



Population fluctuation of soil microarthropods in different parts of newly emerged virgin deltaic Island, West Bengal, India.

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Abstracts:

Soil microarthropods have important role in maintaining soil fertility. The major contribution of arthropods to soil is through decomposition and humification of all organic matter. Soil inhabiting microarthropods were divided into different functional groups. Present study is based on seasonal diversity, habitat quality and species specific differences of micro arthropods abundance in different selected parts of Nayachar Island, Purba Medinipur, West Bengal, India. A total of 44 species of microarthropods were identified. Soil sample have been collected seasonally (Pre monsoon, monsoon, post monsoon) from each selected sites over 30 months. The soil physico-chemical parameters were study in laboratory standard method.

Key words: Soil microarthropods, Population, Diversity, Fertility.

Introduction:

The living organisms in soil range from microorganisms, small and large invertebrates to small mammals. Arthropods represent as much as 85% of the soil fauna in species richness. They comprise a large proportion of the meso and macrofauna of the soil. Macrofauna contribute to improve soil structure, aeration and water infiltration. They predate on soil organisms and help to maintain biological equilibrium in soil. Mesofauna are important plant pathogens. Microfauna are important predators of bacteria and algae, thus regulating their population in soil (D.J.Bagyarj *et al* 2016). Soil fauna such as microarthropods enhance ecosystem services by accelerating key determinants of an ecosystem for primary productivity including decomposition of organic matter, soil mineralization, energy flow, nutrient cycling and maintaining of soil physical structure (Yang and Chen 2009). Little information is available on diversity and community structure of soil microarthropods from Indian coastal regional soil. No substantial study has been done on soil microarthropods subjected to seasonal diversity, population dynamics and impact of soil fertility of newly emerged virgin deltaic Island (Nayachar), West Bengal, India. In the present study, we investigate, seasonal diversity, habitat quality and species specific difference of micro arthropods abundance in different parts of the Nayachar Island.