

ISSN 1330-0520  
UDK 574.587:574.3(497.5/262.3)

original scientific paper / izvorni znanstveni rad

## THE BENTHOS OF THE NORTHERN PART OF THE VELEBIT CHANNEL (ADRIATIC SEA, CROATIA)

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Novosel, M., Bakran-Petricioli, T., Požar-Domac, A., Kružić, P. & Radić, I.: The benthos of the northern part of the Velebit Channel (Adriatic Sea, Croatia). *Nat. Croat.*, Vol. 11, No. 4., 387–409, 2002, Zagreb.

Infralittoral and circalittoral hard bottom communities in the northern part of the Velebit Channel were investigated. The benthos was collected along six transects: three on Prvić Island (Šilo, Samonjin and Stražica) and three facing them along the Velebit mountain coast (Grmac, Žrnovnica and Kola). Three benthic biocoenoses were noted: the biocoenosis of photophilic algae, precoralligenous facies and a climax of coralligenous biocoenosis, and the biocoenosis of semi-dark caves. A total of 431 taxa were recorded: 60 taxa of algae and 371 taxa of fauna. Along the three coastal transects under Mt Velebit numerous submarine freshwater springs (*vruljas*) are present. The results were compared using two statistical methods: the application of the Sørensen index of similarity and cluster analysis. The most topographically and geomorphologically similar transects were Šilo and Samonjin, while Stražica and Žrnovnica were the most distant.

**Key words:** benthic biocoenoses, floristic and faunistic similarity, *vruljas*, Velebit Channel, Adriatic Sea

Novosel, M., Bakran-Petricioli, T., Požar-Domac, A., Kružić, P. & Radić, I.: Bentos sjevernog dijela Velebitskog kanala (Jadransko more, Hrvatska). *Nat. Croat.*, Vol. 11, No. 4., 387–409, 2002, Zagreb.

Istraživane su bentoske zajednice čvrstog dna u infralitoralnoj i cirkalitoralnoj u području sjevernog dijela Velebitskog kanala. Obrađeno je šest profila od čega tri na otoku Prviću (Šilo, Samonjin i Stražica), a tri nasuprot, na kopnu (Grmac, Žrnovnica i Kola). Utvrđene su tri biocenoze: biocenoza fotofilnih alga, pretkoraligenski aspekt i klimaks stadij koraligenske biocenoze te biocenoza polutamnih špilja. Na svih šest istraživanih profila ukupno je utvrđeno 60 biljnih i 371 životinjska svojta. Duž profila podno Velebita nalaze se brojne vrulje. Sørensenovom metodom i klaster-analizom obrađeni su rezultati istraživanja. Najveća sličnost u sastavu flore i faune obrađenih biocenoza utvrđena je među profilima Šilo i Samonjin, a najmanja među profilima Stražica i Žrnovnica.

**Ključne riječi:** bentoske biocenoze, floristička i faunistička sličnost, vrulje, Velebitski kanal, Jadransko more

## INTRODUCTION

Velebit Channel is located in the east part of the north Adriatic Sea. The Channel is under the influence of the land and freshwater outlets. The Krk, Prvić, Grgur, Goli, Rab and Pag islands and the mainland facing them enclose the Channel from the side of the open Adriatic Sea. The sea-bottom relief adds to the geographical isolation of muddy bottom benthic settlements in relation to the open sea (CRNKOVIĆ, 1970).

Prvić, Sv. Grgur, Goli islands and a dozen surrounding islets in the Velebit Channel are the North Adriatic islands most exposed to wind and salting due to the north-eastern wind bora. In literature they are named the »Senj Archipelago«, in which Prvić Island is the highest and the biggest. Together with Krk Island, this is the northernmost archipelago in the Adriatic Sea and in the Mediterranean as well. It is situated within the coordinates 44°49'N – 44°56'N and 14°46'E – 14°51'E (LOVRIĆ *et al.* 1998). Due to very cold bora wind, the shores of Prvić and Goli are the only Adriatic islands which, in extreme wintertime conditions, experience freezing and ice layers in excess of a metre thick, like the neighbouring port of Senj.

One of the steepest and deepest bottoms of the northern Adriatic is located in the Velebit Channel, near the Senj archipelago, where rocky cliffs dominate the coastal bottom. Towards the central part of the Channel, the depth is 80–95 m, with occasional extreme submarine depressions (the deepest ones in the north Adriatic), e.g. the SE part of Prvić Island, under Cape Šilo, with a maximum 107 m depth.

ORLIĆ *et al.* (2000) made an overview of the physical features of the Velebit Channel sea. The dominant wind in the area is the bora, reaching the highest speeds ever recorded in the Adriatic precisely in the Velebit Channel (some bora gusts near Senj exceed 40 m/s). Large quantities of freshwater flow into the Channel, some along the surface (the largest inflow is brought by the Zrmanja river), and others through the system of karstic underground canals ending under the sea in the form of *vruljas* (temporary freshwater springs).

The large quantities of freshwater flowing into the Velebit Channel result in lower summer temperatures of the sea surface in comparison to the sea outside the Channel. ORLIĆ *et al.* (2000) have proven that the sea surface temperature gets considerably lower, in parallel with the escalation and downward movement of the thermocline during strong bora squalls. They have also shown that currents in the northern Velebit Channel are most affected by the wind (while currents in the southern part of the Channel are controlled by the Zrmanja River), and that the northern part is generally more dynamic than the southern one.

JURAČIĆ *et al.* (1999) characterized the sediment in the Velebit Channel mainly as sandy mud.

Due to strong hydrodynamics and steep rocky shores, the composition of littoral halophytic and algal flora is that of the open sea, similar to the central Adriatic and the exposed Mediterranean offshore (LOVRIĆ *et al.*, 1998).

Although the sediment bottom and its communities in the Velebit Channel have been investigated (CRNKOVIĆ, 1965, 1970; ZAVODNIK, 1979a) little is known about

coastal hard bottom biocoenoses (ZALOKAR, 1942). In this research, transects along submarine cliffs and in coves in the northern Velebit Channel were chosen and compared to hypothesise possible biological differences between them.

Prvić Island has been an Ornithological Reserve since 1972. Unfortunately, the marine area was not protected although Prvić has been included in the plan for the Croatian Marine Park Network establishment (POŽAR-DOMAC, 1997; POŽAR-DOMAC & BAKRAN-PETRICIOLI, 1996; FILIPIĆ & POŽAR-DOMAC, 1998).

The aim of this paper is to contribute to the relatively scarce knowledge of infralittoral and circalittoral hard bottom communities in the northern part of the Velebit Channel.

### History of research in the Northern part of Velebit Channel

LORENZ (1863) reported on dredging at stations around Baška and Prvić Island, and in the Vinodolski Channel. BRUSINA (1872) recorded 25 mollusc species in the Senj area. VOUK (1914) reported on algae collections from Sv. Juraj till Žrnovnica, and in the Kola cove, in the course of the »Vila Velebita« voyages in 1913/14. ZALOKAR (1942) studied coastal marine flora and fauna between Senj and Lukovo. He mentioned *vruljas*, as inflows of a very cold water, often keeping the seawater at, and below, 22 °C. KOLOSVÁRY published data on some species of Echinodermata (1940) and Bryozoa (1943) collected in the area near Senj during the Austro-Hungarian »Najade« expedition in 1913–1914. LINDARIĆ (1949) recorded *Fucus virsoides* in this area.

CRNKOVIĆ (1965) surveyed habitats of the crustacean *Nephrops norvegicus* in the middle of the Velebit Channel. He noted that seawater bottom temperature in the Channel rarely exceeded 12 °C and that it exhibited a narrower annual amplitude (3.5 °C) than that of the adjacent open sea (5 °C). The temperature, relief and substratum of the sea bottom in this area produced significant differences in structure and species frequency in benthic communities as compared to communities of the adjacent open sea. CRNKOVIĆ (1970) also analysed marine organisms caught by trawling between Prvić Island and the land, in the area where the »*Nephrops norvegicus* – *Thenea muricata*« biocoenosis is distributed (GAMULIN-BRIDA, 1962).

