

General characteristics of Benthic Flora of the Southern Adriatic

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Benthic flora of the Southern Adriatic had long been quite unknown if compared to much better studied flora of other parts of this sea.

We have compiled a list of species composition of benthic flora settlements of this Adriatic part from our long-term studies in different parts of this area. The list consists of 412 taxa of three divisions of benthic algae (241 Rhodophyta, 94 Phaeophyta and 77 Chlorophyta) and three species of marine phanerogams (SPAN and ANTOLIC, 1988) (Table 1). This paper presents some general characteristics of studied benthic flora from a part of the Peljesac coast to Ulcinj town, and some parts of the coast of islands Korcula, Mljet, Kolocep, Daksa and Lokrum.

Table 1. Review of species and infraspecific taxa of benthic flora from Southern and Middle Adriatic

	RHODOPHYTA		PHAEOPHYTA		CHLOROPHYTA		TOTAL N
	N	%	N	%	N	%	
Southern Adriatic	241	58.5	94	22.8	77	18.7	412
Middle Adriatic	301	56.7	136	25.6	94	17.7	531

The inventory of benthic flora of the Southern Adriatic is poorer in comparison to the revised Middle Adriatic benthic flora (SPAN and ANTOLIC, 1989) which consisted of 531 taxa (301 or 56.7 % Rhodophyta, 136 or 25.6 % Phaeophyta and 94 and 17.7 % Chlorophyta) (Table 1).

The difference between Middle Adriatic R/P quotient of 2.2 and that of 2.6 from the southern Adriatic seems not to be great, particularly if the values from some principal parts of the Southern Adriatic were higher; 3.6 for Dubrovnik area (SPAN and ANTOLIC, 1991) and separately for Lokrum (SPAN *et al.*, 1989), 3.4 for open Monte Negro area (SPAN and ANTOLIC, 1983) and 3.2 for the bay of Boka Kotorska (ANTOLIC and SPAN, in press). Some data of biogeographical and bionomical distribution of Adriatic benthic algal taxa are used of GIACCONE (1977) check-list of Adriatic marine flora.

Benthic flora of both Middle and Southern Adriatic includes the elements of the same phytogeographical affinities, even though with different percentage presence. The atlantic-mediterranean (46.5 % and 50.2 %) and mediterranean (31.6 % and 30.8 %) elements are dominant in both the Middle Adriatic flora and Southern Adriatic flora making up 78.0 % and 81 % respectively. The adriatic (9.4 % and 6.1 %), indo-pacific-mediterranean (4.9 % and 6.1 %), cosmopolitan (3.6 % and 3.7 %), adriatic-atlantic (2.1 % and 1.2 %) and circumtropical (1.9 % and 2.4 %) elements constitute the rest of 22.0 % and 19.0 % respectively. High percent of the presence of adriatic elements and slightly poorer presence of atlantic-mediterranean elements in the flora of the Middle Adriatic is indicative of its better pronounced "Adriatic" character. On the contrary, higher percentage presence of the atlantic-mediterranean and lower percentage of adriatic elements in the flora of Southern Adriatic point out its rather mediterranean character.

The causes of rather modest development of benthic flora of the Southern Adriatic in comparison to the Middle Adriatic could be ascribed to very strong exposure of a larger part of the coast to the open sea unprotected by the islands in front. Depth distribution of benthic algae was hindered due to the formation of ample and uninterrupted surfaces of mobile bottoms, at times already at small depths near the coast. Typical and well developed coralligenous settlements, encountered around outer islands of the Middle Adriatic, where rich deep flora of benthic algae is also well developed, are almost completely absent from the Southern Adriatic bottoms.

REFERENCES

ANTOLIC B. & SPAN A., 1992.- Istrazivanja bentoske flore Bokokotorskog zaljeva -juzni Jadran (Investigations of benthic flora of the bay of Boka Kotorska). *Biosistematika*, (in press).  
 GIACCONE G., 1977.- Revisione della flora marina del mare Adriatico. Parco Marino di Miramare, *Stazione di controllo, Suppl. dell'Annuario 1977*, 6 (19): 1-118.  
 SPAN A. & ANTOLIC B., 1983.- Prilog poznavanju fitobentosa Crnogorskog primorja (Juzni Jadran). *Studia Marina*, 14: 87-111.  
 SPAN A. & ANTOLIC B., 1989.- Bentoska flora juznog Jadrana (Benthic flora of Southern Adriatic). *Biosistematika*, 15 (2): 93-104.  
 SPAN A., POZAR-DOMAC A., ANTOLIC B. & BELAMARIC J., 1989.- Bentos litoralnog podruca otoka Lokruma -juzni Jadran (Benthos of the littoral area of the Island Lokrum). Simpozij Otok Lokrum, *Ekoloske monografije*, Knjiga 1: 329-360.  
 SPAN A. & ANTOLIC B., 1991.- Bentoska flora Dubrovackog podruca (Benthic flora of Dubrovnik area). *Zbornik sazetaka Cetvrtog kongres biologa Hrvatske* (in press).