

Helminth parasites of some freshwater fishes from Baja California Sur, Mexico

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Abstract

Nine freshwater fish species were sampled from 13 bodies of water in Baja California Sur state, on the Baja California peninsula, Mexico. Twenty-four helminth parasite species of 19 genera and from 13 families were recorded. All are new records for the region, but have been recorded previously in Mexico. No endemic helminth species were identified. Most helminths were larval forms of generalist Nearctic species transported by ichthyophagous birds, in addition to five anthropogenically introduced species. Poeciliid fish are the most widely distributed in the oases and other waters of Baja California Sur, and their helminths are the most common on the peninsula.

Key words: Trematoda, metacercariae, Monogenea, Cestoda, Acanthocephala, Nematoda, survey, inventory, freshwater fish, Poeciliidae, *Fundulus*, oases, Baja California Peninsula, Mexico

Introduction

The Baja California peninsula in northwest Mexico is 70 km wide on average and extends approximately 1500 km south of the United States border to just south of the Tropic of Cancer. This region is divided into two states, Baja California (to the north) and Baja California Sur by the 28° latitude line. The Pacific Ocean runs along the peninsula's west coast and the Gulf of California (Sea of Cortez) along its east coast. Annual rainfall is low (100-300 mm). Very few epicontinent freshwater drainages exist on this arid peninsula, but there are 184 oases (171 of them in Baja California Sur) formed by perennial freshwater springs.

The freshwater ichthyofauna of these oases includes two endemic species: *Fundulus lima* Vaillant, 1894, and *Gobiesox juniperoserrai* Espinosa Pérez & Castro-Aguirre, 1996. There are also 19 marine-origin euryhaline species. Overall, the peninsula is poor in primary and secondary freshwater fish species. *Poecilia reticulata* Peters, 1859, *Tilapia cf. zilli* Gervais, 1848, *Cyprinus carpio* Linnaeus, 1758, *Gambusia affinis* Bair & Girard, 1853, *Xiphophorus helleri* Heckel, 1848, and *Xiphophorus maculatus* Günther, 1866 have been introduced to the larger oases (Ruiz-Campos *et al.* 2002). Research has been done on the biota (mostly vertebrate) of some oases (Arriaga & Rodríguez-Estrella 1997), but there are currently only two records for helminth parasites from fishes in the oases of Baja California (Valle-Ríos & Ruiz-Campos 1997; Valle-Ríos *et al.* 2000). In response to this the objective of the present study was to inventory the helminthic parasites in fishes from the freshwater environments in the state of Baja California Sur.