

Biodiversity of Nematodes in different Types of Terrestrial Habitat in Aligarh

Sabia Mumtaz*¹, Hiba Fatima² and Irfan Ahmad³

^{1,2,3}Department of Zoology, Aligarh Muslim University, Aligarh
E-mail: ¹sabia.mumtaz@gmail.com

Abstract—Nematodes abound in every possible niche in almost every environment over the world. They have successfully adapted to nearly every ecosystem from marine to fresh water, to soils, and from the polar regions to the tropics, as well as the highest to the lowest of elevations. They are key microfaunal grazers that regulate ecological processes of decomposition and nutrient cycling thereby, indirectly affecting primary production. Nematodes offer practical advantages for monitoring ecological changes in soil conditions due to man-made or natural disturbances. They possess most important attributes of any prospective bio- indicator. The present work deals with the study of diversity of nematodes belonging to the order Tylenchida and Rhabditida. During this study, samples were collected from different habitats such as farmyard manure, flower beds, grasslands, rhizophere and rhizome, rotting barks and tree trunks. Nematodes were isolated by modified Cobb's sieving and decantation and modified Baermann's funnel techniques. For light microscopy, the extracted nematodes were heat-killed and fixed in FG fixative, dehydrated by slow evaporation method, mounted in anhydrous glycerine and viewed under Olympus BX-51 DIC microscope. For SEM studies, fixed specimens were dehydrated in acetone series, critical point dried using CO₂, mounted on stub coated with 10 nm gold and viewed on a JOEL JSM-6510 SEM. Several nematodes i.e., *Hoplolaimus*, *Helicotylenchus*, *Tylenchorhynchus*, *Neodolichorhynchus*, *Hemicriconemoides*, *Mononchoides*, *Diplogastrellus*, *Acrostichus*, *Fictor*, *Oigolaimella*, *Metarhabditis*, *Curvilitis*, *Rhabditella*, *Oscheius* and *Prodontorhabditis* were identified. The aim of present study is to investigate nematode diversity of different habitats which provides a good tool for diagnosis of the complexity and status of soil food webs.

Keywords: Diversity, Habitat, Nematodes, SEM.