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PRELIMINARY ENVIRONMENTAL MONITORING AND ASSESMENT OF THE TROPHIC STATUS OF PONDS IN TURKEY

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Abstract

The aim of this study was to determine the trophic status at Tahtalı, Davuldere, Çayırköy, Sipahiler and Sevindikli ponds by analyzing the physico-chemical properties, diatom species and diatom indices. Sampling was performed seasonally, between April 2019 and February 2020. Epilithic diatomic taxa were assessed and 47 were identified in Tahtalı pond, 32 in Çayırköy Pond, 35 in Davuldere pond, 40 in Sipahiler and 24 in Sevindikli ponds. Seventy-one different taxa were identified in total. As a result of this seasonal study, *Cocconeis pediculus* Ehrenb., *Cocconeis placentula* Ehrenb., *Cymbella affinis* Kütz., *Navicula radiosa* Kütz. and *Ulnaria ulna* (Nitzs.) Compère species were found in abundance in Tahtalı, Çayırköy, Davuldere, Sipahiler and Sevindikli ponds at 50% and above. *Epithemia gibba* (Ehrenb.) Kütz., it was determined in abundance in Tahtalı, Davuldere and Sipahiler ponds with a rate of 40%. When evaluated according to diatom indices, the water quality in Tahtalı, Çayırköy and Davuldere ponds was similar with moderate-good quality water characteristics. In contrast, Sipahiler and Sevindikli ponds had medium water quality according to the used indices. Although different results were obtained based on diatom index criteria, the Surface Water Quality Regulation graded all the investigated ponds as close to water quality Class I-II.

Keywords: aquatic ecosystem, diatom indices, pond, water quality

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