. (1974). *Parasitic zoonoses: Clinical and experimental studies*. Newyork Academic Press. P: 402.