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A checklist of the benthic marine macroalgae from the eastern Adriatic coast: IV. Rhodophyta 2: Ceramiales excluded

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After the first part of the checklist of red algae (Rhodophyta: Ceramiales) the second part from the eastern Adriatic coast is presented, based on records published from 1948 to 2009. For geographic analysis the coast is divided into three parts: northern, central, and southern. A total of 219 macroalgal taxa at specific and infraspecific level are recognized. Most of them were recorded in the Middle (196), slightly less number in the North (165) and the lowest (109) in the southern part of the Adriatic Sea.

Key words: marine benthic macroalgae, Rhodophyta (without Ceramiales), checklist, eastern Adriatic coast

INTRODUCTION

The second 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 the systematic divisions of Rhodophyta, Ochrophyta (Heterokontophyta) and Chlorophyta. The Chlorophyta were treated in the first part (ANTOLIĆ *et al*., 2001), the Ochrophyta (Heterokontophyta) in the second part (ANTOLIĆ *et al*., 2010) and the Rhodophyta (only the taxonomy order Ceramiales) in the third part (ANTOLIĆ *et al*., 2011). A first checklist of the Adriatic macroalgae was compiled by GIACCONE (1978). That list, however, has no data from the southern Adriatic. 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 may be obtained from existing checklists.

Our present checklist has been compiled following the scheme used in the previous parts (ANTOLIĆ *et al*., 2001, 2010, 2011) 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 (1994); 3 - ANTOLIĆ *et al.* (1995); 4 - ERCEGOVIĆ (1949a); 5 - ERCEGOVIĆ (1949b); 6 - ERCEGOVIĆ (1956); 7 - ERCEGOVIĆ (1957); 8 - ERCEGOVIĆ (1960); 9 - ERCEGOVIĆ (1963);

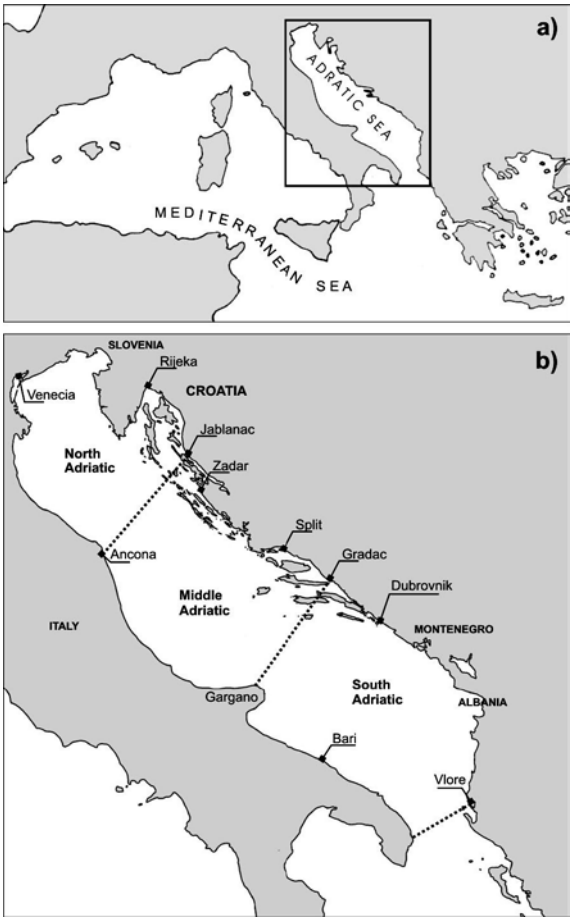

Fig. 1. Map of the investigated area

10 - ERCEGOVIĆ (1966); 11 - ERCEGOVIĆ (1968); 12 - ERCEGOVIĆ (1980); 13 - FURNARI *et al*., (1999); 14 - GIACCONE (1978); 15 - LOVRIĆ (1997); 16 - MATJAŠIĆ *et al*. (1975); 17 - MUNDA (1954); 18 - MUNDA (1960); 19 - MUNDA (1972); 20 - MUNDA (1979); 21 - PIGNATTI & GIACCONE (1967); 22 - SOLAZZI (1971); 23 - ŠERMAN *et al*. (1981); 24 - ŠPAN (1980); 25 - ŠPAN & ANTOLIĆ (1981); 26 - ŠPAN & ANTOLIĆ (1983); 27 - ŠPAN & ANTOLIĆ (1994); 28 - ŠPAN & ANTOLIĆ (1997); 29 - ŠPAN *et al*. (1989); 30 - ŠPAN *et al*. (1996); 31 - VATOVA (1948); 32 - VUKOVIČ (1976); 33 - ZAVODNIK *et al*. (1981); 33 - ZEI (1955); 35 - 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 in Table 1., for accepted names and synonyms in *Notes* and *Nomenclatural changes*, for misapplied names and doubtful or unaccepted taxa in *Taxa excludenda* and *Taxa inquirenda*, and roman type is used for synonyms in Table 1. 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.

The taxonomy is arranged according to FURNARI *et al*. (2010) and the website www.algaebase.org (GUIRY & GUIRY, 2012).

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

A total of 219 benthic macroalgal taxa at specific and infraspecific level are included in the list (Table 2).

In comparison to 179 and 201 taxa recorded in the entire Adriatic Sea (GIACCONE, 1978) and in the western Adriatic coast (FURNARI *et al*., 1999) respectively, we recorded about 19% and 9% more for each case. These differences have arisen because we have included in this list some taxa that these authors did not mention or they listed as taxonomic synonyms and *taxa inquirenda*.

In our study, higher number of algal taxa was recorded in the central (196) and in the northern (165) parts of the Adriatic, compared to only 109 taxa that were recorded in the southern part.

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	9	13	14	15	16	17	19	20	21	31	32	33	34			
MEAd	1	2	4	5	6	7	8	9	10	11	12	14	24	27	28	30
SEAd	3	9	22	23	25	26	29	35								

