

**Review Article**

## **Ecology and diversity of earthworms in different land use systems of northeast India: A review**

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(Received: June 15, 2023; Revised: November 09, 2023; Accepted: November 14, 2023)

### **ABSTRACT**

In North-Eastern region of India, very few studies on earthworm biodiversity have been done. This review paper integrates these fragmentary studies done in this region till date to understand the total number of reported earthworm species in context of their ecology in different land use systems. Our compilation of data reveals a total of 125 species from 10 families and 28 genera in this region. Highest number of species were reported from Meghalaya (54 species) and lowest (only 9) from Nagaland. The most dominating family with the largest number of species was Megascolecidae followed by Octochaetidae and Moniligastridae. The rare families were Acanthodrilidae, Lumbricidae, Ocnerodrilidae and Eudrilidae. From the entire north-east 39 species were found to be exotic and 86 species native. In terms of community structure, mixed forests were found to harbour maximum earthworm species diversity, the Shannon diversity values ranging from 1.76 to 2.72 whereas the lowest diversity was reported from municipal solid waste deposit site (0.42). Various factors which influence the distribution and abundance of different earthworm species were found to be spatial heterogeneity, habitat and soil characteristics, individual tree species effect, land use history and age of land use system, agricultural intensification, anthropogenic interference and ecological tolerance of the species.

**Key words:** Earthworm diversity and ecology, Distribution and abundance, Land use systems, North-east India, Regulatory factors, Future research prospects.

