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A checklist of the benthic marine macroalgae from the eastern Adriatic coast: III. Rhodophyta 1: Ceramiales

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The first part of the checklist of red algae (Rhodophyta: Ceramiales) from the eastern Adriatic coast, based on records published from 1948 to 2009, is presented. For geographic analysis the coast is divided into three parts: northern, central, and southern. A total of 187 macroalgal taxa at specific and infraspecific levels are recognized.

Key words: marine benthic macroalgae, Rhodophyta, Ceramiales, checklist, eastern Adriatic coast

INTRODUCTION

This first part of the checklist of red algae from the eastern Adriatic coast is intended to be a part of the catalogue of benthic algal taxa of the eastern Adriatic coast, which includes systematic divisions Rhodophyta, Heterokontophyta and Chlorophyta. The Chlorophyta were treated in the first part (ANTOLIĆ *et al*., 2001) and the Heterokontophyta in the second part (ANTOLIĆ *et al*., 2010). The Rhodophyta will be compiled in several parts, the first of which includes the order Ceramiales. A first checklist of the Adriatic macroalgae was compiled by GIACCONE (1978). That list, however, has no data for the southern Adriatic. A more recent checklist (GÓMEZ GARRETA *et al*., 2001), which covers red algae of the order Ceramiales of the entire Mediterranean Sea, treats the Adriatic as a single region and some taxa are omitted. Most recently, FURNARI *et al*. (1999) published a catalogue of the benthic marine macroalgae of the western Adriatic coast, providing more detailed information for that region than those achieved from existing checklists.

Our present checklist has been compiled following the scheme used in the first (ANTOLIĆ *et al*., 2001) and second (ANTOLIĆ *et al*., 2010) parts of this series. For geographic analysis, the eastern Adriatic coast has been divided into three parts (Fig. 1). The northern part (NEAd) extends from the Gulf of Trieste in Italy, along the coast of Slovenia to Jablanac in Croatia, the middle part (MEAd) from Jablanac to Gradac in Croatia, and the southern part (SEAd) from Gradac, along the coast of Montenegro to Vlorë in Albania.

The following references were used in preparing this checklist: 1 - ANTOLIĆ (1976); 2 - ANTOLIĆ (1985); 3 - ANTOLIĆ (1986); 4 - ANTOLIĆ (1994); 5 - ANTOLIĆ & ŠPAN (1992); 6 - ANTOLIĆ *et al*. (1994); 7 - ANTOLIĆ *et al*. (1995); 8 - ATHANASIADIS (1996); 9 - AVČIN et al., (1974); 10 - BATTELLI & ARKO-PJEVAC (2003); 11 - BRESSAN & GODINE (1989/1990); 12 - BRESSAN *et al*. (1991); 13 - BRESSAN *et al*. (2000); 14 - ERCEGOVIĆ (1949); 15 - ERCEGOVIĆ (1957); 16 - ERCEGOVIĆ (1963); 17 - ERCEGOVIĆ (1966); 18 - ERCEGOVIĆ (1980); 19 - FRANZOSINI *et al*. (1983-1984); 20 - FURNARI *et al*., (1999); 21 - GIACCONE (1978); 22 - GIACCONE & PIGNATTI (1967); 23 - LOVRIĆ (1997);

24 - MATJAŠIĆ *et al*. (1975); 25 - MUNDA (1960); 26 - PIGNATTI & GIACCONE (1967); 27 - RADIĆ (1982); 28 - SILVA *et al*. (1996); 29 - SOLAZZI (1971); 30 - ŠPAN (1980); 31 - ŠPAN & ANTOLIĆ (1981); 32 - ŠPAN & ANTOLIĆ (1983); 33 - ŠPAN & ANTOLIĆ (1994); 34 - ŠPAN & ANTOLIĆ (1997); 35 - ŠPAN *et al*. (1989); 36 - ŠPAN *et al*. (1996a); 37 - ŠPAN *et al*. (1996b); 38 - VATOVA (1948); 39 - VUKOVIČ (1980); 40 - ZAVODNIK (1969); 41 - ZAVODNIK *et al*. (1981); 42 - ZEI (1955); 43 - ŽULJEVIĆ *et al*. (2009).

For each part of the eastern Adriatic coast, records are shown with numbers that correspond to bibliographic references published from 1948 to 2009 (Table 1).

Italics are used for accepted algal taxa, with roman type for synonyms, misapplied names and doubtful or unaccepted taxa. Superscript numbers in the brackets refer to the Notes. Authors of names are given in full. Authors of synonyms are reported as quoted in the original papers.

Table 1. Numbers of references used for the three parts of the eastern Adriatic coast: northern (NEAd), middle (MEAd), and southern (SEAd)

Parts of Adriatic	Reference numbers																		
NEAd	8	9	10	11	12	13	19	20	21	22	23	24	25	26	37	39	40	41	42
MEAd	1	2	4	14	15	16	17	18	21	27	28	30	33	34	36	38	43		
SEAd	3	5	6	7	15	17	29	31	32	35	43								

The taxonomy is arranged according to the website www.algaebase.org (GUIRY & GUIRY, 2011).

Alphabetical list of taxa (Annex), *taxa excludenda,* as well as *taxa inquirenda* are given.

A total of 187 benthic macroalgal taxa at specific and infraspecific levels are included in the list (Table 2).

In comparison to 192 and 204 taxa recorded in the entire Adriatic Sea by GIACCONE (1978) and GÓMEZ GARRETA *et al*., (2001) respectively, and 178 taxa recorded for the western Adriatic coast by FURNARI *et al.* (1999), we recorded about 2% and 8% more, and 5% less taxa, respectively. These differences have arisen because we included in this list some taxa that these authors did not mention or they listed as taxonomic synonyms and *taxa inquirenda*.

In our study, a higher number of algal taxa were recorded in the northern (163) and in the central (142) parts of the Adriatic, compared to only 107 taxa that were recorded in the southern part.

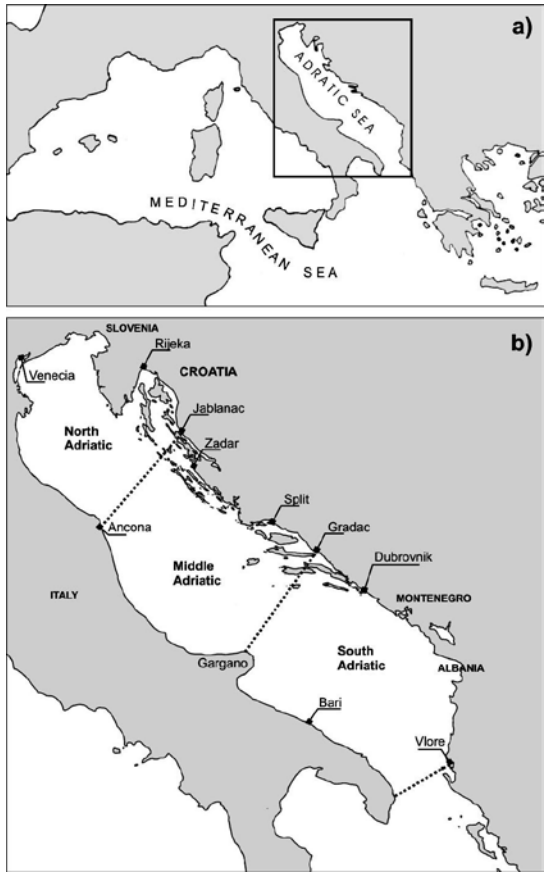

Fig.1. Map of the investigated area

Table 2. List of Ceramiales (Rhodophyta) from the three parts of the eastern Adriatic coast (northern - NEAd, middle - MEAd, southern - SEAd). For the meaning of numbers see the text.

