



Present distribution of the genus *Gnathostoma* (Nematoda: Gnathostomatidae) in Mexico

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Abstract

Three species of the nematode genus *Gnathostoma* are distributed in Mexico, namely *G. binucleatum*, *G. lamothei*, and *G. turgidum*. The knowledge of their geographic distribution is important because their potential to infect humans causing gnathostomiasis. In this study, we compile all available records in literature, as well as newly collected data in a data base of 238 records, in 82 localities of 14 states in Mexico. Tabasco, Oaxaca, and Veracruz states show the largest concentration of localities positive to the infection by these nematode species. The number of host species infected with one of the species of *Gnathostoma* reaches a total of 80 and fish is the most numerous group with 39 parasitized species, distributed in 11 families.

Key words: Geographic distribution, Zoonosis, gnathostomiasis, vertebrates

Introduction

Three species of the genus *Gnathostoma* have been recorded in Mexico, namely *G. binucleatum* Almeyda-Artigas, 1991, *G. lamothei* Bertoni-Ruiz *et al.*, 2005, and *G. turgidum* Stossich (Bertoni-Ruiz *et al.*, 2005). However, present distribution of these species is not well-known, mainly because most records are scattered and published locally.

The knowledge of the geographic distribution of this genus is important because several species have been recorded as accidental human parasites (*G. spinigerum* Owen; *G. hispidum* Fedtschenko; *G. doloresi* Tubangui; *G. nipponicum* Yamaguti, and *G. binucleatum* Almeyda-Artigas); even more, a recent phylogenetic study of *Gnathostoma* species found that these 5 species are distributed in different clades; based on this analysis, it has been hypothesized that any species of *Gnathostoma* is capable to infect humans (Bertoni-Ruiz, 2006).

As a part of an ongoing project in order to establish the current distribution of *Gnathostoma* species in Mexico, in this work we present the results of several samples of wild vertebrates made along this country; likewise, we compile all the published records of *Gnathostoma* in Mexico to generate a map of the present distribution of these nematodes in the Mexican Republic.