

## ***Is there an ecological niche overlap between native and exotic earthworm species in Martinique?***

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The Caribbean basin is considered a global hotspot of biodiversity. Since 1886, more than a hundred species of earthworms have been recorded there, many of which are endemic. The volcanic arc of the Lesser Antilles has been relatively less studied than the Greater Antilles. Martinique has never been the subject of a specific study on earthworm diversity. Following preliminary studies, more than thirty species of earthworms have been identified. Exotic species coexist with species that are new to science and probably endemic. These native species may be threatened in various ways, due to global changes or the introduction of exotic species such as other earthworm species that would be more competitive. In this context, it is important to better understand the factors that determine the distribution of the different earthworm species in Martinique in order to identify potential threats to this biodiversity and help its conservation. More specifically, the objective of this work is to test whether there is an overlap between the ecological niches of native and exotic species. The ecological niches of several native and exotic species were therefore modelled using Maxent software. This modelling was carried out using a geo-localised database of earthworm samples taken over the period 2015-2021 and includes variables related to climate, soil type, land use and topography. Initial results suggest that native species are constrained to habitats at higher elevations, where rainfall totals are high and temperatures are relatively lower. For exotic species, soil type and land use seem to be the most important factors. The exotic species *Dichogaster andina*, *Pontoscolex corethrurus* show an ecological niche that fully or partially overlaps the ecological niche of several native species. This result shows that some exotic species could be considered as invasive and represents a threat to the biodiversity of earthworms in Martinique.

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