

FIRST REPORT OF SOME PARASITES FROM THE MEDITERRANEAN MUSSEL, *MYTILUS GALLOPROVINCIALIS* LAMARCK, 1819, COLLECTED FROM THE TURKISH BLACK SEA

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Abstract

This is the first study on parasites of *Mytilus galloprovincialis* Lamarck, 1819 in Turkish waters. Mussel samples were collected every month between August 2012 and January 2013 at 3 stations in the Sinop coasts of the Black Sea. A total of 840 mussels were examined for parasites using standard parasitological investigation procedures. Five parasite species were identified: *Nematopsis legeri* (de Beauchamp, 1910), *Urastoma cyprinae* (Graff, 1882), *Parvatrema duboisi* (Dollfus, 1923), *Polydora ciliata* (Johnston, 1838) and *Peniculistoma mytili* (Morgan, 1925) Jankowski, 1964. Overall infection prevalence (%), mean intensity and abundance values were 59.88%, 54.73 ± 6.03 and 32.77 ± 2.78 , respectively. Infection indices for each parasite species were also determined and presented.

Keywords: *Bivalves, Black Sea, Parasitism*

Introduction

The Mediterranean mussel (*Mytilus galloprovincialis* Lamarck, 1819) is native to the Mediterranean, Black and Adriatic Seas, but has spread mostly via ballast water and ship hull fouling to many other regions worldwide. It is a major component of the littoral fauna in the Black Sea and is an aquatic product which has economical significance. Total bivalve production value was 45.412 tonnes in 2009 in Turkey ([1]) and all were harvested from nature via mussel collection. A dramatic decrease of 35% was occurred in the years 2007-2011 especially in the Black Sea as a possible impact of predatory marine snail *Rapana venosa* on natural populations. Despite several studies conducted on the parasites of *M. galloprovincialis* where it is distributed ([2], [3], [4], [5]), there is no parasitological report in Turkey. So, this is the first study identifying its parasite fauna and presenting infection indices in Sinop coasts of the Black Sea in Turkey.

Materials and methods

Sampling was carried out between August 2012 and January 2013 at 3 sampling stations representing three ecologically different environments in Sinop coasts of the Black Sea. Mussels were collected by scuba divers and transported in local water to parasitology laboratory at the Faculty of Fisheries and Aquatic Sciences. A total of 840 mussels were examined for parasites using standard methods. Infection prevalence (%), mean intensity and abundance values (with Standard Error) were determined in accordance with [6].

Results

During the investigation period, a total of 5 parasite species were identified; *Nematopsis legeri* (de Beauchamp, 1910) (Porosporidae), *Urastoma cyprinae* (Graff, 1882) (Urostomidae), *Parvatrema duboisi* (Dollfus, 1923) (Gymnophallidae), *Polydora ciliata* (Johnston, 1838) (Spionidae) and *Peniculistoma mytili* (Morgan, 1925) Jankowski, 1964 (Pencilistomatidae). The most prevalent was *N. legeri* (P:47.73%, M.I±S.E: 65.78 ± 7.43), *P. mytili* was less common (P:8.33%, M.I±S.E: 7.62 ± 1.07) and least abundant were *P. duboisi*, *U. cyprinae* and *P. ciliata* (P:4.88%, M.I±S.E: 6.28 ± 0.87 ; P:3.39%, M.I±S.E: 9.09 ± 1.20 and P:1.30%, M.I±S.E: 1.0 ± 0.00 , respectively). Overall infection prevalence (%), mean intensity and abundance values were 59.88%, 54.73 ± 6.03 and 32.77 ± 2.78 , respectively.

Discussion

The Mediterranean mussel *Mytilus galloprovincialis* is native to all seas surrounding Turkey. Despite its economical value, there is no study on the parasites and their infection indices in Turkey. Here in the present study, we provided first and detailed data on its parasites and infection indices in nature in Turkish Black Sea coasts.

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