Marine caves on Prvić Island and sciaphilous environments in Žrnovnica Cove were surveyed by RIEDL (1966). LOVRIĆ (1976) surveyed benthic algae in the Prvić area. SILÉN & HARMELIN (1976) described a new bryozoan species, *Haplopoma sciaphilum*, discovered off the Prvić shoreline, in cliff cavities at 40 m depth.

The most extensive research of the bottom sediment and water column of the middle Velebit Channel was undertaken in 1973–1974 at 19 stations during cruises of the research vessel »Vila Velebita« (ZAVODNIK, 1979a). Within the biocoenoses of littoral terrigenous mud in the northern Velebit Channel, ZAVODNIK (1979b) noticed local variations and considered the *Turritella communis* community the most important (differential) one. At the research station Prvić – Sv. Juraj, only zooplankton has been investigated (BENOVIĆ, 1979; KRŠINIĆ, 1979; SCHMIDT & BENOVIĆ, 1979; HURET *et al.*, 1979; KATAVIĆ, 1979; SKARAMUCA, 1979).

KUŠČER (1950) observed 70 coastal springs and 30 *vruljas* along the coast at Sv. Juraj and surveyed the principle of freshwater and seawater mixing. ALFIREVIĆ (1975) carried out bathymetric, morphologic, hydrologic and sedimentological research of the *vruljas* of the Croatian coast. He observed *vruljas* of the Velebit Channel, among which there was also a complex of *vruljas* in Žrnovnica. NOVOSEL (1999) mapped a total of 57 *vruljas* and 11 coastal springs in Žrnovnica Cove. The funnel diameter of hard bottom *vruljas* varied from 1–4 m, while those from the soft bottom varied from 0.5–2 cm in diameter. Only nine of the observed *vruljas* were permanently active.

The geographical, geological, and hydrological properties of *vruljas* are relatively well known but biological data are in short supply, as is knowledge on their influence on surrounding benthic communities. PETRICIOLI *et al.* (1995) made a biological survey of some *vruljas* in the Velebit Channel. Organisms in and around *vruljas* are periodically subjected to »salinity shock« which occurs when freshwater suddenly flushes through subterranean canals and salinity in the *vruljas* drops from almost marine to almost freshwater. Only a few benthic species were found inside *vruljas*.

Special faunistic reports on the northern part of the Velebit Channel were provided with respect to Bivalvia by LEGAC & HRS-BRENKO (1982), Sipuncula by ZAVODNIK & MURINA (1975) and MURINA & ZAVODNIK (1985/86), Decapod Crustaceans by ŠTEVČIĆ (1998) and Echinoderms by ZAVODNIK (1980). ZIBROWIUS (1980) and ZIBROWIUS & GRIESHABER (1975) recorded Scleractinian species at Prvić Island. The same locality is noted by ZAVODNIK (1994) for *Bonellia viridis*.

LOVRIĆ *et al.* (1998) noted 175 macro algae and 42 cyanophytic species inhabiting the stormy shores of Prvić and Grgur. Their record showed a small population of green algae as less resistant to storm hydrodynamism. Among brown algae they mentioned an endemic species *Fucus virsoides*, as well as a number of open sea species from the genus *Cystoseira*. They also recorded 43 calcareous red algae species resistant to stormy sea movements. RAC & LOVRIĆ (1998) stressed that the lower sea temperature and salinity in the Velebit Channel throughout the year, resulting from the strong bora and freshwater inflow, impacted the diversity and distribution of algae.

KRUŽIĆ (2001) described the reef-like structure of coral *Cladocora caespitosa* on Cape Šilo, Prvić Island, generally considered localities of a high biodiversity.

## STUDY SITES AND METHODS

The infralittoral and circalittoral benthos was surveyed along six transects during the period 1997 to 2002 (Fig. 1). Macrofauna and algae were collected continuously along the transects by scuba diving. Also, underwater photographs and video records were taken.

Along the north side of Prvić Island, three transects were surveyed (Fig. 1):

**Šilo** – Transect 1 (N 44°53'02", E 14°50'32") at the most SE part of the island extended in a NE direction along the cliff down to 32 m depth where a coarse sand bottom appeared.

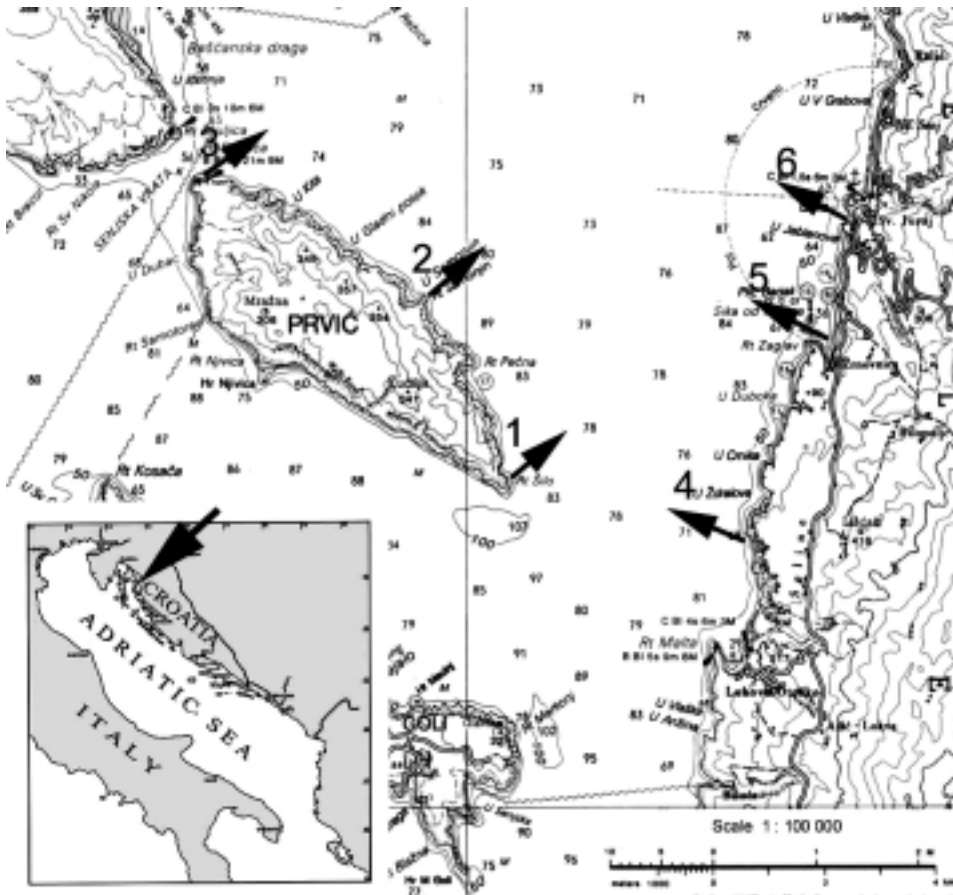


Fig. 1. Studied area and sampling transects. 1 – Šilo, 2 – Samonjin, 3 – Stražica, 4 – Grmac, 5 – Žrnovnica, 6 – Kola.

**Samonjin** – Transect 2 (N 44°54'87", E 14°49'11") in the middle part of the north side of the island extended in a NE direction along cliff down to 30 m depth where a sediment bottom appeared.

**Stražica** – Transect 3 (N 44°56'08", E 14°46'20") located at the most NW part of the island extended in a NE direction along a cliff down to 15 m depth, and through a submarine passage down to 20 m where a sediment bottom appeared.

