

Caulerpa sertularioides (S.G.Gmelin) M.A. Howe (CHLOROPHYCEAE) A First Distributional Record for the Pichavaram Mangroves, South India

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Pichavaram mangrove is one of the best studied mangrove ecosystem in India, it is situated in the Southeast coast of India, located about 250 km south of Chennai (Lat. 11°27'N: Long. 79°47'E). It is located between the Vellar and Coleroon estuaries. The mangrove forest covering 51 islets, ranging in size from 10m² to 2 km² Separated by intricate water ways, which connects the Vellar and Coleroon estuaries. The southern part of the forest located towards the Coleroon estuary with predominant mangrove vegetation, while the northern part near the Vellar estuary is dominated by mud-flats. The Pichavaram mangrove is a dynamic ecosystem influenced by neritic water from the adjacent Bay of Bengal through Chinnavaikkal, brackish water from the Vellar and Coleroon estuaries and freshwater from an irrigation channel namely, Khan sahib canal. The mangrove covers an area of about 1400 hectare of which 50% is covered by forest. 40% by water-ways and the remaining filled by the sand-flats and mud-flats (Krishnamurthy and Prince Jayaseelan, 1983). The tidal amplitude of the study area is about 15 to 100 cm in different regions during different seasons, reaching the maximum tidal amplitude during monsoon and post-monsoon seasons and a minimum during summer (Muniyandi, 1986). The rise and fall of the tidal waters is through a direct connection with the sea at the Chinnavaikkal mouth and also through the two adjacent estuaries. The depth of the water-ways ranges from about 0.3 to 3 m (Muniyandi, 1986). For convenience the year is arranged in to four seasons: post monsoon (January-March): summer (April-June). pre-monsoon (July-September) and monsoon (October-December).

The most familiar group of marine algae are those popularly known as seaweed. Seaweeds are multicellular marine macroalgae. They are three types of seaweeds called the green, brown and red algae. Seaweeds were used in many ways as food, medicine and as additives in various industries. So, the studies on seaweeds have been shown much significance in recent years.

The occurrence and distribution of seaweeds from Pichavaram mangrove waters were studied by several authors, Muthukannu, (1984); Kannan and Thangaradjou, (1998) and Katheresan, (2000) and they have reported the 22 species of seaweeds from mangrove and adjacent Portonovo waters,

during a mangrove ecosystem biodiversity study from January to December, 2017. Presently a total of 16 species belonging to 10 Genera of macro algae belonging to the following divisions have been recorded. Chlorophyta (7): Phaeophyta (2) and Rhodophyta (7). This list includes only those algae growing on the pneumatophores and stilt roots of mangroves, but Chladophora has scattered distribution on the muddy substratum and Jetty pillars of the study area. *Caulerpa sertularioides* is recorded for the first time from Pichavaram mangroves. Further, studies are needed on the physico-chemical parameters which were trigger the distributional patterns of algae.

Systematic position

Division	:	Chlorophyta
Class	:	Chlorophyceae
Order	:	Bryopsidales
Family	:	Caulerpaceae
Genus	:	<i>Caulerpa</i> Lamouroux
Species	:	<i>sertularioides</i> (S.G. Gmelin) M.A. Howe.

Description

Branches feather-like, flattened, and upright, 3-5 cm in height, stolon (runner) 1 – 2 mm in diameter, anchored by rhizoids, Branchlets oppositely attached to midrib, flattened, slightly tapered at both base and tip. Midrib is slightly flattened, and Light green in color. The voucher specimens was deposited at herbarium of Botany Department, Sir Theagaraya college, Chennai.



Fig.1 *Caulerpa sertularioides*

Distribution

The species also occurs in many locations worldwide. The green feather algae is mostly found in coastal and estuarine environments, growing in sandy area, sea grass beds and mangrove prop roots (Littler *et al.*, 2008).

Uses:

Caulerpa sertularioides is an edible crop consumed by human in some parts of the world. In the Philippines, the alga is used for dietary and medicinal purposes (Trono, 1998). As a food source *C. sertularioides* may provide important anti-oxidant. In fact, studies on the extracts from populations in palau showed the highest anti-oxidant activity of any alga examined.

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