

## Check list of the benthic marine macroalgae on the eastern Adriatic coast: I. Chlorophyta

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*A check list of green algae from the eastern Adriatic coast, based on records published from 1950 to 2001, is presented. For geographic analysis the coast divided into three parts: northern, middle, and southern. A total of 134 species and infraspecific taxa are recognized.*

**Key words:** marine benthic macroalgae, Chlorophyta, check list, eastern Adriatic coast

### INTRODUCTION

This check list of green algae on the eastern Adriatic coast is intended to be catalogue of benthic algal taxa of the eastern Adriatic coast, including only the systematic divisions Rhodophyta, Phaeophyta and Chlorophyta. The most complete check list of Adriatic macroalgae available was compiled by GIACCONE (1978). That list, however, lacks data for the southern Adriatic. A more recent check list (GALLARDO *et al.*, 1993), which covers green algae for the entire Mediterranean, has the shortcomings of treating the Adriatic as a single region and of omitting some taxa. Most recently, FURNARI *et al.* (1999) published a catalogue of the benthic marine macroalgae of the western Adriatic coast, is intended to provide more detailed information for this region than may be obtained from existing check lists.

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 to Jablanac in Croatia, the middle part (MEAd) from Jablanac to Gradac in

Croatia, and the southern part (SEAd) from Gradac to Vlorë in Albania.

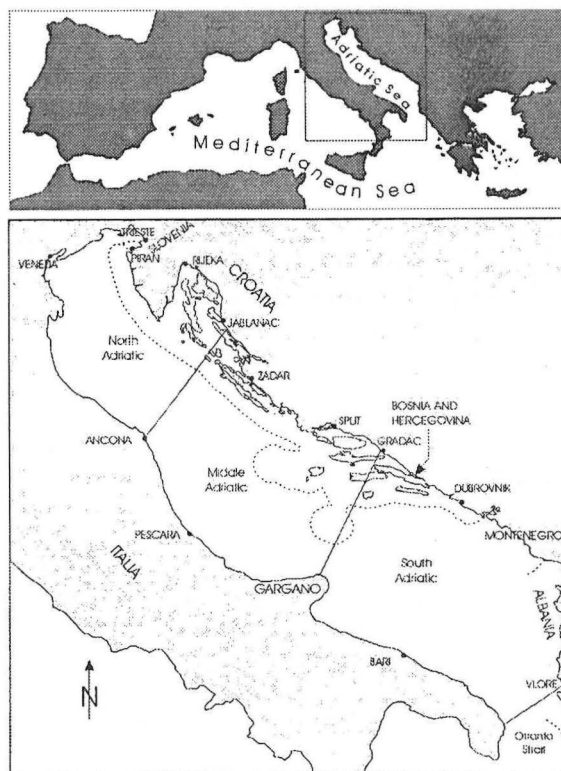


Fig. 1. Map of the investigated area

For each part of the eastern Adriatic coast, numbers that correspond show records to bibliographic references published from 1950 to 2001.

Italics are used for accepted specific and infraspecific taxa, with roman type for synonyms, misapplied names and doubtful or unaccepted taxa (Annex). Numbers in brackets refer to the Notes. The full names of authors are given.

References used in preparing this check list are: 1 - ANTOLIĆ (1976); 2 - ANTOLIĆ (1985); 3 - ANTOLIĆ (1986a); 4 - ANTOLIĆ (1986b); 5 - ANTOLIĆ (1994); 6 - ANTOLIĆ and ŠPAN (1992); 7 - ANTOLIĆ *et al.* (1995); 8 - BLIDING (1963); 9 - BLIDING (1968); 10 - ERCEGOVIĆ (1957); 11 - ERCEGOVIĆ (1960); 12 - ERCEGOVIĆ (1966); 13 - ERCEGOVIĆ (1968); 14 - GIACCONE (1978); 15 - HOEK van den (1963);

ŠPAN and ANTOLIĆ (1983); 29 - ŠPAN and ANTOLIĆ (1994); 30 - ŠPAN and ANTOLIĆ (in press); 31 - ŠPAN *et al.* (1989); 32 - ŠPAN *et al.* (1996); 33 - ŠPAN *et al.* (1998); 34 - VUKOVIĆ (1976); 35 - ZAVODNIK (1965); 36 - ZAVODNIK (1967); 37 - ZAVODNIK *et al.* (1981); 38 - ŽULJEVIĆ and DOMAZET-LOŠO (1995); 39 - ŽULJEVIĆ *et al.* (in press).

The distribution of the references among the three parts of the eastern Adriatic coast is given in Table 1.

The taxonomy is arranged according to SILVA *et al.* (1996) and GALLARDO *et al.* (1993).

Lists of *Taxa excludenda* and *Taxa inquirenda* are given.

A total of 134 specific and infraspecific benthic macroalgal taxa are included in this list (Table 2). This number compares with 129

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

|      |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| NEAd | 8 | 14 | 15 | 17 | 18 | 19 | 20 | 21 | 22 | 32 | 34 | 35 | 36 | 37 | 38 |    |
| MEAd | 1 | 2  | 5  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 23 | 26 | 29 | 33 | 38 |
| SEAd | 3 | 4  | 6  | 7  | 8  | 14 | 15 | 16 | 24 | 25 | 27 | 28 | 30 | 31 |    |    |

16 - KARAMAN and GAMULIN-BRIDA (1970); 17 - LOVRIĆ (1997); 18 - MATJAŠIĆ *et al.* (1975); 19 - MUNDA (1954); 20 - MUNDA (1960); 21 - MUNDA (1979); 22 - MUNDA (1980); 23 - ROMBAUT (1977); 24 - SOLAZZI (1971); 25 - ŠERMAN *et al.* (1981); 26 - ŠPAN (1980); 27 - ŠPAN and ANTOLIĆ (1981); 28 -

recorded by GALLARDO *et al.* (1993) for the entire Adriatic and 121 recorded for the western Adriatic coast by FURNARI *et al.* (1999). In our list the highest numbers of taxa were recorded for the middle (113) and northern (112) parts, while only 73 were recorded in the southern part.