Taxa	NEAd	MEAd	SEAd
RHODOPHYTA R.Wettstein			
FLORIDEOPHYCEAE Cronquist			
C e r a m i a l e s Oltmanns			
Callithamniaceae Kützing			
Aglaothamnion G.Feldmann-Mazoyer			
A. caudatum (J.Agardh) G.Feldmann-Mazoyer ……..	*25*	*33*	*31*
A. cordatum (Börgesen) G.Feldmann-Mazoyer [(1)] ……..	25	15	32
= Aglaothamnion neglectum G.Feldmann-Mazoyer			
A. gallicum (Nägeli) L'Hardy-Halos *ex* Ardré [(2)] ……	21	-	-
= Aglaothamnion brodiei (Harvey) G.Feldmann-Mazoyer			
A. scopulorum (C.Agardh) G.Feldmann-Mazoyer ...……..	*25*	*17*	*7*
= Callithamnion scopulorum C.Agardh			
A. tenuissimum (Bonnemaison) G.Feldmann-Mazoyer			
var. *mazoyerae* G.Furnari, L'Hardy-Halos, Rueness *et* Serio ……..	25	1	31
= Aglaothamnion tenuissimum sensu G.Feldmann-Mazoyer			
var. *tenuissimum* [(3)] …….....	38	15	31
= Aglaothamnion byssoides (Arnott ex.Harvey) C.F.Boudouresque et M.M.Perret-Boudouresque			
= Seirospora byssoides Arnott			
= Aglaothamnin furcellariae (J.Agardh) G.Feldmann-Mazoyer, nom. illeg.			
A. tripinnatum (C. Agardh) G.Feldmann-Mazoyer ……	*25*	*18*	*31*
Callithamnion Lyngbye			
C. corymbosum (J.E.Smith) Lyngbye ……	*38*	*17*	*31*
C. granulatum (Ducluzeau) C.Agardh ……	*21*	*15*	*31*
C. tetragonum (Withering) S.F. Gray ……	-	*17*	-
Crouania J. Agardh			
C. attenuata (C.Agardh) J.Agardh ……..	*38*	*15*	*31*
Gulsonia A.S.Harvey			
G. nodulosa (Ercegović) J.Feldmann *et* G.Feldmann-Mazoyer …….	24	18	*32*
= Crouaniopsis annulata (Berthold) J.Feldmann et G.Feldmann-Mazoyer			
Seirospora A.S.Harvey			
S. apiculata (Meneghini) G. Feldmann-Mazoyer …….....	*21*	*15*	*31*
S. giraudyi (Kützing) De Toni ……	*25*	*18*	*32*
S. interrupta (J.E.Smith) F.Schmitz ……	38	15	*31*
= Seirospora griffithsiana Harvey			
S. sphaerospora J.Feldmann ……...	-	*1*	*31*

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Ceramiaceae Dumortier			
Acrothamnion J.Agardh			
A. preissii (Sonder) E.M.Wollaston …….....	-	-	*43*
Antithamnion Nägeli			
A. cruciatum (C.Agardh) Nägeli ……	*38*	*15*	*31*
= Antithamnion cruciatum var. profundum G.Feldmann-Mazoyer			
= Antithamnion cruciatum var. radicans (J.Agardh) F.S.Collins			
A. heterocladum Funk ……	*40*	*4*	*31*
A. tenuissimum (Hauck) Schiffner …….....	*25*	*15*	*31*
Antithamnionella Lyle			
A. elegans (Berthold) J.H.Price *et* D.M.John ……..	23	*4*	32
= Antithamnion elegans Berthold			
A. spirographidis (Schiffner) E.M.Wollaston …….	-	17	-
= Antithamnion spirographidis Schiffner			
Balliella H.Itono *et* T.Tanaka			
B. cladoderma (Zanardini) Athanasiadis ……	38	15	-
= Antithamnion cladodermum (Zanardini) Hauck			
Callithamniella G.Feldmann-Mazoyer			
C. tingitana (Schousboe *ex* Bornet) G.Feldmann-Mazoyer ……	-	*33*	*3*
Centroceras Kützing			
C. clavulatum (C.Agardh) Montagne ……	*21*	*17*	*35*
Ceramium Roth			
C. bertholdii Funk …….....	*41*	*15*	*31*
C. ciliatum (J.Ellis) Ducluzeau			
var. *ciliatum* ……	*38*	*15*	*29*
var. *robustum* (J.Agardh) G.Feldmann-Mazoyer ……	*24*	*30*	-
C. cimbricum H.E. Petersen ……	38	-	-
= Ceramium fastigiatum Harvey			
C. circinatum (Kützing) J.Agardh			
var. *circinatum* ……	*24*	*17*	*31*
var. *confluens* (Kützing) Ardissone [(4)] ……	-	*15*	-
C. codii (H.Richards) G.Feldmann-Mazoyer …….....	38	*15*	*31*
= Ceramothamnion adriaticum Schiller			
C. comptum Børgesen ……	*24*	*4*	*32*
C. deslongchampsii Chauvin *ex* Duby ..……	21	15	31
= Ceramium diaphanum (Lightfoot) Roth			
var. strictum (Kützing) G.Feldmann-Mazoyer			
C. diaphanum (Lightfoot) Roth …….....	38	15	31
= Ceramium tenuissimum (Roth) J.E.Areschoug			
= Ceramium gracillimum (Kützing) Griffiths et Harvey			
= Ceramium nodosum (Kützing) Griffiths et Harvey			
C. echionotum J.Agardh			
var. *echionotum* ……	*21*	*17*	*29*
var. *mediterraneum* G. Feldmann-Mazoyer [(5)] ……	-	-	*32*
C. parvulum (Zanardini *ex* Frauenfeld) Grunow ……	-	*28*	-

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
C. secundatum Lyngbye [6] ……..	21	17	31
= Ceramium rubrum auctorum var. barbatum G.Feldmann-Mazoyer			
= Ceramium barbatum Kützing			
= Ceramium nodulosum var. barbatum (Kützing) G.Furnari et Serio			
C. siliquosum (Kützing) Maggs *et* Hommersand			
var. *elegans* (Roth) G.Furnari ……	21	-	-
= Ceramium diaphanum var. elegans (Roth) Roth			
var. *lophophorum* (G.Feldmann-Mazoyer) Serio ……..……..	25	4	31
= Ceramium diaphanum var. lophophorum G.Feldmann-Mazoyer			
var. *siliquosum* …….	38	17	31
= Ceramium diaphanum (Roth) Harvey			
var. *zostericola* (G. Feldmann-Mazoyer) G.Furnari			
f. acrocarpum (G.Feldmann-Mazoyer) G.Furnari ...……....	39	-	-
= Ceramium diaphanum var. zostericolum f. acrocarpum G.Feldmann-Mazoyer			
= Ceramium diaphanum (Lightfoot) Roth var. acrocarpum G.Feldmann-Mazoyer			
f. minusculum (G.Feldmann-Mazoyer) Gómez-Garreta *et al.* ……..	25	-	-
= Ceramium diaphanum var. zostericolum f. minusculum G.Feldmann-Mazoyer			
f. zostericola …….....	21	-	-
= Ceramium diaphanum var. zostericola (Thuret) G.Feldmann-Mazoyer			
C. tenerrimum (G.Martens) Okamura …….	*25*	*17*	*31*
C. virgatum Roth			
var. *implexo-contortum (Solier) G.Furnari*	21	-	-
= Ceramium rubrum auctorum var. implexo-contortum Solier			
var. *virgatum* [7] ……	21	15	-
= Ceramium rubrum (Hudson) C. Agardh			
Corallophila Weber-van Bosse			
C. cinnabarina (Grateloup *ex* Bory de Saint-Vincent) R.E.Norris …….	21	17	31
= Centroceras cinnabarinum (Grateloup ex Bory de Saint-Vincent) J.Agardh			
= Ceramium ordinatum Kützing			
Gayliella T.O.Cho, L.J.McIvor *et* S.M.Boo			
G. mazoyerae T.O. Cho, Fredericq *et* Hommersand ……...	25	15	31
= Ceramim gracillimum (Kützing) Griffiths et Harvey var. byssoideum G.Feldmann-Mazoyer			
= Ceramium flaccidum (Kützing) Ardissone			
Gymnothamnion J. Agardh			
G. elegans (Schousboe *ex* C.Agardh) J.Agardh …….	*21*	*17*	*31*
Pterocladiopsis Ercegović			
P. hirsuta Ercegović ……	-	*16*	-