Along the east, i. e. the coastal side of the Velebit Channel three transects were surveyed (Fig. 1):

**Grmac** – Transect 4 (N 44°52'58", E 14°53'54") 5 km south of Sv. Juraj, extending in a NW direction along a cliff down to 34 m depth where a sediment bottom appeared.

**Žrnovnica** – Transect 5 (N 44°54'19", E 14°54'57") was located in a cove 2 km south of Sv. Juraj and extended in a NW direction along a sediment bottom down to 20 m depth. In the middle of the cove there is a pier built of rocks.

**Kola** – Transect 6 (N 44°55'17", E 14°55'41") was in the town of Sv. Juraj and extended in a NW direction along a cove with a mixed hard and sediment bottom down to 20 m depth.

Faunal samples were either dried or preserved in 70% alcohol, or in 4% buffered formaldehyde solution. Algae were preserved in a formaldehyde solution or frozen at -4°C. Identification of biota was done in the Laboratory of Marine Biology, Biological Department, Faculty of Science, University of Zagreb, Croatia.

Surveyed transects were compared using the Sørensen index of similarity:

$$QS = \frac{2c}{a+b} \times 100$$

where: c = number of species common in both transects; a = total number of species in transect A; b = total number of species in transect B. The percentage of similarity was read as follows: = 60% – very high floristic and faunistic similarity; 50 – 59% – high similarity; 40 – 49% – moderate similarity; = 39% – low similarity (KREBS, 1989).

A dendrogram of floristic and faunistic similarity among all transects was calculated, using Euclidean distance and the unweighted pair-group average method.

Biocoenological terms according to PÉRÈS & PICARD (1964) were applied.

## RESULTS AND DISCUSSION

In our research a total of 431 taxa were recorded: 60 taxa of algae and 371 taxa of fauna. A list of the taxa noted at the six transects is given in Appendix I. Among them 180 taxa were recorded only at one transect, 91 at two, 60 at three, 40 at four and 35 at five, while 25 species were noted at all six transects.

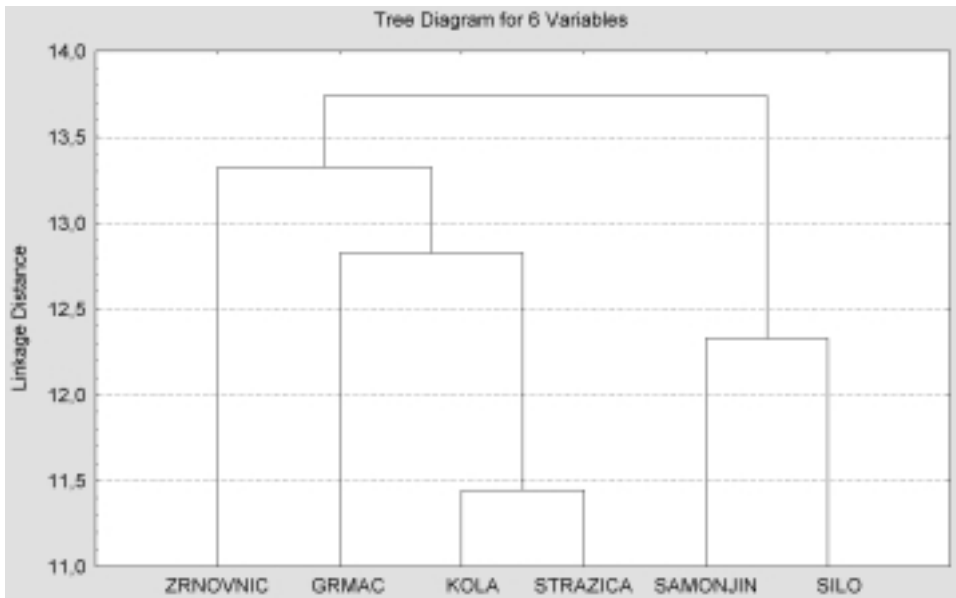
Tab. 1 shows the total number of taxa per transect.

On the transects three infralittoral and circalittoral benthic biocoenoses were noted: the biocoenosis of photophilic algae, precoralligenous facies and a climax of coralligenous biocoenosis, and the biocoenosis of semi-dark caves (Fig. 3). The Sørensen index of similarity is shown in Tab. 2. The most biologically, topographically and geomorphologically similar transects were Šilo and Samonjin, while Stražica and Žrnovnica were the most distant. Altogether, a mainly moderate (60% pairs of transects) or high (20% pairs of transects) index of similarity was calculated between Prvić Island and Velebit mainland transects.

The dendrogram of floristic and faunistic similarity among the transects (Fig. 2) shows a non-significant distance between the Prvić Island and Velebit mainland transects. This means that further research is needed to show in which way, and how much, numerous *vruljas* along the coastal side of the Velebit Channel influence benthic communities.

**Tab. 1.** Total number of taxa, according to high taxonomic groups, which were noted at the researched transects.

Groups	Stations	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
ALGAE		32	29	13	20	29	17
FORAMINIFERA		-	-	1	-	-	-
PORIFERA		47	25	30	23	9	33
CNIDARIA		28	32	13	19	11	13
ECHIURA		1	1	-	1	1	1
SIPUNCULA		1	-	-	-	-	-
MOLLUSCA		28	24	16	33	27	6
POLYCHAETA		11	7	5	14	6	7
CRUSTACEA		9	15	-	9	7	1
PYCNOGONIDA		-	-	-	-	1	-
BRYOZOA		50	14	24	30	21	13
ECHINODERMATA		11	12	5	8	6	6
ASCIDIACEA		4	6	6	7	5	2
PISCES		34	31	15	13	30	18
TOTAL:		256	196	128	177	153	117



