Abstract
In determining the effect of sediment loading resulting from the museum hill round-about reconstruction on benthos of Nairobi River, a study was carried out with the objective of determining the abundance of macro and meio benthos in relation to sediment loading at the site of study. The method used for this experiment involved determination of sediment loading at various sampling sites; in this case the total suspended solids were analyzed to determine the sediment loading in two streams (Kirichwa 1 and Kirichwa 2) which cover the study site. The analysis of benthos was done by scooping the bottom substrate from the river at various sampling points. The samples were passed through sieves of different sizes depending on the type of analysis (Meio or Macro) and processed for observation under compound microscope and the number of benthos present counted. A similar procedure was done on samples obtained from a selected control site. This was a seasonal stream at the university of Nairobi sports ground that had a variety of benthos and was found to be suitable as a control. Analysis of sediment loading was done by filtering water collected from the sampling points with a suction pump with chlorophyll A filtration filter papers were dried in an oven at 78oC and stored in desiccators for 30 minutes then weighed. After filtration of the sampled river water the filter papers with trapped substrate were dried in an oven at 78oC for 48 hours and then weighed. The wet mass and dry mass of the samples was obtained and was divided by the respective volume of water filtered to determine the sediment load in g/ml. The sediment load and abundance of benthos from the respective sampling sites were compared and a relationship was established. The key results showed a general variation in diversity, type and abundance of benthos with increase in sediment loading. In conclusion, it was observed that despite the fact that sediment loading may not be the only factor affecting the abundance of benthos along the river gradient, at the sampling points there was a general decrease in benthos with sediment loading.