Table 2. Taxonomic list of benthic marine macroalgal taxa 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			
BANGIOPHYCEAE R.Wettstein			
B a n g i a l e s F.Schmitz			
Bangiaceae Engler			
Bangia Lyngbye			
B. fuscopurpurea (Dillwyn) Lyngbye …… = Bangia atropurpurea (Roth) C.Agardh	*21*	*10*	*26*
Porphyra C. Agardh			
P. atropurpurea (Olivi) De Toni [(1)] ..... = Porphyra minor Zanardini	*21*	-	-
P. dioica J.Brodie *et* L.M.Irvine …….....	*13*		
P.linearis Greville ……	*32*	-	-
P.umbilicalis Kützing ……..	*14*	*28*	-
Pyropia J.Agardh			
P. leucosticta (Thuret) Neefus *et* J.Brodie [(2)] ..... = Porphyra leucosticta Thuret	19	10	25
COMPSOPOGONOPHYCEAE G.W. Saunders *et* Hommersand			
E r y t h r o p e l t i d a l e s Garbary, Hansen *et* Scagel			
Erythrotrichiaceae Smith			
Erythrocladia Rosenvinge			
E. irregularis Rosenvinge ……	-	*30*	-
Erythrotrichia Areschoug			
E. carnea (Dillwyn) J.Agardh [(3)] ……... = Erythrotrichia bertholdii Batters	*21*	*10*	*25*
E. investiens (Zanardini) Bornet ……..	*14*	*10*	*26*
E. reflexa (P.L.Crouan *et* H.M.Crouan) Thuret *ex* De Toni …….....	*21*	*11*	*26*
Porphyrostromium Trevisan			
P. boryanum (Montagne) P.C.Silva ..... = Erythrotrichia boryana (Montagne) Berthold	-	14	-
P. ciliare (Carmichael) M.J.Wynne ……..... = Erythrotrichia ciliaris (Carmichael) Batters	-	10	-
Sahlingia Kornmann			
S. subintegra (Rosenvinge) Kornmann ..... = Erythrocladia subintegra Rosenvinge	-	27	29
FLORIDEOPHYCEAE Cronquist			
A c r o c h a e t i a l e s J.Feldmann			
Acrochaetiaceae Fritsch *ex* Taylor			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Audouinella Bory de Saint-Vincent			
A. boergesenii (Schiffner) Garbary ……	-	14	-
= Acrochaetium boergesenii Schiffner			
A. daviesii (Dillwyn) Woelkerling [4]……	31	7	23
= Chantransia daviesii (Dillwyn) Thuret			
= Acrochaetium daviesii (Dillwyn) Nägeli			
= Colaconema daviesii (Dillwyn) Stegenga			
A. extensa (Ercegović) Conde Poyales			
var. *extensa* [()]…….....	-	7	-
= Acrochaetium extensum Ercegović			
var. *longicellulare* (Ercegović) Conde Poyales [5].....	-	7	-
= Acrochaetium extensum var. longicellulare Ercegović			
A. hauckii (Schiffner) Ballesteros ……	31	11	-
= Acrochaetium hauckii Schiffner			
= Rhodochorton hauckii (Schiffner) G.Hamel			
A. humilis (Rosenvinge) Garbary ……	-	14	-
= Acrochaetium humile (Rosenvinge) Børgesen			
A. incrassata (Ercegović) F.Conde Poyales …….....	32	7	-
= Acrochaetium incrassatum Ercegović			
A. mahumetana (G.Hamel) Garbary	-	7	-
= Acrochaetium mahumetanum G.Hamel			
A. microscopica (Nägeli *ex* Kützing) Woelkerling	19	10	-
= Acrochaetium microscopicum (Nägeli ex Kützing) Nägeli			
A. minutissima (Zanardini) Garbary	31	-	-
= Chantransia minutissima (Zanardini) Hauck			
A. nemalionis (De Notaris *ex* L.Dufour) P.S.Dixon	-	11	-
= Acrochaetium nemalionis (De Notaris ex L.Dufour) Bornet			
A. purpurea (Lightfoot) Woelkerling …….	21	-	-
= Rhodochorton rothii (Turton) Nägeli			
A. reducta (Rosenvinge) Garbary …….....	-	7	-
= Acrochaetium reductum (Rosenvinge) G.Hamel			
A. secundata (Lingbye) P.S.Dixon	31	7	29
= Acrochaetium secundatum (Lyngbye) Nägeli			
= Chantransia secundata (Lyngbye) Thuret			
= Acrochaetium virgatulum (Harvey) Batters			
= Audouinella virgatula (Harvey) P.S.Dixon			
A. subpinnata (Bornet *ex* G.Hamel) Garbary	16	7	25
= Acrochaetium subpinnatum Bornet *ex* G.Hamel			
A. subtilissima (Kützing) Garbary ……	-	7	-
= Acrochaetium subtilissimum (Kützing) G.Hamel			
A. thuretii (Bornet) Woelkerling ……	21	-	-
= Acrochaetium thuretii (Bornet) F.S. Collins et Hervey			
A. trifila (Buffham) P.S.Dixon [6].....	-	14	-
= Acrochaetium trifilum (Buffham) Batters			
A. velutina (Hauck) G.R.South *et* Tittley ……	21	11	-
= Rhodochorton velutinum (Hauck) G.Hamel			
A c r o s y m p h y t a l e s R.D.Withall *et* G.W.Saunders			
Acrosymphytaceae S.C.Lindstrom			
Acrosymphyton Sjöstedt			
A. purpuriferum (J.Agardh) G. Sjöstedt …….	*19*	*7*	*25*
= Dudresnaya purpurifera J.Agardh			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
B o n n e m a i s o n i a l e s Feldmann *et* Feldmann			
Bonnemaisoniaceae Schmitz			
Asparagopsis Montagne			
A. armata Harvey ……	*14*	27	29
= Falkenbergia rufolanosa (Harvey) F. Schmitz - stadium			
A. taxiformis (Delile) Trevisan de Saint-Léon	-	-	*35*
Bonnemaisonia C.Agardh			
B. asparagoides (Woodward) C.Agardh			
var. *asparagoides* ……	*21*	27	3
= Hymenoclonium serpens (P.L.Crouan et H.M.Crouan) Batters - stadium			
var. *irregularis* Ercegović	-	*9*	-
Naccariaceae Kylin			
Naccaria Endlicher			
N. wiggii (Turner) Endlicher	*31*	*10*	-
C o l a c o n e m a t a l e s J.T. Harper *et* G.W. Saunders			
Colaconemataceae J.T. Harper *et* G.W. Saunders			
Colaconema Batters			
C. hallandicum (Kylin) Afonso-Carillo, Sansón, Sangil *et* Diaz-Villa [(7)]……	32	-	-
= Acrochaetium hallandicum (Kylin) G. Hamel			
C o r a l l i n a l e s P.C. Silva *et* H.W. Johansen			
Corallinaceae J.V. Lamouroux			
Amphiroa J.V. Lamouroux			
A. beauvoisii J.V.Lamouroux	*14*	*14*	-
A. rigida J.V.Lamouroux	*31*	*10*	*25*
A. rubra (Philippi) Woelkerling [(8)]…….....	31	7	25
= Amphiroa cryptarthrodia Zanardini			
= Amphiroa verruculosa Kützing			
Corallina Linnaeus			
C. elongata J.Ellis *et* Solander	31	7	-
= Corallina mediterranea J.E.Areschoug			
C. officinalis Linnaeus …….	*31*	*7*	*25*
Hydrolithon (Foslie) Foslie			
H. boreale (Foslie) Y.M. Chamberlain ……	21	7	25
= Fosliella farinosa (Lamouroux) Howe f. callithamnioides (Falkenberg) Y.M. Chamberlain			
= Melobesia solmsiana Falkenberg			
= Fosliella farinosa (Lamouroux) M.Howe var. solmsiana (Falkenberg) Foslie			
= Melobesia farinosa Lamouroux f. callithamnioides Foslie			
= Hydrolithon farinosum (J.V. Lamouroux) D. Penrose et Y.M. Chamberlain f. callithamnioides (Foslie) Y.M. Chamberlain			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
H. cruciatum (Bressan) Y.M.Chamberlain	14	2	-
= Fosliella cruciata Bressan			
H. farinosum (J.V. Lamouroux) D. Penrose *et* Y.M. Chamberlain			
var. *farinosum*	31	7	25
= Fosliella farinosa (J.V.Lamouroux) M.Howe			
= Melobesia farinosa J.V.Lamouroux			
var. *chalicodictyum* (W.R.Taylor) Serio	-	2	-
Jania J.V. Lamouroux			
J. longifurca Zanardini	*16*	*11*	-
J. rubens (Linnaeus) J.V.Lamouroux			
var. *rubens*	31	*7*	*25*
= Corallina rubens Linnaeus			
var. *corniculata* (Linnaeus) Yendo	*14*	11	26
= Jania corniculata (Linnaeus) J.V.Lamouroux			
J. squamata (Linnaeus) J.H.Kim, Guiry *et* H.-G.Choi [(9)].....	15	-	-
= Corallina squamata Linnaeus			
= Haliptilon squamatum (Linnaeus) H.W.Johansen, L.M.Irvine et A.Webster			
J. virgata (Zanardini) Montagne[(10)]	31	7	25
= Corallina granifera J.Ellis et Solander			
= Corallina virgata Zanardini			
= Haliptilon virgatum (Zanardini) Garbary et H.W. Johansen			
Lithophyllum Philippi			
L. byssoides (Lamarck) Foslie ……	14	8	26
= Lithophyllum tortuosum (Esper) Foslie			
= Lithophyllum lichenoides Philippi			
L. corallinae (P.L. Crouan *et* H.M. Crouan) Heydrich ……	14	11	-
= Titanoderma corallinae (P.L.Crouan et H.M.Crouan) Woelkerling, Y.M. Chamberlain et P.C. Silva			
= Dermatolithon corallinae (P.L.Crouan et H.M. Crouan) Foslie			
= Dermatolithon pustulatum var. corallinae Foslie ex Belsher et al.			
L. cystoseirae (Hauck) Heydrich ……	21	7	25
= Dermatolithon papillosum var. cystoseirae (Hauck) M.Lemoine			
= Lithophyllum papillosum var. cystoseirae (Huack) M.Lemoine			
= Dermatolithon cystoseirae (Hauck) H.Huvé			
= Titanoderma cystoseirae (Hauck) Woelkerling, Y.M. Chamberlain et P.C. Silva			
L. decussatum (J.Ellis *et* Solander) Philippi ……	*15*	-	-
L. dentatum (Kützing) Foslie	*15*	*11*	-
L. incrustans Philippi ……..	*17*	*7*	*25*
L. orbiculatum (Foslie) Foslie …….....	15	-	-
= Lithothamnion subtenellum (Foslie) M.Lemoine			
L. papillosum (Zanardini *ex* Hauck) Foslie	*31*	7	25
= Titanoderma papillosum (Zanardini) J.H.Price, D.M.John et G.W.Lawson			
= Dermatolithon papillosum (Zanardini ex Hauck) Foslie			
= Goniolithon papillosum (Zanardini ex Hauck) Foslie			
L. pustulatum (J.V.Lamouroux) Foslie	31	7	25
= Dermatolithon hapalidiodes (P.L.Crouan et H.M.Crouan) Foslie			
= Titanoderma pustulatum (J.V.Lamouroux) Nägeli			
= Titanoderma pustulatum f. simile (Foslie) C.F.Boudouresque et M.M.Perret-Boudouresque			
= Titanoderma pustulatum var. confine (P.L.Crouan et H.M.Crouan) Y.M.Chamberlain			
= Dermatolithon pustulatum (J.V.Lamouroux) Foslie			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
= Dermatolithon confinis (P.L.Crouan et H.M.Crouan) C.F.Boudouresque et al.			
= Titanoderma confine (P.L.Crouan et H.M.Crouan) J.H.Price, D.M.John et G.W.Lawson			
L. racemus (Lamarck) Foslie ……..	*21*	*7*	*26*
L. stictaeforme (J.E.Areschoug) Hauck [(11)] ……..	31	7	22
= Mesophyllum expansum (Philippi) Cabioch *et* Mendoza			
= Pseudolithophyllum expansum (Philippi) M.Lemoine			
= Lithophyllum expansum Philippi			
Neogoniolithon Setchell *et* L.R.Mason			
N. brassica-florida (Harvey) Setchell *et* L.R.Mason ……..	31	11	22
= Spongites notarisii (Dufour) Athanasiadis			
= Neogoniolithon notarisii (Dufour) G.Hamel et M.Lemoine			
= Goniolithon brassica-florida (Harvey) Foslie			
= Goniolithon notarisii (Dufour) Foslie			
Pneophyllum Kützing			
P. confervicola (Kützing) Y.M. Chamberlain …….....	16	7	-
= Fosliella minutula (Foslie) Ganesan			
P. fragile Kützing ……	21	7	25
= Melobesia lejolisii Rosanoff			
= Fosliella lejolisii (Rosanoff) M.A.Howe			
Spongites Kützing			
S. fruticulosus Kützing ……...	31	7	23
= Lithothamnion fruticulosum (Kützing) Foslie			
= Lithothamnion fruticulosum (Kützing) Foslie f. clavulata Foslie			
= Lithothamnion fruticulosum (Kützing) Foslie f. crassiuscula Foslie			
Tenarea Bory de Saint-Vincent			
T. tortuosa (Esper) M.Lemoine	-	11	-
= Tenarea undulosa Bory de Saint-Vincent			
= Tenarea tortuosa f. undulosa Bory			
Titanoderma Nägeli			
T. trochanter (Bory de Saint-Vincent) Benhissoune, Boudouresque, Perret-Boudouresque *et* Verlaque	14	11	3
= Lithophyllum trochanter (Bory de Saint-Vincent) H.Huvé ex Woelkerling			
= Lithophyllum byssoides (Lamarck) Foslie			
= Titanoderma byssoides (Lamarck) Y.M. Chamberlain et Woelkerling			
Hapalidiaceae J.E.Gray			
Boreolithon A.S.Harvey *et* Woelkerling			
B. van-heurckii (Heydrich) A.S.Harvey *et* Woelkerling …….....	32	-	-
= Melobesia van-heurckii (Heydrich) De Toni			
Choreonema F. Schmitz			
C. thurettii (Bornet) F. Schmitz ……	*16*	*7*	-