**Fig. 2.** Dendrogram of floristic and faunistic similarity among transects.

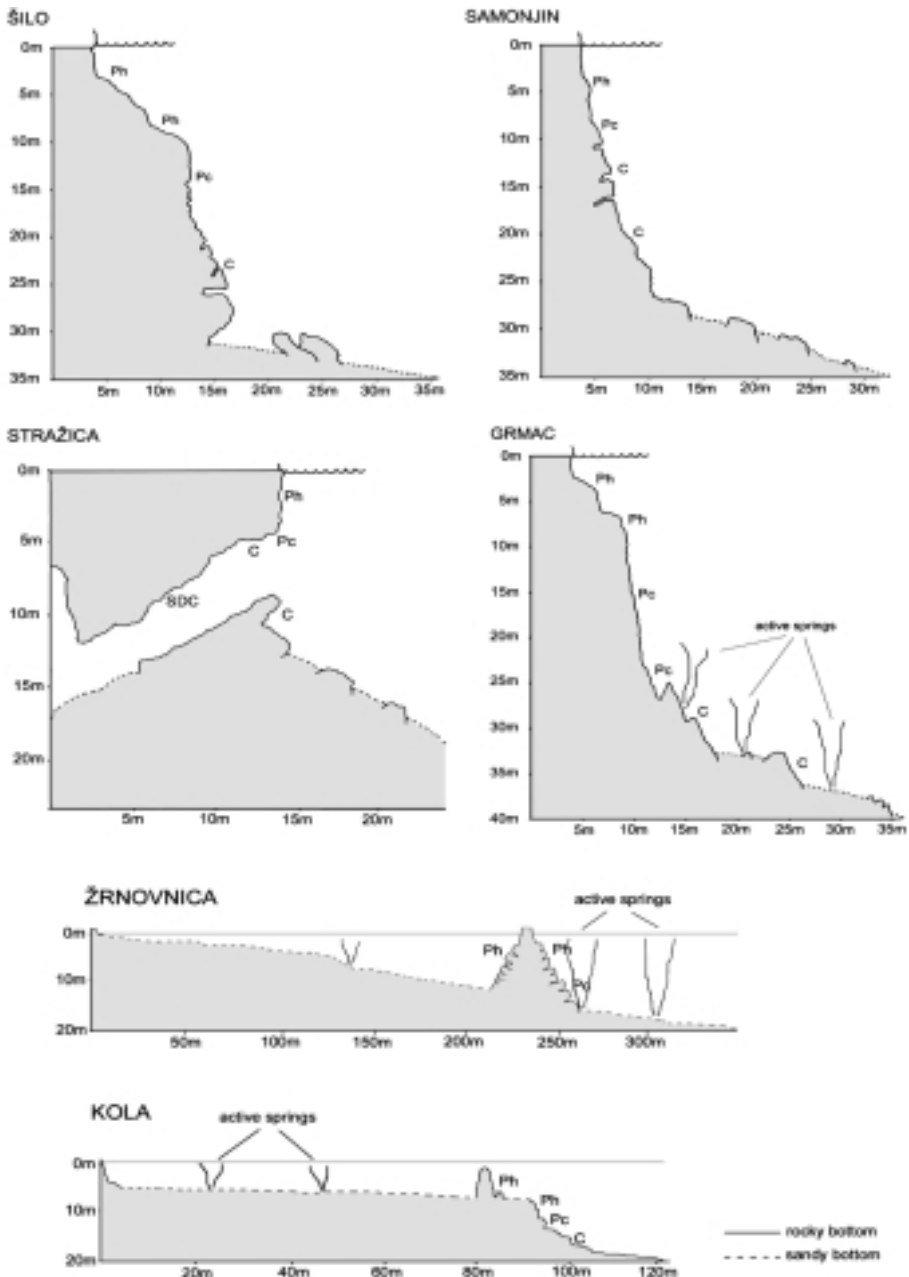


Fig. 3. Schematic view of transects with noted benthic biocoenoses (Ph – biocoenosis of photophilic algae; Pc – precoralligenous facies of coralligenous biocoenosis; C – coralligenous biocoenosis; SDC – biocoenosis of semi-dark caves). Horizontal and vertical axes are not drawn in a scale.



**Tab. 2.** Sørensen index of similarity among researched transects.

Station	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
Šilo		66	47	53	43	59
Samonjin	66		44	49	41	51
Stražica	47	44		47	34	46
Grmac	53	49	47		46	43
Žrnovnica	43	41	34	46		37
Kola	59	51	46	43	37	

(≥ 60 % – very high similarity; 50 – 59 % – high similarity; 40 – 49 % – moderate similarity; ≤ 39 % – low similarity)

The record of the fish *Thalassoma pavo* in October 2001 at the transect Šilo (Prvić Island) is unusual since this species is generally considered a thermophilous element which does not live in the Northern Adriatic (FISCHER *et al.*, 1987).

Another interesting record is the ostreid species *Neopycnodonte cochlear* in the cave at the Stražica transect, at 15 m depth. This species is considered a deep-water species, distributed between 45 and 250 m depth on secondary hard substrata (POPPE & GOTO, 1993). ARKO-PIJEVAC *et al.* (2001) also found this shellfish at shallow depth (10 m) in a cave at Krk Island. As we have found *N. cochlear* at 10 m depth in a cave on the island of Borovnik (Kornati Islands), and at 19 m in the cave Katedrala on the island of Premuda (BAKRAN-PETRICIOLI, personal data), it seems that this species may not be limited by sea temperature but by the amount of light or/and the amount of available food. Namely, none of the mentioned caves have a descending character and all are open to seawater circulation and thus to temperate oscillations throughout the year.

## ACKNOWLEDGEMENTS

We would like to thank Dr. N. Zavodnik who kindly helped in algae determination from Žrnovnica, and A. Novosel and D. Petricioli who helped with fieldwork. The support of the Ministry of Science and Technology of the Republic of Croatia (Project No. 119108) is acknowledged.

*Received September 2, 2002*

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## S A Ž E T A K

### **Bentos sjevernog dijela Velebitskog kanala (Jadransko more, Hrvatska)**

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Velebitski kanal pod velikim je utjecajem neprestanog dotoka slatke i bočate vode, kako površinski (najveći je dotok rijekom Zrmanjom) tako i dubinski (vruljama). Sastav bentoskih životnih zajednica duž obalnog dijela Velebitskog kanala malo je poznat. U ovom radu istraživane su tri postaje duž obalnog dijela Velebitskog kanala (Grmac, Žrnovnica i Kola) i tri postaje duž sjeverne strane otoka Prvića (Šilo, Samonjin i Stražica). Na istraživanim profilima utvrđene su tri životne zajednice: biocenoza fotofilnih algi, prekoraligenski aspekt i klimaks stadij koraligenske biocenoze te biocenoza polutamnih špilja. Utvrđena je ukupno 431 svojta (60 biljnih i 371 životinjska svojta).

Korištene su dvije metode usporedbe vrsta na šest istraživanih profila: Sørensenov indeks sličnosti i klaster-analiza, odnosno metoda dendrograma izračunatog uz pomoć euklidske udaljenosti. Metodom Sørensenova indeksa utvrđen je uglavnom umjereni (60% parova profila) i visoki (20% parova profila) indeks sličnosti među obalnim i otočnim profilima. Dendrogram je pokazao da u pogledu sastava utvrđenih svojti postoje neke razlike između profila. Međutim, da bi se te razlike mogle valjano tumačiti potrebno je nastaviti istraživanja.

U radu se nalazi i povijesni pregled istraživanja sjevernog dijela Velebitskog kanala.

**Appendix I.** List of taxa recorded along six transects in the northern part of Velebit Channel during 1997–2002

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Acetabularia acetabulum</i> (Linnaeus) Silva	+	+			+	+
<i>Amphiroa cryptarthrodia</i> Zanardini					+	
<i>Amphiroa rigida</i> Lamouroux	+	+	+	+		+
<i>Asparagopsis armata</i> Harvey					+	
<i>Botryocladia botryoides</i> (Wulfen) Feldmann	+					+
<i>Bryopsis</i> sp.	+					
<i>Ceramium rubrum</i> (Huds.) Ag.					+	
<i>Ceramium tenerrimum</i> (Maertens) Okamura					+	
<i>Chaetomorpha linum</i> (Müller) Kützing					+	
<i>Cladophora laetevirens</i> (Dillwyn) Kützing	+				+	+
<i>Cladophora prolifera</i> (Roth) Kützing					+	
<i>Cladophora</i> sp.		+	+			
<i>Cladostephus spongiosus</i> (Hudson) C. Agardh					+	
<i>Codium adhaerens</i> C. Agardh	+		+	+		
<i>Codium bursa</i> (Linnaeus) Kützing	+	+	+	+	+	+
<i>Codium fragile</i> (Suringar) Hariot		+				
<i>Codium vermilara</i> (Olivi) Delle Chiaje	+	+		+	+	+
<i>Corallina mediterranea</i> Areschoug	+	+		+	+	
<i>Cryptonemia lomation</i> (Bertoloni) Agardh	+					+
<i>Cutleria multifida</i> (Smith) Greville			+	+		
<i>Cystoseira corniculata</i> (Turner) Zanardini		+				
<i>Cystoseira corniculata</i> ssp. <i>laxior</i> Hauck					+	
<i>Cystoseira schiffneri</i> Hamel	+					
<i>Cystoseira</i> sp.		+	+	+	+	
<i>Dasycladus vermicularis</i> (Scopoli) Krasser	+	+				
<i>Dictyota dichotoma</i> (Hudson) Lamouroux	+	+	+	+	+	+
<i>Dictyota dichotoma</i> var. <i>intricata</i> (C. Agardh) Greville					+	
<i>Dictyota linearis</i> (C. Agardh) Greville	+			+		
<i>Dilophus fasciola</i> (Roth) Howe	+					
<i>Flabellia petiolata</i> (Turra) Nizamuddin	+	+	+	+		+
<i>Gelidium</i> sp.	+	+				
<i>Halimeda tuna</i> (Ellis et Solander) Lamouroux	+	+		+		+
<i>Halopteris filicina</i> (Grateloup) Kützing					+	
<i>Halopteris scoparia</i> (Linnaeus) Sauvageau					+	
<i>Hydrolithon farinosum</i> (Lam.) Penrose et Cham.					+	
<i>Jania longijurca</i> Zanardini					+	
<i>Jania rubens</i> (Linnaeus) Lamouroux	+	+		+		
<i>Laurencia obtusa</i> (Hudson) Lamouroux		+				
<i>Lithophyllum lichenoides</i> Philippi	+	+				

