

Camallanus spp. in Aquarium Fish (*Poecilia reticulata*)

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ABSTRACT

The aim of this study was to determine the species of parasites in Guppy fish (*Poecilia reticulata*) which was brought to Parasitology Laboratory of Faculty of Veterinary Medicine, Afyon Kocatepe University. The owner of the aquarium informed that sudden and mass deaths were observed in the aquarium and brought some of the dead fish to the laboratory for the examination. In addition to abdominal swelling in the fish, reddish parasites crawling out of the anus were also seen. Some of dead fish underwent examination for diagnostic purposes, the parasites were collected and fixed in 70% alcohol, then cleaned with glycerin and examined under a microscope. Collected parasites are described as *Camallanus* spp. according to related (Stromberg ve Crites, 1974). No other parasitic infection were found during the examination.

Key Words: Fish, *Camallanus*, Guppy (*Poecilia reticulata*), Parasite

Akvaryum Balıklarında (*Poecilia reticulata*) *Camallanus* spp. Olgusu

ÖZ

Bu çalışmada Afyon Kocatepe Üniversitesi Veteriner Fakültesi Parazitoloji Anabilim dalı laboratuvarına getirilen Lepistes balıklarında (*Poecilia reticulata*) gözlenen parazit türlerinin belirlenmesi amaçlanmıştır. Akvaryum sahibi akvaryumdaki balıklarda ani ve toplu ölümlerin olduğunu bildirmiş ve ölen balıkların bir kısmını laboratuvara getirmiştir. Balıklarda karın şişkinliğinin yanı sıra anüsten dışarı çıkmış kırmızımsı renkte parazitlerin olduğu görülmüştür. Parazitlerin teşhisi amacıyla balıklar açılarak parazitler toplanmış ve %70 alkolde fikse edilmiş daha sonra glyserin ile temizlenerek mikroskopta incelenmiştir. Toplanan parazitler ilgili literatür (Stromberg ve Crites, 1974) ışığında *Camallanus* spp. olarak teşhis edilmiştir. Yapılan incelemede başka herhangi bir paraziter enfeksiyona rastlanmamıştır.

Anahtar Kelimeler: Balık, *Camallanus*, Lepistes (*Poecilia reticulata*), Parazit

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INTRODUCTION

Ornamental animal care and feeding take an important place among many methods which is developed to blow off steam. About 60 million people are engaged in aquarium fishery in the world. As well as being a hobby, aquarium fish farming is a quite commercially important (Hekimoğlu, 2006). However, many metabolic, viral, bacterial and parasitic diseases in freshwater fish can lead to clinical symptoms ranging from developmental failure to death, together with various pathological lesions in aquarium fish (Henker, 1975, Michel, 1981).

There are some cases about parasites of ornamental fish in China (Kuo et al., 1994), Germany (Moravec et al., 1999), Australia (Evans and Lester, 2001), Korea (Kim et al., 2002), Sri Lanka (Thilakaratne et al., 2003). *Camallanus* species belong to the nematode class and their females are ovoviviparous. *Camallanus* spp. has an indirect development which uses larval copepods and crustaceans as an intermediate host. Third-stage larvae develop in the intermediate host which receives first-stage larvae from faeces of infected fish. Definitive hosts are infected by digesting intermediate hosts which carries infective third-stage larvae. As an exception, *Camallanus cotti* only has direct development (Anderson, 1992). *Camallanus* species are red coloured and can be easily diagnosed while protruding from anus of the infected fish (Yanong 2011).

MATERIALS AND METHODS

Case Report

Anamnesis was taken from the owner of the aquarium to determine the species of parasites in the Guppy fish which were brought to Parasitology Laboratory of Faculty of Veterinary Medicine, Afyon Kocatepe University. The owner of the aquarium informed that sudden and mass deaths was observed in the aquarium and brought some of the dead fish to laboratory. Abdominal swelling in the fish, reddish parasites protruding from anus were also seen. Some of dead fish underwent examination for diagnostic purposes, the parasites were collected and fixed in 70% alcohol, then cleaned with glycerin and examined under a microscope. Collected parasites were described as *Camallanus* spp. according to related literature (Stromberg and Crites, 1974) with anterior end (Figure 1) and posterior end (Figure 2). No other parasitic infection were found during the examination.

RESULTS AND DISCUSSION

Kakar et al. (2013) reported that *Camallanus* species are widely spread, especially among Guppy fish in the world according to different authors. There are

not many studies about parasites of aquarium fish in Turkey. However, Doğanay et al. (1989) reported that they found 0.4 % of *Camallanus lacustris* in guppy fish. Although absence of certain information on the pathogenicity of *Camallanus* species, it has been reported that adults can cause destruction and ulcerative lesions in the intestinal epithelium despite the fact that larvae of some species do not cause significant tissue damage. It has also been noted that severe infections can sometimes lead to death due to intestinal obstruction from time to time especially in small fish (Kim et al. 2002). In cases such as this one, it has been detected that sudden mass deaths can be caused by *Camallanus* spp. in the aquarium.

Parasitic infections which causes large economic loss for aquarium fish farming should not be ruled out. There are scarcely any reports in Turkey about *Camallanus* spp. which causes significant loss especially in small fish such as guppies. This case is the first report in Afyonkarahisar.

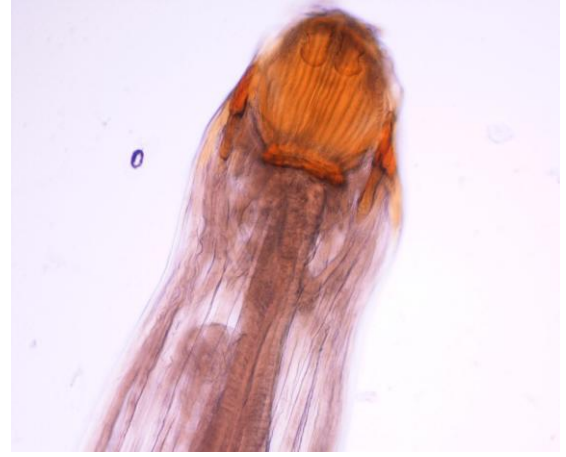


Figure 1: Anterior end of *Camallanus* spp.
Resim 1: *Camallanus* spp. ön uç



Figure 2: Posterior end of *Camallanus* spp. (Female).
Resim 2: *Camallanus* spp. (Dişi) arka uç.

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