Table 2. Systematic list of benthic marine macroalgal taxa for three parts of the eastern Adriatic coast (northern - NEAd, middle - MEAd, southern - SEAd)

| Taxa                                         | NEAd | MEAd | SEAd |
|----------------------------------------------|------|------|------|
| CHLOROPHYTA                                  |      |      |      |
| CHLOROPHYCEAE WILLE                          |      |      |      |
| Volvocales FRANCÉ                            |      |      |      |
| Tetrasporaceae (NÄGELI) WITTRÖCK             |      |      |      |
| <i>Palmophyllum</i> KÜTZING                  |      |      |      |
| <i>P. crassum</i> (NACCARI) RABENHORST ..... | 19   | 10   | 25   |

Table 2. cont'd

| Taxa                                                                              | NEAd | MEAd | SEAd |
|-----------------------------------------------------------------------------------|------|------|------|
| <b>Ctenocladales P.C. SILVA</b>                                                   |      |      |      |
| <b>Ulvellaceae SCHMIDLE</b>                                                       |      |      |      |
| <i>Acrochaete</i> PRINGSHEIM <sup>(1,2)</sup>                                     |      |      |      |
| <i>A. geniculata</i> (GARDNER) O'KELLY .....                                      | 34   | -    | -    |
| = <i>Pseudodictyon geniculatum</i> GARDNER                                        |      |      |      |
| <i>A. inflata</i> (ERCEGOVIĆ) GALLARDO <i>et al</i> .....                         | 14   | 10   | -    |
| = <i>Pseudodictyon inflatum</i> ERCEGOVIĆ                                         |      |      |      |
| <i>A. reticulata</i> (ERCEGOVIĆ) ANTOLIĆ <i>et</i> ŠPAN, <i>combinatio nova</i> . | -    | 10   | -    |
| = <i>Pseudodictyon reticulatum</i> ERCEGOVIĆ                                      |      |      |      |
| <i>Bolbocoleon</i> PRINGSHEIM <sup>(2)</sup>                                      |      |      |      |
| <i>B. piliferum</i> PRINGSHEIM .....                                              | -    | 10   | 28   |
| <i>Entocladia</i> REINKE <sup>(2)</sup>                                           |      |      |      |
| <i>E. endolithica</i> (ERCEGOVIĆ) NIELSEN .....                                   | 14   | 10   | 25   |
| = <i>Endoderma endolithicum</i> ERCEGOVIĆ                                         |      |      |      |
| <i>E. leptochaete</i> (HUBER) BURROWS .....                                       | -    | 9    | 5    |
| = <i>Endoderma leptochaete</i> HUBER                                              |      |      |      |
| = <i>Acrochaete leptochaete</i> (HUBER) NIELSEN                                   |      |      |      |
| = <i>Ectochaete leptochaete</i> (HUBER) WILLE                                     |      |      |      |
| <i>E. major</i> (J.FELDMANN) NIELSEN .....                                        | -    | 12   | -    |
| = <i>Endoderma majus</i> J.FELDMANN                                               |      |      |      |
| <i>E. viridis</i> REINKE .....                                                    | 14   | 10   | 28   |
| = <i>Acrochaete viridis</i> (REINKE) NIELSEN                                      |      |      |      |
| = <i>Endoderma viride</i> (REINKE) De TONI                                        |      |      |      |
| = <i>Phaeophila viridis</i> (REINKE) BURROWS                                      |      |      |      |
| <i>E. wittrockii</i> WILLE .....                                                  | -    | 10   | -    |
| = <i>Ectochaete wittrockii</i> (WILLE) KYLIN                                      |      |      |      |
| = <i>Endoderma wittrockii</i> (WILLE) De TONI                                     |      |      |      |
| = <i>Phaeophila wittrockii</i> (WILLE) NIELSEN                                    |      |      |      |
| <i>Epicladia</i> REINKE <sup>(2)</sup>                                            |      |      |      |
| <i>E. flustrae</i> REINKE .....                                                   | -    | 29   | -    |
| = <i>Entocladia flustrae</i> (REINKE) TAYLOR                                      |      |      |      |
| = <i>Endoderma flustrae</i> (REINKE) BATTERS                                      |      |      |      |
| <i>Pringsheimiella</i> HÖHNEL <sup>(2)</sup>                                      |      |      |      |
| <i>P. scutata</i> (REINKE) HÖHNEL <i>ex</i> MARCHEWIANKA .....                    | -    | 10   | 25   |
| <i>Pseudendoclonium</i> WILLE <sup>(2)</sup>                                      |      |      |      |
| <i>P. submarinum</i> WILLE .....                                                  | 14   | -    | -    |
| <i>Tellamia</i> BATTERS <sup>(2)</sup>                                            |      |      |      |
| <i>T. contorta</i> BATTERS .....                                                  | -    | 12   | -    |
| <i>Ulvella</i> P.CROUAN <i>et</i> H.CROUAN <sup>(2)</sup>                         |      |      |      |
| <i>U. lens</i> P.CROUAN <i>et</i> H.CROUAN .....                                  | 18   | 10   | 28   |
| <i>U. setchellii</i> P.J.L. DANGEARD .....                                        | -    | 23   | -    |
| <b>Ulotrichales BORZI</b>                                                         |      |      |      |

Table 2. cont'd

| Taxa                                                                                                                                                     | NEAd | MEAd | SEAd |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|
| Ulotrichaceae KÜTZING                                                                                                                                    |      |      |      |
| <i>Ulothrix</i>                                                                                                                                          |      |      |      |
| <i>U. flacca</i> (DILLWYN) THURET .....<br>= <i>Ulothrix pseudoflacca</i> WILLE <sup>(3)</sup>                                                           | 34   | 29   | 27   |
| <i>U. implexa</i> (KÜTZING) KÜTZING <sup>(4)</sup> .....                                                                                                 | 20   | 12   | 30   |
| <i>U. subflaccida</i> WILLE .....                                                                                                                        | 14   | 2    | 25   |
| Phaeophilales D.F.CHAPPELL <i>et al.</i>                                                                                                                 |      |      |      |
| Phaeophilaceae D.F.CHAPPELL <i>et al.</i>                                                                                                                |      |      |      |
| <i>Phaeophila</i> HAUCK <sup>(2)</sup>                                                                                                                   |      |      |      |
| <i>P. dendroides</i> (P.CROUAN <i>et</i> H.CROUAN) BATTERS                                                                                               |      |      |      |
| var. <i>dendroides</i> .....                                                                                                                             | 18   | 10   | 28   |
| var. <i>calicicola</i> (HANSGIRG) GIACCONE .....                                                                                                         | 14   | -    | -    |
| var. <i>pachyderma</i> (HANSGIRG) GIACCONE .....                                                                                                         | 14   | -    | -    |
| <i>P. hirsuta</i> (ERCEGOVIĆ) NIELSEN .....<br>= <i>Endoderma hirsutum</i> ERCEGOVIĆ                                                                     | -    | 10   | -    |
| Ulvales DUMORTIER                                                                                                                                        |      |      |      |
| Capsosiphonaceae V.J.CHAPMAN                                                                                                                             |      |      |      |
| <i>Capsosiphon</i> GOBI                                                                                                                                  |      |      |      |
| <i>C. fulvenscens</i> (C. AGARDH) SETCHELL <i>et</i> GARDNER.....<br>= <i>Enteromorpha aureola</i> (C.AGARDH) KÜTZING                                    | -    | 13   | -    |
| Gomontiaceae De TONI                                                                                                                                     |      |      |      |
| <i>Gomontia</i> BORNET <i>et</i> FLAHAULT <sup>(5)</sup>                                                                                                 |      |      |      |
| <i>G. polyrhiza</i> (LAGERHEIM) BORNET <i>et</i> FLAHAULT .....                                                                                          | 14   | 10   | -    |
| Monostromataceae KUNIEDA <i>ex</i> SUNESON                                                                                                               |      |      |      |
| <i>Blidingia</i> KYLIN                                                                                                                                   |      |      |      |
| <i>B. marginata</i> (J. AGARDH) DANGEARD <i>ex</i> BLIDING .....<br>= <i>Enteromorpha marginata</i> J.AGARDH<br>= <i>Enteromorpha micrococca</i> KÜTZING | 20   | 13   | -    |
| <i>B. minima</i> (NÄGELI <i>ex</i> KÜTZING) KYLIN                                                                                                        |      |      |      |
| var. <i>minima</i> .....                                                                                                                                 | 8    | 8    | 8    |
| = <i>Enteromorpha minima</i> NÄGELI <i>ex</i> KÜTZING                                                                                                    |      |      |      |
| var. <i>ramifera</i> BLIDING .....                                                                                                                       | 14   | 8    | 8    |
| <i>Monostroma</i> THURET                                                                                                                                 |      |      |      |
| <i>M. grevillei</i> (THURET) WITTROCK <sup>(6)</sup> .....<br>= <i>Enteromorpha grevillei</i> THURET                                                     | 14   | -    | -    |
| Percursariaceae BLIDING                                                                                                                                  |      |      |      |
| <i>Percursaria</i> BORY                                                                                                                                  |      |      |      |