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Lithophyllum racemus</i> (Lamarck) Foslie	+	+				
<i>Melobesia membranacea</i> (Esper) Lamouroux					+	
<i>Mesophyllum lichenoides</i> (Ellis) Lemoine			+			
<i>Neogoniolithon brassica-florida</i> (Harvey) Set. Mas.					+	
<i>Neurocaulon foliosum</i> (Meneghini) Zanardini	+					+
<i>Padina pavonica</i> (Linnaeus) Thivy	+	+	+	+	+	+
<i>Palmophyllum crassum</i> (Naccari) Rabenhorst	+	+				
<i>Peyssonnelia polymorpha</i> (Zanardini) Schmitz	+					+
<i>Peyssonnelia rubra</i> (Greville) J. Agardh	+	+	+	+	+	+
<i>Peyssonnelia squamaria</i> (Gmelin) Decaisne	+	+		+		+
<i>Polysiphonia fruticulosa</i> (Wulfen) Sprengel					+	
<i>Pseudolithophyllum expansum</i> (Philippi) Lemoine	+	+	+	+		+
<i>Sargassum</i> sp.	+	+		+		
<i>Sphacelaria cirrosa</i> (Roth) C. Agardh					+	
<i>Sphaerococcus coronopifolius</i> Stackhouse		+				
<i>Ulothrix flacca</i> (Dillwyn) Thuret					+	
<i>Ulva rigida</i> C. Agardh				+	+	
<i>Valonia utricularis</i> (Roth) C. Agardh	+	+	+	+		
<i>Vidalia volubilis</i> (Linnaeus) J. Agardh	+	+		+	+	+
<i>Wrangelia penicillata</i> C. Agardh	+	+				
<i>Zanardinia prototypus</i> (Nardo) Nardo		+				
<i>Discoramulina bollii</i> Seiglie, 1964			+			
<i>Acanthella acuta</i> Schmidt, 1862	+	+	+	+		+
<i>Acarnus tortilis</i> Topsent, 1892			+			
<i>Agelas oroides</i> (Schmidt, 1864)	+	+	+	+		+
<i>Anchinoe fictitius</i> (Bowerbank, 1866)			+			
<i>Anchinoe tenacior</i> Topsent, 1925	+	+	+	+	+	+
<i>Aplysilla sulfurea</i> Schulze, 1878	+					+
<i>Aplysina aerophoba</i> Schmidt, 1862	+	+	+	+	+	+
<i>Aplysina cavernicola</i> Vacelet, 1959		+	+	+		
<i>Axinella cannabina</i> (Esper, 1794)	+	+	+	+		+
<i>Axinella damicornis</i> (Esper, 1794)	+	+	+	+		+
<i>Axinella polypoides</i> Schmidt, 1862	+	+		+		
<i>Axinella</i> sp.			+			
<i>Axinella vaceleti</i> Pansini, 1983	+					+
<i>Axinella verrucosa</i> (Esper, 1794)	+	+	+	+		+
<i>Cacospongia scalaris</i> Schmidt, 1862	+	+	+	+		+
<i>Chondrilla nucula</i> Schmidt, 1862	+	+	+	+		+
<i>Chondrosia reniformis</i> Nardo, 1847	+	+	+	+	+	+
<i>Clathrina clathrus</i> Schmidt, 1872		+				
<i>Clathrina coriacea</i> (Montague, 1818)	+					
<i>Cliona celata</i> Grant, 1826	+			+	+	

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Cliona schmidti</i> (Ridley, 1881)	+	+	+			
<i>Cliona viridis</i> (Schmidt, 1862)			+			
<i>Crambe crambe</i> (Schmidt, 1862)	+	+		+		
<i>Dercitus plicatus</i> (Schmidt, 1868)	+					+
<i>Dictyonella incisa</i> (Schmidt, 1880)	+					+
<i>Dysidea avara</i> (Schmidt, 1862)	+	+	+	+	+	+
<i>Dysidea fragilis</i> (Montague, 1818)	+	+				+
<i>Erylus discophorus</i> (Schmidt, 1862)	+		+			
<i>Erylus euastrum</i> (Schmidt, 1868)			+			
<i>Eurypon major</i> Sarà et Siribelli, 1960	+					+
<i>Halichondria aurantiaca</i> (Schmidt, 1864)	+					+
<i>Haliclona mediterranea</i> Griessinger, 1971	+	+				+
<i>Hemimycale columella</i> (Bowerbank, 1874)	+	+	+			
<i>Hexadella racovitzai</i> Topsent, 1896	+		+	+		
<i>Hymeniacion sanguinea</i> (Grant, 1826)	+					+
<i>Ircinia (Sarcotragus) muscarum</i> (Schmidt, 1864)				+		
<i>Ircinia (Sarcotragus) spinosula</i> (Schmidt, 1862)	+		+			+
<i>Ircinia dendroides</i> (Schmidt, 1862)	+		+			+
<i>Ircinia fasciculata</i> (Pallas, 1766)	+	+	+	+	+	+
<i>Ircinia oros</i> (Schmidt, 1864)	+					+
<i>Isops intuta</i> (Topsent, 1892)			+			
<i>Mycale massa</i> (Schmidt, 1862)				+		
<i>Oscarella lobularis</i> (Schmidt, 1862)	+	+	+			+
<i>Penares helleri</i> (Schmidt, 1864)	+					+
<i>Petrosia ficiformis</i> (Poiret, 1789)	+	+	+	+	+	+
<i>Pleraplysilla spinifera</i> (Schulze, 1878)	+					+
<i>Stylostichon dives</i> (Topsent, 1891)	+					+
<i>Raspaciona aculeata</i> (Johnston, 1842)	+		+			
<i>Reniera fulva</i> Topsent, 1893	+		+			+
<i>Reniera sarai</i> Pulitzer-Finali, 1969	+					
<i>Spirastrella cunctatrix</i> Schmidt, 1868	+	+				+
<i>Spongia agaricina</i> Pallas, 1766				+		
<i>Spongia officinalis</i> ssp. <i>adriatica</i> Schmidt, 1862	+	+		+		+
<i>Spongia virgultosa</i> Schmidt, 1868	+					
<i>Stryphnus mucronatus</i> (Schmidt, 1868)				+		
<i>Suberites carnosus</i> (Johnston, 1842)	+					
<i>Sycon</i> sp.	+		+		+	
<i>Terpios fugax</i> Duchassaing et Michelotti, 1864	+					+
<i>Tethya aurantium</i> (Pallas, 1766)		+			+	
<i>Tethya citrina</i> Sarà et Melone, 1965	+					
<i>Actinia equina</i> Linnaeus, 1758	+	+		+	+	+
<i>Adamsia carciniopados</i> (Otto, 1823)				+		

