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## **Trematode parasites (Platyhelminthes) of wildlife vertebrates in Mexico**

GERARDO PÉREZ-PONCE DE LEÓN, LUIS GARCIA-PRIETO & BERENIT  
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## Abstract

Trematodes are one of the world's most diverse groups of parasitic platyhelminths found in vertebrates. In this book, a parasite-host list, including all species of trematodes recorded in Mexican wildlife, is presented. These parasites have been studied since the 1930s. The first description of a trematode species was published in 1932. After 75 years of taxonomic research on this group, a total number of 624 species belonging to 311 genera and 78 families have been recorded, with a very high percentage of endemism, since almost 30% represented new species. The inventory presented here results from several years of data compilation obtained from original sources, from various published accounts (Bachelor's and graduate student's thesis, book chapters, peer-reviewed publications, etc.), to database information from parasite collections. In this contribution, we present the most updated inventory of this parasitic group, including not only taxonomic information related to each trematode species, but also information about their host(s) and geographical distribution. Most of the records of trematodes we present in the book include remarks or taxonomical comments. These comments are related with their systematic position within current classification schemes, and in some occasions they correspond to synonymies. In all cases the original reference is presented so reader may want to check on the original source. Drawings of representative species of each trematode family presented in the book are shown, as well as pictures of some type-specimens that show some part of the morphological diversity of this group of parasites. A general overview of the information we have gathered thus far indicates that sampling effort has been unequal regarding vertebrate group studied and geographical distribution. Clearly fish, including marine, brackish and freshwater, have been more extensively studied than any other group of vertebrates, and the northern region of the country has been poorly sampled for helminth parasites within all vertebrate groups. The inventory of vertebrate trematodes in Mexico is far from complete. As a result, it is currently not possible to estimate the size of the fauna (i.e. the number of species present), but available information allows for assessments of general biodiversity patterns and the potential for estimates, as a result of inventory compilation and appropriate methodologies, of the number of species arising in the near future. The main intention of this book is to present the information we have compiled thus far. This information is found in 568 published accounts, and no previous effort has been made to organize and analyze this enormous amount of data. We are confident that this work will contribute to our knowledge of this parasitic group and settles the stage for future research regarding host-parasite interactions between trematodes and their vertebrate hosts in one of the most important, from a biogeographical perspective, regions of the world. Mexico occupies a transitional position between Nearctic and Neotropical biogeographical regions, so future trematode research may be focused on understanding species distribution, once a more complete inventory is generated.

**Key words:** Helminths, trematodes, parasites, Mexico, taxonomy, diversity, checklist

## Introduction

### Parasites and biodiversity

Estimates indicate that there are between 30 and 100 million living species on our planet (Anonymous, 1994). Most are represented by arthropods, however, if the ubiquitous nature of the zooparasitic nematodes of vertebrates and invertebrates were considered, parasites would account for a substantial part of the biodiversity that has not been evaluated in detail (Hoberg, 1997a). Despite relatively little information regarding the systematics, distribution and life-histories of parasites exists, these organisms are currently considered to be a necessary complement of biodiversity studies, enhancing our knowledge of ecosystems by contributing information accumulated from their interactions with free living organisms. In this way, data derived from parasitological surveys as well as research on the evolution of these ecological associations, have determined that parasitology is considered to be an integrative part of research programs on biodiversity throughout the world (Brooks & Hoberg, 2000; Brooks *et al.*, 2001; Pérez-Ponce de León & García-Prieto, 2001a).

Terms such as parasites-disease-man are, in general, not regarded well by biologists and society. This has resulted in a disadvantage for the idea that parasites play an important role in research programs dedicated to the inventory of biological diversity, especially when parasites are compared to the so called charismatic megafauna, which include some vertebrates, plants and butterflies. Unfortunately, pathogens represent a threat