

Earthworm biodiversity in Brazil: Current status and future perspectives

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Approximately 275 described species/subspecies of earthworms are known from Brazil, although ~1400 species are estimated to exist. Most species are native (85%) and only 15% are exotic. The majority belong to Glossoscolecidae (66%), Ocnerodrilidae (15%) and Acanthodrilidae (8%). Most native species show restricted distributions and high endemism, while exotic species have extensively colonized disturbed habitats. *Pontoscolex corethrurus* (Müller, 1857), probably native to N Brazil, is a peregrine invasive throughout the rest of the country and is the most abundant and well-known Brazilian earthworm. More than 50 species of large (>30 cm length, >1 cm diam.) earthworms (minhocuços) inhabit Brazilian soils. Several of them are harvested and widely commercialized as fish bait; many families derive their income from this practice. Many species live in semi-aquatic conditions that represent refuges for earthworm survival in highly modified landscapes. Many new species have been collected recently, but further sampling efforts are necessary, especially in NE, far S, Central and N Brazil. Earthworms have been sampled quantitatively in a large variety of ecosystems, both natural and disturbed, but rarely identified. Earthworms are abundant in no-tillage agroecosystems, pastures and chronically-wet soils like rice-paddies, where species diversity ranges from low to high, depending on the site. In forest ecosystems, diversity is generally high, but abundance low. Studies of the effects of native and exotic species on soils, ecosystem function and biodiversity are needed, considering the extent of invasion, and increasing human pressure on land use and natural resources. Nevertheless, this is hampered by the lack of knowledge of their biology and ecology as well as the lack of trained taxonomists and earthworm researchers in Brazil.