Table 2. cont'd

| Taxa                                                                       | NEAd | MEAd | SEAd |
|----------------------------------------------------------------------------|------|------|------|
| <i>P. percursa</i> (C.AGARDH) ROSENVINGE .....                             | 20   | -    | -    |
| = <i>Enteromorpha percursa</i> (C.AGARDH) GREVILLE                         |      |      |      |
| Ulvaceae LAMOUROUX ex DUMORTIER                                            |      |      |      |
| <i>Enteromorpha</i> LINK                                                   |      |      |      |
| <i>E. adriatica</i> BLIDING .....                                          | 14   | 1    | 14   |
| <i>E. ahlnneriana</i> BLIDING .....                                        | 8    | 8    | 8    |
| <i>E. aragoënsis</i> BLIDING .....                                         | 8    | 8    | 8    |
| <i>E. clathrata</i> (ROTH) GREVILLE .....                                  | 36   | 12   | -    |
| <i>E. compressa</i> (LINNAEUS) NEES .....                                  | 17   | 11   | 14   |
| <i>E. flexuosa</i> (WULFEN) J.AGARDH                                       |      |      |      |
| subsp. <i>flexuosa</i> .....                                               | 8    | 8    | 8    |
| subsp. <i>linziformis</i> (BLIDING) BLIDING .....                          | 14   | 14   | -    |
| subsp. <i>paradoxa</i> (C.AGARDH) BLIDING .....                            | -    | 13   | -    |
| = <i>Enteromorpha plumosa</i> KÜTZING <sup>(7)</sup>                       |      |      |      |
| subsp. <i>pilifera</i> (KÜTZING) BLIDING .....                             | 14   | 8    | -    |
| = <i>Enteromorpha pilifera</i> KÜTZING                                     |      |      |      |
| <i>E. intestinalis</i> (LINNAEUS) NESS                                     |      |      |      |
| var. <i>intestinalis</i> .....                                             | 20   | 12   | 16   |
| = <i>Ulva intestinalis</i> LINNAEUS                                        |      |      |      |
| var. <i>asexualis</i> Bliding f. <i>cornucopiae</i> (LYNGBYE) ARESHOUG     | 14   | -    | -    |
| <i>E. jugoslavica</i> BLIDING .....                                        | 8    | 8    | 8    |
| <i>E. jürgensii</i> KÜTZING <sup>(8)</sup> .....                           | 20   | -    | -    |
| <i>E. lingulata</i> J. AGARDH <sup>(9)</sup> .....                         | 18   | -    | -    |
| <i>E. linza</i> (LINNAEUS) J.AGARDH .....                                  | 18   | 11   | 24   |
| = <i>Ulva lapathifolia</i> (KÜTZING) DE TONI                               |      |      |      |
| <i>E. multiramosa</i> BLIDING .....                                        | 14   | 8    | 27   |
| <i>E. muscoides</i> (CLEMENTE y RUBIO) CREMADES .....                      | 8    | 8    | 7    |
| = <i>Enteromorpha ramulosa</i> (J.E.SMITH) CARMICHAEL                      |      |      |      |
| <i>E. prolifera</i> (O.F.MÜLLER) J.AGARDH                                  |      |      |      |
| subsp. <i>prolifera</i> .....                                              | 8    | 8    | 27   |
| subsp. <i>radiata</i> (J. AGARDH) BLIDING .....                            | 14   | -    | -    |
| <i>E. ralfsii</i> HARVEY .....                                             | 14   | -    | -    |
| <i>E. stipitata</i> P.J.L. DANGEARD                                        |      |      |      |
| var. <i>linzoides</i> BLIDING .....                                        | -    | 8    | -    |
| <i>E. torta</i> (MERTENS) REINBOLD .....                                   | 36   | 1    | -    |
| <i>Gayralia</i> VINOGRADOVA <sup>(10)</sup>                                |      |      |      |
| <i>G. oxysperma</i> (KÜTZING) VINOGRADOVA ex SCAGEL et al. <sup>(11)</sup> | 18   | 13   | -    |
| = <i>Ulvaria oxysperma</i> (KÜTZING) BLIDING                               |      |      |      |
| = <i>Monostroma latissimum</i> (KÜTZING)                                   |      |      |      |
| WITTROCK                                                                   |      |      |      |
| <i>Ulva</i> LINNAEUS                                                       |      |      |      |
| <i>U. curvata</i> (KÜTZING) DE TONI .....                                  | 14   | 14   | -    |
| <i>U. fasciata</i> DELILE .....                                            | -    | 12   | -    |
| <i>U. lactuca</i> LINNAEUS .....                                           | 19   | 10   | 16   |
| <i>U. olivascens</i> P.J.L. DANGEARD .....                                 | 14   | 29   | -    |
| <i>U. rigida</i> C.AGARDH .....                                            | 9    | 12   | 27   |
| <i>U. rotundata</i> BLIDING .....                                          | 14   | 9    | -    |

