

DATA SHEET FOR RESEARCH SCHOLARS



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9. Funding Agency: UGC, NEWDELHI
10. Date of commencement of Fellowship: 20.09.2014
11. Period of Fellowship: 5 years
12. Title of the Research Work: Taxonomical diversity of earthworm across Southern parts of Odisha.
13. Name of the Guide/Co-Guide: Dr. Alira Patraik
14. Registration Number: 02/2016/Life Sciences
15. A Brief Abstract of your Research Work (Within 200 words): attached
16. Status of Research Work:
 - (a) Writing the synopsis
 - (b) Review of Literature
 - (c) Data Collection
 - (d) Data Analysis
 - (e) Writing the draft thesis
17. Do you have your profile in the following research networks?
 - (a) Google Scholar
 - (b) ResearchGate
 - (c) Academia
18. Do you access the following e-resources subscribed by the university
 - (a) E-Sodh Sindhu from INFLIBNET
 - (b) ProQuest
19. Number of Papers published in referred journals with ISSN: 2
20. Mention any TWO of your best publications in APA standard: [Signature]
Signature of the Research Scholar

Countersigned by the Research Supervisor

Abstract:

Earthworms are invertebrates belonging to the phylum Annelida and class Oligochaeta. Earthworms contribute to soil fertility improvement, plant growth and play a key role in converting organic matter and composting garbage. The taxonomic identification of earthworms is difficult because of the lack of suitable and easy handle diagnostic characters. The morphological and anatomical characters are variable and the degree of variability can differ and features overlap between taxa (Pop *et al.*, 2003). Morphologically earthworm species can be distinguished on the basis of several characteristics like growth, number of segments, length and position of clitellum. The Molecular methods, which of late have become powerful and precise tools have come in very handy for overcoming the limitations of conventional visible markers in documenting the existing diversity of earthworm species. There is an urgent need to undertake extensive survey of earthworms in such unexplored areas with a view to study their biodiversity, search for more native species which may be used for vermicomposting, suggest measures for their conservation and protection, particularly the species which are either threatened or on the verge of extinction. The present attempt, therefore, is to conduct a survey of earthworm species available in the selected habitats with the following objectives; The present investigation involves identification and analysis of taxonomic diversity of the earthworms from Southern part of Odisha, India using molecular techniques. Collection of earthworms from Southern part of odisha (Consists of 3 agro-climatic climatic zone) and their morphological characterization. Physico chemical characterization of soil properties under the influence of the earthworm isolates individually or in combination. Assessment of genetic variation (interspecific and intraspecific) using DNA markers (RAPD, ISSR, SSR) 18-S RNA sequence and COI barcode sequence. Genetic fingerprinting and haplotyping of the isolates/species of earthworm.

Anisetti Siva Shankar