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Lithothamnion Heydrich			
L. corallioides (P.L.Crouan *et* H.M.Crouan) P.L.Crouan *et* H.M.Crouan ……..	*14*	7	*26*
= Lithophyllum solutum (Foslie) Lemoine			
= Mesophyllum coraloides (P.L.Crouna *et* H.M.Crouan) M.Lemoine			
L. crispatum Hauck …….....	*14*	-	-
L. fasciculatum (Lamarck) Areschoug ……...	15	-	-
= Lithophyllum fasciculatum (Lamarck) Foslie			
L. phillippi Foslie …….	31	*7*	-
L. propontidis Foslie …….....	-	*11*	-
L. sonderi Hauck …….....	*14*	-	-
L. valens Foslie	-	*11*	-
Melobesia J.V.Lamouroux			
M. membranacea (Esper) J.V.Lamouroux ….....	31	7	*25*
= Epilithon membranaceum (Esper) Heydrich			
= Lithothamnion membranaceum (Esper) Foslie			
Mesophyllum Lemoine			
M. lichenoides (J.Ellis) M. Lemoine ……	*14*	-	-
M. macroblastum (Foslie) W.H.Adey …….....	-	11	-
= Lithothamnion macroblastum Foslie			
Phymatolithon Foslie			
P. calcareum (Pallas) W.H.Adey *et* D.L.McKibbin …….....	14	11	22
= Lithothamnion calcareum (Pallas) Areschoug			
P. lenormandii (J.E.Areschoug) W.H.Adey ……	31	7	*25*
= Lithothamnion lenormandii (J.E.Areschoug) Foslie			
P. purpureum (P.L.Crouan *et* H.M.Crouan)Woelkerling *et* L.M.Irvine ..	20	-	-
= Phymatolithon polymorphum (Linnaeus) Foslie			
G e l i d i a l e s Kylin			
Gelidiaceae Kützing			
Gelidium J.V. Lamouroux			
G. bipectinatum G.Furnari ……..	19	7	22
= Gelidium pectinatum Montagne			
G. crinale (Turner) Gaillon ……	*31*	*7*	*25*
G. minusculum (Weber van Bosse) R.E.Norris ……..	21	1	25
= Gelidium pusillum (Stackhouse) Le Jolis var. minusculum Weber-van Bosse			
G. pulchellum (Turner) Kützing …….	*19*	-	*25*
= Gelidium pulchellum var. claviferum (Turner) J.Feldmann et G.Hamel			
G. pusillum (Stackhouse) Le Jolis ……..	*31*	*10*	*22*
G. spathulatum (Kützing) Bornet ……	*21*	*10*	*25*
G. spinosum (S.G.Gmelin) P.C.Silva			
var. *spinosum* [12] ……..	19	10	25
= Gelidium latifolium Bornet ex Hauck			
= Gelidium latifolium Bornet ex Hauck var. luxurians (P.L.Crouan et H.M.Crouan) J.Feldmann et G.Hamel			
var. *hystrix* (J.Agardh) G.Furnari ……..	16	10	25
= Gelidium latifolium Bornet ex Hauck var. hystrix (J. Agardh) Hauck			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Gelidiellaceae Fan			
Gelidiella J.Feldmann *et* G.Hamel			
G. lubrica (Kützing) J.Feldmann *et* G.Hamel …….	*19*	*10*	*25*
G. nigrescens (J.Feldmann) J.Feldmann *et* G.Hamel …….	*19*	*27*	*26*
G. ramellosa (Kützing) J.Feldmann *et* G.Hamel …….....	-	*11*	*26*
Parviphycus B. Santelices			
P. pannosus (J.Feldmann) G.Furnari …….	21	11	25
= Parviphycus tenuissimus (J.Feldmann et G. Hamel) B. Santelices			
= Gelidiella tenuissima J.Feldmann et G. Hamel			
= Gelidiella pannosa (J.Feldmann) J.Feldmann et G. Hamel			
Pterocladiaceae G.P.Felicini *et* C.Perrone			
Pterocladiella B.Santelices *et* Hommersand			
P. capillacea (S.G.Gmelin) B.Santelices *et* Hommersand …….	31	*10*	-
= Pterocladia capillacea (S.G.Gmelin) Bornet			
= Gelidium capillaceum (S.G.Gmelin) Meneghini			
= Pterocladia pinnata (Hudson) Papenfus			
P. melanoidea (Schousboe ex Bornet) B.Santelices *et* Hommersand			
var. *melanoidea* …….	21	10	25
= Gelidium melanoideum Schousboe ex Bornet			
var. *filamentosa* (Schousboe ex Bornet) M.J. Wynne ……..	33	27	25
= Gelidium melanoideum			
var. filamentosum Schousboe ex Bornet			
G i g a r t i n a l e s F. Schmitz			
Calosiphonaceae Kylin			
Calosiphonia P.L. Crouan *et* H.M. Crouan			
C. dalmatica (Kützing) Bornet *et* Flahault ……..	*14*	*9*	-
C. vermicularis (J.Agardh) F.Schmitz …….....	*9*	*10*	-
Caulacanthaceae Kützing			
Catenella Greville			
C. caespitosa (Withering) L.M.Irvine ……	31	10	25
= Catenella repens (Lightfoot) Batters			
= Catenella opuntia (Goodenough et Woodward) Greville			
Caulacanthus Kützing			
C. ustulatus (Turner) Kützing ……	*21*	*11*	*25*
Cruoriaceae (J.Agardh) Kylin			
Cruoria Fries			
C. cruoriaeformis (P.L.Crouan *et* H.M.Crouan) Denizot ……	-	11	23
= Cruoria purpurea P.L.Crouan *et* H.M.Crouan			
= Cruoria pellita (Lyngbye) Fries [13]			
Cystocloniaceae Kützing			
Calliblepharis Kützing			
C. ciliata (Hudson) Kützing ……...	-	*11*	-
C. jubata (Goodenough *et* Woodward) Kützing …….	-	*30*	-