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Pterothamnion Nägeli			
P. crispum (Ducluzeau) Nägeli ……..	25	1	31
= Antithamnion plumula (J.Ellis) Thuret var. crispum (Ducluzeau) Hauck			
= Platythamnion plumula (J.Ellis) C.F.Boudouresque var. crispum (Ducluzeau) Hauck			
= Pterothamnion plumula (J.Ellis) Nägeli var. crispum (Ducluzeau) Nägeli ex Hauck			
= Platythamnion plumula (J.Ellis) C.F.Boudoresque var.bebbii (Reinsch) J.Feldmann			
= Pterothamnion plumula (J.Ellis) Nägeli var. bebbii (Reinsch) C.F.Boudouresque et Perret-Boudouresque			
P. plumula (J.Ellis) Nägeli			
subsp. *haplokladion Athanasiadis* ……..	*8*	-	-
subsp. *plumula* ……	25	15	32
= Antithamnion plumula (J.Ellis) Thuret			
= Platythamnion plumula (J.Ellis) C.F.Boudouresque			
Dasyaceae Kützing			
Dasya C. Agardh			
D. baillouviana (S.G.Gmelin) Montagne ……	38	15	31
= Dasya pedicellata (C.Agardh) C.Agardh			
= Dasya elegans (G.Martens) C.Agardh			
D. corymbifera J.Agardh ……	*38*	*30*	*31*
D. hutchinsiae Harvey ……	38	15	31
= Dasya arbuscula (Dillwyn) C.Agardh			
D. ocellata (Grateloup) Harvey …….....	*38*	*15*	*31*
D. punicea (Zanardini) Meneghini *ex* Zanardini ……	*24*	*17*	*31*
D. rigescens Zanardini ……	*25*	-	-
D. rigidula (Kützing) Ardissone ……	*21*	17	31
= Dasya squarrosa Zanardini			
Eupogodon Kützing			
E. penicillatus (Zanardini) P. C. Silva ……	21	1	-
= Dasya penicillata (Zanardini) F. Schmitz			
= Dasyopsis penicillata (Zanardini) F.Schmitz			
E. planus (C.Agardh) Kützing ……	25	15	31
= Dasyopsis plana (C.Agardh) Zanardini			
E. spinellus (C.Agardh) Kützing ……	38	15	31
= Dasyopsis spinella (C.Agardh) Zanardini			
Halydictyon Zanardini			
H. mirabile Zanardini …….	*38*	*15*	*31*
Heterosiphonia Montagne			
H. crispella (C.Agardh) M.J.Wynne …….....	25	17	31
= Heterosiphonia wurdemannii (J.Bailey ex Harvey) Falkenberg			
= Dasya wurdemannii J.Bailey ex Harvey			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Delesseriaceae Bory			
Acrosorium Zanardini *ex* Kützing			
A. ciliolatum (Harvey) Kylin …….....	38	15	31
= Acrosorium venulosum (Zanardini) Kylin			
= Acrosorium uncinatum (Turner) Kylin var. venulosum (Zanardini) C.F.Boudouresque et.al.,			
= Acrosorium uncinatum (Turner) Kylin			
= Nitophyllum uncinatum (Turner) J.Agardh			
Apoglossum J. Agardh			
A. ruscifolium (Turner) J.Agardh ……	*38*	*15*	*31*
Arachnophyllum Zanardini			
A. confervaceum (Meneghini) Zanardini [8] …….....	25	*18*	*31*
= Nitophyllum vidovichii (Meneghini) Hauck			
= Nitophyllum vidovichii (Meneghini) Hauck var. confervaceum Hauck			
Cryptopleura Kützing			
C. ramosa (Hudson) Kylin *ex* L.Newton ……	-	27	35
= Acrosorium reptans (P.L.Crouan et H.M.Crouan) Kylin			
= Acrosorium uncinatum (Turner) Kylin var. reptans (P.L.Crouan et H.M.Crouan) C.F.Boudouresque			
Erythroglossum J. Agardh			
E. balearicum J.Agardh *ex* Kylin ……	-	*33*	-
E. sandrianum (Kützing) Kylin ……..	25	*17*	*35*
= Nitophyllum sandrianum (Zanardini) Zanardini			
Hypoglossum Kützing			
H. hypoglossoides (Stackhouse) F.S.Collins *et* Hervey …….....	38	15	31
= Hypoglossum woodwardii Kützing			
Myriogramme Kylin			
M. tristromatica (J.J.Rodríguez y Femenías *ex* Mazza) C.F.Boudouresque[9] …….....	*37*	15	*35*
= Nitophyllum tristromaticum J.J.Rodríguez y Femenías ex Mazza			
Nitophyllum Greville			
N. albidum Ardissone ……	21	-	-
= Nitophyllum carybdaeum Borzi			
N. flabellatum Ercegović ……	-	14	-
N. punctatum (Stackhouse) Greville ……..	*38*	*15*	*31*
Radicilingua Papenfuss			
R. adriatica (Kylin) Papenfuss ……	-	*4*	*5*
= Rhizoglossum adriaticum Kylin			
R. reptans (Kylin) Pepenfuss …….....	*40*	*4*	*31*
= Rhizoglossum reptans (Zanardini) Kylin			
R. thysanorhizans (Holmes) Papenfuss ……..	*21*	*33*	*32*
= Rhizoglossum thysanorhizans (Holmes) Kylin			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Taenioma J.Agardh			
T. nanum (Kützing) Papenfuss ……	-	17	*5*
= Taenioma macrourum Thuret			
Rhodomelaceae J.E.Areschoug			
Acanthophora J.V.Lamouroux			
A. nayadiformis (Delile) Papenfuss …….	21	-	-
= Acanthophora delilei Greville			
Alsidium C. Agardh			
A. corallinum C.Agardh ……..	*9*	*17*	-
A. helminthochorton (Schwendimann) Kützing …….	*38*	*15*	-
Boergeseniella Kylin			
B. deludens (Falkenberg) Kylin …….....	-	17	-
= Polysiphonia deludens Falkenberg			
B. fruticulosa (Wulfen) Kylin …….	38	15	*31*
= Polysiphonia fruticulosa (Wulfen) Sprengel			
B. thuyoides (Harvey) Kylin ……..	-	*15*	-
= Polysiphonia thuyoides Harvey			
Bostrychia Montagne			
B. scorpioides (Hudson) Montagne …….	*21*	-	-
Brongniartella Bory de Saint-Vincent			
B. byssoides (Goodenough *et* Woodward) F.Schmitz ……	*38*	*15*	*31*
Chondria C.Agardh			
C. boryana (De Notaris *ex* J.Agardh) De Toni ……..	-	*17*	-
C. capillaris (Hudson) M.J.Wynne …….	38	17	31
= Chondria tenuissima C.Agardh			
C. coerulescens (J.Agardh) Falkenberg ……..	*21*	-	-
C. dasyphylla (Woodward) C.Agardh ……	*25*	*1*	*29*
Digenea C.Agardh			
D. simplex (Wulfen) C.Agardh ……..	*38*	*17*	-
Dipterosiphonia F.Schmitz *et* Falkenberg			
D. rigens (Schousboe *ex* C.Agardh) Falkenberg ……	25	*15*	*31*
= Polysiphonia rigens Zanardini			
Erythrocystis J.Agardh			
E. montagnei (Derbès *et* Solier) P.C.Silva …….	38	15	*89*
= Ricardia montagnei Derbès et Solier			
Halopithys Kützing			
H. incurva (Hudson) Batters ……..	*24*	17	*31*
= Halopithys pinastroides (Stackhouse) Kützing			
= Rytiphlaea pinastroides (Gmelin) C.Agardh)			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Herposiphonia Nägeli			
H. secunda (C.Agardh) Ambronn			
f. secunda ……	*24*	*15*	*31*
= Herposiphonia tenella (C.Agardh) Ambronn f . secunda (C.Agardh) Hollenberg			
f. tenella (C.Agardh) M.J.Wynne ……	21	17	31
= Herposiphonia tenella (C.Agardh) Ambronn			
Janczewskia Solms-Laubach			
J. verrucaeformis Solms-Laubach ……..	*21*	*18*	*5*
Laurencia J.V.Lamouroux			
L. glandulifera (Kützing) Kützing ……..	*20*	-	-
L. microcladia Kützing ……...	25	-	-
= Laurencia obtusa var. crucifera Kützing			
= Laurencia obtusa var. gracilis (C.Agardh) Zanardini			
L. obtusa (Hudson) J.V.Lamouroux ……	*38*	*15*	*29*
Lophocladia F.Schmitz			
L. lallemandii (Montagne) F.Schmitz …….....	*21*	-	-
Lophosiphonia Falkenberg			
L. cristata Falkenberg ……	*42*	*4*	*31*
L. obscura (C.Agardh) Falkenberg ……	*21*	*18*	*6*
= Lophosiphonia subadunca (Kützing) Falkenberg			
Neosiphonia M.-S.Kim *et* I.K.Lee			
N. elongella (Harvey) M.-S.Kim *et* I.K.Lee ……..	21	-	-
= Polysiphonia elongella Harvey			
Osmundaria J.V. Lamouroux			
O. volubilis (Linnaeus) R.E.Noris ……	38	15	
= Vidalia volubilis (Linnaeus) J.Agardh			
Osmundea Stackhouse			
O. pelagosae (Schiffner) K.W.Nam ……	-	14	-
= Rodriguezella pelagosae Schiffner			
= Laurencia pelagosae (Schiffner) Ercegović			
O. truncata (Kützing) K.W.Nam *et* Maggs ……	38	15	15
= Osmundea pinnatifida (Hudson) Stackhouse			
= Laurencia pinnatifida (Hudson) J.V.Lamouroux			
Palisada K.W.Nam			
P. perforata (Bory de Saint-Vincent) K.W.Nam ……	40	17	31
= Laurencia papillosa (C.Agardh) Greville			
= Chondrophycus papillosus (C. Agardh) Garbary et J.T.Harper			
P. thuyoides (Kützing) Cassano, Sentíes, Gil-Rodríguez *et* M.T.Fujii ……..	24	17	31
= Laurencia paniculata (C.Agardh) J.Agardh			
= Chondrophycus paniculatus (C. Agardh) G.Furnari			
Polysiphonia Greville			
P. adriatica Schiffner [10] …….....	*21*	-	-
P. arachnoidea (C.Agardh) Zanardini ……	*38*	-	-

