

# DISTRIBUTION OF *CAULERPA RACEMOSA* (FORSSKÅL) J. AGARDH AND RELATIONSHIP WITH *POSIDONIA OCEANICA* (L.) DELILE IN DATÇA BOZBURUN SPECIALLY PROTECTED AREA

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## Abstract

Present study reflected the general distribution of *Caulerpa racemosa* in Datça-Bozburun SPA. Results pointed out that the invasive *Caulerpa racemosa* is most frequently distributed below 38 m where the bottom limit for the distribution of *Posidonia oceanica* is.

**Keywords :** *Algae, Posidonia, Marine Parks.*

## Introduction

*Caulerpa racemosa* is described as an invasive species in Mediterranean Sea [1]. The main difference between *C. racemosa* and the other alien invasive species *Caulerpa taxifolia* in Mediterranean Sea is the opportunistic nature rather than the invasive characteristic, since success of *C. racemosa* depends on the failure of other species in the environment instead of the domination [2-3]. This study pointed out to the distribution of less species and invasive marine algae *C. racemosa*, its sighting frequency depth dependency, the percentage of the species sighted within *C. racemosa* and relationship with *Posidonia oceanica* in Datça-Bozburun SPA.

## Materials and Methods

Data is collected by SCUBA divers, 831 SCUBA dives and 27 quadrat count were performed in 2002-2004. In quadrat studies, each group studied facieses at 10, 20, 30, 40 and 50 m depth using 1 m<sup>2</sup> square quadrates divided into 400 cm<sup>2</sup> (20x20) (a total of 25) squares.

## Results and Discussions

Under water observations indicated that the distribution of *C. racemosa* in the area is between 0.5-70 meters. Its distribution is higher on the sandy substratum between 40-50 meters. These depths are the bottom limits of *P. oceanica* (>40m). In the south of the Datça Peninsula, especially at the region between Datça town center and Knidos, *C. racemosa* was widely distributed at in almost all depths below 40 m. The *C. racemosa* distribution in the north of Datça Peninsula was very close to the southern region (Figure 1). Pollution and physical destruction (anchoring, fish farms) has negative effects on *P. oceanica* distribution and has caused serious facies loss. Important pollution load due to settlements and tourism activities was observed in some areas and negative effects of this pollution on *P. oceanica* meadows were detected [3].

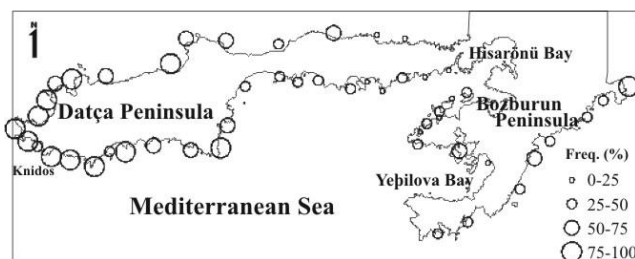


Fig. 1. Distribution of *Caulerpa racemosa*.

Distribution of *C. racemosa* was detected in 17 quadrat stations out of 27. *C. racemosa* was detected only once between 10 and 20 m contours, 5 times at 30 m contour, 13 times at 40 m contour and 5 times at 50 m contour. *C. racemosa* was observed with *P. oceanica* in all contours except 50 m. Most frequent groups observed with *C. racemosa* were Thallophyta (39%) and Magnoliophyta (24%) (Table 1).

Detailed studies performed pointed out that there is an important invasion threat by *C. racemosa*. At regions where *P. oceanica* is damaged the advantage is shifted to *C. racemosa*, *P. oceanica* is very sensitive to any kind of alterations in the ecosystem and physical destruction.

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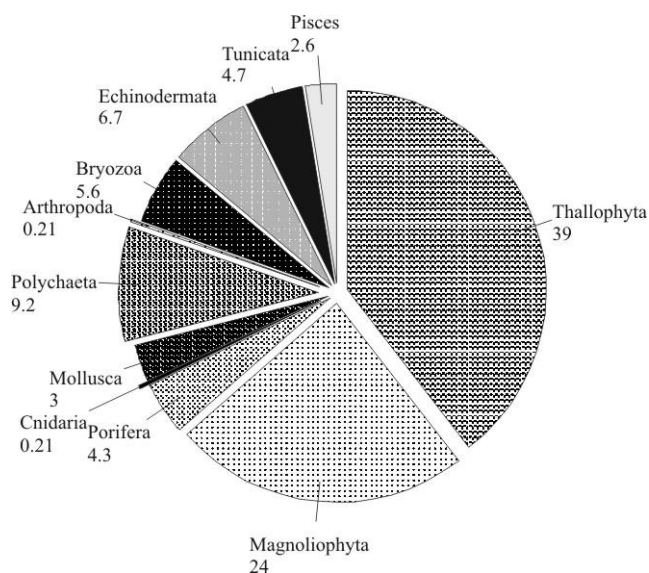


Fig. 2. Frequency of species groups sighted with *C. racemosa*.

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