

IMPACT OF CLIMATE CHANGE

# BIODIVERSITY & ENVIRONMENT

Ajay Kumar Vashisht  
Anila George



# **Impact of Climate Change Biodiversity and Environment**

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**2021**

**Associated Publishing Company<sup>®</sup>**

*A Division of*

**Astral International Pvt. Ltd.**

**New Delhi – 110 002**

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ISBN : 978-93-89719-38-3

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New Delhi-110 002  
Ph. 011-43549197, 23278134  
E-mail: info@astralint.com  
Website: www.astralint.com

*Digitally Printed at* : **Replika Press Pvt. Ltd.**

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## *Chapter 29*

# **Identification of Native Earthworms and its Effect on Plant Growth**

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Earthworms contribute to distribution of surface litter, spatial heterogeneity, and microbial activity. The available information on earthworms in the past four decades reflects on the important link these organisms have with other below the ground fauna and flora and finally with above-ground vegetation. Our work aims to provide information about the availability of native earthworms in our own area and also made a comparative study in physico-chemical characteristics of the soil where they survive. We also tried to determine the efficiency of plant growth in earthworm surviving soil and to identify which species of earthworm is more profitable than others in agro-chemical activities. The experiment was done by comparing the germination and growth of pea plants in soil samples that contained earthworms of different species, with those that did not contain any earthworms. In our study, we identified seven native species of earthworms using identification keys and morphological characters and we tried to determine the soil properties where these earthworms are surviving. All the species showed a positive response in the pea plant experiment but *Pontoscolex corethrurus* and *Megascolex trivandranus* express higher growth rate than others. From our results, we noticed that these two species were well adapted in their habitat and the physico-chemical parameters of soil, where they survive were not influenced their agrochemical activity.

### **Introduction**

The recent realization to maintain ecological balance a success and for sustenance of agricultural production, farmers and scientists alike is aiming at