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Hypnea J.V. Lamouroux			
H. musciformis (Wulfen) J.V.Lamouroux	*34*	*10*	*25*
Rhodophyllis Kützing			
R. divaricata (Stackhouse) Papenfuss …….	31	10	*25*
= Rhodophyllis bifida (Greville) Kützing			
Dumontiaceae Bory			
Dudresnaya P.L. Crouan *et* H.M. Crouan			
D. verticillata (Withering) Le Jolis ……	31	*7*	*23*
= Dudresnaya coccinea (C. Agardh) P.L. Crouan et H.M. Crouan			
Furcellariaceae Kylin			
Halarachnion Kützing			
H. ligulatum (Woodward) Kützing ……..	*21*	*7*	-
= Halarachnion ligulatum f. aciculare Kützing			
Neurocaulon Zanardini *ex* Kützing			
N. foliosum (Meneghini) Zanardini	17	7	-
= Neurocaulon reniforme (Postels et Ruprecht) Zanardini			
= Neurocaulon grandifolium J.J.Rodríguez y Femenias			
= Constantinea reniformis (Turner) Postels et Ruprecht			
Gigartinaceae Kützing			
Chondracanthus Kützing			
C. acicularis (Roth) Fredericq	19	10	25
= Gigartina acicularis (Roth) J.V.Lamouroux			
C. teedei (Mertens ex Roth) Kützing	21	10	-
= Gigartina teedei (Mertens ex Roth) J.V.Lamouroux			
Gloiosiphoniaceae F.Schmitz			
Thuretella F. Schmitz			
T. schousboei (Thuret) F.Schmitz ……	*21*	*9*	23
Kallymeniaceae (J. Agardh) Kylin			
Callophyllis Kützing			
C. laciniata (Hudson) Kützing …….....	*14*	*24*	-
Kallymenia J.Agardh			
K. reniformis (Turner) J.Agardh …….	*14*	*24*	*29*
K. spathulata (J.Agardh) Codomier *ex* P.G.Parkinson			
f. spathulata ……..	-	4	25
= Halarachnion spathulatum (J.Agardh) Kützing			
f. luxurians (Ercegović) Antolić *et* Špan, *comb. nova* ……..	-	4	-
= Halarachnion spathulatum f. luxurians Ercegović			
f. pennata (Ercegović) Antolić *et* Špan, *comb. nova*	-	4	-
= Halarachnion spathulatum f. pennata Ercegović			
Meredithia J.Agardh			
M. microphylla (J.Agardh) J.Agardh …….	31	*11*	25
= Kallymenia microphylla J.Agardh			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Phyllophoraceae Nägeli			
Gymnogongrus Martius			
G. griffithsiae (Turner) Martius …….	*21*	*10*	-
Phyllophora Greville			
P. crispa (Hudson) P.S. Dixon ……..	21	7	22
= Phyllophora nervosa (A.P. de Candolle) Greville			
P. fimbriata Ercegović ……	-	*4*	-
P. heredia (Clemente) J.Agardh …….	-	*11*	-
P. sicula (Kützing) Guiry *et* L.M.Irvine …….	31	7	-
= Phyllophora palmettoides J.Agardh			
Schottera Guiry *et* Hollenberg			
S. nicaeënsis (J.V. Lamouroux *ex* Duby) Guiry *et* Hollenberg …….	*14*	*24*	*25*
Rhizophyllidaceae Schmitz			
Contarinia Zanardini			
C. peyssonneliaeformis Zanardini ……	*31*	*11*	*29*
C. squamariae (Meneghini) Denizot ……...	21	*7*	*29*
= Rhizophyllis dentata Montagne			
= Rhizophyllis squamariae (Meneghini) Kützing			
Schmitziellaceae Guiry, Garbary *et* G.W.Saunders			
Schmitziella Bornet *et* Batters			
S. endophloea Bornet *et* Batters …….	*16*	*7*	-
Solieriaceae J. Agardh			
Wurdemannia Harvey			
W. miniata (Sprengel) J.Feldmann *et* G.Hamel ……...	*32*	*7*	*25*
Sphaerococcaceae F.Schmitz *et* Hauptfleisch			
Sphaerococcus Stackhouse			
S. coronopifolius Stackhouse ……..	*19*	*7*	*23*
G r a c i l a r i a l e s S. Fredericq *et* M.H.Hommersand			
Gracilariaceae Nägeli			
Gracilaria Greville			
G. armata (C.Agardh) Greville …….....	*21*	-	*22*
G. bursa-pastoris (S.G.Gmelin) P.C.Silva	31	7	22
= Gracilaria compressa (C.Agardh) Greville			
G. corallicola Zanardini ……	*19*	*7*	-
G. dura (C.Agardh) J.Agardh	*21*	*11*	*25*
Gracilariopsis E.Y.Dawson			
G. longissima (S.G.Gmelin) M.Steentoft, L.M.Irvine *et* W.F.Farnham ..	31	10	22
= Gracilaria verrucosa (Hudson) Papenfuss			
= Gracilaria confervoides (Linnaeus) Grevile			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
H a l y m e n i a l e s G.W. Saunders *et* G.T. Kraft			
Halymeniaceae Kützing			
Acrodiscus Zanardini			
A. vidovichii (Meneghini) Zanardini			
var. *vidovichii* ……..	*19*	*7*	*25*
f. cochlearis Ercegović …….....	-	*4*	*3*
Aeodes J.Agardh			
A. marginata (Russel) F.Schmitz ……...	*14*	*7*	-
Cryptonemia J.Agardh			
C. lomation (A.Bertoloni) J.Agardh ……	*21*	*7*	*25*
C. tunaeformis (A.Bertoloni) Zanardini ……..	*33*	*7*	*23*
Grateloupia C.Agardh			
G. dichotoma J.Agardh	-	*10*	-
G. filicina (J.V.Lamouroux) C.Agardh	*21*	*11*	-
Halymenia C.Agardh			
H. elongata C.Agardh	-	9	-
= Halymenia fastigiata J.Agardh			
= Halymenia trigona (Clemente) C.Agardh			
H. floresii (Clemente) C.Agardh			
var. *floresii* ……	*21*	*9*	-
var. *ulvoidea* Codomier	-	7	-
= Halymenia ulvoidea Zanardini			
H. hvarii Ercegović …….	-	*9*	-
H. latifolia P.L.Crouan *et* H.M.Crouan *ex* Kützing …….....	-	4	-
= Halymenia trabeculata Ecegović			
=Halymenia latifolia var. trabeculata (Ercegović) Codomier			
H. pluriloba Ercegović	-	*4*	-
H. rhodymenioides Ercegović ……	-	*4*	-
H i l d e n b r a n d i a l e s Pueschel *et* Cole			
Hildenbrandiaceae Rabenhorst			
Hildenbrandia Nardo			
H. rubra (Sommerfelt) Meneghini ……..	21	7	*25*
= Hildenbrandia prototypus Nardo			
N e m a l i a l e s F.Schmitz			
Galaxauraceae P.G.Parkinson			
Tricleocarpa J.M.Huisman *et* Borowitzka			
T. fragilis (Linnaeus) Huisman *et* R.A.Townsend ……...	14	10	25
= Galaxaura oblongata (J.Ellis et Solander) J.V.Lamouroux			
= Galaxaura adriatica Zanardini			
= Tricleocarpa oblongata (J.Ellis et Solander) Huisman et Borowitzka			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Liagoraceae Kützing			
Helminthora J.Agardh			
H. divaricata (C.Agardh) J.Agardh	*31*	*7*	-
Liagora J.V. Lamouroux			
L. distenta (Mertens *ex* Roth) J.V.Lamouroux	-	*10*	*26*
L. viscida (Forsskål) C.Agardh	*17*	*7*	*25*
Nemalion Duby			
N. helminthoides (Velley) Batters ……	31	*7*	*25*
= Nemalion lubricum Duby			
= Nemalion multifidum (Weber et Mohr) J.Agardh			
Scinaiaceae J.M.Huisman, J.T.Harper *et* G.W.Saunders			
Scinaia Bivona-Bernardi			
S. furcellata (Turner) J.Agardh …….	*31*	*10*	*26*
= Scinaia forcellata Bivona – Bernardi			
N e m a s t o m a t a l e s Kylin			
Nemastomataceae F.Schmitz			
Itonoa Masuda *et* Guiry			
I. marginifera (J.Agardh) Masuda *et* Guiry	-	9	-
= Platoma marginiferum (J.Agardh) Batters			
Nemastoma J.Agardh			
N. dichotomum J.Agardh			
var. *dichotomum*	*31*	*7*	*9*
var. *caulescens* (Kützing) C.Rodríguez-Prieto, M.Verlaque *et* A.Vergés	16	4	-
= Nemastoma constricta Ercegović			
= Nemastoma constricta var. longitrichogina Ercegović			
Predaea De Toni			
P. ollivierii J.Feldmann ……..	*32*	*11*	-
Yadranella Ercegović			
Y. adriatica Ercegović	-	*5*	-
Schizymeniaceae (F.Schmitz *et* Hauptfleisch) Masuda *et* Guiry			
Platoma Schousboe *ex* F.Schmitz			
P. cyclocolpum (Montagne) F.Schmitz ……	*21*	*9*	*29*
Schizymenia J.Agardh			
S. dubyi (Chauvin *ex* Duby) J.Agardh	19	*11*	-
= Schizymenia minor (J.Agardh) J.Agardh			
P a l m a r i a l e s Guiry *et* D.E.G.Irvine			
Meiodiscaceae S.L.Clayden *et* G.W.Saunders			
Rubrointrusa S.L.Clayden *et* G.W.Saunders			
R. membranacea (Magnus) S.L.Clayden *et* G.W.Saunders [14]……	14	12	-
= Rhodochorton membranaceum (Magnus) Hauck			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
P e y s s o n n e l i a l e s D.M.Krayesky, Fredericq *et* J.N.Noris			
Peyssonneliaceae Denizot			
Peyssonnelia Decaisne			
P. armorica (P.L.Crouan *et* H.M.Crouan) Weber-van Bosse …….	21	11	-
= Cruoriella armorica P.L.Crouan et H.M.Crouan			
= Cruoriopsis cruciata Dufor			
P. atropurpurea P.L. Crouan *et* H.M. Crouan …….....	21	-	-
P. bornetti C.F.Boudouresque *et* Denizot ……...	*14*	*24*	-
P. coriacea Feldmann …….	*15*	-	-
P. dubyi P.L.Crouan *et* H.M.Crouan ……..	31	*11*	*25*
= Cruoriella dubyi (P.L.Crouan et H.M.Crouan) F.Schmitz			
P. harveyana P.L.Crouan *et* H.M.Crouan *ex* J.Agardh ……..	31	7	*3*
= Peyssonnelia adriatica Hauck			
P. inamoena Pilger	*32*	-	-
P. magna Ercegović	-	*4*	-
P. polymorpha (Zanardini) F.Schmitz …….....	*31*	*7*	*25*
P. rosa marina C.F.Boudouresque *et* Denizot	*14*	*14*	-
P. rubra (Greville) J.Agardh	*31*	*7*	*22*
P. squamaria (S.G.Gmelin) Decaisne	*31*	*7*	*22*
P l o c a m i a l e s G.W. Saunders *et* G.T. Kraft			
Plocamiaceae Kützing			
Plocamium J.V. Lamouroux			
P. cartilagineum (Linnaeus) P.S.Dixon	31	10	*23*
= Plocamium coccineum (Hudson) Lyngbye			
= Plocamium coccineum (Hudson) Lyngbye f. uncinatum (C.Agardh) J.Agardh			
= Plocamium vulgare J.V.Lamouroux			
Sarcodiaceae Kylin			
Chondrymenia Zanardini			
C. lobata (Meneghini) Zanardini	*14*	*7*	-
R h o d y m e n i a l e s F.Schmitz			
Champiaceae Kützing			
Champia Desvaux			
C. parvula (C.Agardh) Harvey ……..	*31*	*6*	*25*
Chylocladia Greville			
C. pelagosae Ercegović	-	*6*	-
C. verticillata (Lightfoot) Bliding			
var. *verticillata* …….	31	6	*25*
= Chylocladia kaliformis (Goodenough et Woodward) Greville			
= Gastroclonium kaliforme (Goodenough et Woodward) Ardissone			
= Chylocladia squarosa (Kützing) Thuret			
= Lomentaria kaliformis (Goodenough et Woodward) Areschoug			
= Chylocladia kaliformis bistratosa Ercegović			

