

Physical, Chemical and Macrobenthic Invertebrate Fauna Characteristics of Swampy Water Bodies within University of Lagos, Nigeria

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Abstract

A comparative study conducted on three swampy water bodies draining through the University of Lagos into the Lagos Lagoon describes the physical, chemical and macrobenthic invertebrate characteristics of these water bodies at the study sites. Three stations, one at each water body were sampled fortnightly from June to December, 2000. Water temperature, total alkalinity and salinity were the only physical and chemical conditions significantly different at the study stations. The physical and chemical conditions at stations A and B were similar and significantly different from station C exposed to domestic effluent, thereby, reflecting the perturbational stress at that site. A total of 43 benthic invertebrate taxa belonging to five classes, 31 families and 2424 individuals were recorded at the study stations. The study stations can be ranked as $B > A > C$ and $B > C > A$ in terms of number of taxa and number of individuals, respectively. The low number of taxa and individuals in stations A and C is suggestive of habitat instability. The pattern of invertebrate distribution and abundance was influenced by the fluctuations in the abundance of Oligochaeta, Hemiptera and Diptera. The taxon richness (D), genera diversity (H) and evenness (E) estimated for the study sites supported the trends observed in the numbers of taxa occurring and their abundance. The low concentrated dominance (C) calculated for station B compared to stations A and C reflects an ecologically heterogenous and relatively stable site. Morisita-Horn index showed that station C was dissimilar to stations A and B. Jaccard's coefficient indicated that all stations were dissimilar. In general, the faunal comparison showed that the level of exposure to urban discharges, inert pollutants and the presence of aquatic macrophytes influenced the differences in the abundance, occurrence and number of taxa at the three stations.