Earthworms in land-use systems in Santa Catarina State, Brazil

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This study aimed to evaluate the earthworm species richness in land-use systems (LUS) in four regions in the state of Santa Catarina (SC), Brazil. The samplings were carried out in the West, Plateau, East and South regions of SC. In each region we selected three counties and in each county we sampled five LUS: native forest (NF), *Eucalyptus* plantation (EP), pasture (PA), integrated crop-livestock (ICL) and no-tillage (NT). The sampling was qualitative and consisted of the digging of at least 20 randomly selected holes in each site. The earthworms were fixed in alcohol (92.8%) and later identified to family, genus and species level. In total 34 species were found, 20 native (*Urobenus brasiliensis*, *Glossoscolex* sp.1, *Glossoscolex* sp.2, *Glossoscolex* sp.3, *Glossoscolex* sp.4, *Glossoscolex* sp.5, *Glossoscolex* sp.6, *Glossoscolex* sp.7, *Glossoscolex* sp.8, *Fimoscolex* sp.1, *Fimoscolex* sp.2, *Fimoscolex* sp.3, *Fimoscolex* sp.4, *Fimoscolex* sp.5, *Andiorrhinus duseni*, Ocnerodrilidae sp.1, Ocnerodrilidae sp.2, Ocnerodrilidae sp.3, Ocnerodrilidae sp.4, Ocnerodrilidae sp.5) and 14 exotic (*Pontoscolex corethrurus, Amynthas gracilis, A. corticis*, *A. morrisi*, *Metaphire californica*, *Metaphire* sp1, Megascolecidae sp.2, *Octolasion tyrtaeum, Bimastos parvus*, *Microscolex* sp.1, *Dichogaster gracilis*, *D. bolaui*, *D. saliens*, NI sp.1 (not identified species)). The regions with higher species richness were Plateau, South and West, respectively with 19, 15 and 12 spp. in the East region, seven species were identified in the LUS. There was a considerable difference in the percentage of native and exotic species in the West and Plateau regions compared with the East and South regions. The West and Plateau regions had a predominance of native species, 58% and 74% respectively, while East and South regions had a predominance of exotic species, 86% and 73% respectively. The LUS NF, EP and NT of the West region and EP and PA of the Plateau region had 100% of native species. The native genera *Glossoscolex* and *Fimoscolex* were predominant in the West and Plateau regions. On the other hand, in the South and East regions we observed a predominance of the species *Pontoscolex corethrurus* (more than 60% of the earthworm population), followed by species of the genus *Amynthas*.