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
var. *kaliformis-unistratosa* (Ercegović) Cormaci *et* G.Furnari	-	6	-
= Chylocladia verticillata var. unistratosa (Ercegović) Giaccone			
= Chylocladia kaliformis unistratosa Ercegović			
f. breviarticulata (Ercegović) Cormaci *et* G.Furnari	-	6	-
= Chylocladia kaliformis unistratosa var. breviarticulata Ercegović			
Gastroclonium Kützing			
G. clavatum (Roth) Ardissone ……	*31*	*6*	*25*
G. reflexum (Chauvin) Kützing	*31*	6	25
= Chylocladia reflexa (Chauvin) Zanardini			
Faucheaceae I.M. Strachan, G.W. Saunders *et* G.T. Kraft			
Gloiocladia J.Agardh			
G. furcata (C.Agardh) J.Agardh ……	*31*	*7*	*23*
G. repens (C.Agardh) N.Sánchez *et* Rodríguez-Prieto [15].....	14	7	25
= Fauchea repens (C.Agardh) Montagne et Bory			
Lomentariaceae J. Agardh			
Lomentaria Lyngbye			
L. articulata (Hudson) Lyngbye			
var. *articulata* ……	*21*	*14*	-
var. *linearis* Zanardini	31	6	*25*
= Lomentaria linearis (Zanardini) Zanardini			
L. chylocladiella Funk ……	*14*	*6*	*3*
L. clavaeformis Ercegović	-	*6*	-
L. clavellosa (Turner) Gaillon			
f. clavellosa	31	*6*	-
= Chylocladia clavellosa (Turner) Hooker			
f. reducta Ercegović ……	-	*6*	-
L. compressa (Kützing) Kylin ……	*14*	*6*	-
L. ercegovicii M.Verlaque, C.F.Boudouresque, Meinesz, Giraud *et* Marcot-Coqueugniot ……	-	6	-
= Lomentaria tenera Ercegović			
L. firma (J.Agardh) Falkenberg			
f. firma …….....	*21*	*6*	-
f. compressa Ercegović	-	*6*	-
L. jabukae Ercegović ……..	*32*	*6*	-
L. subdichotoma Ercegović	-	*6*	-
L. uncinata Meneghini *ex* Zanardini	*14*	-	-
L. verticillata Funk …….	*21*	*2*	*25*
Rhodymeniaceae Harvey			
Botryocladia (J.Agardh) Kylin			
B. botryoides (Wulfen) J.Feldmann …….....	31	*7*	22
= Chrysimenia uvaria (J.A.Murray) J.Agardh			
= Botryocladia uvaria (J.A.Murray) Harvey			
B. chiajeana (Meneghini) Kylin …….	19	*7*	*25*
= Chrysimenia chiajeana Meneghini			
B. microphysa (Hauck) Kylin …….	31	*7*	*25*
= Chrysimenia microphysa Hauck			
Chrysymenia J. Agardh			
C. ventricosa (J.V. Lamouroux) J.Agardh	*31*	*7*	*23*

