

# A survey of digestive system's parasites of the Klunzinger's Mullet (*Liza klunzingeri*) in coastal waters of BandarAbbass

Nazari, F.<sup>1</sup>; Kamrani, E.<sup>2</sup>; Mobedi, I.<sup>3</sup> and Solaimani, A.<sup>4</sup>

Received: 15.12.2017

Accepted: 23.05.2018

## Abstract

The present study was to investigate the ecology of fish parasites *Liza klunzingeri* (Day, 1888) for a period of 9 months from may to jaunary 2013 in the coastal of bandarabbass was performed. During the study period, 51 fish samples were analyzed in the laboratory and then isolated parasites in 4% formalin and 70% ethanol and kept. Finally, parasites *neoechinorhynchus zabensis* (*Acanthocephala*) and (*Trematoda*) *Haploporinae* and parasite larvae *Contraecumsp* (*Nematoda*) were isolated from the digestive tract. From the total samples, 46 samples were infected by one or more species of parasites (prevalence of 90%) and the mean frequency of moderate parasite for *Liza klunzingeri* equal to 22.72 and 25.19 against the parasite. Analysis of the data showed that the prevalence of parasites in different months is significant. The most common parasites parasite abundance *n.zabensis* in January and *Haploporinae* in October, respectively. The analysis of the results showed that season changes are major factors affecting the frequency and severity of gastrointestinal parasites.

**Key words:** Parasite, Digestise system, Klunzinger's Mullet, BandarAbbass

---

1- MSc Graduated of Marine Biology, Faculty of Marine Science and Technology, University of Hormozgan, Bandar Abbas, Iran

2- Associated Professor, Department of Fisheries, Faculty of Marine Science and Technology, University of Hormozgan, Bandar Abbas

3- Professor, Department of Parasitology, Faculty of Public Health, Tehran University of Medical Sciences, Tehran, Iran

4- PhD Student of Production Operation Fish, Faculty of Marine Science and Technology, University of Hormozgan, Bandar Abbas, Iran

**Corresponding Author:** Nazari, F., E-mail: Fn.nazari1987@yahoo.com

## References

- Al-Zubaidy, A. (2009). Prevalence and Densities of *Contracaecum sp.* Larvae in *Liza abu* (Heckel, 1843) from Different Iraqi Water Bodies. *Journal of King Abdulaziz University-Marine Sciences*, 20: 3-17.
- Amin, O.; Abdullah, Sh. and Mhaisen, F. (2003). *Neoechinorhynchus* (*Neoechinorhynchus*) *zabensis* sp. n. (Acanthocephala: Neoechinorhynchidae) from freshwater fish in northern Iraq. *Folia Parasitologica*. 50: 293-297.
- Antonelli, L. and Marchand, B. (2012). Metazoan Parasites of the European Sea Bass *Dicentrarchus labrax* (Linnaeus, 1758) (Pisces: Teleostei) from Corsica. *Health and Environment in Aquaculture*, 43-62.
- Azadikhah, D.; Rasouli, S.; Nekuie Fard, A.; Rahimpour, S.; Behboodi, N. and Khodadadi, A. (2012). Survey of Diplostomiasis disease in fishes of Mahabad dam in West Azarbayjan. *Journal of Aquatic Animals and Fisheries*, 3(10): 1-7. (in Persian)
- Bush, A.O.; Lafferty, K.D.; Lotz, J. and Shostak, A.W. (1997). Parasitology meets ecology on its own terms: Margolis et al. revisited. *Journal of Parasitology*, 83: 575-583.
- Cardona, L. (1999). Seasonal changes in the food quality, diel feeding rhythm and growth rate of juvenile leaping grey mullet *Liza saliens*, *Aquat. Living Resour.* 12 (4): 263-270.
- Carvalho, A.R. (2011). Seasonal variation in metazoan parasites of *Trichiurus lepturus* (Perciformes: Trichiuridae) of Rio de Janeiro, Brazil, *Braz. J. Biol.* 71: 771-782.
- Chen, M.H.; Wen, D.J. and Chen, C.Y. (1999). Reproduction and estuarine utilization of the Gray Mullet, *Liza macrolepis* (Smith, 1846), in the Area of Kaohsiung Harbor, Southern Taiwan. *Fisheries Science*, 65(1): 1-10
- Coleman, F.C. (1993). Morphological and physiological consequences of parasites encysted in the bulbous arteriosus of an estuarine fish, the sheepshead minnow, *Cyprinodon variegatus*. *Journal of Parasitology*. Lawrence. Pp:247-254.
- Dione, E.; Diouf, M.; Sarr, A.; Fall, J. and Tidian, C.H. (2014). Parasitic Burden and Pathologic Effects of *Anisakis Sp.* (Nematoda: Anisakinae, Anisakidae) and *Contracaecum Sp.* Larvae (Nematoda: Anisakinae, Anisakidae) on Mugilids from Senegalese Estuaries. *Journal of Biology and Life Science*. 5(2): 10-24.
- Fisher, W.; Bauchot, M.L. and Schneider, M. (1987). Fiches F.A.O. d'identification des espèces pour les besoins de la pêche "Révision 1" Méditerranée et Mer noire. Zone de pêche 37. Volume I. Invertébrés marins. Rome, F.A.O.2: 761-1530.
- Gibson, L.; Jones, A. and Bray, R. (2002). Keys to the Trematoda. CABI. 1. 544 pp.
- Golchin menshadi, A.; Hashem khani, M. and Tarahomi, M. (2013). Investigation of the frequency of contamination of Parishan lake with *kontrascum* nematode larvae. *Quarterly Journal of Animal Biology*, 6(3): 55-61. (in Persian)
- Hakimelahi, M.; Kamrani, E.; Taghavi Motlagh, S.A.; Ghodrati Shojaei, M. and Vahabnezhad, A. (2010). Growth parameters and mortality rates of *Lizaklunzingeri* in the Iranian waters of the Persian Gulf and Oman Sea, using Length Frequency Data. *Iranian Journal of Fisheries Sciences*. 9(1): 87-96.
- Jalali jafari, B. (1998). Parasites and parasitic diseases of Iranian freshwater fish. Department of Aquaculture. Tehran. 562p. (in Persian)
- Kabata, Z. (1985). Parasites and Diseases of Fish Cultured in the Tropics. Taylor & Francis, London and Philadelphia. P: 318.
- Kashi, M.T.; Hashemi, A.R. and Safi-Khani, H. (2009). Study of some growth characteristics of *Klunzingeri* Mullet (*Liza klunzingeri*) in the Coastal of Khuzestan. *Fisheries Magazine*, 2(4): 23-30. (in Persian)
- Kennedy, C. (2006). Ecology of the Acanthocephala. Cambridge University Press. Cambridge. Pp: 75-100.
- Liu, S.H. and Yang, T. (2002). *Haploporus mugilis sp.* (Digenea: Haploporidae) from *Valamugil engeli* (Pisces: Mugilidae) in the Taiwan Straits, China. *Folia Parasitologica*, 49: 93-95.
- Moghinami, S.R. (1995). Final report on parasitic contamination in native fish of Hooralazim Wetland, Azadegan plain. Fisheries Research and Training Institute. Iranian Fisheries Research and Training Institute, P: 107. (in Persian)

