

Turkish Journal of Botany

Turkish Journal

A Study on the Past and Present Diatom Flora of Two Alkaline Lakes

of

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Abstract: The diatom flora of Lakes Hafik and Tödürge was studied qualitatively. Each lake was sampled monthly during two periods. The first period was between April 1986 and June 1987 in Lake Hafik and between August 1990 and October 1990 in Lake Tödürge. The second period was between December 1999 and July 2000 in both lakes. A total of 94 diatom taxa belonging to 25 genera and 53 diatom taxa belonging to 21 genera were identified in Lakes Hafik and Tödürge respectively. *Cymbella* Agardh, *Navicula* Bory and *Nitzschia* Hassall appeared to have the richest genera in terms of number of species in both lakes. The comparison of diatom species showed that *Navicula cryptocephala* Kützing and *Nitzschia sublinearis* Hustedt replaced *Navicula radiosa* Kützing and *N. bicephala* Hustedt whereas *Cymbella prostrata* (Berkeley) Cleve showed a decreasing trend in Lake Hafik. Study of present samples of Lake Tödürge revealed that *Amphora* Ehrenberg decreased while *Cymbella ventricosa* Kützing and *Caloneis cleve* (Lagerstedt) Cleve increased noticeably. Although both lakes' water is alkaline, Hafik seemed to have acidophilic diatom assemblages, which were probably the result of excessive microbial activity occurring during the decomposition of algal mats after algal bloom took place repeatedly over four or five years. This led to a lowering of the pH at the sediment-water interface as a result of acidic fermentation products and led to the presence of acidophilic species.

Key Words: Lake Hafik, Lake Tödürge, Diatom

Turk. J. Bot., **25**, (2001), 373-378.

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