Table 2. cont'd

Taxa	NEAd	MEAd	SEAd
Rhodymenia Greville			
R. ardissonei J.Feldmann			
var. *ardissonei*	17	4	9
= Rhodymenia corallicola Ardissone			
var. *robustior* (Ercegović) Antolić *et* Špan, *comb. nova*	-	4	-
= Rhodymania corallicola var. robustior Ercegović			
var. *torta* (Ercegović) Antolić *et* Špan, *comb. nova*	-	4	23
= Rhodymania corallicola var. torta Ercegović			
R. ligulata Zanardini	*9*	*9*	-
R. pseudopalmata (J.V.Lamouroux) P.C.Silva	14	2	22
= Rhodymenia palmetta (Stackhouse) Greville			
S e b d e n i a l e s R.D.Withall *et* G.W.Saunders			
Sebdeniaceae Kylin			
Sebdenia (J. Agardh) Berthold			
S. dichotoma Berthold			
var. *dichotoma*	31	9	25
= Chrysymenia dichotoma J.Agardh			
= Halymenia dichotoma J.Agardh			
= Sebdenia feldmannii Codomier			
var. *maior* (Ercegović) Antolić *et* Špan, *comb. nova*	-	9	-
= Halymenia dichotoma var. maior Ercegović			
S. monardiana (Montagne) Berthold ……...	-	*11*	-
S. rodrigueziana (J.Feldmann) Athanasiadis	-	4	-
= Halymenia mucosa Ercegović			
STYLONEMATOPHYCEAE H.S.Yoon *et al*.			
S t y l o n e m a t a l e s K.M.Drew			
Stylonemataceae K.M.Drew			
Chroodactylon Hansgirg			
C. ornatum (C.Agardh)	21	7	25
= Asterocytis ornata (C. Agardh) G. Hamel			
Stylonema Reinsch			
S. alsidii (Zanardini) K.M. Drew	19	7	25
= Goniotrichum elegans (Chauvin) Zanardini			
= Goniotrichum alsidii (Zanardini) M.A. Howe			
S. cornu-cervi Reinsch	32	11	*3*
= Goniotrichum cornu-cervi (Reinsch) Hauck			

Notes

1. We follow FURNARI *et al*. (2003) in considering *Porphyra minor* Zanardini as taxonomic synonym of *Porphyra atropurpurea* (Olivi) De Toni.
2. We follow SUTHERLAND *et al*. (2011) in considering *Porphyra leucosticte* Thuret as taxonomic synonym of *Pyropia leucosticta* (Thuret) Neefus *et* J.Brodie.
3. We follow FURNARI *et al*. (2003) in considering *Erythrotrichia berholdii* Batters as taxonomic synonym of *Erythrotrichia carnea* (Dillwyn) J.Agardh.
4. We follow FURNARI *et al*. (1999, 2003) in considering *Chantransia daviesii* (Dillwyn) Thuret, *Acrochaetium daviesii* (Dillwyn) Nägeli and *Colaconema daviesii* (Dillwyn) Stegenga as taxonomic synonyms of *Audouinella daviesii* (Dillwyn) Woelkerling.
5. We follow CONDE-POYALES (1991) who renamed *Acrochaetium extensum* Ercegović and *Acrochaetium extensum* var. *longicellulare* Ercegović to *Audouinella extensa* (Ercegović) Conde Poyales and *Audouinella extensa* (Ercegović) Conde Poyales var. *longicellulare* (Ercegović) Conde Poyales respectively.
6. We follow FURNARI *et al*. (2003, 2010) who cited *Audouinella trifila* (Buffham) P.S.Dixon as a separate species.
7. We follow AFONSO-CARILLO *et al.* (2007) in considering *Acrochaetium hallandicum* (Kylin) G. Hamel as taxonomic synonym of *Colaconema hallandicum* (Kylin) Afonso-Carillo, Sansón, Sangil *et* Diaz-Villa.
8. We follow FURNARI *et al*. (1999, 2003, 2010) in considering *Amphiroa cryptarthrodia* Zanardini and *Amphiroa verruculosa* Kützing as taxonomic synonyms of *Amphiroa rubra* (Philippi) Woelkerling.
9. We follow FURNARI *et al*. (2010) in considering *Haliptilon squamatum* (Linnaeus) H.W.Johansen, L.M.Irvine *et* A.Webster as taxonomic synonym of *Jania squamata* (Linnaeus) J.H.Kim, Guiry *et* H.-G.Choi.
10. We follow KIM *et al*. (2007) in considering *Haliptilon virgatum* (Zanardini) Garbary *et* H.W. Johansen as taxonomic synonym of *Jania virgata* (Zanardini) Montagne.
11. We follow FURNARI *et al*. (2003, 2010) in considering *Pseudolithophyllum expansum* (Philippi) M.Lemoine as taxonomic synonym of *Lithophyllum stictaeforme* (J.E.Areschoug) Hauck.
12. We follow FURNARI *et al*. (2003) in considering *Gelidium latifolium* Bornet *ex* Hauck and *Gelidium latifolium* Bornet *ex* Hauck var. l*uxurians* (P.L.Crouan et H.M.Crouan) J.Feldmann et G.Hamel as taxonomic synonyms of *Gelidium spinosum* (S.G.Gmelin) P.C.Silva var. *spinosum.*
13. This is probably wrongly determined and it is a kind of *Cruoria purpurea* P.L.Crouan *et* H.M.Crouan.
14. We follow CLAYDEN *et al*. (2010) in considering *Rhodochorton membranaceum* (Magnus) Hauck, *Audouiniella membranacea* (Magnus) Papenfus and *Colaconema membranaceum* (Magnus) Woelkerling as taxonomic synonyms of *Rubrointrusa membranacea* (Magnus) S.L.Clayden *et* G.W.Saunders.
15. We follow RODRÍGUEZ-PRIETO *et al*. (2007) in considering *Fauchea repens* (C.Agardh) Montagne *et* Bory as taxonomic synonym of *Gloiocladia repens* (C.Agardh) N.Sánches *et* Rodríguez-Prieto.

Nomenclatural changes

PARKINSON (1980) transferred the species *Halarachnion spathulatum* (J. Agardh) Kützing (1849) into the species *Kallymenia spathulata* (J. Agardh) Codomier *ex* Parkinson. However, ERCEGOVIĆ (1949a, 1949b) described two forms within this species that we rename as follows:

Kallymenia spathulata (J. Agardh) *f. luxurians* (Ercegović) Antolić *et* Špan, *comb. nov.*

Basionym: *Halarachnion spathulatum* (J.

Agardh) Kützing *f. luxurians* Ercegović *in* Acta Adriat., 4(8): 35-36, Fig. 16. 1949.

Kallymenia spathulata (J. Agardh) *f. pennata* (Ercegović) Antolić *et* Špan, *comb. nov.*

Basionym: *Halarachnion spathulatum* (J. Agardh) Kützing *f. pennata* Ercegović *in* Acta Adriat., 4(8): 32-35, Fig. 15. 1949.

FELDMANN (1941) transferred the species *Rhodymenia corallicola* Ardissone (1883) into the species *Rhodymenia ardissonei* Feldmann. However, ERCEGOVIĆ (1949) within this species described two different varieties that we suggest the new combinations as follows:

Rhodymenia ardissonei Feldmann var. *robustior* (Ercegović) Antolić *et* Špan, *comb. nov.*

Basionym: *Rhodymenia corallicola* Ardissone var. *robustior* Ercegović *in* Acta Adriat., 4(8): 58-60, Figs. 26: 3 and 4, 28. 1949.

Rhodymenia ardissonei Feldmann var. *torta* (Ercegović) Antolić *et* Špan, *comb. nov.*

Basionym: *Rhodymenia corallicola* Ardissone var. *torta* Ercegović *in* Acta Adriat., 4(8): 56-58, Fig. 27. 1949.

The species *Halymenia dichotoma* (J.Agardh) J.Agardh is one of the synonyms of the species *Sebdenia dichotoma* Berthold. ERCEGOVIĆ (1963) within this species described the variety *Halymenia dichotoma* var. *maior* Ercegović based on which we suggest the new combinations as follows:

Sebdenia dichotoma Berthold var. *maior* (Ercegović) Antolić *et* Špan, *comb. nov.*

Basionym: *Halymenia dichotoma* (J.Agardh) J.Agardh var. *maior* Ercegović *in* Acta Adriat., 10(5): 18- 20, Figs. 11 b. 12. 1963.

Taxa excludenda

Gelidiopsis intricata (C.Agardh) Vickers (MEAd: GIACCONE, 1978).

Taxa inquirenda

Acrochaetium griffithsianum Nägeli: (NEAd: MUNDA, 1960).