- Muñoz, P. (2008). pseudoterranovosis. *Revista Chilena de Infectologia*. 25 (3): 205-206.
- Oğuz, M.; Mohamed AMIN, O.; Heckmann, R. and Tepe, Y. (2012). The discovery of *Neoechinorhynchus zabensis* (Acanthocephala: Neoechinorhynchidae) from cyprinid fishes in Turkey and Iran, with special reference to new morphological features revealed by scanning electron microscopy. *Turkish Journal of Zoology*. 36(6): 759-766.
- Oliver, G. (1982). *Microcotyle chrysophrii* Van Beneden et Hesse, 1863 (Monogenea, Polyopisthocotylea, Microcotylidae) parasite de *Sparus aurata* Linnaeus, 1758 (Teleostei, Sparidae) dans les étangs littoraux du Languedoc-Roussillon (France). *Parasitologie*. 20: 113-118.
- Overstreet, R.M. and Curran, S.S. (2005). Family Haploporidae Nicoll, 1914. In: Jones A, Bray RA, Gibson DI, editors. *Keys to the Trematoda*. Wallingford. CAB International. P: 129-65.
- Paperna, I. and Overstreet Robin, M. (1981). "Parasites and Diseases of Mulletts (Mugilidae)" Faculty Publications from the Harold W. Manter Laboratory of Parasitology. P: 579.
- Petit, P.; Guzman, S. and Ramirez, R. (1991). Endemic by nematodes (*Contracaecum* sp) in mullet fish Golfete Coro Venezuela. *Edo Falcon. Review Acta scientifica Venezuela*, 42: 1,500
- Rasouli, S.; Anvar, A.; ahari, H.; Azadikhah, D. and Khodadadi, A. (2012). Survey *Diplostomum spathaceum* parasit in eye's of *Carassius auratus* fish In Nazlo River of Urmia city. *Pathobiology Research Scientific Comparison*, 9(3): 743-748. (in Persian)
- Rueckert, S.; Hagen, W.; Yuniar, A.T. and Palm, H.W. (2008). Metazoan fish parasites of Segara Anakan Lagoon, Indonesia, and their potential use as biological indicators. *Regional Environmental Change*. 9(4): 315-328.
- Seidmortezaee, S.; Mobedi, I. and Farahnak, A. (2000). Contamination of some species of freshwater fishes with worm parasites in the watersheds of Khuzestan province. *Scientific Journal of Fisheries Iran*, 9(1): 25-36. (in Persian)
- Seidmortezaee, S.; Pazouki J. and Masoumian, M. (2006). Nematodes from fresh water fishes of Khuzestan province. *Research and development in livestock and aquaculture*, 77: 2-10. (in Persian)
- Taghavi, M.; Mokhayer, B.; Saeedi, A.A. and Mosavi, H. (2011). Parasitic infection in *Hemiculter lucisculus*, *Liza auratus* and *Gasterosteus aculeatus* of the Zardi River (Mazandaran). *Iranian Scientific Fisheries Journal*, 21(4): 151-156. (in Persian)
- Tavakol, S.; Jalali jafari, B. and Hajian, A. (2008). *Acanthophyte parasites and species identified in Iran*. Publisher Partov, Tehran. P: 160. (In Persian)
- Thatcher, V.E. (1993). *Trematodeos Neotropicae*. Manaus. Instituto Nacional de Pesquisas da Amazonia. Manaus. Pp: 553.
- Yamaguti, S. (1963). *Systema Helminthum* v. 5 Acanthocephala. Interscience Publishers. New York. Pp: 423.
- Woo, P. (2006). *Fish disease and disorders*. CAB international. 1: 444-465.