Table 2. cont'd

| Taxa                                                               | NEAd | MEAd | SEAd |
|--------------------------------------------------------------------|------|------|------|
| Cladophorales HAECKEL                                              |      |      |      |
| Anadyomenaceae KÜTZING                                             |      |      |      |
| <i>Anadyomene</i> KÜTZING                                          |      |      |      |
| <i>A. stellata</i> (WULFEN) C.AGARDH .....                         | 20   | 12   | 27   |
| <i>Microdictyon</i> DECAISNE                                       |      |      |      |
| <i>M. tenuius</i> DECAISNE ex J.E.GRAY .....                       | 14   | 26   | -    |
| = <i>Microdictyon tenuius</i> (C.AGARDH) DECAISNE                  |      |      |      |
| Chaetosiphonaceae BLACKMAN et TANSLEY                              |      |      |      |
| <i>Blastophysa</i> REINKE                                          |      |      |      |
| <i>B. polymorpha</i> KJELLMAN .....                                | -    | 5    | 7    |
| <i>B. rhizopus</i> REINKE .....                                    | 14   | 10   | -    |
| Cladophoraceae WILLE                                               |      |      |      |
| <i>Chaetomorpha</i> KÜTZING                                        |      |      |      |
| <i>C. aerea</i> (DILLWYN) KÜTZING .....                            | 20   | 10   | 24   |
| <i>C. crassa</i> (C.AGARDH) KÜTZING .....                          | -    | 13   | -    |
| <i>C. gracilis</i> KÜTZING .....                                   | 20   | 13   | 28   |
| = <i>Lola gracilis</i> (KÜTZING) V.J.CHAPMAN                       |      |      |      |
| <i>C. linum</i> (O.F.MÜLLER) KÜTZING .....                         | 20   | 12   | 3    |
| <i>C. mediterranea</i> (KÜTZING) KÜTZING                           |      |      |      |
| var. <i>mediterranea</i> .....                                     | 21   | 12   | 25   |
| = <i>Chaetomorpha capillaris</i> (KÜTZING) BØRGESEN                |      |      |      |
| var. <i>crispa</i> (J.FELDMANN) GALLARDO et al. ....               | -    | 13   | 25   |
| = <i>Chaetomorpha capillaris</i> (KÜTZING) BØRGESEN                |      |      |      |
| var. <i>crispa</i> J.FELDMANN                                      |      |      |      |
| <i>Cladophora</i> KÜTZING                                          |      |      |      |
| <i>C. albida</i> (NEES) KÜTZING .....                              | 15   | 15   | 15   |
| = <i>Cladophora hamosa</i> (KÜTZING) KÜTZING                       |      |      |      |
| <i>C. battersii</i> HOEK .....                                     | 15   | 14   | -    |
| <i>C. coelothrix</i> KÜTZING .....                                 | 15   | 15   | 15   |
| = <i>Cladophora repens</i> HARVEY                                  |      |      |      |
| <i>C. dalmatica</i> KÜTZING .....                                  | 20   | 15   | 15   |
| <i>C. echinus</i> (BIASOLETO) KÜTZING .....                        | 15   | 15   | 28   |
| <i>C. feredayi</i> HARVEY .....                                    | 15   | -    | -    |
| <i>C. fracta</i> (O.F.MÜLLER ex VAHL) KÜTZING .....                | 15   | 14   | 30   |
| <i>C. globulina</i> (KÜTZING) KÜTZING .....                        | 15   | -    | -    |
| <i>C. glomerata</i> (LINNAEUS) KÜTZING                             |      |      |      |
| var. <i>glomerata</i> .....                                        | 15   | 15   | 27   |
| = <i>Cladophora intricata</i> KÜTZING                              |      |      |      |
| var. <i>crassior</i> (C.AGARDH) HOEK .....                         | 15   | -    | -    |
| <i>C. hauckii</i> BØRGESEN <sup>(12)</sup> .....                   | 15   | -    | -    |
| = <i>Cladophora fracta</i> (MÜLLER) KÜTZING f. <i>marina</i> HAUCK |      |      |      |
| <i>C. hutchinsiae</i> (DILLWYN) KÜTZING .....                      | 15   | 15   | -    |
| <i>C. laetevirens</i> (DILLWYN) KÜTZING .....                      | 15   | 15   | 15   |
| <i>C. lehmanniana</i> (LINDENBERG) KÜTZING .....                   | 15   | 15   | 15   |
| = <i>Cladophora utriculosa</i> KÜTZING                             |      |      |      |

Table 2. cont'd

| Taxa                                                        | NEAd | MEAd | SEAd |
|-------------------------------------------------------------|------|------|------|
| = <i>Cladophora ramulosa</i> MENEGHINI                      |      |      |      |
| = <i>Cladophora catenata</i> HAUCK                          |      |      |      |
| <i>C. liniformis</i> KÜTZING .....                          | 15   | -    | -    |
| <i>C. nigrescens</i> ZANARDINI ex FRAUENFELD .....          | 15   | 10   | 15   |
| = <i>Cladophora scoparioides</i> HAUCK                      |      |      |      |
| <i>C. pellucida</i> (HUDSON) KÜTZING .....                  | 20   | 10   | 15   |
| = <i>Cladophora pseudopellucida</i> HOEK                    |      |      |      |
| <i>C. prolifera</i> (ROTH) KÜTZING .....                    | 20   | 10   | 15   |
| <i>C. retroflexa</i> (BONNEMAISON ex P.CROUAN et H.CROUAN)  |      |      |      |
| HOEK ...                                                    | 15   | 15   | -    |
| <i>C. ruchingeri</i> (C.AGARDH) KÜTZING .....               | 20   | 13   | -    |
| <i>C. rupestris</i> (LINNAEUS) KÜTZING .....                | 15   | 15   | 15   |
| <i>C. sericea</i> (HUDSON) KÜTZING .....                    | 15   | 15   | 22   |
| = <i>Cladophora rudolphiana</i> (C.AGARDH) KÜTZING          |      |      |      |
| <i>C. socialis</i> KÜTZING .....                            | 15   | 15   | 6    |
| <i>C. vadorum</i> (ARESCHOUG) KÜTZING .....                 | 15   | 15   | -    |
| <i>C. vagabunda</i> (LINNAEUS) HOEK .....                   | 15   | 15   | 15   |
| = <i>Cladophora flaccida</i> KÜTZING                        |      |      |      |
| <i>Rhizoclonium</i> KÜTZING                                 |      |      |      |
| <i>R. tortuosum</i> (DILLWYN) KÜTZING <sup>(13)</sup> ..... | 18   | 13   | 27   |
| = <i>Rhizoclonium implexum</i> (DILLWYN) KÜTZING            |      |      |      |
| = <i>Rhizoclonium kernerii</i> STOCKMAYER                   |      |      |      |
| = <i>Rhizoclonium kochianum</i> KÜTZING                     |      |      |      |
| = <i>Rhizoclonium riparium</i> (ROTH) HARVEY                |      |      |      |
| Siphonocladaceae SCHMITZ                                    |      |      |      |
| <i>Siphonocladus</i> SCHMITZ                                |      |      |      |
| <i>S. pusillus</i> (KÜTZING) HAUCK .....                    | 37   | 10   | 27   |
| Valoniaceae KÜTZING                                         |      |      |      |
| <i>Valonia</i> C. AGARDH                                    |      |      |      |
| <i>V. aegagropila</i> C.AGARDH .....                        | 34   | 26   | -    |
| = <i>Valonia utricularis</i> (ROTH) C.AGARDH                |      |      |      |
| f. <i>aegagropila</i> (C.AGARDH) HAUCK                      |      |      |      |
| <i>V. macrophysa</i> KÜTZING .....                          | 18   | 10   | 24   |
| <i>V. utricularis</i> (ROTH) C.AGARDH .....                 | 20   | 10   | 27   |
| = <i>Valonia caespitula</i> ZANARDINI                       |      |      |      |
| Bryopsidales SCHAFFNER                                      |      |      |      |
| Bryopsidaceae BORY                                          |      |      |      |
| <i>Bryopsis</i> LAMOUROUX                                   |      |      |      |
| <i>B. adriatica</i> (J.AGARDH) MENEGHINI .....              | 20   | 10   | 30   |
| <i>B. corymbosa</i> J.AGARDH .....                          | 20   | 13   | 27   |
| = <i>Bryopsis fastigata</i> KÜTZING                         |      |      |      |
| <i>B. cupressina</i> LAMOUROUX .....                        | 14   | -    | -    |
| = <i>Bryopsis penicillata</i> SUHR                          |      |      |      |
| <i>B. duplex</i> De Notaris .....                           | 14   | 10   | 27   |
| = <i>Bryopsis disticha</i> (J.AGARDH) KÜTZING               |      |      |      |

