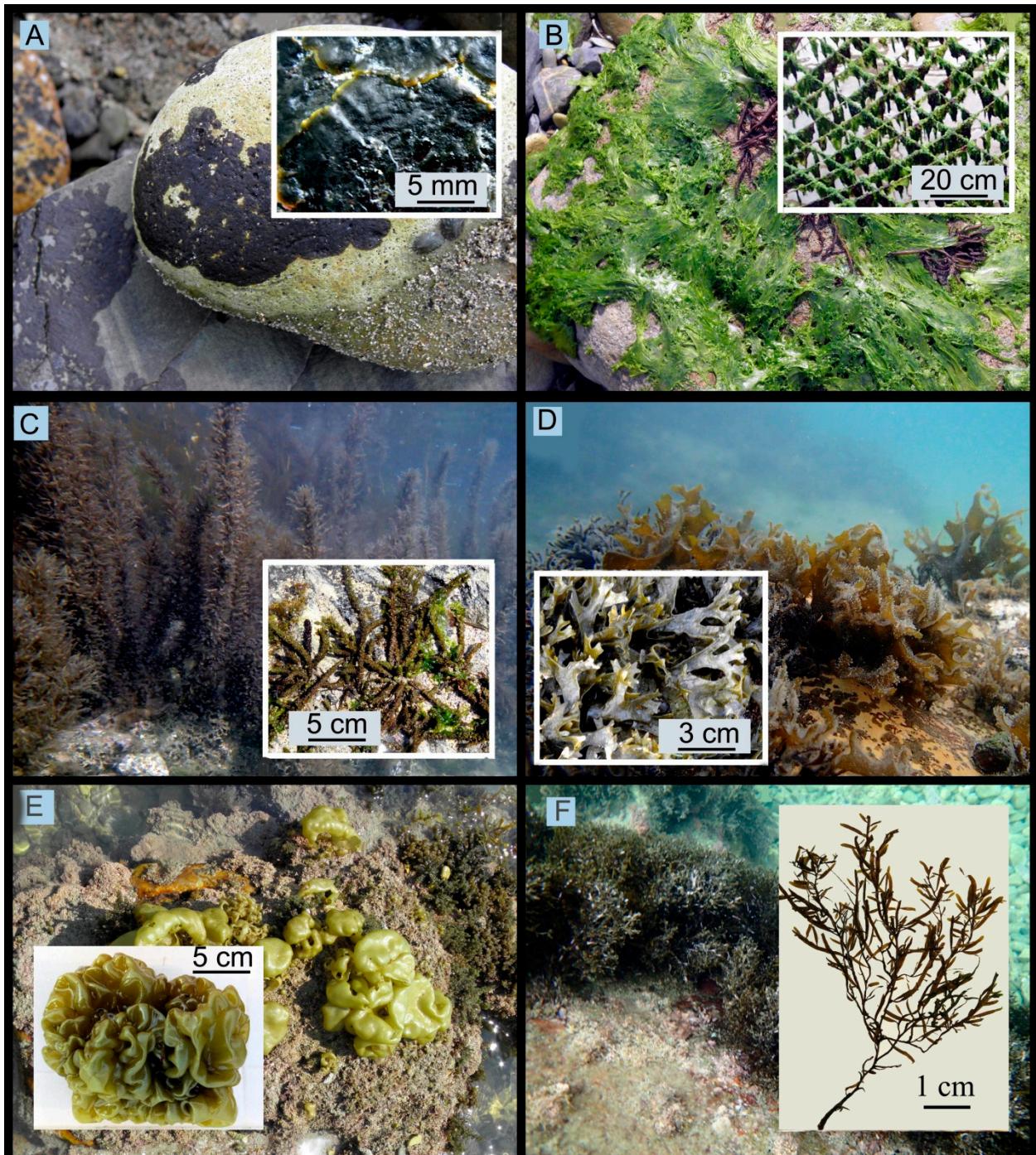


## Supplementary Materials:



**Figure S1.** Algal communities in different tidal zones of the Tomioka Peninsula (Amakusa-Shimoshima Island). (A) Monodominant community of the brown crust alga *Neoralfsia expansa* in the upper intertidal zone of Magarizaki locality. (B) Monodominant community of the green thin membranous alga *Monostroma nitidum* with the accompanying red alga *Gloiopeltis furcata* in the middle intertidal zone of Magarizaki locality. (C) Monodominant community of the brown alga *Sargassum thunbergii* in the low intertidal zone of Tomioka Harbor. (D) Polydominant mosaic community composed of the brown algae *Ishige okamurae*, *I. foliacea* and the red algae *Caulacanthus ustulatus* and *Gloiopeltis furcata* in the low intertidal zone of Tomioka Harbor. (E) Polydominant community of the brown alga *Colpomenia sinuosa* and the red algae *Amphiroa beauvoisii* and *Centroceras*

*clavulatum* in the upper subtidal zone. (F) Monodominant community of the brown alga *Dictyopteris prolifera* in the upper subtidal zone of Shiraiwazaki locality.

