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Microhabitat influence on diatom distributional pattern in diverse ecosystems

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Macrophytes provide microhabitat for diatoms and also aid as biological filters as they uptake nutrients. We examined diatom community from submerged macrophytes in restored (Ulsoor and Kothanur) and unaltered (Ramasandra and Yelahanka) lakes of Bangalore urban region. We also collected diatoms from rock scrapings aiming to determine the importance of macrophytes for abundant species growth. Water samples were collected concurrently to analyze diatom environment relationship. Diatom taxa belonging to genus *Nitzschia*, *Fragilaria*, *Staurosirella*, *Gomphonema, Cymbella, Cyclotella and Achnanthidium* were recorded during the study period. *Ulnaria ulna* (Nitzsch) Lange-Bertalot dominated in Ulsoor lake while *Staurosirella pinnata* and *Cyclotella meneghiniana* structured diatom community of Yelahanka lake. Kommaghatta lake showed high species diversity (27 species) on macrophytes before restoration and low species diversity (13 species) in post-restoration sample due to lack in macrophyte availability in later sample. Even though, epiphyte (*Eichornia crassipes*) covered Yelahanka lake, diatom community structure revealed polluted water condition. This highlights diatom-habitat relationship with respect to water conditions. However, appropriate species of macrophytes are to be chosen while deciding management and restoration of lakes.

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