Acrochaetium hallandicum (Kylin) G. Hamel *f. armoricum* G.Hamel: (NEAd: PIGNATTI & GIACCONE, 1967).

Acrochaetium lenormandii (Suhr *ex* Kützing) Nägeli: (NEAd: VUKOVIČ, 1976).

Acrochaetium pallens (Zanardini) Nägeli: (NEAd: GIACCONE, 1978).

Epilithon inaequilateralum (Solms-Laubach) Schiffner: (NEAd: VATOVA, 1948).

Gelidium claviferum Kützing: (MEAd: GIACCONE, 1978).

Gelidium hystrix Zanardini: (MEAd: ERCEGOVIĆ, 1968).

Gelidium melanoideum var. *gracile* J.Feldmann *et* G.Hamel: (NEAd: MUNDA, 1960).

Gelidium secundatum Zanardini *ex* Kützing: (NEAd: VATOVA, 1948).

Gelidium spinulosum (C.Agardh) J.Agardh: (NEAd: MUNDA, 1960).

Goniotrichum alsidii (Zanardini) M.A. Howe var. *strictum* Schiffner: (MEAd: GIACCONE, 1978).

Lithophyllum incrustans Philippi var. *subdichotomum* Heydrich: (MEAd: ŠPAN, 1980).

Lithophyllum incrustans Philippi *f. flabellata* Heydrich: (NEAd: ŠPAN *et al*., 1989).

Lithophyllum tortuosum (Esper) Foslie subsp. *ercegovicii* Lovrić: (NEAd: LOVRIĆ, 1971).

Lithophyllum tortuosum (Esper) Foslie *f. decumbens* Foslie: (MEAd: ŠPAN, 1980).

Lithothamnion calcareum (Pallas) Areschoug *f. crassa* Lemoine: (MEAd: ŠPAN, 1980).

Lithothamnion corallioides f. minima Cabioch: (MEAd: ŠPAN, 1980).

Neogoniolithon mammilosum (Hauck) Setchell *et* L.R.Mason: (NEAd: PIGNATTI & GIACCONE, 1967; MEAd: ERCEGOVIĆ, 1968; SEAd: ŠPAN & ANTOLIĆ, 1983).

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Popis morskih bentoskih makroalgi uz istočnu obalu Jadrana: IV. Rhodophyta 2: bez Ceramiales

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SAŽETAK

U ovom radu iznosimo popis svojti morskih bentoskih makroalgi iz drugog dijela sistematskog odjeljka crvenih alga (Rhodophyta; red Ceramiales u prvom dijelu) koji se temelji na podacima objavljenim između 1948. i 2009. godine. Zemljopisno smo istočnu obalu Jadranskog mora podijelili na tri dijela: sjeverni, srednji i južni. Ukupno je navedeno 219 vrsta i nižih taksonomskih kategorija crvenih algi. Najviše ih je zabilježeno u srednjem (196) manje u sjevernom (165), a najmanje (109) u južnom dijelu Jadranu.

Ključne riječi: morske bentoske makroalge, Rhodophyta; (red Ceramiales), popis, istočna obala Jadranskog mora

ANNEX

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

Acrodiscus vidovichii var. *vidovichii*
Acrodiscus vidovichii f. cochlearis
Acrochaetium boergesenii
Acrochaetium daviesii
Acrochaetium extensum
Acrochaetium extensum var. longicellulare
Acrochaetium griffithsianum ***i***
Acrochaetium hallandicum
Acrochaetium hallandicum f. armoricum ***i***
Acrochaetium lenormandii ***i***
Acrochaetium pallens ***i***
Acrochaetium hauckii
Acrochaetium humile
Acrochaetium incrassatum
Acrochaetium mahumetanum
Acrochaetium microscopicum
Acrochaetium nemalionis
Acrochaetium reductum
Acrochaetium secundatum
Acrochaetium subpinnatum
Acrochaetium subtilissimum
Acrochaetium thuretii
Acrochaetium trifilum
Acrochaetium virgatulum
Acrosymphyton purpuriferum
Aeodes marginata
Amphiroa beauvoisii
Amphiroa cryptarthrodia
Amphiroa rubra **n8**
Amphiroa rigida
Amphiroa verruculosa
Asparagopsis armata
Asparagopsis taxiformis
Asterocytis ornata
Audouinella boergesenii
Audouinella daviesii **n4**
Audouinella extensa var. *extensa* **n5**
Audouinella extensa var. *longicellulare* **n5**
Audouinella hauckii
Audouinella humilis
Audouinella incrassata
Audouinella mahumetana
Audouinella microscopica
Audouinella minutissima
Audouinella nemalionis
Audouinella purpurea
Audouinella reducta
Audouinella secundata
Audouinella subpinnata
Audouinella subtilissima
Audouinella thuretii
Audouinella trifila **n6**
Audouinella velutina
Audouinella virgatula
Bangia atropurpurea
Bangia fuscopurpurea
Bonnemaisonia asparagoides var. *asparagoides*
Bonnemaisonia asparagoides var. *irregularis*
Boreolithon van-heurckii
Botryocladia botryoides
Botryocladia chiajeana
Botryocladia microphysa
Botryocladia uvaria
Calliblepharis ciliata
Calliblepharis jubata
Callophyllis laciniata
Calosiphonia dalmatica
Calosiphonia vermicularis
Catenella caespitosa
Catenella opuntia
Catenella repens
Caulacanthus ustulatus
Chantransia daviesii
Chantransia minutissima
Chantransia secundata
Champia parvula
Chondracanthus acicularis
Chondracanthus teedei
Chondrymenia lobata
Choreonema thurettii
Chroodactylon ornatum
Chrysimenia chiajeana
Chrysymenia dichotoma
Chrysimenia microphysa
Chrysimenia uvaria
Chrysymenia ventricosa
Chylocladia clavellosa
Chylocladia kaliformis
Chylocladia kaliformis bistratosa
Chylocladia kaliformis unistratosa
Chylocladia kaliformis unistratosa var. breviarticulata
Chylocladia pelagosae
Chylocladia reflexa
Chylocladia squarosa
Chylocladia verticillata var. bistratosa
Chylocladia verticillata var. *kaliformis-unistratosa*
Chylocladia verticillata f. breviarticulata
Chylocladia verticillata var. *verticillata*
Chylocladia verticillata var. unistratosa
Colaconema daviesii
Colaconema hallandicum **n7**
Constantinea reniformis
Contarinia peyssonneliaeformis
Contarinia squamariae
Corallina elongata
Corallina granifera
Corallina mediterranea
Corallina officinalis
Corallina rubens
Corallina squamata
Corallina virgata
Cruoria cruoriaeformis
Cruoria pellita **n13**
Cruoria purpurea
Cruoriella armorica
Cruoriella dubyi
Cruoriopsis cruciata
Cryptonemia lomation
Cryptonemia tunaeformis
Dermatolithon confinis
Dermatolithon corallinae
Dermatolithon cystoseirae