**Table S1.** Sampling location, sampling points, number and time of samplings and number of samples and species.

Sampling Location	Sampling Points (Figure 1)	Number and Time of Samplings	Number of AT Samples	Number of UGA Samples	Number of Species
Akaiwa	4, 5, 6	4 (No. 12; Ap. 13; Au. 13; Oc. 15) 5 (De. 12; Ap. 13; Au. 13; Oc. 15; No. 17)	144	72	108
Magarizaki	7	3 (Ap. 13; Au. 13; Oc. 15)	60	30	106
Shikizaki Bay	3	Au. 13; Oc. 15)	36	18	122
Shiraiwazaki Bay	1, 2	4 (Ap. 13; Au. 13; No. 15; No. 17)	96	48	217
Tomioka Harbor	8, 9, 10, 11, 12	4 (Ap. 13; Au. 13; No. 15; No. 17) 3 (Ap. 13; Au. 13; No.17)	240	120	169
Tsujishima Islet	13, 14	Au. 13; No.17)	72	36	120
In all localities	14	345	648	324	293

Time of samplings: Ap. 13, April 2013; Au. 13, August 2013; De. 12, December 2012; No. 15, November 2015; No. 17, November 2017; Oc. 15, October 2015. Abbreviations: AT – algal turf, UGA – upright growing algae.

**Table S2.** List of the recent marine flora of Tomioka Peninsula (Amakusa-Shimoshima Island) found in 2012-2017.

Species, Varieties and Forms	At	Lf	Dg	Tidal Zone			Findings in the 1950s	Locations of Findings in 2012-2017					
				um	I	s							
DIVISION RHODOPHYTA													
CLASS STYLANEMATOPHYCEAE													
ORDER STYLNEMATALES													
Family Stylnemataceae													
<i>Chroodactylon ornatum</i> (C. Agardh) Basson ♦	+	Ep	T,S,M	Ip	+	+		Mz, Swz, SzB, TB, TI					
<i>Stylnema alsidii</i> (Zanardini) K.M. Drew	+	Ep AS	T,S,M	Ip	+	+	♦	Mz, Swz, SzB, TB, TI					
CLASS COMSPOPOGONOPHYCEAE													
ORDER ERYTHROPELTIDALES													
Family ERYTHROTRICHIAEAE													
<i>Erythrotrichia carnea</i> (Dillwyn) J. Agardh ♦	+	Ep AS	T,S,M,Ar, An	Ip	+	+		Ak, Mz, Swz, SzB, TB, TI					
<i>Erythrocladia irregularis</i> Rosenvinge ♦	++	Ep	T,S,M,Ar, An		+	+		Swz, SzB					
<i>Sahlingia subintegra</i> (Rosenvinge) Kornmann ♦	++	Ep EZ	T,S,M	Ip	+	+		Ak, Mz, Swz, SzB, TB					
CLASS BANGIOPHYCEAE													
ORDER BANGIALES													
Family Bangiaceae													
<i>Bangia fuscopurpurea</i> (Dillwyn) Lyngbye	+	HS	T,S,M,Ar, An		+		♦	Swz					
<i>Bangia gloiopeltidicola</i> Tanaka ♦	++	Ep	S,P		+	+		TB, Swz					
<i>Bangiopsis dumontioides</i> (P. Crouan & H. Crouan) V. Krishnamurthy ♦	+	Ep	T,S		+			Swz					
<i>Pyropia suborbiculata</i> (Kjellman) J.E. Sutherland, H.G. Choi, M.S. Hwang & W.A. Nelson [= <i>Porphyra suborbiculata</i> Kjellman] ♦	++	HS ASE z	T,S		+	+		Swz, TB					
<i>Pyropia ishigecola</i> (A. Miura) N. Kikuchi & M. Miyata ♦	+	Ep	S, P		+			TB					
CLASS FLORIDEOPHYCEAE													
ORDER HILDENBRANDIALES													
Family Hildenbraniaceae													
<i>Hildenbrandia rubra</i> (Sommerfelt) Meneghini ♦	++	HS	T,S,M,Ar,An		+	+		Ak, Mz, Swz, TB, TI					
ORDER ACROCHAETIALES													
Family Acrochaetiaceae													
<i>Acrochaetium catenulatum</i> M.A. Howe ♦	+	Ep	T,S,M,An		+	+		Swz, SzB, TB, TI					
<i>Acrochaetium chaetomorphae</i> (Tanaka & Pham-Hoàng Hô Heerebout ♦	+	Ep	T,S,I-P		+	+		Swz					
<i>Acrochaetium colaconemoides</i> Pham-Hoàng Hô ♦	+	En	T,S,P		+	+		Swz					