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
P. atlantica Kapraun et J.N.Norris	11	-	-
= Polysiphonia macrocarpa Harvey			
P. banyulensis Coppejans	*13*	-	-
P. biformis Zanardini	22	*17*	-
= Dasya corallicola Funk			
P. breviarticulata (C.Agardh) Zanardini	*21*	*1*	-
P. brodiei (Dillwyn) Sprengel	*21*	*36*	-
P. cladorhiza Ardissone	*21*	-	-
P. codicola Zanardini ex Frauenfeld	-	*28*	-
P. denudata (Dillwyn) Greville *ex* Harvey	24	*36*	-
= Polysiphonia variegata (C.Agardh) Zanardini			
P. derbesii Solier *ex* Kützing	*21*	-	-
P. deusta (Roth) Sprengel	*21*	*17*	-
P. dichotoma Kützing	*21*	*15*	-
P. elongata (Hudson) Sprengel	*21*	*15*	*31*
P. fibrillosa (Dillwyn) Sprengel	*19*	-	-
P. flexella (C.Agardh) J.Agardh	*21*	-	-
P. flocculosa (C. Agardh) Endlicher	*24*	-	-
P. foeniculacea (C.Agardh) Sprengel	*21*	-	-
P. fucoides (Hudson) Greville	38	33	31
= Polysiphonia nigrescens (Hudson) Greville ex Harvey			
= Polysiphonia violacea (Roth) Greville			
P. funebris De Notaris ex J.Agardh	*21*		
P. furcellata (C.Agardh) Harvey	*25*	*15*	-
P. opaca (C.Agardh) Moris *et* De Notaris	*25*	*17*	*31*
P. ornata J. Agardh	*21*	-	-
P. paniculata Montagne	*24*	-	-
P. polyspora (C.Agardh) Montagne	*39*	-	-
P. sanguinea (C.Agardh) Zanardini	*21*	*17*	-
P. scopulorum Harvey	12	4	*5*
= Lophosiphonia scopulorum (Harvey) Womersley			
P. sertularioides (Grateloup) J.Agardh	*38*	*15*	*31*
P. setigera Kützing	*21*	-	-
P. spinosa (C. Agardh) J. Agardh	*21*	-	-
P. stricta (Dillwyn) Greville	-	15	-
= Polysiphonia lepadicola (Liyngbye) Sprengel			
= Polysiphonia urceolata (Lightfoot ex Dillwyn) Greville			
P. stuposa Zanardini *ex* Kützing [(11)]	*21*	-	-
P. subtilissima Montagne	*21*	-	-
P. subulata (Ducluzeau) P.L.Crouan *et* H.M.Crouan	*20*	-	-
P. subulifera (C.Agardh) Harvey	*21*	*15*	*31*
P. tenerrima Kützing	*21*	*17*	-
P. tripinnata J.Agardh	*20*	-	-
Pterosiphonia Falkenberg			
P. parasitica (Hudson) Falkenberg	*21*	*18*	-
P. pennata (C.Agardh) Sauvageau	*21*	*17*	*31*
Rodriguezella F.Schmitz *ex* J.J.Rodríguez y Femenías			
R. bornetii (J.J.Rodríguez y Femenías) F.Schmitz *ex* J.J.Rodríguez y Femenías	*21*	-	-
R. pinnata (Kützing) F.Schmitz *ex* Falkenberg [(12)]	25	14	*31*
= Rodriguezella pennata Ercegović			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
R. strafforelloi F.Schmitz *ex* J.J.Rodríguez y Femenías			
var. *crassicaulis* Ercegović [13] ……	-	*14*	-
var. *strafforelloi* ……..	*41*	*15*	*31*
Rytiphlaea C. Agardh			
R. tinctoria (Clemente) C.Agardh …….....	*42*	*15*	*29*
Streblocladia F.Schmitz			
S. collabens (C.Agardh) Falkenberg …….....	*21*	*30*	-
Spyridiaceae J.Agardh			
Spyridia A.S.Harvey			
S. filamentosa (Wulfen) Harvey ……..	*38*	*17*	*29*
Wrangeliaceae J.Agardh			
Anotrichium Nägeli			
A. barbatum (C.Agardh) Nägeli ……..	38	18	31
= Griffithsia barbata (J.E.Smith) C.Agardh			
A. furcellatum (J.Agardh) Baldock ……	25	17	-
= Griffithsia furcellata J.Agardh			
= Neomonospora furcellata (J.Agardh) G.Feldmann-Mazoyer et Meslin			
A. tenue (C.Agardh) Nägeli ……	21	18	-
= Griffithsia tenuis C.Agardh			
Compsothamnion (Nägeli) F. Schmitz			
C. thuyoides (J.E. Smith) Nägeli ……	*25*	*18*	*31*
Griffithsia C. Agardh			
G. genovefae J.Feldmann ……	*25*	-	-
G. opuntioides J.Agardh ……	*21*	*17*	*5*
G. phyllamphora J.Agardh ……	*21*	*17*	*31*
G. schousboei Montagne ……	*38*	*17*	*31*
Halurus Kützing			
H. flosculosus (J.Ellis) Maggs *et* Hommerstand			
var. *flosculosus* ……..	38	17	-
= Griffithsia setacea (Hudson) C.Agardh			
= Griffithsia flosculosa (J.Ellis) Batters			
var. *irregularis* (C.Agardh) Gómez Garreta *et al.* ……..	21	-	-
= Griffithsia flosculosa (Ellis) Batters var. irregularis (C.Agardh) J.Feldmann			
var. *sphaericus* (Schousboe *ex* C.Agardh) Gómez Garreta *et al.*	26	-	-
= Griffithsia flosculosa (Ellis) Batters var. sphaerica (Schousboe) J.Feldmann			
Lejolisia Bornet			
L. mediterranea Bornet ……...	*38*	*38*	*31*

