Abstract
Abundance, diversity and community structure of meiofauna, with special emphasis on epiphytic harpacticoid copepods, occurring in Tanzanian seagrass beds under various nutrient inputs was determined. All measured parameters for epiphytic meiofauna and diatoms (fucoxanthin) were negatively affected by nutrient input and this was detected even at the higher taxonomic levels of meiofauna, supporting the validity of higher taxon surrogacy in environmental impact studies. However, benthic meiofauna and other biofilm characteristics (chlorophyll a) did not show any difference between sites suggesting that nutrient enrichment had less impact on these variables. This indicates a differential impact of pollution on epiphytic vs. benthic communities. Consequently, different trophic levels will be impacted in various ways and hence the effects of pollution on the overall ecosystem functioning of seagrass beds are complex and not straightforward. Although the seagrass plants themselves don't show any major changes under different nutrient input, associated organisms that guarantee energy flow at basal levels of the food web in this ecosystem can be largely impacted.