

L - 10

Diversity and Distribution of Aquatic Insects in Aghanashini River of Central Western Ghats, India

Balachandran, C^{1,2}, Dinakaran, S², Subash Chandran, M.D¹. and Ramachandra, T.V¹

¹Energy and Wetlands Research Group, Centre for Ecological Sciences,
Indian Institute of Science, Bangalore

²Centre for Research in Aquatic Entomology, The Madura College, Madurai.
E-mail: bala@ces.iisc.ernet.in; energy@ces.iisc.ernet.in; mds@ces.iisc.ernet.in;
cestvr@ces.iisc.ernet.in
<http://ces.iisc.ernet.in/energy>

Freshwater insects play important role in ecosystem functioning, nutrient cycles including primary production, decomposition and translocation of materials. The present study mainly deals with the diversity and distribution of aquatic insects sampled from nine stations in the Aghanashini River of South-west India. The aquatic insects were quantitatively sampled using a 1 m wide, 500 μ m kick-net and random surveyed in different habitats of each station. Diversity at the genera level varies from station to station. *Ephemeropteran* (Mayflies) and *Trichopteran* (Caddisflies) appear to be more diverse taxon, indicative of good water quality. Different functional feeding groups of aquatic insects such as shredders, scrapers, collector-gatherers and predators are important links in nutrient recycling in streams. Among the functional feeding groups collector-gatherers were predominant followed by scrapers, predators and shredders. Presence of pollution sensitive genera like *Petersulla*, *Isonychia*, *Isca*, *Clypeocaenis*, *Helicopsyche* etc. further stresses the conservation importance of few remaining natural riverine ecosystems such as that of Aghanashini. However, the occurrence of organic pollution tolerant genera like *Choroterpes*, *Baetis*, *Chironomus*, *Simulium* etc. in some of the downstream stations nearer to human settlements is a disconcerting factor. More work is needed to assign the genera *Isonychia* and *Platybaetis* from some of the hill streams of Western Ghats, including from Aghanashini, to species levels, which probably might be altogether new ones for India. Developing the practice of routine biomonitoring of hill streams and rivers using aquatic insect indicators will facilitate their better conservation.

Keywords: Aquatic insects, diversity, mayflies, bio-indicator and functional feeding group