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Monosporus Solier			
M. pedicellatus (J.E.Smith) Solier			
var. *pedicellatus* ……..	38	17	17
= Monospora pedicellata (J.E.Smith) Solier			
= Neomonospora pedicellata (J.E.Smith) G.Feldmann-Mazoyer et Meslin			
var. *tenuis* (G.Feldmann-Mazoyer) J.M.Huisman *et* G.T.Kraft ……..	21	*4*	31
= Neomonospora pedicellata (J.E.Smith) G.Feldmann-Mazoyer et Meslin var. tenuis G.Feldmann-Mazoyer			
Pleonosporium Nägeli			
P. borreri (J.E.Smith) Nägeli ……..	*38*	*15*	*31*
Ptilothamnion Thuret			
P. pluma (Dillwyn) Thuret ……..	*38*	*15*	*31*
Spermothamnion J.E.Areschoug			
S. flabellatum Bornet			
f. flabellatum ……..	*38*	*15*	*31*
f. disporum G.Feldmann – Mazoyer ……..	-	*15*	-
S. irregulare (J.Agardh) Ardissone ……	*21*	-	-
S. johannis G.Feldmann-Mazoyer …….....	*41*	*2*	*31*
S. repens (Dillwyn) Rosenvinge			
var. *flagelliferum* (De Notaris) G.Feldmann-Mazoyer [14] ……...	-	*4*	*31*
var. *repens* ……	*21*	*15*	*31*
= Spermothamnion repens (Dillwyn) Rosenvinge var. turneri (Mertens ex Roth) Miranda			
var. *variabile* (C.Agardh) G.Feldmann-Mazoyer [15] ……..	*21*	*34*	*35*
S. strictum (C.Agardh) Ardissone ……..	*21*	*21*	-
Sphondylothamnion Nägeli			
S. multifidum (Hudson) Nägeli ……..	*21*	*18*	*32*
Vickersia Karsakoff			
V. baccata (J.Agardh) Karsakoff ……..	-	-	35
Womersleyella Hollenberg			
W. setacea (Hollenberg) R.E.Norris ……..	*10*	*43*	*43*
= Polysiphonia setacea Hollenberg			
Wrangelia C. Agardh			
W. penicillata (C.Agardh) C.Agardh ……..	*38*	*15*	*31*

Notes

1. We follow GÓMEZ GARRETA *et al.* (2001) in considering *Aglaothamnion neglectum* G.Feldmann-Mazoyer as a taxonomic synonym of *Aglaothamnion cordatum* (Börgesen) G.Feldmann-Mazoyer.

2. We follow GÓMEZ GARRETA *et al.* (2001) in considering *Aglaothamnion brodiei* (Harvey) G.Feldmann-Mazoyer *sensu* Feldmann-Mazoyer as a taxonomic synonym of *Aglaothamnion gallicum* (Nägeli) L'Hardy-Halos *ex* Ardré.

3. We follow GÓMEZ GARRETA *et al.* (2001) in considering *Aglaothamnion byssoides* (Arnott *ex* Harvey) C.F.Boudouresque *et* M.M.Perret-Boudouresque, *Aglaothamnin furcellariae* (J.Agardh) G.Feldmann-Mazoyer (nom. illeg.) and *Seirospora byssoides* Arnott as taxonomic synonyms of *Aglaothamnion tenuissimum* (Bonnemaison) G.Feldmann-Mazoyer var. *tenuissimum*

4. GÓMEZ GARRETA *et al.* (2001) included this variety as a taxonomic synonym of *Ceramium circinatum* (Kützing) J.Agardh. Conversely, we follow SILVA *et al*. (1996) and GUIRY & GUIRY (2011) in considering it as a distinct taxon.

5. GÓMEZ GARRETA *et al.* (2001) included this variety as one of taxonomic synonyms of *Ceramium echionotum* J.Agardh. Conversely, we follow FURNARI *et al*. (2003), FURNARI *et al*. (2010) and GUIRY & GUIRY (2011) in considering it as a distinct taxon .

6. We follow GÓMEZ GARRETA *et al.* (2001) and FURNARI *et al*. (2003) in considering *Ceramium rubrum* var. *barbatum* G.Feldmann-Mazoyer, *Ceramium nodulosum* var. *barbatum* (Kützing) Furnari *et* Serio and *Ceramium barbatum* Kützing as taxonomic synonyms of *Ceramium secundatum* Lyngbye.

7. According to FURNARI *et al*. (2010), *Ceramium rubrum* auctorum is a taxonomic synonym of *Ceramium virgatum* Roth.

8. FURNARI *et al*. (2003) considered this species as a *Taxon inquirendum*. Conversely, we follow GÓMEZ GARRETA *et al.* (2001), FURNARI *et al*. (2010) and GUIRY & GUIRY (2011) in considering it as a valid taxon.

9. According to FURNARI *et al*. (2003) and FURNARI *et al*. (2010) this taxon is *Insertae sedis*. Conversely, we follow GÓMEZ GRRETA *et al.* (2001) and GUIRY & GUIRY (2011) in considering it is a valid taxon.

10. GÓMEZ GARRETA *et al.* (2001) and FURNARI *et al*. (2003) considered this species as a *Taxon inquirendum*. Conversely, we follow GUIRY & GUIRY (2011) in considering it as a valid taxon.

11. DÍAZ *et al*. (2009) demonstrated that *Polysiphonia foetidissima* Cocks *ex* Bornet, commonly considered as a synonym of *Polysiphonia stuposa* Zanardini *ex* Kützing, is a distinct taxon.

12. We follow GÓMEZ GARRETA *et al.* (2001) in considering *Rodriguezella pennata* Ercegović as a taxonomic synonym of *Rodriguezella pinnata* (Kützing) F.Schmitz *ex* Falkenberg.

13. Differently from GÓMEZ GARRETA *et al.* (2001) we consider this variety as a distinct taxon.

14. FURNARI *et al*. (2003) included this variety as a taxonomic synonym of *Spermothamnion repens* (Dillwyn) Rosenvinge, Conversely, we follow GÓMEZ GARRETA *et al.* (2001) and GUIRY & GUIRY (2011) in considering it as a distinct taxon.

15. FURNARI *et al*. (2003) included this variety as a taxonomic synonym of *Spermothamnion repens* (Dillwyn) Rosenvinge. Conversely, we follow GÓMEZ GARRETA *et al.* (2001) and GUIRY & GUIRY (2011) in considering it as a distinct taxon.

Taxa excludenda

Polysiphonia fastigiata (Roth) Greville: (NEAd: GIACCONE, 1978). According to GÓMEZ GARRETA *et al.* (2001) this species is not present in the Mediterranean Sea.

Taxa inquirenda

Antihamnion antillanum Børgesen: (MEAd: GIACCONE, 1978).

Ceramium leptocladum Schiffner: (MEAd: GIACCONE, 1978).

Crouania attenuata (C.Agardh) J.Agardh var. *major* Ercegović: (MEAd: ERCEGOVIĆ, 1949; SEAd: ŠPAN & ANTOLIĆ, 1981).

Hypoglossum woodwardii Kützing *f. profundum* Ercegović: (MEAd: ERCEGOVIĆ, 1957).

Laurencia radicans (Kützing) Kützing:

(NEAd: GIACCONE, 1978).

Polysiphonia elongata (Hudson) Sprengel *f. inflata* Ercegović: (MEAd: ERCEGOVIĆ, 1957).

Polysiphonia parvula Surh *ex* Kützing (*nom. illeg*): (NEAd: VUKOVIČ, 1982).

Polysiphonia pulvinata (Roth) Sprengel: (NEAd: GIACCONE, 1978; MEAd: ERCEGOVIĆ, 1966).

Polysiphonia radicans (Meneghini) J.Agardh: (NEAd: MUNDA, 1960).

Polysiphonia requienii Montagne *ex* Kützing: (NEAd: GIACCONE, 1978).

Pseudospora adriatica Schiffner: (NEAd: GIACCONE, 1978).

Rodriguezella ligulata J. Feldmann *ex* C.F.Boudouresque (*nom. inval.*): (NEAd: GIACCONE, 1978).

Rodriguezella pennata f. minuscula Ercegović: (MEAd: ERCEGOVIĆ, 1957).

Seirospora humilis Kützing: (MEAd: GIACCONE, 1978).

REFERENCES

ANTOLIĆ, B. 1976. Utjecaj zagađenja na zajednice bentoskih alga u području Šibenika (The influence of pollution to the benthic algae settlements in the Šibenik area). Magistarski rad, Sveučilište u Zagrebu, 125 pp.

ANTOLIĆ B. 1985. Distribution of epiphytic flora on *Posidonia oceanica* (L.) Delile leaves (National Park Kornati - Central Adriatic). Acta Adriat., 26: 135-143.

ANTOLIĆ, B. 1986. Epiphytic flora on leaves of *Posidonia oceanica* (L.) Delile from the aera of Dubrovnik (South Adriatic). Acta Adriat., 27: 37-49.

ANTOLIĆ, B. 1994. Floristički sastav i struktura zajednice posidonia, *Posidonia oceanica* (L.) Delile, u srednjem Jadranu (The floristic composition and structure of posidonia community, *Posidonia oceanica* (L.) Delile, in the middle Adriatic). Disertacija, PMF, Sveučilište Zagreb, 349 pp + Tabl. I - XXIII.

