



## Freshwater Diatoms as Bio-Indicators in Urban Wetlands of Central Gujarat, India

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**Abstract:** The current study attempts to understand the diatom community structure and their role as bio-indicator in the urban wetlands of central Gujarat. The remarkable variation in the composition and distribution of various diatom species were observed. A total of 26 diatom species distributed among 16 genera, highlights rich biodiversity of the region. Among all, high count of certain diatom species namely *Nitzschia palea*, *N. amphibia*, *N. gracilis*, *Pinnularia biceps*, *Navicula radiosa*, *N. lanceolata*, *N. cryptocephala*, *N. obtusa*, *Gomphonema parvulum*, *G. olivaceum*, *Synedra ulna*, *S. acus*, *Amphora ovalis*, *Eunotia lunaris* and *Stephanodiscus hantzschii* were key indicator diatom species. Only pennate diatoms were present at Manjalpur wetland which is highly polluted and eutrophic in nature. Mesotrophic conditions at Harni wetland and Gotri wetland represented dominance of pollution tolerant species. Bhaily wetland is the least polluted among studied wetlands and showed highest diversity of pollution sensitive diatoms. These results provided insights into the ecological importance of endemic diatoms found in urban ecosystems.

**Keywords:** Freshwater diatoms, Urban wetlands, Vadodara, Central Gujarat, India

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