Table 2. cont'd

| Taxa                                                                                                         | NEAd | MEAd | SEAd |
|--------------------------------------------------------------------------------------------------------------|------|------|------|
| <i>B. feldmannii</i> GALLARDO <i>et</i> FURNARI .....                                                        | 32   | 13   | 30   |
| = <i>Bryopsis cupressoides</i> J.FELDMANN                                                                    |      |      |      |
| <i>B. hypnoides</i> LAMOUROUX .....                                                                          | 20   | 26   | 27   |
| = <i>Bryopsis monoica</i> BERTHOLD                                                                           |      |      |      |
| <i>B. implexa</i> De NOTARIS <sup>(14)</sup> .....                                                           | -    | 13   | -    |
| <i>B. muscosa</i> LAMOUROUX .....                                                                            | 14   | 13   | -    |
| <i>B. pennata</i> LAMOUROUX .....                                                                            | 20   | -    | -    |
| <i>B. plumosa</i> (HUDSON) C.AGARDH .....                                                                    | 18   | 11   | 28   |
| <i>Bryopsidella</i> J. FELDMANN                                                                              |      |      |      |
| <i>B. neglecta</i> (BERTHOLD) RIETEMA .....                                                                  | -    | 10   | -    |
| = <i>Derbesia neglecta</i> BERTHOLD                                                                          |      |      |      |
| <i>Derbesia</i> SOLIER <sup>(15)</sup>                                                                       |      |      |      |
| <i>Derbesia tenuissima</i> (MORIS <i>et</i> DE NOTARIS) P.CROUAN <i>et</i><br>H.CROUAN <sup>(16)</sup> ..... | 19   | 10   | 27   |
| <i>D. corallicola</i> FUNK .....                                                                             | -    | 13   | -    |
| <i>Pedobesia</i> MacRAILD <i>et</i> WOMERSLEY                                                                |      |      |      |
| <i>P. lamourouxii</i> (J.AGARDH) J.FELDMANN <i>et al.</i> ....                                               | 20   | 11   | 27   |
| = <i>Derbesia lamourouxii</i> (J.AGARDH) SOLIER                                                              |      |      |      |
| <i>Trichosolen</i> MONTAGNE                                                                                  |      |      |      |
| <i>T. myura</i> (J.AGARDH) W.R. TAYLOR .....                                                                 | 37   | 12   | 25   |
| = <i>Pseudobryopsis myura</i> (J.AGARDH) BERTHOLD                                                            |      |      |      |
| Caulerpaceae KÜTZING                                                                                         |      |      |      |
| <i>Caulerpa</i> LAMOUROUX                                                                                    |      |      |      |
| <i>C. prolifera</i> (FORSSKÅL) LAMOUROUX .....                                                               | 14   | 33   | 33   |
| <i>C. racemosa</i> (FORSSKÅL) J. AGARDH                                                                      |      |      |      |
| var. <i>occidentalis</i> (J.AGARDH) BØRGENSEN .....                                                          | -    | 39   | -    |
| <i>C. taxifolia</i> (VAHL) C.AGARDH .....                                                                    | 38   | 38   | -    |
| Codiaceae KÜTZING                                                                                            |      |      |      |
| <i>Codium</i> STACKHOUSE                                                                                     |      |      |      |
| <i>C. adhaerens</i> C.AGARDH .....                                                                           | 14   | 26   | 27   |
| <i>C. bursa</i> (LINNAEUS) C.AGARDH .....                                                                    | 20   | 10   | 16   |
| <i>C. coralloides</i> (KÜTZING) P.C.SILVA .....                                                              | 14   | -    | -    |
| <i>C. decorticatum</i> (WOODWARD) HOWE .....                                                                 | 18   | 12   | 27   |
| = <i>Codium elongatum</i> (TURNER) C.AGARDH                                                                  |      |      |      |
| = <i>Codium tomentosum</i> STACKHOUSE                                                                        |      |      |      |
| var. <i>elongatum</i> (TURNER) ARDISSONE                                                                     |      |      |      |
| <i>C. effusum</i> (RAFINESQUE) Delle CHIAJE .....                                                            | 20   | 10   | 16   |
| = <i>Codium difforme</i> KÜTZING                                                                             |      |      |      |
| <i>C. fragile</i> (SURINGAR) HARIOT                                                                          |      |      |      |
| subsp. <i>tomentosoides</i> (GOOR) P.C.SILVA <sup>(17)</sup> .....                                           | 22   | -    | 28   |
| <i>C. vermilara</i> (OLIVI) Delle CHIAJE <sup>(18)</sup> .....                                               | 19   | 10   | 16   |



2. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this genus in the family Chaetophoraceae GREVILLE, order Ulotrichales.

3. According to LOKHORST (1978), *Ulothrix pseudoflacca* is a form of *Ulothrix flacca*.

4. We accept LOKHORST'S opinion (1985) in thinking that *Ulothrix implexa* (KÜTZING) KÜTZING and *Ulothrix subflaccida* WILLE are two different species. However, BURROWS (1991) considers them as synonyms.

5. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this genus in the family Monostromataceae Kunieda.

6. GALLARDO *et al.* (1993) excluded this species from the Mediterranean Sea because it is a cold-water species. However, the winter temperature of the sea in the northern Adriatic can go as low as 4°C (ZORE-ARMANDA, 1969).

7. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) referred this species to *Enteromorpha flexuosa* subsp. *flexuosa*.

8. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) referred this species to *Enteromorpha flexuosa* subsp. *flexuosa*.

9. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) referred this species to *Enteromorpha flexuosa* subsp. *flexuosa*.

10. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) did not recognize this genus.

11. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this species in the genus *Ulvaria* RUPRECHT.

12. We follow SILVA *et al.* (1996); HOEK (1963) referred this species to *Cladophora vagabunda*.

13. We follow GALLARDO *et al.* (1993); SILVA *et al.* (1996) recognized *Rhizoclonium riparium* as a distinct species, with *R. kernerii* and *R. kochianum* as synonyms.

14. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) treated as a taxon *inquirendum*.

15. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this genus in the family Derbesiaceae HAUCK, order Bryopsidales.

16. Records of the gametophytic phase, *Halicystis parvula* SCHMITZ *ex* MURRAY, are included (31: NEAd, 9: MEAd, SEAd: 4).

17. We follow GALLARDO *et al.* (1993) in assignig Mediterranean records of *Codium fragile* to subsp. *tomentosoides*.

18. This species has been reported under the names *Codium tomentosum* STACKHOUSE (SEAd: 16, NEAd: 34), *Codium tomentosum f. candelabrum* SCHILLER (NEAd: 37), *Codium dichotomum* (HUDSON) STACHOUSE (NEAd: 19, MEAd: 11, SEAd: 28, *Codium dichotomum f. dichotomum* VOUK (MEAd: 10), and *Codium dichotomum f. irregulare* VOUK (MEAd: 26).

19. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this genus in the family Udoteaceae I. AGARTH, order Bryopsidales.

20. We follow GALLARDO *et al.* (1993); SILVA *et al.* (1996) did not give taxonomic recognition to this form.

21. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) included this genus in the family Phyllosiphonaceae KÜTZING, order Bryopsidales.

22. According to MEINESZ (1980), this species includes *Udote minima* ERNST [= *Flabellia minima* (ERNST) NIZAMUDDIN].

23. We follow SILVA *et al.* (1996); GALLARDO *et al.* (1993) placed this species in the genus *Polyphysa* LAMARCK.

#### *Taxa excludenda*

*Derbesia marina* (LYNGBYE) SOLIER: (NEAd: 37). Only gametophytic stage known as *Halicystis ovalis* (LYNGBYE) ARESCHOUG: (NEAd: 17, MEAd: 25, SEAd: 26) has been recorded from the Mediterranean (GALLARDO *et al.*, 1993). These records apply to *Halicystis parvula* SCHMITZ *ex* MURRAY, the gametophytic stages of *Derbesia tenuissima* (MORRIS *et* DE NOTARIS) P. CROUAN *et* H. CROUAN.

*Microdictyon umbilicatum* (VELLEY) ZANARDINI: (MEAd: 13, SEAd: 25). GALLARDO *et al.* (1993) thought that this species does not occur in the Mediterranean Sea.

*Pilinia ramosa* KÜTZING: (NEAd: 14). This species is a brown alga (HOOPER *et al.*, 1987).

*Taxa inquirenda*

*Chaetomorpha stricta* SCHIFFNER *ex* SCHIFFNER *et* VATOVA (NEAd: 17). According to SCHIFFNER and VATOVA (1937), this species seems to be intermediate between *Chaetomorpha linum* and *Chaetomorpha crassa*.

*Cladophora crystallina* (ROTH) KÜTZING var. *crystallina* (MEAd: 16; NEAd: 17). According to HOEK (1963), this taxon may be conspecific with either *Cladophora glomerata* and *Cladophora vagabunda*.

*Cladophora crystallina* (ROTH) KÜTZING var. *rigida* ERCEGOVIĆ: (MEAd, 10).

*Cladophora crystallina* (ROTH) KÜTZING var. *subdichotoma* ERCEGOVIĆ: (MEAd: 10).

*Cladophora crystallina* (ROTH) KÜTZING var. *tenuissima* ERCEGOVIĆ: (MEAd: 10).

*Cladophora glomerata* (LINNAEUS) KÜTZING var. *marina* KÜTZING: (MEAd: 10, SEAd: 6).

*Cladophora pellucida* (HUDSON) KÜTZING f. *nana* Hauck: (MEAd: 10).

*Cladophora pellucida* (HUDSON) KÜTZING f. *rhizophora* ERCEGOVIĆ: (MEAd: 10).

*Cladophora pellucida* (HUDSON) KÜTZING f. *tenuissima* ERCEGOVIĆ: (MEAd: 10).

*Codiolum dudresnayae* ZIMMERMANN: (MEAd: 13).

*Codium cattaniae* VOUK (NEAd: 14).

*Derbesia sirenarum* FUNK, (NEAd: 7).

*Enteromorpha ramulosa* var. *tenerrima* SCHIFFNER (NEAd: 14).

*Entodictyon schilleri* SCHIFFNER (NEAd: 14).

*Epicladia halimeda* HANSRIG (NEAd: 14). (NEAd: 14).

*Pilinia minor* (KÜTZING) HANSRIG: (NEAd: 14). The systematic position of this species is uncertain, since genus *Pilinia* KÜTZING belongs to Fucophyceae (HOOPER *et al.*, 1987).

*Protoderma concharum* HANSRIG (NEAd: 14).

*Protoderma marinum* REINKE (NEAd: 14).

*Ulothrix brunthaleri* SCHUSSNIG (NEAd: 14).

*Ulothrix flexuosa* SCHUSSNIG (NEAd: 14).

*Ulothrix longicauda* SCHUSSNIG (NEAd: 14).

*Urospora laeta* (THURET) BØRGESSEN (NEAd: 14).

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## **Popis morskih bentoskih makroalgi na istočnoj obali Jadrana: I. Chlorophyta**

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### **SAŽETAK**

U ovom radu iznesen je popis zelenih algi zasnovan na podacima objavljenim između 1950. i 2001. godine. Zemljopisno smo podijelili istočnu obalu Jadrana na tri dijela: sjeverni, srednji i južni dio. Navedene su ukupno 134 sorte (vrste, podvrste, varijeteti, oblici) bentonskih algi iz odjeljka Chlorophyta.

