

Abstract

Based on original data gathered from fieldwork during the last years and from previous records from all published accounts, a checklist of the adult nematode parasites of freshwater fishes from Mexico is presented. The checklist is organized as a nematode-host list and comprises taxonomic and geographic distributional information. In total, the checklist includes 70 taxa (50 identified at species level) pertaining to 13 families. These taxa have been collected from 107 freshwater fish taxa in 198 localities along the Mexican Republic. The information we provide herein indicates that sampling effort has been concentrated in Central and South East Mexico, with the Northern region remaining mostly unexplored. The proportion of endemic nematodes is high in the country (74%, i.e., 37 of the 50 taxa identified at species level). The family Rhabdochoniidae displays the highest species richness (12 species), and *Rhabdochona kidderi* is the most widespread nematode species in the country. Cichlids represent the host group with the largest number of samples in Mexico. Finally, we present a list containing new records of larval nematodes from localities in the states of Michoacán, Nayarit, Oaxaca, Tamaulipas and Veracruz.

Key words: Helminths, nematodes, parasites, freshwater fish, Mexico, taxonomy, diversity, geographical distribution

Introduction

Nematodes (Phylum Nematoda) are recognized as a natural group (Blaxter *et al.* 1998), and they are probably the second largest in the Animal Kingdom after arthropods, when considering the number of described and estimated unknown species. This phylum is represented by free living and parasitic species, and they constitute an extremely diverse group of organisms. Parasitic species are found in plants and animals, including both vertebrates and invertebrates.

The number of estimated nematode species varies between 500,000 (Hammond, 1992) and one million (May, 1988). The number of nematode species described from vertebrates has also been variably reported as 14, 000 (Gardner, 2000) or 8,359 (Hugot *et al.*, 2001) reported. In Mexico, Pérez-Ponce de León and García-Prieto (2001) mentioned that the number of nematode species described as parasites of vertebrates is 490, 155 of which are endemic. These authors also pointed out that fishes are the most intensively sampled group of hosts. However, the majority of the described nematode species are found in mammals (137), followed by marine, brackish and freshwater fishes (127), reptiles (105), birds (79) and amphibians (42).

Particularly with respect to nematodes parasitizing freshwater fishes, Moravec (1998) compiled all the information available up to that time from the Neotropical region, providing identification keys, descriptions and illustrations of most of the species. However, this author did not consider the nematode species occurring in Northern Mexico, since only the neotropics were included. The main objective of our paper is precisely to present all the available information published about adult nematode parasites of