Title: Macroinvertebrate assemblages as biological indicators of water quality in the Moiben River, Kenya

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Abstract: Benthic macroinvertebrate assemblages at eight stations in the Moiben River, corresponding to different catchment land uses, were assessed in 2006 as indicators of water quality. The relative abundance per taxon, diversity index, richness index, evenness, dominance, percentage of five dominant taxa and percentage Ephemeroptera + Plecoptera + Trichoptera (EPT) individuals were determined per sampling period per station. Significant spatio-temporal variation was observed in relative abundance, with Diptera dominating the study area. Ephemeroptera, Plecoptera and Trichoptera dominated the headwater stations, whereas Coleoptera, Oligochaeta and Chironomidae dominated further downstream. Significant relationships were recorded between physico-chemical parameters — conductivity, BOD, temperature, and discharge — and the occurrence of specific taxa, mainly Heptagenia, Caenis, Baetis, Branchiobdella, Potamon, Ilyocoris, Elmis and Chironomus. Significant changes in macroinvertebrate assemblages were primarily due to changes in water quality. As elsewhere, macroinvertebrate communities proved to be good indicators of water quality and should be used as bioindicators in long-term monitoring of this river.

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