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Aglaophenia pluma</i> (Linnaeus, 1758)	+	+				
<i>Aglaophenia</i> sp.			+	+		
<i>Aiptasia mutabilis</i> (Gravenhorst, 1831)	+	+		+		
<i>Alcyonium acaule</i> Marion, 1878		+		+		
<i>Alcyonium coralloides</i> (Pallas, 1766)	+	+				
<i>Alcyonium palmatum</i> Pallas, 1766	+	+	+	+	+	+
<i>Alcyonium</i> sp.			+			
<i>Anemonia viridis</i> (Forsk., 1775)	+	+		+	+	+
<i>Balanophyllia europaea</i> (Risso, 1826)	+	+		+	+	
<i>Caryophyllia inornata</i> (Duncan, 1878)	+	+	+			+
<i>Caryophyllia smithi</i> Stokes et Broderip, 1828	+	+		+		+
<i>Ceratotrochus magnaghii</i> Cecchini, 1914	+	+				
<i>Cereus pedunculatus</i> (Pennant, 1777)					+	
<i>Cerianthus membranaceus</i> (Spallanzani, 1784)	+	+		+	+	+
<i>Cladocora caespitosa</i> (Linnaeus, 1767)	+	+	+	+	+	
<i>Condylactis aurantiaca</i> (Delle Chiaje, 1825)	+	+	+	+	+	+
<i>Cornularia cornucopiae</i> (Pallas, 1766)	+	+				
<i>Cribrinopsis crassa</i> (Andres, 1883)	+	+	+	+		
<i>Dynamena</i> sp.	+	+				+
<i>Eudendrium racemosum</i> (Cavolini, 1785)		+				
<i>Eudendrium rameum</i> Cabioch, 1970	+	+		+		+
<i>Eudendrium</i> sp.					+	
<i>Eunicella cavolinii</i> (Koch, 1887)	+	+	+	+	+	+
<i>Eunicella singularis</i> (Esper, 1791)	+	+	+	+	+	+
<i>Halecium</i> sp.	+	+	+			
<i>Hoplangia durothrix</i> Gosse, 1860	+	+	+			
<i>Leptopsammia pruvoti</i> Lacaze-Duthiers, 1897	+	+	+			
<i>Maasella edwardsii</i> (Lacaze-Duthiers, 1888)	+	+				
<i>Madracis pharensis</i> (Heller, 1868)	+	+				
<i>Nausithoe punctata</i> Kölliker, 1853		+				
<i>Paramuricea clavata</i> (Risso, 1826)	+	+				
<i>Parazoanthus axinellae</i> Schmidt, 1862	+	+	+	+		+
<i>Plumularia</i> sp.	+	+		+		+
<i>Polycyathus muelleriae</i> (Abel, 1959)	+	+				
<i>Thalamophyllia gasti</i> (Doderlein, 1913)		+				
<i>Thecocalus</i> sp.				+		
<i>Bonellia viridis</i> Rolando, 1821	+	+		+	+	+
<i>Phascolosoma granulatum</i> Leuckart, 1828	+					
<i>Alvania</i> sp.				+		
<i>Arca noae</i> Linnaeus, 1758	+	+	+	+	+	+
<i>Astraea rugosa</i> (Linnaeus, 1767)				+	+	
<i>Barbatia barbata</i> (Linnaeus, 1758)	+			+		



Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Bittium reticulatum</i> (da Costa, 1778)	+	+	+	+	+	+
<i>Calliostoma zizyphinus</i> (Linnaeus, 1767)	+	+	+		+	
<i>Cantharus dorbigny</i> (Payraudeau, 1826)	+					
<i>Chiton olivaceus</i> Spengler, 1897	+	+				
<i>Chlamys multistriata</i> (Poli, 1795)			+	+	+	
<i>Chlamys varia</i> (Linnaeus, 1758)	+	+	+	+		
<i>Collumbela rustica</i> (Linnaeus, 1758)				+		
<i>Conus ventricosus</i> Gmelin, 1791				+		
<i>Coryphella pedata</i> (Montagu, 1815)		+			+	
<i>Cratena peregrina</i> Gmelin, 1791	+	+		+	+	
<i>Diodora italica</i> (Defrance, 1820)				+		
<i>Discodoris atromaculata</i> Bergh, 1880				+		
<i>Elysia viridis</i> (Montagu, 1804)		+				
<i>Emarginula</i> sp.	+					
<i>Flabellina affinis</i> (Gmelin, 1791)	+	+		+	+	
<i>Gari depressa</i> (Pennant, 1777)			+	+		
<i>Gastrochaena dubia</i> (Pennant, 1777)	+	+	+	+	+	
<i>Godiva banyulensis</i> (Portmann et Sandmeier, 1960)					+	
<i>Gourmya vulgata</i> (Bruguière, 1789)					+	
<i>Haliotis lamellosa</i> Lamarck, 1822	+	+	+	+	+	+
<i>Hexaplex trunculus</i> (Linnaeus, 1758)					+	
<i>Homalopoma sanguineum</i> (Linnaeus, 1758)	+					
<i>Hyatella arctica</i> (Linnaeus, 1758)				+		
<i>Hypselodoris elegans</i> (Cantraine, 1835)	+	+	+			
<i>Hypselodoris messinensis</i> (Ihering, 1880)		+				
<i>Hypselodoris picta</i> (Schultz in Philippi, 1836)				+		
<i>Hypselodoris tricolor</i> (Cantraine, 1835)				+		
<i>Hypselodoris villafranca</i> (Risso, 1826)					+	
<i>Laevicardium crassum</i> (Gmelin, 1791)					+	
<i>Lima lima</i> (Linnaeus, 1758)	+	+	+	+	+	
<i>Limaria hians</i> (Gmelin, 1791)			+	+		
<i>Limaria inflata</i> Link, 1807				+		
<i>Lithophaga lithophaga</i> (Linnaeus, 1758)	+	+	+	+	+	
<i>Manupecten pesfelis</i> (Linnaeus, 1758)	+			+		
<i>Mytilaster minimus</i> (Poli, 1795)		+				
<i>Mytilus galloprovincialis</i> Lamarck, 1819	+	+		+	+	+
<i>Nassarius incrassatus</i> (Stroem, 1768)				+		
<i>Neopycnodonte cochlear</i> (Poli, 1795)			+			
<i>Neosimnia spelta</i> (Linnaeus, 1758)	+	+				+
<i>Ocenebrina aciculata</i> (Lamarck, 1822)	+					
<i>Octopus vulgaris</i> Lamarck, 1798	+	+		+	+	+
<i>Paphia aurea</i> (Gmelin, 1791)			+			

