



Helminth parasites of freshwater fish from Central America

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Abstract

This study is a compilation of current knowledge of the taxonomic composition and distribution of the helminth parasites of freshwater fish in Central America. A list of 111 adult helminth species up to day reported from 17 freshwater fish families from Central America was compiled. The data show a helminth parasite fauna in freshwater fish that is typical to the region. One hundred and two of the known helminth species are endemic to the area, 32 of which can be derived from South American genera. Nematodes were the most abundant group, followed by monogeneans and trematodes. None of the 29 helminth families recorded to date is exclusive to Central America, while 16 of the 65 recorded genera have been only recorded from this area. Twenty three of these genera are South American lineages. The data suggest that helminth parasites of freshwater fish from Central America constitute a recent fauna derived mainly from South America but not found there.

Key words: parasites; helminths; checklist; freshwater fishes; Central America; zoogeography; Platyhelminthes; Trematoda; Monogenea; Cestoda; Nematoda; Acanthocephala; Cichlidae; Poeciliidae; Characidae; Heptapteridae; cichlids; poeciliids endemism.

Introduction

Freshwater fish in Central America constitute a faunal assemblage distinct from those of North and South America, and the species within it are parasitized by their own helminth fauna. Between the Isthmus of Tehuantepec, in southern Mexico, and the Isthmus of Panama there are only two suckers and one catfish species, and no records of minnows, perches, darters or sunfishes, which jointly constitute the characteristic fauna of North America. With the exception of Lepisosteidae, no Nearctic fish families have been able to establish themselves farther south than Guatemala. Similarly, most South American fish families are not distributed further north than the Isthmus of Panama. Some of these families extend into Costa Rica, and only a few characids are found in Guatemala and southern Mexico; the siluriforms and characids are characteristic South American elements that are not widely distributed in Central America (Miller 1966; Myers 1966; Bussing 1985, 1998).

Many helminths parasitizing Central America fish are endemic to the region (Salgado-Maldonado 2006). But in general the parasites of freshwater fishes in Central America are poorly known (Choudhury *et al.* 2002; Scholz *et al.* 2004). In response to this, the present study is a compilation of current knowledge of the taxonomic composition and distribution of the helminth parasites of freshwater fish in Central America. Species lists are important because they are needed to successfully document and understand the causes and consequences of biotic diversity. Species lists form a vital element of distribution studies because they aid in generating hypotheses to guide the application of experimental or comparative methods. More research is needed especially in the tropical biodiversity hotspots, identification resources, including field guides, monographs