

## CAULERPA RACEMOSA ON THE MONTENEGRIAN COAST

Vesna Macić \* and Slavica Kaščelan

Institute of marine biology; P. Box 69; 85330 Kotor; Montenegro - vmacic@ibmk.org

### Abstract

The invasive algae *Caulerpa racemosa* was first recorded from the Montenegrin coast in 2004, and eradication was attempted. Our survey identified three new localities for the alga in 2005, and two more in 2006.

**Keywords :** *Adriatic Sea, Algae.*

### Introduction

Since beginning of the 1990s the invasive variety *C. racemosa* var. *cylindracea* has been recorded on many localities on the coast of 11 countries around the Mediterranean [1] and the first report for the Adriatic Sea was in 2000 on the Pakleni archipelago (Croatia). [2] The aim of this work is to present the data about its spread along Montenegrin part of the Adriatic coast.

### Materials and methods

The field research was done by SCUBA diving on 52 localities between 2004 and 2006. Collected material was conserved in 4% formaldehyde solution and photo documentation was done as well.

### Results and discussion

The first record of *Caulerpa racemosa* for the coast of Montenegro was in August 2004 near Budva (Fig. 1) and in that time algae was growing on 3m depth covering 2m<sup>2</sup> of dead matte substrate. Regarding it was the small patch and in that time the only one known on the Montenegrin coast attempt of eradication was carried out. Eradication was done in September by manual collecting of algae, as much as possible and by covering the colony with black pvc foil. Also, before placing the pvc foil the solution of copper-sulphate and lime were sprinkled. [3] Although during the winter and spring colony of *Caulerpa racemosa* almost disappeared, in summer 2005 reappearance of algae occurred. The local diving club repeated eradication process in autumn 2005 but the algae is growing still now. On the first known location now we have the oldest patch with 11m in diameter and few smaller patches around. Since first record three new localities were found in 2005 and two localities in 2006. All together six populations on the Montenegrin coast create around 864m<sup>2</sup> of covered and 3,8 ha of affected area with 560m of affected coastline.

### Conclusion

Although *Caulerpa racemosa* is spreading on the Montenegrin coast with threat to have a significant impact to autochthonous biocenoses we should say that a few positive outputs emerged. Mapping of *Caulerpa* in this year was project funded by three Ministries together, campaign for public awareness probably helped to reduce man-made dissemination and the most important output, interest for protection of marine environment in general is increased.

### References

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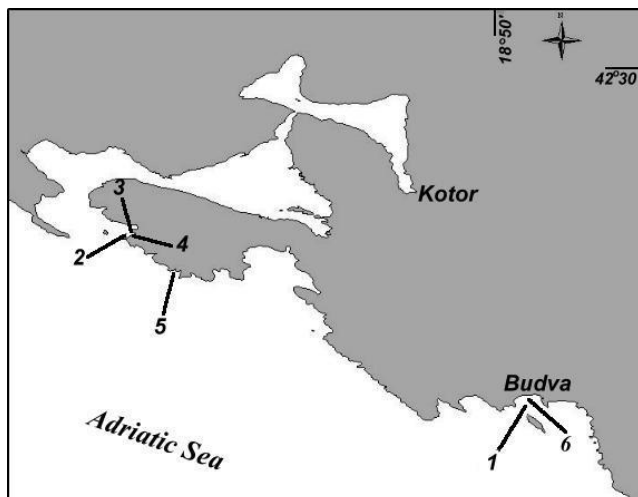


Fig. 1. Localities where *Caulerpa racemosa* was found (1. Budva; 2. Island Mala Gospa; 3. Žanjice; 4. Mirište; 5. Cove Veslo and 6. Budva-2).

It should be noted that we registered reticulated depigmented thalii of fertile algae in October 2006 and by microscope observation we noted male and female gametes, but further analysis of gamete conjugations were not done. Also it should be noted that length of fronds on all localities in October 2006 was significantly shorter than last year in same period.