

Scanning electron microscopic studies on epiphytic diatoms on pneumatophores of *Avicennia marina* in Puducherry mangroves

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SUMMARY

Present study is processed on the epiphytic diatom growing on the aerial roots of *Avicennia marina* growing in Puducherry young mangroves. Species diversity, index of dominance, species richness have been arrived at. Further, images of epiphytic diatom were taken using Scanning Electron Microscope for the first time in *Avicennia marina*. The factors influencing such epiphytic distribution have been discussed.

Key Words : Epiphytic diatom, Mangroves, Species diversity, SEM images

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Many studies have been made on epiphytic diatom assemblages in coastal waters and wetlands (Sullivan, 1981; Du and Jin 1983; Almeida and Siqueiros-Beltrones, 2008). However, most of these studies were on epiphytic diatoms growing on macroalgae and seagrasses and few from mangrove roots. Mangroves are salt-tolerant trees that grow on sheltered tropical coastlines throughout the world (Ellison, 2008; Bouillon *et al.*, 2008). Their strong roots (stilt roots, prop roots, buttress roots, aerial roots / pneumatophores) offer suitable substrates for a variety of epiphytic diatoms (Lai and Wang, 2004; Ellison, 2008; Bouillon *et al.*, 2008; Chen *et al.*, 2010). Almost all studies on epiphytic diatoms in mangrove regions have been confined to large tropical to subtropical lagoons in Bahamas (Sullivan, 1981), Louisiana (Maples, 1983), Florida (Navarro and Torres, 1987), Singapore and southern Malaysia (Wah and Wee, 1988), Japan (Nagumo and Hara,

1990) and in the temperate regions of the southern hemisphere, such as Australia (Foged, 1979). Much of the epiphytic floras growing on marine macrophytes are diatoms (Kita and Harada, 1962; Jacobs and Noten, 1980). Studies show that few species may be occupying the surface of pneumatophores of black mangrove (Maples, 1983, Siqueiros-Beltrones and Lopez Fuerte, 2006) worked on samples of epiphytic diatom assemblages found on prop roots of red mangrove (*Rhizophora mangle*). Benjamin *et al.* (2006) have examined diatom assemblages and dominance in *Rhizophora* species. Chen *et al.* (2010) have studied the geographical and seasonal patterns of epiphytic diatoms on a subtropical mangrove (*Kandelia candel* L.) from four sites in southern China and identified 103 species of epiphytic diatom belonging to 40 genera. Naidoo *et al.* (2008) had studied the nature of the epiphytism of red algae and also the occurrence and possible role of other epiphytic micro-organisms within the superficial tissues of pneumatophores of *Avicennia marina* (Forssk.) Vierh.

To acquire more scientific information presently an attempt has been made to examine the epiphytic diatom assemblage on the aerial roots of *Avicennia marina* growing in the backwater of Pondicherry coast.

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