



A SURVEY AND NEW DISTRIBUTIONAL FINDINGS OF *CAULERPA* SPECIES IN WANDOOR, SOUTH ANDAMAN, INDIA

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ABSTRACT

Caulerpa (Chlorophyta) species inhabit the intertidal and shallow sub tidal region along the coast of Wandoor Marine National Park, South Andaman, India. In a survey conducted during the month of January 2012 to January 2013, we found seven species of *Caulerpa*, *Caulerpa serrulata* (Forsk.) J. Agardh, *C. peltata* (Lamouroux), *C. racemosa* (Forsk.) J. Agardh, *C. racemosa* var. *Lamourouxii* (Turner) Weber-van Bosse, *C. mexicana* var. *pluriseriata* W.R. Taylor, *C. taxifolia* (M. Vahl) C. Agardh and *C. verticillata* J. Agardh. Among these two species *C. racemosa* var. *Lamourouxii* (Turner) Weber-van Bosse and *C. mexicana* var. *pluriseriata* W.R. Taylor, are found to be a new distributional records for these Islands as well as for the Indian waters. This is the first time these species are being reported. These were found to be observed during the month of October 2012.

KEY WORDS: *Caulerpa*, Distribution, South Andaman.

INTRODUCTION

Genus *Caulerpa* (Chlorophyta, *Caulerpales*) are common in intertidal and sub tidal zones of tropical and subtropical warm waters throughout the world (Dawes et al. 1967, Benzie et al. 1997). Species among this genus are primarily classified, according to the morphological characters. Earlier studies had reported the presence of *Caulerpa filicoides* var. *andamanensis* in Andaman group of Islands (Taylor 1965). *C. racemosa* var. *lamourouxii* are frequently observed in the Red Sea (Taylor 1967). *C. racemosa* var. *lamourouxii* is always found in stagnant waters and in culture ponds along with *C. lentillifera* which is the commercial species cultivated in culture ponds in kalawisan, Cebu (Belleza & Liao 2007). Two-ranked, three-ranked and multi-ranked branching was observed in *Caulerpa* species (Taylor 1975). Present study focuses on the seasonal distribution of *Caulerpa*

species in Wandoor Marine National Park, South Andaman, India.

MATERIALS AND METHODS

Samples were handpicked from the intertidal region of Wandoor, a part of Wandoor Marine National Park, South Andaman Island, India (11°35.668' N, 92°36.427' E) (Fig.1). Seaweed samples were transported to the laboratory washed with tap water to remove epiphytes and preserved in 4% formalin and herbarium was prepared for further identification studies. Identification of *Caulerpa* specimens was based on the morphological measurements, descriptions and remarks of earlier herbarium sheets. The checklist of (Oza & Zaidi 2001, Silva et.al. 1996) along with algae base, referred to confirm the species distribution in Andaman and Nicobar Islands and mainland India.

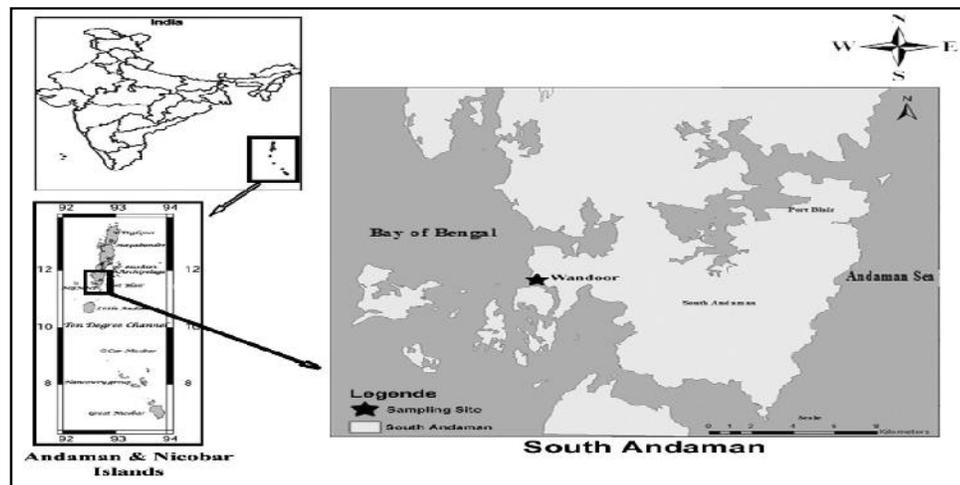


FIGURE 1: Map showing Sampling site

RESULTS

A survey was conducted to understand the seasonal wise distribution of *Caulerpa* species in Wandoor, South Andamans from January 2012 to January 2013. Totally seven species were reported during this period (Table.1). *Caulerpa racemosa* was observed in large numbers in this region mainly during the summer and rainy season (Jan to Sept 2012). During this survey five species were found

mostly along the Wandoor coast except *Caulerpa racemosa* var *lamourouxii* and *Caulerpa mexicana* var *pluriseriata*. These two species were found to be new distributional reports to Andaman Islands as well as Indian waters, mainly observed during the month of October 2012. The species description of the two species given below.