ANTOLIĆ, B. & A.ŠPAN. 1992. The inventory of benthic flora of the Bay Boka Kotorska (southern Adriatic). Acta Adriat., 33 (1/2): 75-84.

ANTOLIĆ, B., B. SKARAMUCA, A. ŠPAN, D. MUŠIN & J. SANKO-NJIRE. 1994. Food and feeding habits of herbivore fish *Sarpa Salpa* (L.) (Teleostei, Sparide) in the southern Adriatic (Croatia). Acta Adriat., 35 (1/2): 45-52.

ANTOLIĆ, B., A. ŠPAN & E. DRAGANOVIĆ. 1995. Prilog poznavanju bentoske flore otoka Mljeta (Contribution to the knowledge of the benthic flora of Mljet Island (southern Adriatic, Croatia)). Hrvatsko ekološko društvo *et al.,* Ekol. monogr., 6, Mljet: 531-542.

ANTOLIĆ, B., A. ŠPAN, A.ŽULJEVIĆ & A. VUKOVIČ. 2001. Check list of the benthic marine macroalgae on the eastern Adriatic coast: I. Chlorophyta. Acta Adriat., 42 (2): 43-58.

ANTOLIĆ, B, A. ŠPAN, A. ŽULJEVIĆ, V. NIKOLIĆ, I. GRUBELIĆ, M. DESPALATOVIĆ & I. CVITKOVIĆ. 2010. A checklist of the benthic marine macroalgae from the eastern Adriatic coast: II. Heterokontophyta: Phaeophyceae. Acta Adriat., 51 (1): 9-33.

ATHANASIADIS, A. 1996. Morphology and classification of the Ceramioideae (Rhodophyta) based on phylogenetic principles. Opera Bot. 127: 1-221.

AVČIN, A., N. MEITH-AVČIN, A. VUKOVIČ & B. VRIŠER. 1974. Primerjava bentoških združb Strunjanskega in Koprskoga zaliva z obzirom na njihove polucijsko pogojene razlike (The comparison of benthic communities of Strunjan and Kopar Bay due to their differences in pollution). Biol. Vestn. Glas. Slov. Biol., 22 (2): 171-208.

BATTELLI, C. & M. ARKO-PIJEVAC. 2003. Structure and seasonal variations of a subtidal turf-dominated assamblage of the Oštro cape (Rijeka bay, Northern Adriatic Sea). Osmi kongres biologa Hrvatske, Zagreb, Zbornik sažetaka: 321-322.

BRESSAN, G. & E. GODINE. 1989/1990. Alghe del Golfo di Trieste guida allo studio (Algae of the Gulf of Trieste study guide). Atti Mus. Civico Storia Nat. Trieste, 43: 1-202.

BRESSAN, G., L. SERGI & C. WELKER. 1991. Variazioni della distribuzione batimetrica di macroalghe dell'infralitorale fotofilo nel Golfo di Trieste (Mare Adriatico) (Variation the bathymetric distribution of macroalgae

in the photophilic infralittoral Gulf of Trieste (Adriatic See)). Boll. Soc. Adriat. Sci. Nat. Trieste, 72: 107-126.

BRESSAN, G., F. TREBBI & L. BABBINI. 2000. Variazioni di distribuzione batimetrica di macrofitobenthos nel parco marino di Miramare (Golfo di Trieste in rapporto a condizioni edafiche) (Variations the bathymetric distribution of macrofitobenthos in the marine park of Miramare (Gulf of Trieste in relation to edaphic conditions)). Biol. Mar. Medit., 7: 528-540.

DÍAZ, P., A. SECILLA, I. BÁRBARA & J. CREMADES. 2009. *Polysiphonia foetidissima* y *Polysiphonia* sp. en el Norte de la costa atlántica de la península Ibérica (*Polysiphonia foetidissima* and *Polysiphonia* sp. in the North Atlantic coast of the Iberian Peninsula). Algas, 42: 7.

ERCEGOVIĆ, A. 1949. Sur quelques algues rouges, rares ou nouvelles, de l'Adriatique (On some red algae, rare or new, from the Adriatic). Acta Adriat., 6 (8): 1-81.

ERCEGOVIĆ, A. 1957. La flore sous marine de l' îlot de Jabuka (Sea flora of Jabuka Pit). Acta Adriat., 8: 1-130.

ERCEGOVIĆ, A. 1963. Prilog poznavanju nekih rodova crvenih alga u Jadranu. Contributions à la connaissance de certains de genres d'algues rouges de l'Adriatique (Contribution to the knowledge of some genera of red algae in the Adriatic). Acta Adriat., 10(5): 1-54.

ERCEGOVIĆ, A. 1966. Pogled na floru i ekologiju plitkovodne vegetacije alga u srednjem Jadranu (A view on the flora and ecology of shallow water algae vegetation in the Middle Adriatic). Acta Adriat., 1: 55-75.

ERCEGOVIĆ, A. 1980. Étude comparative de la végétation de basses eaux et de celle des eaux profondes de l'Adriatique (Comparative study of shallow and deep vegetation in the Middle Adriatic). Acta Adriat., 21: 11-40.

FRANZOSINI, C., V.VERARDO, L.A.GHIRARDELLI & G.BRESSAN. 1983-1984. La flora algale presso il laboratorio di Biologia marina di Aurisina - Filtri (Trieste - North Adriaitic Sea): Macrobenthos (The algal flora at the Laboratory of Marine Biology Aurisina - Filters (Trieste – Adriaitic). North Sea): macrobenthos. Nova Thalassia, 6: 83-95.

FURNARI, G., M. CORMACI & D. SERIO. 1999. Catalogue of the benthic marine macroalgae of the Italian coast of the Adriatic Sea. Boconea, 12: 1-214.

FURNARI, G., G. GIACCONE, M. CORMACI, G. ALONGI & D. SERIO. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos (Marine biodiversity of the Italian coasts: macrofitobenthos catalog). Biol. Mar. Medit., 10(1): 1-482.

FURNARI, G., G. GIACCONE, M. CORMACI, G. ALONGI, M. CATRA, A. NISI & D. SERIO. 2010. Macrophytobenthos. Biol. Mar. Mediterr. 17(Suppl. 1): 801-828.

GÓMEZ GARRETA, A., T. GALLARDO, M. A. RIBERA, M. CORMACI, G. FURNARI, G. GIACCONE & C.-F. BOUDOURESQUE. 2001. Checklist of the Mediterranean seaweeds. III. Rhodophyceae Rabenh. 1. Ceramiales Oltm. Bot. Mar., 44: 425-460.

GIACCONE G. 1978. Revisione della Flora Marina del Mare Adriatico (Revision of the marine flora of the Adriatic Sea). (WWF & Ann. Parco Mar. Miramare (Trieste), 6: 1-118.

GIACCONE, G. & S. PIGNATTI. 1967. Studi sulla produttività primaria del fitobentos nel Golfo di Trieste. II. La vegetazione del Golfo di Trieste (Studies on primary productivity of phytobenthos in the Gulf of Trieste. II. The vegetation of the Gulf of Trieste). Nova Thalassia 3: 1-28.

GUIRY, M.D. & G.M.GUIRY 2011. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. http://www.algaebase.org; searched on 15 February 2011.

LOVRIĆ, A. Ž. 1997. Marine flora onomastics in islands Prvić, Grgur, Goli, and near shores Baška-Stinica in Northeastern Adriatic (30 year samplings in all seasons). Period. Biol., 99: 271-283.

MATJAŠIČ, J., J. ŠTIRN, A. AVČIN, L. KUBIK, T. VALENTINČIĆ, F. VELKOVRH & S. VUKOVIČ. 1975. Flora in favna Severnega Jadrana. Prispevek 1. (The flora and fauna of the North

Adriatic. Contribution 1.). SAZU, Ljubljana, 54 pp.

MUNDA, I. 1960. On the seasonal distribution of benthonic marine algae along the north-eastern coast of the isle of Krk (Northern Adriatic). Nova Hedwigia, 2 (1/2): 191-242.

PIGNATTI, S. & G. GIACCONE. 1967. Studi sulla produttività primaria del fitobenthos nel Golfo di Trieste. I. Flora sommersa del Golfo di Trieste (Studies on primary productivity of phytobenthos in the Gulf of Trieste. I. Flora submerged in the Gulf of Trieste). Nova Thalassia, 3 (1): 1-17.

