

Tube-dwelling diatom *Nitzschia martiana* from the mangrove ecosystem of South Andaman, India

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The present study reports the occurrence of the marine tube-dwelling diatom *Nitzschia martiana* in Indian waters, specifically within the mangrove habitats of South Andaman, Andaman and Nicobar Islands. Samples collected from Flat Bay, Port Blair, revealed colonies of diatoms encased in mucilaginous tubes, measuring 4–10 mm in length and 40–45 μm in width. Individual cells display linear valves with rounded apices and chloroplasts arranged diagonally, evenly distributed across the cell (16–18 per cell). Cohabitation with other *Nitzschia* species was also observed. The study provides a novel record of *N. martiana* from Indian coastal waters, thereby contributing to the understanding of diatom diversity in mangrove ecosystems.

Keywords: Mangroves, morphology, *Nitzschia martiana*, phytoplankton, tube-dwelling diatoms.

Marine tube-dwelling diatoms were first described in the Mediterranean Sea¹³ with subsequent reports from the U.S. coastlines, Canada, England, Puerto Rico, France, Japan, and the Indian Ocean^{14,15}. Among these, *Nitzschia martiana* is a widely distributed species, commonly found in intertidal habitats, either attached to substrates or as free-floating forms¹⁶. Initially described as *Homoeocladia martiana* by Agardh¹⁷ and later reclassified by Van Heurck¹⁸, *N. martiana* is placed within the section *Spathulatae* of subgenus *Nitzschia*, characterised by straight frustules, central raphe, conopeal canal, and rib-like fibulae¹². The present study documents the occurrence of *N. martiana* in Indian waters, focusing on its morphology and ecological significance in mangrove habitats.

Materials and methods

Water samples were collected in March 2022 from Flat Bay, Port Blair, South Andaman (11°38.07'N,