Dermatolithon hapalidiodes
Dermatolithon papillosum
Dermatolithon papillosum var. cystoseirae
Dermatolithon pustulatum
Dermatolithon pustulatum var. corallinae
Dudresnaya coccinea
Dudresnaya dalmatica
Dudresnaya purpurifera
Dudresnaya verticillata
Epilithon inaequilateralum ***i***
Epilithon membranaceum
Erythrocladia irregularis
Erythrocladia subintegra
Erythrotrichia berholdii
Erythrotrichia boryana
Erythrotrichia carnea **n3**
Erythrotrichia ciliaris
Erythrotrichia investiens
Erythrotrichia reflexa
Falkenbergia rufolanosa
Fauchea repens
Fosliella cruciata
Fosliella farinosa
Fosliella farinosa f. callithamnioides
Fosliella farinosa var. solmsiana
Fosliella lejolisii
Fosliella minutula
Galaxaura adriatica
Galaxaura oblongata
Gastroclonium clavatum
Gastroclonium kaliforme
Gastroclonium reflexum
Gelidiella lubrica
Gelidiella nigrescens
Gelidiella pannosa
Gelidiella ramellosa
Gelidiella tenuissima
Gelidiopsis intricata ***e***
Gelidium bipectinatum
Gelidium capillaceum
Gelidium claviferum ***i***
Gelidium crinale
Gelidium hystrix ***i***
Gelidium latifolium
Gelidium latifolium var. luxurians
Gelidium latifolium var. hystrix
Gelidium melanoideum
Gelidium melanoideum var. filamentosum
Gelidium melanoideum var. *gracile* ***i***
Gelidium minusculum
Gelidium pectinatum
Gelidium pulchellum
Gelidium pulchellum var. claviferum
Gelidium pusillum
Gelidium pusillum var. minusculum
Gelidium secundatum ***i***
Gelidium spathulatum
Gelidium spinosum var. *hystrix*
Gelidium spinosum var. *spinosum* **n12**
Gelidium spinulosum ***i***
Gigartina acicularis
Gigartina teedei
Gloiocladia furcata
Gloiocladia repens **n15**
Goniolithon brassica-florida
Goniolithon notarisii
Goniolithon papillosum
Goniotrichum alsidii
Goniotrichum alsidii var. *strictum* ***i***
Goniotrichum cornu-cervi
Goniotrichum elegans
Gracilaria armata
Gracilaria bursa-pastoris
Gracilaria compressa
Gracilaria corallicola
Gracilaria dura
Gracilaria confervoides
Gracilaria verrucosa
Gracilariopsis longissima
Grateloupia dichotoma
Grateloupia filicina
Gymnogongrus griffithsiae
Halarachnion ligulatum
Halarachnion ligulatum f. aciculare
Haliptilon squamatum
Haliptilon virgatum
Halymenia dichotoma
Halymenia dichotoma var. maior
Halymenia elongata
Halymenia fastigiata
Halymenia floresii var. *floresii*
Halymenia floresii var. *ulvoidea* ***i***
Halymenia hvarii
Halymenia latifolia
Halymenia latifolia var. trabeculata
Halymenia mucosa
Halymenia pluriloba
Halymenia rhodymenioides
Halymenia trabeculata
Halymenia trigona var. trabeculata
Helminthora divaricata
Hildenbrandia rubra
Hydrolithon boreale
Hydrolithon cruciatum
Hydrolithon farinosum var. *chalicodictyum*
Hydrolithon farinosum var. *farinosum*
Hydrolithon farinosum f. callithamnioides
Hymenoclonium serpens
Hypnea musciformis
Itonoa marginifera
Jania adhaerens
Jania corniculata
Jania longifurca
Jania rubens var. *corniculata*
Jania rubens var. *rubens*
Jania squamata **n9**
Jania virgata **n10**
Kallymenia microphylla
Kallymenia reniformis
Kallymenia spathulata f. spathulata
Kallymenia spathulata f. luxurians
Kallymenia spathulata f. pennata
Liagora distenta
Liagora viscida
Lithophyllum byssoides
Lithophyllum corallinae
Lithophyllum cystoseirae
Lithophyllum decussatum
Lithophyllum dentatum
Lithophyllum expansum
Lithophyllum fasciculatum

Lithophyllum incrustans
Lithophyllum incrustans var. *subdichotomum* ***i***
Lithophyllum incrustans f. flabellata ***i***
Lithophyllum lichenoides
Lithophyllum orbiculatum
Lithophyllum papillosum
Lithophyllum papillosum var. cystoseirae
Lithophyllum pustulatum
Lithophyllum racemus
Lithophyllum solutum
Lithophyllum stictaeforme **N1**
Lithophyllum trochanter
Lithophyllum tortuosum
Lithophyllum tortuosum subsp. *ercegovicii* ***i***
Lithophyllum tortuosum f. decumbens ***i***
Lithothamnion calcareum
Lithothamnion calcareum f. crassa ***i***
Lithothamnion corallioides
Lithothamnion corallioides f. minima ***i***
Lithothamnion crispatum
Lithothamnion fasciculatum
Lithothamnion fruticulosum
Lithothamnion fruticulosum f. clavulata
Lithothamnion fruticulosum f. crassiuscula
Lithothamnion lenormandii
Lithothamnion macroblastum
Lithothamnion membranaceum
Lithothamnion phillippi
Lithothamnion propontidis
Lithothamnion sonderi
Lithothamnion subtenellum
Lithothamnion valens
Lomentaria articulata var. *articulate*
Lomentaria articulata var. *linearis*
Lomentaria chylocladiella
Lomentaria clavaeformis
Lomentaria clavellosa f. clavellosa
Lomentaria clavellosa f. reducta
Lomentaria compressa
Lomentaria ercegovicii
Lomentaria firma f. firma
Lomentaria firma f. compressa
Lomentaria kaliformis
Lomentaria linearis
Lomentaria jabukae
Lomentaria subdichotoma
Lomentaria tenera
Lomentaria uncinata
Lomentaria verticillata
Melobesia farinosa
Melobesia lejolisii
Melobesia membranacea
Melobesia solmsiana
Melobesia van-heurckii
Meredithia microphylla
Mesophyllum coraloides
Mesophyllum lichenoides
Mesophyllum macroblastum
Mesophyllum expansum
Naccaria wiggii
Nemalion helminthoides
Nemalion lubricum
Nemalion multifidum
Nemastoma dichotomum var. *dichotomum*
Nemastoma dichotomum var. *caulescens*
Nemastoma constricta
Nemastoma constricta var. longitrichogina
Neogoniolithon brassica-florida
Neogoniolithon mammilosum ***i***
Neogoniolithon notarisii
Neurocaulon foliosum
Neurocaulon grandifolium
Neurocaulon reniforme
Parviphycus pannosus
Parviphycus tenuissimus
Peyssonnelia adriatica
Peyssonnelia armorica
Peyssonnelia atropurpurea
Peyssonnelia bornetti
Peyssonnelia coriacea
Peyssonnelia dubyi
Peyssonnelia harveyana
Peyssonnelia inamoena
Peyssonnelia magna
Peyssonnelia polymorpha
Peyssonnelia rosa marina
Peyssonnelia rubra
Peyssonnelia squamaria
Phyllophora crispa
Phyllophora fimbriata
Phyllophora heredia
Phyllophora nervosa
Phyllophora palmettoides
Phyllophora sicula
Phymatolithon calcareum
Phymatolithon lenormandii
Phymatolithon polymorphum
Phymatolithon purpureum
Platoma cyclocolpum
Platoma marginiferum
Plocamium cartilagineum
Plocamium coccineum
Plocamium coccineum f. uncinatum
Plocamium vulgare
Pneophyllum confervicola
Pneophyllum fragile
Porphyra atropurpurea **n1**
Porphyra dioica
Porphyra leucosticta
Porphyra linearis
Porphyra minor
Porphyra umbilicalis
Porphyrostromium boryanum
Porphyrostromium ciliare
Predaea ollivierii
Pseudolithophyllum expansum ***i***
Pterocladia capillacea
Pterocladia pinnata
Pterocladiella capillacea
Pterocladiella melanoidea var. *filamentosa*
Pterocladiella melanoidea var. *melanoidea*

Pyropia leucosticta
Rhizophyllis dentata
Rhizophyllis squamariae
Rhodochorton hauckii
Rhodochorton membranaceum
Rhodochorton rothii
Rhodochorton velutinum
Rhodophyllis divaricata
Rhodophyllis bifida
Rhodymenia ardissonei var. *ardissonei*
Rhodymenia ardissonei var. *robustior*
Rhodymenia ardissonei var. *torta*
Rhodymenia corallicola
Rhodymania corallicola var. robustior
Rhodymania corallicola var. torta
Rhodymenia palmetta
Rhodymenia ligulata

n2

Rhodymenia pseudopalmata
Rubrointrusa membranacea
Sahlingia subintegra
Schizymenia dubyi
Schizymenia minor
Schottera nicaeënsis
Schmitziella endophloea
Scinaia forcellata
Scinaia furcellata
Sebdenia dichotoma var. *dichotoma*
Sebdenia dichotoma var. *maior*
Sebdenia feldmannii
Sebdenia monardiana
Sebdenia rodrigueziana
Sphaerococcus coronopifolius
Spongites fruticulosus
Spongites notarisii

Stylonema alsidii
Stylonema cornu-cervi
Tenarea tortuosa

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Tenarea tortuosa f. undulosa
Tenarea undulosa
Thuretella schousboei
Titanoderma byssoides
Titanoderma confine
Titanoderma corallinae
Titanoderma cystoseirae
Titanoderma papillosum
Titanoderma pustulatum
Titanoderma pustulatum var. confine
Titanoderma pustulatum f. simile
Titanoderma trochanter
Tricleocarpa fragilis
Tricleocarpa oblongata
Wurdemannia miniata
Yadranella adriatica