RADIĆ J. 1982. Contribution a la connaissance de la distribution des mollusques (Mollusca) dans les biocoenoses benthiques du littoral de Makarska (Contribution to the knowledge of the distribution of molluscs (Mollusca) in biotic benthic Makarska Riviera). Acta Adriat., 23: 175-195.

SILVA, P. C., P.W. BASSON & R. L. MOE. 1996. Catalogue of the benthic marine algae of the Indian Ocean. University of California publications in botany, 79: 1259 pp.

SOLAZZI, A. 1971. Reperti algologici delle Bocche di Cattaro (lgology finds the Bay of Kotor). Thalassia Salent., 5: 3-18.

ŠPAN, A. 1980. Composition et zonation de la flore et végétation benthique de l'ile de Hvar (Adriatique Moyenne) (Composition and zonation of benthic flora and vegetation of the Hvar Island (middle Adriatic)). Acta Adriat., 21:169-194.

ŠPAN, A. & B. ANTOLIĆ. 1981. Fitobentos šireg područja Malostonskog zaljeva (Phytobnthos of the wide area of Mali Ston Bay). Savjetovanje „Malostonski zaljev: prirodna podloga i društveno valoriziranje", Dubrovnik: 162-174.

ŠPAN, A. & B. ANTOLIĆ.1983. Prilog poznavanju fitobentosa Crnogorskog primorja, južni Jadran (A contribution to the knowledge of phytobenthos of an open region (Crnogorsko primorje) in the eastern South Adriatic). Stud. Mar. Kot., 13/14: 87-110.

ŠPAN, A. & B. ANTOLIĆ. 1994. Benthic marine flora of Kornati National Park (Kornati Archipelago. Middle Adriatic, Croatia). Acta Adriat., 34:29-44.

ŠPAN, A. & B. ANTOLIĆ. 1997. Sastav, rasprostranjenost i stanje bentoske flore na širem području Splita (Composition, distribution and condition of benthic flora in the Split area (middle Adriatic, Croatia).). HAZU, Zagreb, Tisuću godina prvoga spomena ribarstva u Hrvata: 493-513.

ŠPAN A., A. POŽAR-DOMAC, B. ANTOLIĆ & J. BELAMARIĆ. 1989. Bentos litoralnog područja otoka Lokruma, južni Jadran (Benthos of the littoral area of the Island Lokrum). Hrvatsko ekološko društvo, Ekološke monografije, 1, Otok Lokrum: 329-360.

ŠPAN A., B. ANTOLIĆ & A. ERCEGOVIĆ. 1996a. Sastav i rasprostranjenost bentoske flore alga i morskih cvjetnica na području otoka Palagruže (Composition and distribution of benthic marine algal flora and seagrasses in the Palgruža Island area). Zbornik Palagruža-Jadranski dragulj, Hrvatska pomorska ekološka služba et al.: 191-204.

ŠPAN, A., B. ANTOLIĆ, A. ŠIMUNOVIĆ, I. GRUBELIĆ & S. JUKIĆ. 1996b. Ecological study of gas fields in the northern Adriatic: 12. Ecological features of the benthic community. Acta Adriat., 37 (1/2): 161-194.

VATOVA, A. 1948. Fenologia delle alghe marine di Rovigno (Phenology of marine algae of Rovinj). Nova Thalassia, 1: 43-69.

VUKOVIČ, A. 1980. Asocijacije morskih bentoških alg v Piranskem zalivu (Associations of marine benthic algae in the Piran Bay (Gulf of Trieste).). Biol. Vestn. Glas. Slov. Biol., 28 (2): 103-124.

VUKOVIČ, A. 1982. Florofaunistic changes in the infralitoral zone after the sea urchin *Paracentrotus lividus* (L.) population explosion. Acta Adriat., 23: 237-241.

ZAVODNIK, D. 1969. La communauté a *Acetabularia mediterranea* Lamour. Dans l'Adriatique Du Nord (The *Acetabularia mediterranea* Lamour. community in the northern Adriatic). Int. Rev. ges. Hydrobiol., 54 (4): 543-551.

ZAVODNIK, D., A. ŠPAN, N. ZAVODNIK & B. ANTOLIĆ. 1981. Benthos of the western coast of the Island Krk (Rijeka Bay, the North Adriatic Sea). Thalassia Jugosl., 17 (3/4): 289-340.

ZEI, M. 1955. Doprinos k ekologiji morskega litorala. Supralitoral, litoral in zgornji infralitoral na kamniti zahodnoistrski obali (Contribution to the ecology of marine littoral. Supralittoral, littoral and the upper infralittoral of the western Istrian coast). Rasprave - Dissert. Slov. Akad. Znan.Umet., 3: 233-300.

ŽULJEVIĆ, A., B. ANTOLIĆ & V. NIKOLIĆ. 2009. Alohtone makroalge hrvatskog podmorja (Exotic marine macroalgae in Croatia). 10. hrvatski biološki kongres s međunarodnim sudjelovanjem, Osijek, Zbornik sažetaka: 232.

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Popis morskih bentoskih makroalgi uz istočnu obalu Jadrana: III. Rhodophyta 1: Ceramiales

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SAŽETAK

U ovom radu se iznosi popis svojti morskih bentoskih makroalgi iz jednog dijela sistematskog odjeljka crvenih alga (Rhodophyta: Ceramiales) koji se temelji na podacima objavljenim između 1948. i 2009. godine. Zemljopisno je istočna obala Jadranskog mora podijeljena na tri dijela: sjeverni, srednji i južni. Ukupno je navedeno 187 vrsta i nižih taksonomskih kategorija crvenih algi. Najviše ih je zabilježeno u sjevernom (163), manje u srednjem (142), a najmanje (107) u južnom dijelu Jadranu.

Ključne riječi: morske bentoske makroalge, Rhodophyta, Ceramiales, popis, istočna obala Jadrana

ANNEX

Alphabetical list of algal taxa
(***i*** = *taxon inquirendum*; ***e*** = *taxon excludendum*; **n** = *Note*)

Acanthophora delilei
Acanthophora nayadiformis
Acrosorium ciliolatum
Acrosorium reptans
Acrosorium uncinatum
Acrosorium uncinatum var. reptans
Acrosorium uncinatum var. venulosum
Acrosorium venulosum
Acrothamnion preissii
Aglaothamnion byssoides
Aglaothamnion brodiei
Aglaothamnion caudatum
Aglaothamnion cordatum **n1**
Aglaothamnin furcellariae
Aglaothamnion gallicum **n2**
Aglaothamnion neglectum
Aglaothamnion scopulorum
Aglaothamnion tenuissimum var. *mazoyerae*
Aglaothamnion tenuissimum var. *tenuissimum* **n3**
Aglaothamnion tenuissimum
Aglaothamnion tripinnatum
Alsidium corallinum
Alsidium helminthochorton
Anotrichium barbatum
Anotrichium furcellatum
Anotrichium tenue
Antithamnion antillanum ***i***
Antithamnion cladodermum
Antithamnion cruciatum
Antithamnion cruciatum var. profundum
Antithamnion cruciatum var. radicans
Antithamnion elegans
Antithamnion heterocladum
Antithamnion plumula
Antithamnion plumula var. crispum
Antithamnion spirographidis
Antithamnion tenuissimum
Antithamnionella elegans
Antithamnionella spirographidis
Apoglossum ruscifolium
Arachnophyllum confervaceum **n8**
Balliella cladoderma
Boergeseniella deludens
Boergeseniella fruticulosa
Boergeseniella thuyoides
Bostrychia scorpioides
Brongniartella byssoides
Callithamniella tingitana
Callithamnion corymbosum
Callithamnion granulatum
Callithamnion scopulorum
Callithamnion tetragonum
Centroceras cinnabarinum
Centroceras clavulatum
Ceramium barbatum
Ceramium bertholdi
Ceramium ciliatum var. *ciliatum*
Ceramium ciliatum var. *robustum*
Ceramium cimbricum
Ceramium circinatum var. *circinatum*
Ceramium circinatum var. *confluens* **n4**
Ceramium codii
Ceramium comptum
Ceramium deslongchampsii
Ceramium diaphanum
Ceramium diaphanum
Ceramium diaphanum var. acrocarpum
Ceramium diaphanum var. elegans
Ceramium diaphanum var. lophophorum
Ceramium diaphanum var. strictum
Ceramium diaphanum var. zostericola
Ceramium diaphanum var. zostericolum f. acrocarpum
Ceramium diaphanum var. zostericolum f. minusculum
Ceramium echionotum var. *echionotum*
Ceramium echionotum var. *mediterraneum* **n5**
Ceramium fastigiatum
Ceramium flaccidum
Ceramium gracillimum
Ceramim gracillimum var. byssoideum
Ceramium leptocladum ***i***
Ceramium nodosum
Ceramium nodulosum var. barbatum
Ceramium ordinatum
Ceramium parvulum
Ceramium rubrum var. barbatum
Ceramium rubrum var. implexo-contortum
Ceramium secundatum **n6**
Ceramium siliquosum var. *elegans*
Ceramium siliquosum var. *lophophorum*
Ceramium siliquosum var. *siliquosum*
Ceramium siliquosum var. *zostericola f. acrocarpum*
Ceramium siliquosum var. *zostericola f. minusculum*
Ceramium siliquosum var. *zostericola f. zostericola*
Ceramium tenerrimum
Ceramium tenuissimum
Ceramium virgatum var. *implexo-contortum*
Ceramium virgatum var. *virgatum* **n7**
Ceramothamnion adriaticum
Chondria boryana
Chondria capillaris
Chondria coerulescens
Chondria dasyphylla
Chondria tenuissima
Chondrophycus paniculatus
Chondrophycus papillosus

