

# Earthworms of Latin America: a synthesis of their ecology and diversity

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In Latin America (LA), there are relatively few studies on the biology, distribution of native and exotic species and ecological importance of earthworms in various ecosystems (especially native vegetation). These issues were explored in the book "Earthworms of Latin America", resulting from the 1st Latin American Meeting on Oligochaete Ecology and Taxonomy (ELAETAO1), held in Londrina, Brazil, in December of 2003. The book synthesizes the present knowledge on earthworm diversity in LA, and includes a list of all the known species and their distribution in each country. The book also includes several chapters on the use of earthworms as bioindicators and the benefits of their use in agriculture, vermicomposting and organic fertilizer production.

The diversity of earthworms in LA exceeds 960 species, distributed in 125 genera and 11 families. Of the total known species, 93% are native, and at least two families and many genera are endemic to the region. Brazil has the highest diversity (305 spp.), followed by Ecuador and Colombia (139 spp.), Mexico (135 spp.), the Caribbean Islands (128 spp.), Chile, Argentina and Venezuela (80, 79 and 71 spp., respectively). The Glossoscolecidae family is the best represented, with 56% of the total diversity, followed by Acanthodrilidae (28% of the total) and Ocnerodrilidae (9%), all with an important proportion (> 95%) of native species. Various exotics (66 spp.), mainly from the Megascolecidae, Acanthodrilidae (Benhamiinae) and Lumbricidae families, have invaded principally agricultural areas in LA, but there is still little information on the effects of these species on the soil and populations of native species. Some species are even found in natural (native) habitats. However, large areas of the continent continue unknown, and various countries still have few collection sites and require greater efforts (urgent) to find and describe the native oligochaetes. There are also several native species that are, or could be endangered of extinction mainly due to habitat loss or alteration and predatory harvesting (mainly for bait).

Most known earthworms in LA were described by Gilberto Righi (> 220 spp.), Michaelsen and Zicsi, but few taxonomists remain active in LA, and further efforts are needed to train taxonomists able to identify earthworms and facilitate the study of earthworms (biology, ecology, biogeography, distribution) in the various habitats, ecosystems and biomes of the continent and to generate data on the potential use of these animals as environmental bioindicators.