TABLE 1: *Caulerpa* species in seasonal wise pattern in Wandoor Marine National Park

S.No	Taxa	Jan - Apr 12 Summer	May - Aug 12 Monsoon	Sep -Dec12 Post monsoon
1	<i>Caulerpa serrulata</i> (Forsskal) J. Agardh	+	+	-
2	<i>C. racemosa</i> (Forsskal) J. Agardh	+	+	-
3	<i>C. verticillata</i> J. Agardh	+	+	-
4	<i>C. taxifolia</i> (M. Vahl) C. Agardh	+	+	-
5	<i>C. peltata</i> (Lamouroux)	-	+	-
6	<i>C. racemosa</i> var <i>lamourouxii</i> (Turner) Weber-van Bosse	-	-	+
7	<i>C. mexicana</i> var <i>pluriseriata</i> W.R. Taylor	-	-	+

Note: + Observed, -: Not observed

***Caulerpa racemosa* var. *Lamourouxii* (Turner) Weber-van Bosse**

Description

Thalli strap-shaped 2-3cm in juvenile stage, 5-8 cm tall in fully grown plants, erect *shoots partly naked*, a few erect with globular ramuli, axes *slightly* compressed, simple or branching, with sharp edges, to 4 mm wide, distichous ramuli from margins, either clavate, slender, slightly inflated distally and pedicillate or spherical and inconspicuously pedicillate, to 8 mm long, ramuli usually sparsely and irregularly distributed (especially the spherical forms), becoming more regularly distributed

(especially the clavate forms); stolons slender, to 2 mm in diameter, issuing long descending branches having serrated edges arising from the main axis, to 5 mm long, with prominently branched rhizoids at the ends (Belleza & Liao 2007).

Remarks

Caulerpa racemosa var. *lamourouxii* plants are female parents of *C. lentillifera* based on their spherical ramular morphology resembling eggs, while *C. sertularioides* represents the male parent with its slender, needle-like ramuli suggesting male copulatory structures (Belleza & Liao 2007) (Fig.2).



FIGURE 2: *Caulerpa racemosa* var. *Lamourouxii* (Turner) Weber-van Bosse

***Caulerpa mexicana* var. *pluriseriata* W.R. Taylor**

Description –Plants dark green in color grows on sandy bottom of near shore zone near *Sargassum* beds. Partings of the rhizoids are much closed on the stolon (<1cm). The pinnules are wide and short. The plants reach an average length of 1.0-5.5 cm tall ascending branches irregularly distant along the rhizomatous system; upright axes heavily beset with elongate ramuli, in verticillate arrangement or

in a combination of three-ranked or multiseriate configuration, to 2 mm long, slightly up curved, distinctly tapered distally, with mammillate tips.

Remarks

Typical two-ranked forms of *C. mexicana* may be present in the same plant there are many branching variations seen within one plant. The ramuli are notably crowded with a

prepon-derance of multiseriate and three-ranked ramuli near the basal portions of this plant.

Taylor (1975) describes two-ranked, three-ranked and multi-ranked branching in *Caulerpa* species may only be

recognized at the varietal level. (Belleza & Liao 2007) (Fig.3).



FIGURE 3: *Caulerpa mexicana* var. *pluriseriata* W.R. Taylor

DISCUSSION

Taylor (1965) had reported *Caulerpa filicoides* var *andamanensis* to be new distribution in Andaman group of Islands. Earlier study by (Silva et al. 1996) eight species of *Caulerpa* were reported along the coast of Andaman. Palanisamy (2012) had reported six species of *Caulerpa* in South Andaman waters. From the above two studies five species were observed in common which are also observed during this present study but *Caulerpa racemosa* var *lamourouxii* and *Caulerpa mexicana* var *pluriseriata* were reported for the first time in the waters of Andaman as well as mainland India. *Caulerpa racemosa* var *lamourouxii* and *Caulerpa mexicana* var *pluriseriata* which were earlier reported in Phillipine waters (Belleza & Liao 2007).

CONCLUSION

Andaman and Nicobar are a group of 572 Islands where studies on seaweeds are meagre and most of the Islands are unexplored. New distributional records were found to be common in all the groups of seaweeds due less exploration and lack of continuous monitoring. This study will provide the baseline data for future studies on economic importance of *Caulerpa* species diversity in this group of Islands.

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