

Relationships of distribution of macrobenthic invertebrates and the physico-chemical parameters from Semenyih River by using correlation and multiple linear stepwise regression analyses

Abstract

The distribution of macrobenthic invertebrates at Semenyih River has been described by Yap et al. (2003a), but their relationships with physico-chemical characteristics of the river have yet to be established. By using correlation and multiple linear stepwise regression, it was found that BOD 3, orthophosphate, total suspended solids and turbidity were important in structuring the stream macrobenthic invertebrate communities because they determined whether organisms could colonize and persist in the stream habitats. Thus, the invertebrates are useful as bioindicators to the health of the river ecosystem, complementing water quality analysis. Impacts of anthropogenic inputs can therefore be assessed based on the macrobenthic invertebrates' different species distribution.

Keyword: Semenyih River; Macrobenthic invertebrates; Correlation analysis; Multiple stepwise regression analysis