Compsothamnion thuyoides
Corallophila cinnabarina
Crouania attenuata
Crouania attenuata var. *maior* **i**
Crouaniopsis annulata
Cryptopleura ramosa
Dasya arbuscula
Dasya baillouviana
Dasya corallicola
Dasya corymbifera
Dasya elegans
Dasya hutchinsiae
Dasya ocellata
Dasya pedicellata
Dasya penicillata
Dasya punicea
Dasya rigescens
Dasya rigidula
Dasya squarrosa
Dasya wurdemannii
Dasyopsis penicillata
Dasyopsis plana
Dasyopsis spinella
Digenea simplex
Dipterosiphonia rigens
Erythroglossum balearicum
Erythrocystis montagnei
Erythroglossum sandrianum
Eupogodon penicillatus
Eupogodon planus
Eupogodon spinellus
Gayliella mazoyerae
Griffithsia barbata
Griffithsia flosculosa
Griffithsia flosculosa var. irregularis
Griffithsia flosculosa var. sphaerica
Griffithsia furcellata
Griffithsia genovefae
Griffithsia opuntioides
Griffithsia phyllamphora
Griffithsia setacea
Griffithsia schousboei
Griffithsia tenuis
Gulsonia nodulosa
Gymnothamnion elegans
Halurus flosculosus var. *flosculosus*
Halurus flosculosus var. *irregularis*
Halurus flosculosus var. *sphaericus*
Halopithys incurva
Halopithys pinastroides
Halydictyon mirabile
Heterosiphonia crispella
Heterosiphonia wurdemannii
Herposiphonia secunda f. secunda
Herposiphonia secunda f. tenella
Herposiphonia tenella
Herposiphonia tenella f. secunda
Hypoglossum hypoglossoides
Hypoglossum woodwardii
Hypoglossum woodwardii f. profundum **i**
Janczewskia verrucaeformis
Laurencia glandulifera
Laurencia microcladia
Laurencia obtusa
Laurencia obtusa var. crucifera
Laurencia obtusa var. gracilis
Laurencia paniculata
Laurencia papillosa
Laurencia pelagosae
Laurencia pinnatifida
Laurencia radicans **i**
Lejolisia mediterranea
Lophocladia lallemandii
Lophosiphonia cristata
Lophosiphonia obscura
Lophosiphonia scopulorum
Lophosiphonia subadunca
Monospora pedicellata
Monosporus pedicellatus var. *pedicellatus*
Monosporus pedicellatus var. *tenuis*
Myriogramme tristromatica **n9**
Neomonospora furcellata
Neomonospora pedicellata
Neomonospora pedicellata var. tenuis
Neosiphonia elongella
Nitophyllum albidum
Nitophyllum carybdaeum
Nitophyllum flabellatum
Nitophyllum punctatum
Nitophyllum sandrianum
Nitophyllum tristromaticum
Nitophyllum uncinatum
Nitophyllum vidovichii
Nitophyllum vidovichii var. confervaceum
Osmundaria volubilis
Osmundea pelagosae
Osmundea pinnatifida
Osmundea truncata
Palisada perforata
Palisada thuyoides
Platythamnion plumula
Platythamnion plumula var.bebii
Platythamnion plumula var. crispum
Pleonosporium borreri
Polysiphonia adriatica **n10**
Polysiphonia arachnoidea
Polysiphonia atlantica
Polysiphonia banyulensis
Polysiphonia biformis
Polysiphonia breviarticulata
Polysiphonia brodiei
Polysiphonia cladorhiza
Polysiphonia codicola
Polysiphonia deludens
Polysiphonia denudata
Polysiphonia derbesii
Polysiphonia deusta
Polysiphonia dichotoma
Polysiphonia elongata
Polysiphonia elongata f. inflata ***i***
Polysiphonia elongella
Polysiphonia fastigiata **e**
Polysiphonia fibrillosa
Polysiphonia flexella
Polysiphonia flocculosa
Polysiphonia foeniculacea
Polysiphonia foetidissima **n11**
Polysiphonia fruticulosa
Polysiphonia fucoides
Polysiphonia funebris
Polysiphonia furcellata
Polysiphonia lepadicola
Polysiphonia macrocarpa
Polysiphonia nigrescens

Polysiphonia opaca
Polysiphonia ornata
Polysiphonia paniculata
Polysiphonia parvula ***i***
Polysiphonia polyspora
Polysiphonia pulvinata ***i***
Polysiphonia radicans ***i***
Polysiphonia requieni ***i***
Polysiphonia rigens
Polysiphonia sanguinea
Polysiphonia scopulorum
Polysiphonia sertularioides
Polysiphonia setacea
Polysiphonia setigera
Polysiphonia spinosa
Polysiphonia stricta
Polysiphonia stuposa **n11**
Polysiphonia subtilissima
Polysiphonia subulata
Polysiphonia subulifera
Polysiphonia tenerrima
Polysiphonia thuyoides
Polysiphonia tripinnata
Polysiphonia urceolata
Polysiphonia variegata
Polysiphonia violacea
Pseudospora adriatica ***i***
Pterocladiopsis hirsuta
Pterothamnion crispum
Pterothamnion plumula var. bebbii
Pterothamnion plumula var. crispum
Pterothamnion subsp. *haplokladion*
Pterothamnion subsp. *plumula*
Pterosiphonia parasitica
Pterosiphonia pennata
Ptilothamnion pluma
Radicilingua adriatica
Radicilingua reptans
Radicilingua thysanorhizans
Rhizoglossum adriaticum
Rhizoglossum reptans
Rhizoglossum thysanorhizans
Ricardia montagnei
Rodriguezella bornetii
Rodriguezella ligulata ***i***
Rodriguezella pelagosae
Rodriguezella pennata
Rodriguezella pennata f. minuscula ***i***
Rodriguezella pinnata **n12**
Rytiphlaea pinastroides
Rytiphlaea tinctoria
Rodriguezella strafforelloi var. *crassicaulis* **n13**
Rodriguezella strafforelloi var. *strafforelloi*
Seirospora apiculata
Seirospora byssoides
Seirospora giraudyi
Seirospora griffithsiana
Seirospora humilis ***i***
Seirospora interrupta
Seirospora sphaerospora
Spermothamnion flabellatum f. flabellatum
Spermothamnion flabellatum f. disporum
Spermothamnion irregulare
Spermothamnion johannis
Spermothamnion repens var. *flagelliferum* **n14**
Spermothamnion repens var. *repens*
Spermothamnion repens var. turneri
Spermothamnion repens var. *variabile* **n15**
Spermothamnion strictum
Sphondylothamnion multifidum
Spyridia filamentosa
Streblocladia collabens
Taenioma macrourum
Taenioma nanum
Vickersia baccata
Vidalia volubilis
Womersleyella setacea
Wrangelia penicillata