



***Cosmocerca acanthurum* n. sp. (Nematoda: Cosmocercidae) in *Pseudoeurycea leprosa* and *Chiropterotriton orculus* from the Transmexican Volcanic Belt, Central Mexico, with a checklist of the helminth parasites of plethodontid salamanders**

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Abstract

Plethodontid salamanders represent a group of amphibians that show a great evolutionary diversification in México, however no study of their helminth parasites had been conducted thus far. In this paper, we describe *Cosmocerca acanthurum* n. sp. (Nematoda: Cosmocercidae) from the intestine of the plethodontid salamanders *Pseudoeurycea leprosa* and *Chiropterotriton orculus* from Llano Grande and Texcalyacac, Estado de México, in Central México. *Cosmocerca acanthurum* n. sp. is easily distinguished from all other species of *Cosmocerca* in that females possess a uniquely spined tail, a character no seen in congeners. In addition, we compiled all the information of helminth parasites of plethodontid salamanders, and we present it in the form of a checklist of both parasite-host, and host-parasite. A brief analysis of the helminth parasite species composition is presented regarding life-history and development characteristics of plethodontids.

Key words: *Cosmocerca acanthurum* n. sp., Helminths, Plethodontidae, *Pseudoeurycea leprosa*, *Chiropterotriton orculus*, Mexico

Introduction

To the best of our knowledge, no information exists regarding the taxonomic diversity of helminth parasites of plethodontid salamanders in México. Plethodontids are thought to have arisen in what is present-day Appalachia, the ancient mountainous region of the southeastern United States (Wake, 1966). The most diverse plethodontid clade by far, is the subfamily Bolitoglossinae, which is formed by two well-defined clades. The *Batrachoseps* clade from North America's west coast and the Baja California Peninsula in México, and the second clade which is the most specious salamander group, the supergenus *Bolitoglossa* in the neotropics (Wiens *et al.*, 2007).

The supergenus *Bolitoglossa*, with more than 180 species arranged in 12 genera (*Bolitoglossa*, *Bradytriton*, *Chiropterotriton*, *Cryptotriton*, *Dendrotriton*, *Ixalotriton*, *Nyctanolis*, *Nototriton*, *Oedipina*, *Parvimolge*, *Pseudoeurycea*, and *Thorius*) ranges from northern México to Brazil and Bolivia, reaching the highest diversity in Mesoamerica (Parra-Olea *et al.*, 2004a, Wiens *et al.*, 2007). Bolitoglossine salamanders share fully terrestrial life histories, internal fertilization, direct development, and a highly specialized feeding mechanism, derived traits that have played a major role in their success in the tropics (Wake, 1987). *Pseudoeurycea* includes about 40 species and occur mainly at high elevation forests ranging from northern México into west-