



Bio-monitoring and Detection of Water Quality using Ephemeroptera, Plecoptera and Trichoptera (EPT) Complex in Karanthamalai Stream of Eastern Ghats

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Abstract: The health of an ecosystem can be studied by measuring the biodiversity of ephemeroptera, plecoptera and trichoptera complexes. The studies were done in Karanthamalai stream from August 2017 to January 2018. A total of 220 Specimens belonging to 16 genera, 11 families and 3 orders were collected during the study period. Hydropsychidae was the most ubiquitous family present there comprising about 3 genera and 3 species. *Chematopsyche sp* and *Indobaetis sp* were the most dominant and ubiquitous species present there. The results implies that this stream support most pollution sensitive taxa such as like Perlidae, Heptagenidae, Polycentropodidae and Stenopsychidae in the midstream and upstream compared to downstream due to anthropogenic disturbances. Shannon index was highest in August and December indicating the presence of higher diversity of Entomofauna in the ecosystem and lowest in September. Simpson's index was highest in December and lowest in September. The evenness value was almost similar in almost all months except it was relatively low in September. Low diversity of organisms was due to anthropogenic activity caused by pilgrims and due to lack of rainfall. This study implies that diversity of organisms was directly and indirectly influenced by ecological gradients and anthropogenic impacts.

Keywords: Anthropogenic impact, Bioindicator, Diversity, Pollution, Temperature