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Patella caerulea</i> Linnaeus, 1758		+				
<i>Patella ferruginea</i> Gmelin, 1791	+			+		
<i>Patella rustica</i> Linnaeus, 1758		+		+		
<i>Pecten jacobaeus</i> (Linnaeus, 1758)	+			+		
<i>Peltodoris atromaculata</i> Bergh, 1880	+	+	+		+	
<i>Pteria hirundo</i> (Linnaeus, 1758)	+					
<i>Sepia officinalis</i> Linnaeus, 1758						+
<i>Serpulorbis arenaria</i> (Linnaeus, 1758)	+	+		+	+	
<i>Solenocurtus strigillatus</i> (Linnaeus, 1758)						+
<i>Tapes decussatus</i> (Linnaeus, 1758)			+			
<i>Tellina</i> sp.						+
<i>Thuridilla hopei</i> (Verany, 1853)		+				+
<i>Tylodina perversa</i> (Gmelin, 1791)	+			+	+	
<i>Venus verrucosa</i> Linnaeus, 1758	+			+	+	
<i>Amphiglena mediterranea</i> (Leydig, 1851)		+				
<i>Amphitrite variabilis</i> (Risso, 1826)				+		
<i>Aphrodita aculeata</i> Linnaeus, 1761				+		
<i>Bispira mariae</i> Lo Bianco, 1893						+
<i>Ceratonereis costae</i> (Grube, 1840)	+			+		+
<i>Ceratonereis hircincola</i> (Eisig, 1870)				+		
<i>Dorvillea rudolphi</i> (Delle Chiaje) 1828	+					
<i>Eumida sanguinea</i> (Örsted) 1843	+					
<i>Eunice harassii</i> Audouin et Milne Edwards, 1833				+		
<i>Eunice torquata</i> Quatrefages, 1865						+
<i>Eupolyornia nebulosa</i> (Montagu, 1818)	+	+	+	+	+	+
<i>Filograna</i> sp. <i>sensu</i> Bianchi 1981	+	+		+	+	
<i>Glycera tessellata</i> Grube, 1863	+					
<i>Harmothoe spinifera</i> (Ehlers, 1864)				+		
<i>Lagisca extenuata</i> (Grube, 1840)		+				
<i>Lepidasthenia</i> sp.				+		
<i>Lumbrineris gracilis</i> (Ehlers, 1868)	+					
<i>Myxicola infundibulum</i> Montagu, 1915			+			
<i>Nereis rava</i> Ehlers, 1867				+		
<i>Nereis</i> sp.	+					
<i>Pomatoceros triqueter</i> (Linnaeus, 1767)					+	+
<i>Protula tubularia</i> (Montagu, 1803)	+	+	+	+	+	+
<i>Sabella pavonina</i> (Savigny, 1820)	+	+	+			+
<i>Sabella spallanzanii</i> (Gmelin, 1791)				+	+	
<i>Serpula concharum</i> Langerhans, 1880				+		
<i>Serpula vermicularis</i> Linnaeus, 1767	+	+	+	+	+	+
<i>Alpheus dentipes</i> Guerin, 1832		+		+		
<i>Alpheus</i> sp.				+		

Species	Stations					
	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Balanus perforatus</i> Bruguière, 1789		+				
<i>Balanus</i> sp.				+		
<i>Carcinus mediterraneus</i> Czerniavsky, 1884						+
<i>Chthamalus stelatus</i> (Poli, 1795)				+		
<i>Dromia personata</i> (Linnaeus, 1759)	+	+				
<i>Galathea squamifera</i> Leach, 1814	+	+				
<i>Galathea strigosa</i> (Linnaeus, 1767)	+	+				
<i>Illia nucleus</i> (Linnaeus, 1758)				+		
<i>Inachus</i> sp.	+	+				
<i>Lisa chiragra</i> (Fabricius, 1775)		+				
<i>Lisa</i> sp.	+			+		
<i>Macropodia</i> sp.				+		
<i>Maja crispata</i> Risso, 1827		+				
<i>Maja</i> sp.						+
<i>Munida rugosa</i> (Fabricius, 1775)	+	+				
<i>Pachygrapsus marmoratus</i> (Fabricius, 1787)						+
<i>Paguristes eremita</i> (Linnaeus, 1767)						+
<i>Pagurus</i> sp.						+
<i>Palaemon elegans</i> Risso, 1816						+
<i>Periclimenes amethysteus</i> (Risso, 1827)	+	+		+		
<i>Periclimenes scriptus</i> (Risso, 1822)						+
<i>Pilumnus hirtellus</i> (Linnaeus, 1761)		+		+		
<i>Porcellana platycheles</i> (Pennant, 1777)		+				
<i>Scyllarus arctus</i> (Linnaeus, 1758)	+	+				+
<i>Scyllarus</i> sp.	+	+				
<i>Stenopus spinosus</i> Risso, 1827		+				
<i>Nymphon gracile</i> Leach, 1814						+
<i>Adeonella pallasii</i> (Heller, 1867)	+		+	+		+
<i>Aetea sica</i> (Couch, 1844)	+					
<i>Aetea truncata</i> (Landsborough, 1852)	+		+	+	+	
<i>Beania hirtissima</i> (Heller, 1867)	+					
<i>Beania magellanica</i> (Busk, 1852)	+		+	+	+	+
<i>Beania mirabilis</i> Johnston, 1840	+			+	+	
<i>Beania robusta</i> (Hincks, 1881)						+
<i>Buffonellaria divergens</i> (Smitt, 1873)				+		
<i>Bugula calathus</i> Norman, 1864	+			+		
<i>Bugula fulva</i> Ryland, 1960	+					+
<i>Bugula plumosa</i> (Pallas, 1766)	+					
<i>Bugula</i> sp.		+				
<i>Caberea boryi</i> (Audouin, 1826)	+					
<i>Callopora dumerilii</i> (Audouin, 1826)	+					
<i>Cellaria salicornioides</i> Lamouroux, 1816	+		+	+		

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	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Cellepora pumicosa</i> (Pallas, 1766)	+					
<i>Celleporina decipiens</i> Hayward, 1976	+					
<i>Celleporina hassallii</i> (Johnston, 1847)	+			+	+	
<i>Celleporina lucida</i> (Hincks, 1880)	+		+			
<i>Chartella papyracea</i> (Ellis et Solander, 1786)					+	
<i>Chorizopora brongniartii</i> (Audouin, 1826)	+		+		+	
<i>Collarina balzaci</i> (Audouin, 1826)			+			
<i>Crassimarginatella crassimarginata</i> (Hincks, 1880)			+			
<i>Crisia</i> sp.	+			+	+	+
<i>Diplosolen obelia</i> (Johnston, 1838)	+		+	+	+	+
<i>Escharina vulgaris</i> (Moll, 1803)	+		+			
<i>Escharoides coccinea</i> (Abildgaard, 1806)	+					
<i>Eurystrotos occulta</i> (Harmelin, 1976)	+					
<i>Fron dipora verrucosa</i> (Lamouroux, 1821)						+
<i>Gregarinidra gregaria</i> (Heller, 1867)			+			
<i>Hagiosynodos kirchenpaueri</i> (Heller, 1867)	+		+			+
<i>Haplopoma impressum</i> (Audouin, 1826)	+					
<i>Hippopodinella kirchenpaueri</i> (Heller, 1867)			+			
<i>Idmidronea atlantica</i> (Forbes, in Johnston, 1847)				+	+	
<i>Lichenopora radiata</i> (Audouin, 1826)	+			+	+	
<i>Metropieriella lepralioides</i> (Calvet, 1903)	+			+		
<i>Microporella umbracula</i> (Audouin, 1826)	+					
<i>Mollia circumcincta</i> (Heller, 1867)	+			+	+	
<i>Mollia patellaria</i> (Moll, 1816)	+			+		
<i>Myriapora truncata</i> (Pallas, 1766)	+	+	+	+	+	+
<i>Parasmittina tropica</i> (Waters, 1909)	+	+		+		
<i>Pentapora fascialis</i> (Pallas, 1766)		+		+	+	+
<i>Puellina gattyae</i> (Landsborough, 1852)	+					
<i>Puellina hincksi</i> (Friedl, 1917)	+		+			
<i>Puellina innominata</i> (Couch, 1844)	+		+	+		
<i>Puellina pedunculata</i> Gautier, 1956	+					
<i>Puellina picardi</i> Harmelin, 1988	+					
<i>Puellina radiata</i> (Moll, 1803)		+	+	+		
<i>Reptadeonella violacea</i> (Johnston, 1847)				+		
<i>Reteporella feuerbornii</i> Hass, 1948						+
<i>Reteporella</i> sp.		+	+			
<i>Rhynchozoon</i> sp.				+	+	
<i>Savignyella lafontii</i> (Audouin, 1826)				+	+	
<i>Schizobrachiella sanguinea</i> (Norman, 1868)	+	+		+	+	
<i>Schizomavella cuspidata</i> (Hincks, 1880)	+		+	+	+	+
<i>Schizomavella discoidea</i> (Busk, 1859)						+
<i>Schizomavella halimeda</i> (Gautier, 1955)	+					