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## ANNEX

## Alphabetical list of algal taxa

(i = taxon *inquirendum*; e = taxon *excludendum*)

|                                        |                                    |                                   |
|----------------------------------------|------------------------------------|-----------------------------------|
| <i>Acetabularia acetabulum</i>         | <i>Cladophora pseudopellucida</i>  | <i>Enteromorpha torta</i>         |
| <i>Acetabularia moebii</i>             | <i>Cladophora ramulosa</i>         | <i>Entocladia endolithica</i>     |
| <i>Acetabularia mediterranea</i>       | <i>Cladophora repens</i>           | <i>Entocladia flustrae</i>        |
| <i>Acetabularia parvula</i>            | <i>Cladophora retroflexa</i>       | <i>Entocladia leptochaete</i>     |
| <i>Acrochaete geniculata</i>           | <i>Cladophora ruchingeri</i>       | <i>Entocladia major</i>           |
| <i>Acrochaete inflata</i>              | <i>Cladophora rudolphiana</i>      | <i>Entocladia viridis</i>         |
| <i>Acrochaete leptochaete</i>          | <i>Cladophora rupestris</i>        | <i>Entocladia wittrockii</i>      |
| <i>Acrochaete reticulatum</i>          | <i>Cladophora scoparioides</i>     | <i>Entodictyon schilleri</i> i    |
| <i>Acrochaete viridis</i>              | <i>Cladophora sericea</i>          | <i>Epicladia flustrae</i>         |
| <i>Anadyomene stellata</i>             | <i>Cladophora socialis</i>         | <i>Epicladia halimadae</i> i      |
| <i>Blastophysa polymorpha</i>          | <i>Cladophora utriculosa</i>       | <i>Flabellia petiolata</i>        |
| <i>Blastophysa rhizopus</i>            | <i>Cladophora vadorum</i>          | <i>Flabellia minima</i>           |
| <i>Blidingia marginata</i>             | <i>Cladophora vagabunda</i>        | <i>Gayralia oxysperma</i>         |
| <i>Blidingia minima</i>                | <i>Codiolum dudresnayae</i> i      | <i>Gomontia polyrhiza</i>         |
| var. <i>minima</i>                     | <i>Codium adhaerens</i>            | <i>Halimeda platydisca</i>        |
| <i>Blidingia minima</i>                | <i>Codium bursa</i>                | <i>Halimeda tuna</i>              |
| var. <i>ramifera</i> i                 | <i>Codium cattaniae</i> i          | f. <i>tuna</i>                    |
| <i>Bolbocoleon piliferum</i>           | <i>Codium coralloides</i>          | <i>Halimeda tuna</i>              |
| <i>Bryopsis adriatica</i>              | <i>Codium decorticatum</i>         | f. <i>platydisca</i>              |
| <i>Bryopsis corymbosa</i>              | <i>Codium dichotomum</i>           | <i>Halimeda tuna</i>              |
| <i>Bryopsis cupressina</i>             | <i>Codium dichotomum</i>           | var. <i>platydisca</i>            |
| <i>Bryopsis cupressoides</i>           | f. <i>dichotomum</i>               | <i>Lola gracilis</i>              |
| <i>Bryopsis disticha</i>               | <i>Codium dichotomum</i>           | <i>Microdictyon tenuius</i>       |
| <i>Bryopsis duplex</i>                 | f. <i>irregulate</i>               | <i>Microdictyon umbilicatum</i> e |
| <i>Bryopsis fastigata</i>              | <i>Codium difforme</i>             | <i>Monostroma grevillei</i>       |
| <i>Bryopsis feldmannii</i>             | <i>Codium effusum</i>              | <i>Monostroma latissimum</i>      |
| <i>Bryopsis hypnoides</i>              | <i>Codium elongatum</i>            | <i>Ochlochaete dendroides</i>     |
| <i>Bryopsis implexa</i>                | <i>Codium fragile</i>              | <i>Ostreobium quekettii</i>       |
| <i>Bryopsis monoica</i>                | subsp. <i>tomentosoides</i>        | <i>Palmophyllum crassum</i>       |
| <i>Bryopsis muscosa</i>                | <i>Codium tomentosum</i>           | <i>Pedobesia LAMOUROUXii</i>      |
| <i>Bryopsis penicillata</i>            | <i>Codium tomentosum</i>           | <i>Percursaria percura</i>        |
| <i>Bryopsis pennata</i>                | f. <i>candelabrum</i>              | <i>Phaeophila dendroides</i>      |
| <i>Bryopsis plumosa</i>                | <i>Codium tomentosum</i>           | var. <i>dendroides</i>            |
| <i>Bryopsidella neglecta</i>           | var. <i>elongatum</i>              | <i>Phaeophila dendroides</i>      |
| <i>Capsosiphon fulvescens</i>          | <i>Codium vermilara</i>            | var. <i>calcicola</i>             |
| <i>Caulerpa prolifera</i>              | <i>Dasycladus clavaeformis</i>     | <i>Phaeophila dendroides</i>      |
| <i>Caulerpa racemosa</i>               | <i>Dasycladus vermicularis</i>     | var. <i>pachyderma</i>            |
| <i>Caulerpa taxifolia</i>              | <i>Derbesia corallicola</i>        | <i>Phaeophyla hirsuta</i>         |
| <i>Chaetomorpha aerea</i>              | <i>Derbesia LAMOUROUXii</i>        | <i>Phaeophila divaricata</i>      |
| <i>Chaetomorpha capillaris</i>         | <i>Derbesia marina</i>             | <i>Phaeophila viridis</i>         |
| <i>Chaetomorpha capillaris</i>         | <i>Derbesia neglecta</i> – stadium | <i>Phaeophila wittrockii</i>      |
| var. <i>crispa</i>                     | <i>Derbesia sirenarum</i> e        | <i>Pilinia minor</i> i            |
| <i>Chaetomorpha crassa</i>             | <i>Derbesia tenuissima</i>         | <i>Pilinia rimosa</i> e           |
| <i>Chaetomorpha gracilis</i>           | <i>Ectochaete leptochaete</i> i    | <i>Polyphysa parvula</i>          |
| <i>Chaetomorpha linum</i>              | <i>Ectochaete wittrockii</i>       | <i>Pringsheimia scutata</i>       |
| <i>Chaetomorpha</i>                    | <i>Endoderma endolithicum</i>      | <i>Pringsheimiella scutata</i>    |
| <i>mediterranea</i>                    | <i>Endoderma flustrae</i>          | <i>Protoderma concharum</i> i     |
| var. <i>mediterranea</i>               | <i>Endoderma hirsutum</i>          | <i>Protoderma marinum</i> i       |
| <i>Chaetomorpha</i>                    | <i>Endoderma leptochaete</i>       | <i>Pseudendoclonium</i>           |
| <i>mediterranea</i> var. <i>crispa</i> | <i>Endoderma majus</i>             | submarinum                        |
| <i>Cladophora albida</i>               | <i>Endoderma viride</i>            | <i>Pseudobryopsis myura</i>       |

