Bioassessment of Marbor Stream quality via biological index of macro-benthos fauna

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Abstract

This study done to identify the macrobenthose fauna of Marbor stream in order to evaluate and river bio-assessment of water.. Samples collected from April 2012 to March 2013 by Surber sampler (40×40 cm). The collected benthos fixed in 4% formaldehyde solution and transferred to the laboratory. In each station while sampling, discharge and water temperature were also measured. The most frequent orders were Ephemeroptera, Tricoptera and Diptera. Among Diptera 3 families of Chironomidae, Simulidae and Tabanidae had been dominant with the frequency of 64, 17 and 17 percents respectively. The maximum number of Ephemeroptera and Tricoptera seen in mid August, while in Diptera the maximum observed in May and early February. The decrease in the number of Diptera could be for water high discharge during March. Considering frequency of benthic fauna in different months, Ephemeroptera was dominant. However, in some station (esp. the 5th one) because of entering of village sewage to this part of stream, Diptera was dominant. The number of Diptera had a considerable decrease during summer because of vertical migration of this benthos from bottom to surface and feeding activity of benthos feeders in particular. Because of Marbor bed-stream, which is rubble-stony in most places, low amount of organic materials in water, there were not differences in stations. In addition, the water in Marbor stream has high quality. Occurrence of seasonal floods during early August causes significant decrease in the number of macro-benthos and macro-benthos diversity has declined in recent years than in the past.

Keywords: Marbor Stream, Macrobenthos, Ephemeroptera, Tricoptera, Diptera.