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	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Schizomavella linearis</i> (Hassall, 1841)	+		+	+		
<i>Schizomavella mamillata</i> (Hincks, 1880)	+	+				+
<i>Schizoporella dunkeri</i> (Reuss, 1848)	+	+			+	
<i>Schizoporella</i> sp.		+				
<i>Scrupocellaria delilii</i> (Audouin, 1826)	+			+		
<i>Scrupocellaria scrupea</i> Busk, 1852	+	+	+			
<i>Scrupocellaria scrupea</i> (Linnaeus, 1758)		+		+		
<i>Smittina cervicornis</i> (Pallas, 1766)	+	+	+	+		+
<i>Smittoidea marmorea</i> (Hincks, 1877)	+					
<i>Synnotum aegyptiacum</i> (Audouin, 1826)	+					
<i>Tubulipora liliacea</i> (Pallas, 1766)	+			+	+	
<i>Tubulipora</i> sp.			+			
<i>Turbicellepora</i> sp.	+	+	+			
<i>Walkeria tuberosa</i> Heller, 1867	+					
<i>Antedon mediterranea</i> (Lamarck, 1816)	+	+		+	+	+
<i>Arbacia lixula</i> (Linnaeus, 1758)	+	+		+	+	
<i>Astropecten aranciacus</i> (Linnaeus, 1758)	+	+				+
<i>Coscinasterias tenuispina</i> (Lamarck, 1816)	+	+				+
<i>Echinaster sepositus</i> (Retzius, 1783)	+	+	+	+		+
<i>Echinocyamus pusillus</i> (Müller, 1776)	+	+				
<i>Holothuria forskali</i> Delle Chiaje, 1823		+		+		
<i>Holothuria</i> sp.			+	+		
<i>Holothuria tubulosa</i> Gmelin, 1788	+	+		+	+	
<i>Marthasterias glacialis</i> (Linnaeus, 1758)	+	+	+		+	
<i>Ophiothrix fragilis</i> (Abildgaard, 1789)	+	+			+	
<i>Paracentrotus lividus</i> (Lamarck, 1816)	+	+		+		+
<i>Spatangus purpureus</i> (F o. F. Müller, 1776)			+			
<i>Sphaerechinus granularis</i> (Lamarck, 1816)	+	+	+	+	+	+
<i>Aplidium conicum</i> (Olivieri, 1792)			+	+		
<i>Aplidium</i> sp.		+				
<i>Clavelina lepadiformis</i> (Müller, 1776)	+	+	+		+	
<i>Clavelina</i> sp.				+		
<i>Didemnum</i> sp.				+		
<i>Diplosoma listerianum</i> (Milne Edwards, 1841)		+				
<i>Halocynthia papillosa</i> (Linnaeus, 1767)	+	+	+	+	+	+
<i>Microcosmus sabatieri</i> Roule, 1885	+	+		+	+	
<i>Microcosmus</i> sp.			+			+
<i>Phallusia fumigata</i> Grube, 1864			+	+		
<i>Phallusia mammilata</i> (Cuvier, 1885)					+	
<i>Polycitor adriaticus</i> (Drasche, 1883)		+				
<i>Sydnium elegans</i> (Giard, 1872)	+		+	+	+	
<i>Anguilla anguilla</i> (Linnaeus, 1758)					+	

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	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Atherina boyeri</i> Risso, 1810		+				
<i>Atherina</i> sp.	+		+	+		
<i>Belone</i> sp.		+				
<i>Boops boops</i> (Linnaeus, 1758)	+		+			+
<i>Bothus podas</i> (Delaroche, 1809)					+	
<i>Chromis chromis</i> (Linnaeus, 1758)	+	+	+	+	+	+
<i>Conger conger</i> (/ Artdi, 1738/, Linnaeus, 1758)	+				+	+
<i>Coris julis</i> (Linnaeus, 1758)	+	+	+	+	+	+
<i>Dicentrarchus labrax</i> (Linnaeus, 1758)	+					
<i>Diplodus annularis</i> (Linnaeus, 1758)	+				+	
<i>Diplodus puntazzo</i> (Cetti, 1777)	+	+				
<i>Diplodus sargus</i> (Linnaeus, 1758)	+	+				
<i>Diplodus vulgaris</i> (E. Geoffroy Saint-Hilaire, 1817)	+	+				
<i>Epinephelus marginatus</i> (Love, 1834)					+	
<i>Gobius auratus</i> Risso, 1810	+	+				
<i>Gobius bucchichi</i> Steindachner, 1870	+	+		+	+	
<i>Gobius cobitis</i> Pallas, 1811	+					+
<i>Gobius cruentatus</i> Gmelin, 1789	+	+	+		+	+
<i>Gobius luteus</i> Kolombatović, 1891	+	+				+
<i>Gobius niger</i> Linnaeus, 1758	+				+	
<i>Gobius vittatus</i> Vinciguerra, 1883	+	+				+
<i>Labrus bimaculatus</i> Linnaeus, 1758	+	+			+	+
<i>Labrus merula</i> Linnaeus, 1758				+		
<i>Lepadogaster candollei</i> Risso, 1810		+				
<i>Lithognathus mormyrus</i> (Linnaeus, 1758)					+	
<i>Mugil cephalus</i> Linnaeus, 1758				+		
<i>Mugil</i> sp.		+				
<i>Mullus surmuletus</i> Linnaeus, 1758					+	
<i>Oblada melanura</i> (Linnaeus, 1758)	+	+	+			+
<i>Pagellus erythrinus</i> (Linnaeus, 1758)	+	+				+
<i>Parablennius gattorugine</i> (Brünnich, 1768)		+				
<i>Parablennius rouxi</i> (Cocco, 1833)	+	+		+	+	+
<i>Parablennius zvonimiri</i> (Kolombatović, 1892)		+				
<i>Sarpa salpa</i> (Linnaeus, 1758)	+	+			+	
<i>Sciaena umbra</i> Linnaeus, 1758	+	+			+	
<i>Scorpaena porcus</i> Linnaeus, 1758	+	+	+	+	+	+
<i>Scorpaena scrofa</i> Linnaeus, 1758	+	+			+	+
<i>Scyliorhinus canicula</i> (Linnaeus, 1758)					+	
<i>Serranus cabrilla</i> (Linnaeus, 1758)	+	+	+		+	+
<i>Serranus hepatus</i> (Linnaeus, 1758)	+	+			+	+
<i>Serranus scriba</i> (Linnaeus, 1758)	+	+	+		+	+
<i>Spicara maena</i> (Linnaeus, 1758)	+	+		+	+	

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	Šilo	Samonjin	Stražica	Grmac	Žrnovnica	Kola
<i>Symphodus mediterraneus</i> (Linnaeus, 1758)			+		+	
<i>Symphodus roissali</i> (Risso, 1810)			+		+	
<i>Symphodus rostratus</i> (Bloch, 1797)			+			
<i>Symphodus tinca</i> (Linnaeus, 1758)			+	+	+	
<i>Thalassoma pavo</i> (Linnaeus, 1758)	+					
<i>Thorogobius ephippiatus</i> (Lowe, 1839)	+	+	+	+		+
<i>Thorogobius macrolepis</i> (Kolombatović, 1891)	+					
<i>Trachinus draco</i> Linnaeus, 1758				+	+	
<i>Trachinus</i> sp.			+			
<i>Trigloporus lastoviza</i> (Brünnich, 1768)					+	
<i>Tripterygion delaisi</i> Cadenat et Blache, 1971					+	
<i>Tripterygion melanurus</i> Guichenot, 1845				+		
<i>Tripterygion tripteronotus</i> (Risso, 1810)	+	+				
<i>Zeus faber</i> Linnaeus, 1758	+	+			+	