



Record of Diatoms in Lakes of Amravati District, Maharashtra, India: Implications on Water Quality Changes

Pranika Chahande¹, Samaya S. Humane^{1*}, Sumedh K. Humane¹ and Snehal Juare²

¹Post Graduate Department of Geology, Rashtrasant Tukadoji Maharaj Nagpur University,
Rao Bahadur D. Laxminarayan Campus, Law College Square, Nagpur- 440 001 (MS), India

²Department of Geology, Yashwantrao Chawan Art, Science and Commerce College, Lakhandur, Dist. Bhandara- 441803 (MS), India
(*Corresponding author, E-mail: samaya.humane@gmail.com)

Abstract

The trophic status of the two selected lakes *i.e.* the Shakkar Lake (SL) and the Kolkaz Lakes (KL) of Amravati District were assessed using diatoms to understand their relationship with the lake water quality. The SL revealed the dominance of the centric diatom taxon, *Aulacoseira granulata* (Ehr.) Simonsen (~74%). The abundance of this taxon indicates high nitrogen environments, low light saturation intensity and highly eutrophic water condition for the SL. The KL shows the prevalence of the pennate diatom species *Ulnaria ulnabiseriata* Liu et al. (~24%) indicating moderate to high level of organic matter in the lake. The dominance of phytolith type of wild emmer wheat (*Triticum dicoccoides*) suggests the existence of forest environment around both the lakes. Both the lakes have alkaline conditions. The comparison of the alkalinity values of the present lake data clearly signifies that the SL water is moderately hard and the KL is hard. Both the lakes point fair water quality on the basis of their phosphorous concentration. The total nitrogen concentration of the SL indicates eutrophic status, while the KL tends to be eutrophic to hyper-eutrophic in nature.

Keywords: Water quality, Diatoms, Sediments, Shakkar and Kolkaz Lakes, Amravati district, Maharashtra