PP-327

Environmental Study of Epiphytic Algae on Emergent Macrophytes in the Lower Part of Akçaova Stream (Ordu, Turkey)

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Aim of the study: The epiphytic algae on aquatic macrophyte are good indicators of water quality and environmental changes. This study was carried out in order to evaluate the epiphytic algal species composition on emerged macrophytes in the riparian zone of Akçaova Stream. Also, the ecological status of the water is to determine with the help of indicator species and environmental parameters.

Material and Methods: The area selected for this study is a location of high macrophyte abundance with *Typha* spp. as the dominant emergent macrophyte species all through the year. Water and epiphytic algal samples were collected monthly from lower part of stream between June 2013 and May 2014. Environmental factors were measured *in situ* with portable measuring instruments and spectrophotometrically in the laboratory.

Results:A total of 42 species of epiphytic algal flora of 5 divisions was found in epiphyton in the river: Bacillariophyta (34 taxa), Cyanophyta (4 taxa), Chlorophyta (2 taxa), Charophyta (1 taxa) and Euglenozoa (1 taxa). Diatoms were dominant and abundant (81%) among the algal flora of Akçaova Stream. The most common species were *Achnanthes minutissima, Cyclotella kuetzingiana* var. *radiosa,Cymbella helvetica, C. lanceolata, Diatoma vulgare, Navicula gregaria, Oscillatoria agardhii, Pseudoanabaena catenata, Rhoicosphaenia curvata, Rhoicosphaenia flexa* and *Synedra affinis*. When water analysis data were evaluated, Akçaova Stream had class I. and class III water quality. In particular, nitrogenous and phosphorous compounds are the major contributors to pollution.

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Keywords:biological assessment, biological indicators, ecological quality, epiphyton, phytobenthos, running water