
Are earthworm populations maintained in public parks in cities? The case of Curitiba, Paraná, Brazil

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This study aimed to assess earthworm populations in public parks of Curitiba, Paraná, Brazil. Six parks were chosen for sampling: Barigui Park, Tingui Park, Barreirinha Park, Passaúna Park and The Botanical Garden. In each park we sampled five points in forest and also grass sites totaling 60 sampling points, using the adapted *Tropical Soil Biology and Fertility Method* (20 x 20 x 20 cm depth monoliths) in summer. The earthworms were fixed in alcohol (92.8%) and later identified to family, genus and species level. A total of 171 individuals were identified, belonging to the families: Rhinodrilidae (*Pontoscolex corethrurus*), Glossoscolecidae (*Glossoscolex* sp.1, *Fimoscolex* sp.1, *Fimoscolex* sp.2 and juveniles), Ocnerodrilidae (Ocnerodrilidae sp.1), Lumbricidae (Lumbricidae sp.1) and Megascolecidae (*Amyntas gracilis*, *A. corticis*, *Metaphire californica* and juveniles) and unidentified juveniles. Considering all parks, the highest earthworm species richness was found in the grass sites (eight sp.) and only three sp. in the forest sites. The species *Pontoscolex corethrurus*, Megascolecidae juveniles and unidentified juveniles were found in both sites. *Glossoscolex* sp.1 was exclusively found in a forest site and the remaining six species in the grass sites. Both sites had predominance of exotic species (63% in grass and 67% in forest). Earthworm abundance was significantly higher in grass sites (148 ind m⁻²) compared to forest sites (23 ind m⁻²). The results confirm the presence of exotic species near human habitations. However, some native species (new species) also survive, despite the anthropic impact and pressure of exotic species. Future sampling in winter will be performed to better understand these earthworm population dynamics.