

Susceptibility of endemic and non-indigenous fish to *Lernaea cyprinacea* (Copepoda: Lernaeidae): a case study from Düger Spring Creek (Burdur-Turkey)

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Abstract

Lernaea cyprinacea L. is a lernaeid copepod known to be a pathogenic parasite in freshwater systems, found on a variety of freshwater fish worldwide. Recently it was recorded from two endemic; *Pseudophoxinus burduricus* and *Oxyngoemacheilus anatolicus*, and one exotic fish species; *Gambusia holbrooki* in a Karstik Spring Creek (Düger Spring), Burdur-Turkey. After macro- and microscopic inspection of fish, a high prevalence of *L. cyprinacea* was recorded on *P. burduricus* (28.3%) and a low prevalence on *O. anatolicus* (6%). Histopathological examination of lesions revealed inflammatory response in the epidermis, dermis, and muscles. This is the first record of *L. cyprinacea* on *P. burduricus* and *O. anatolicus* from Turkey. Its prevalence, mean intensity and seasonality with respect to the observed environmental parameters are also presented.

Introduction

The distribution, threat status and biology of endemic fish species in Turkey have been reported, but their parasites, an important part of the ecosystem balance, are poorly known. Mosquitofish (*Gambusia affinis* and *G. holbrooki*) have received much attention for their presumed value in controlling mosquito-borne diseases. These two species are native to the southeastern United States but now occur on every continent except Antarctica due to aggressive introduction

programs implemented since the early twentieth century. Their negative impacts on native biota have been well documented (Stockwell and Henkanaththeegedara, 1992).

During a recent survey, specimens of *Lernaea cyprinacea* were recorded on *Gambusia holbrooki*, *Pseudophoxinus burduricus* and *Oxyngoemacheilus anatolicus* in Düger Spring. Copepods of the genus *Lernaea* are ubiquitous parasites of freshwater

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