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Ecological Study on the Epiphytic Algal Diversity in the Downstream of Turnasuyu Creek (NE, Turkey)

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Aim of the study: Epiphyton in running water are an important component of aquatic ecosystems. Epiphyton community structure, species composition, and succession respond to environmental conditions and thus can be used to classify inland waterways. Benthic algae represent dominating primary producers in lotic reaches. Algal communities have been used as biotic indicators of ecological condition and change. The purpose of this research is to perform the evaluating situation in order to determine the presence of human or natural influences on the Turnasuyu Creek. Also, it is to determine the water quality class of the creek.

Material and Methods: Water and epiphytic algal samples were collected monthly from lower part of the creek between June 2013 and May 2014. Epiphyton samples were collected in the vascular plants species (*Typha* spp). The samples were preserved in formol 4% solution and identified using a light microscope (soft-algae). Clean diatoms were identified under a 1000X magnification light microscope. Some physical and chemical characteristics were measured in situ and in laboratory.

Results: During the present investigation, the periphytic algal community of Turnasuyu Creek were represented by 66 taxa which belonged to 5 divisions namely Bacillariophyta (57 taxa, 86%), Cyanophyta (5 taxa, 8%), Euglenozoa (2 taxa, 3%), Chlorophyta (1 taxa, 2%) and Charophyta (1 taxa, 1%). During the study, diatoms were the dominant group in diversity. The most common epiphytic species encountered across in the area included *Achnanthes minutissima, Cocconeis diversa, C. pediculus, Cymatopleura elliptica, Cymbella helvetica, C. minuta, Gomphonema truncatum, Melosira varians, Meridion circulare, Navicula cincta, N. gregaria, N. menisculus, N. salinarum, Nitzschia palea, Pseudoanabaena catenata, Rhoicosphaenia curvata* and *R. flexa.* According to the results of the analysis of environmental parameters and indicator species, the Turnasuyu Creek has class I and class II water quality. As a result of less anthropogenic pressures the quality of water is fairly good.

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