## ANNEX cont'd

|                                |   |                                  |   |                                            |   |
|--------------------------------|---|----------------------------------|---|--------------------------------------------|---|
| <i>Cladophora battersii</i>    |   | <i>Endoderma wittrockii</i>      |   | <i>Pseudochlorodesmis</i>                  |   |
| <i>Cladophora catenata</i>     |   | <i>Enteromorpha adriatica</i>    |   | <i>furcellata</i>                          |   |
| <i>Cladophora coelothrix</i>   |   | <i>Enteromorpha ahlneriana</i>   |   | <i>Pseudochlorodesmis tenuis</i>           |   |
| <i>Cladophora crystallina</i>  |   | <i>Enteromorpha aragoënsis</i>   |   | <i>Pseudodictyon geniculatum</i>           |   |
| var. <i>crystallina</i>        | i | <i>Enteromorpha aureola</i>      |   | <i>Pseudodictyon inflatum</i>              |   |
| <i>Cladophora crystallina</i>  |   | <i>Enteromorpha clathrata</i>    |   | <i>Pseudodictyon reticulatum</i>           |   |
| var. <i>rigida</i>             | i | <i>Enteromorpha compressa</i>    |   | <i>Rhizoclonium kernerii</i>               |   |
| <i>Cladophora crystallina</i>  |   | <i>Enteromorpha flexuosa</i>     |   | <i>Rhizoclonium kochianum</i>              |   |
| var. <i>subdichotoma</i>       | i | subsp. <i>flexuosa</i>           |   | <i>Rhizoclonium implexum</i>               |   |
| <i>Cladophora crystallina</i>  |   | <i>Enteromorpha flexuosa</i>     |   | <i>Rhizoclonium riparium</i>               |   |
| var. <i>tenuissima</i>         | i | subsp. <i>linziformis</i>        |   | <i>Rhizoclonium tortuosum</i>              |   |
| <i>Cladophora dalmatica</i>    |   | <i>Enteromorpha flexuosa</i>     |   | <i>Siphonocladus pusillus</i>              |   |
| <i>Cladophora echinus</i>      |   | subsp. <i>paradoxa</i>           |   | <i>Tellamia contorta</i>                   |   |
| <i>Cladophora feredayi</i>     |   | <i>Enteromorpha flexuosa</i>     |   | <i>Trichosolen myura</i>                   |   |
| <i>Cladophora flaccida</i>     |   | subsp. <i>pilifera</i>           |   | <i>Udotea desfontainii</i>                 |   |
| <i>Cladophora fracta</i>       |   | <i>Enteromorpha intestinalis</i> |   | <i>Udotea minima</i>                       |   |
| <i>Cladophora fracta</i>       |   | var. <i>intestinalis</i>         |   | <i>Udotea petiolata</i>                    |   |
| f. <i>marina</i>               |   | <i>Enteromorpha intestinalis</i> |   | <i>Ulothrix brunthaleri</i>                | i |
| <i>Cladophora globulina</i>    |   | var. <i>asexualis</i>            |   | <i>Ulothrix flacca</i>                     |   |
| <i>Cladophora glomerata</i>    |   | f. <i>cornucopiae</i>            |   | <i>Ulothrix flexuosa</i>                   | i |
| var. <i>glomerata</i>          |   | <i>Enteromorpha grevillei</i>    |   | <i>Ulothrix implexa</i>                    |   |
| <i>Cladophora glomerata</i>    |   | <i>Enteromorpha jugoslavica</i>  |   | <i>Ulothrix longicauda</i>                 | i |
| var. <i>crassior</i>           |   | <i>Enteromorpha jürgensii</i>    |   | <i>Ulothrix pseudoflacca</i>               |   |
| <i>Cladophora glomerata</i>    |   | <i>Enteromorpha lingulata</i>    |   | <i>Ulothrix subflaccida</i>                |   |
| var. <i>marina</i>             | i | <i>Enteromorpha linza</i>        |   | <i>Ulva curvata</i>                        |   |
| <i>Cladophora hamosa</i>       |   | <i>Enteromorpha marginata</i>    |   | <i>Ulva fasciata</i>                       |   |
| <i>Cladophora hauckii</i>      |   | <i>Enteromorpha micrococca</i>   |   | <i>Ulva intestinalis</i>                   |   |
| <i>Cladophora hutchinsiae</i>  |   | <i>Enteromorpha minima</i>       |   | <i>Ulva lactuca</i>                        |   |
| <i>Cladophora laetevirens</i>  |   | <i>Enteromorpha multiramosa</i>  |   | <i>Ulva lactuca</i> f. <i>lapathifolia</i> |   |
| <i>Cladophora lehmanniana</i>  |   | <i>Enteromorpha muscoides</i>    |   | <i>Ulva olivascens</i>                     |   |
| <i>Cladophora liebetruhtii</i> |   | <i>Enteromorpha percursa</i>     |   | <i>Ulva rigida</i>                         |   |
| <i>Cladophora liniformis</i>   |   | <i>Enteromorpha pilifera</i>     |   | <i>Ulva rotundata</i>                      |   |
| <i>Cladophora mediterranea</i> |   | <i>Enteromorpha plumosa</i>      |   | <i>Ulvella lens</i>                        |   |
| <i>Cladophora nigrescens</i>   |   | <i>Enteromorpha prolifera</i>    |   | <i>Ulvella setchellii</i>                  |   |
| <i>Cladophora pellucida</i>    |   | subsp. <i>prolifera</i>          |   | <i>Ulvaria oxysperma</i>                   |   |
| <i>Cladophora pellucida</i>    |   | <i>Enteromorpha prolifera</i>    |   | <i>Urospora laeta</i>                      | i |
| f. <i>nana</i>                 | i | subsp. <i>radiata</i>            |   | <i>Valonia aegagropila</i>                 |   |
| <i>Cladophora pellucida</i>    |   | <i>Enteromorpha ramulosa</i>     |   | <i>Valonia caespitula</i>                  |   |
| f. <i>tenuissima</i>           | i | <i>Enteromorpha ramulosa</i>     |   | <i>Valonia macrophysa</i>                  |   |
| <i>Cladophora pellucida</i>    |   | var. <i>tenerrima</i>            | i | <i>Valonia utricularis</i>                 |   |
| f. <i>rhizophora</i>           | i | <i>Enteromorpha ralfsii</i>      |   | <i>Valonia utricularis</i>                 |   |
| <i>Cladophora prolifera</i>    |   | <i>Enteromorpha stipitata</i>    |   | f. <i>aegagropila</i>                      |   |
|                                |   | var. <i>linzoides</i>            |   |                                            |   |