<i>Acrochaetium microscopicum</i> (Nägeli ex Kützing) Nägeli ♦	+	Ep	T,S,M,Ar	+	+		Ak, Swz, SzB, TB, TI
<i>Acrochaetium subseriatum</i> Børgesen ♦	+	Ep	T,S,I-P		+		SzB
ORDER NEMALIALES							
Family Galaxauraceae							
<i>Actinotrichia fragilis</i> (Forsskål) Børgesen	++	HS	T,S,I-P	+	+	♦	TB, Swz, SzB
<i>Dichotomaria falcata</i> (Kjellman) Kurihara & Masuda [=Galaxaura falcata Kjellman]	+	HS	T,S,I-P		+	♦	Mz, TB
<i>Dichotomaria marginata</i> (J. Ellis & Solander) Lamarck [=Galaxaura veprecula Kjellman]	+	HS	T,S	+	+	♦	TB
<i>Dichotomaria papillata</i> (Kjellman) Kurihara & Masuda [=Galaxaura papillata Kjellman]	+	HS	T,S,P	+	+	♦	SzB
<i>Galaxaura divaricata</i> (Linnaeus) Huisman & R.A. Townsend ♦	+	HS	T,S		+		Swz
<i>Galaxaura rugosa</i> (J. Ellis & Solander) J.V. Lamouroux [=Galaxaura subfruticulosa R. Chou]	++	HS	T,S	+	+	♦	Ak, Swz, SzB, TB
<i>Tricleocarpa cylindrica</i> (J. Ellis & Solander) Huisman & Borowitzka [=Galaxaura fastigiata Decaisne]	++	HS	T,S	+	+	♦	Ak, Mz, Swz, SzB, TI
<i>Tricleocarpa fragilis</i> (Linnaeus) Huisman & R.A. Townsend ♦	+	HS	T,S	+	+		TI
Family Scinaiaceae							
<i>Scinaia japonica</i> Setchell	++	HS	T,S,I-P		+	♦	Ak, Mz, TB, TI
<i>Scinaia latifrons</i> M. Howe [=Scinaia cottonii Setchell]	+	HS	T,S,I-P		+	♦	Mz
<i>Scinaia moniliformis</i> J. Agardh	+	HS	T,S,I-P		+	♦	TB
<i>Scinaia okamurae</i> (Setchell) Huisman [=Gloiocephloeum okamurae Setchell]	+	HS	S,P		+	♦	Ak, Mz, TB, TI
ORDER COLACONEMATALES							
Family Colaconemataceae							
<i>Colaconema daviesii</i> (Dillwyn) Stegenga ♦	+	Ep	T,S,M,Ar, An	+	+		Ak, Mz, Swz, SzB, TB
<i>Colaconema gracile</i> (Børgesen) Ateweberhan & Prud'homme van Reine ♦	+	Ep	T,S	+	+		Swz, TB
<i>Colaconema hypnea</i> (Børgesen) A.A. Santos & C.W.N. Moura ♦	++	Ep	T,S	+	+		Mz, Swz
<i>Colaconema robustum</i> (Børgesen) Huisman & Woelkerling ♦	+	Ep	T,S	+	+		Swz, TB
ORDER CORALLINALES							
Family Corallinaceae							
<i>Amphiroa anceps</i> (Lamarck) Decaisne [=Amphiroa dilatata J.V. Lamouroux]	+	HS	T,S,I-P		+	♦	Ak, Mz, Swz
<i>Amphiroa beauvoisii</i> J.V. Lamouroux ♦	+++	HSA S	T,S	+	+		Ak, Mz, Swz, SzB, TB, TI
<i>Amphiroa echigoensis</i> Yendo ♦	+	HS	T,S,P	+			SzB
<i>Amphiroa ephedracea</i> Decaisne	++	HS AS	T,S	+	♦		Ak, Swz, SzB, TB
<i>Corallina aberrans</i> (Yendo) K.R. Hind & G.W. Saunders ♦	+	HS	S,P		+		TB, Swz, SzB
<i>Corallina crassissima</i> (Yendo) K. Hind & G.W. Saunders [=Amphiroa crassissima Yendo]	++	HS	S,P	+	+	♦	Ak, Swz, SzB, TI
<i>Corallina officinalis</i> Linnaeus	+	HS	S,M,An	+	♦		Ak

<i>Corallina pilulifera</i> Postels & Ruprecht	+++	HS	T,S,M,P	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Jania acutiloba</i> (Decaisne) J.H. Kim, Guiry & H.-G. Choi ♦	+	HS	T,S,(I-P)	+		Ak
<i>Jania adhaerens</i> J.V. Lamouroux	++	HS Ep	T,S S,P	+	+	♦
<i>Jania arborescens</i> (Yendo) Yendo ♦	+	HS	S,P	+		Swz
<i>Jania capillacea</i> Harvey ♦	+	HS Ep	T,S,I-P	+		Mz, Swz, TI
<i>Jania unguilata</i> f. <i>brevior</i> (Yendo) Yendo ♦	+	HS Ep	T,S,I-P		+	Ak, Swz, SzB, TB, TI
<i>Pneophyllum fragile</i> Kützing ♦	++	Ep	T,S,M	+	+	Ak, Swz, SzB, TI
Family <i>Hydrolithaceae</i>						
<i>Hydrolithon boreale</i> (Foslie) Y.M. Chamberlain ♦	+	Ep	T,S,M	+	+	Mz
<i>Hydrolithon farinosum</i> (J.V. Lamouroux) D. Penrose & Y.M. Chamberlain ♦	++	Ep AS	T,S,M	Ip	+	+
Family <i>Lithophyllaceae</i>						
<i>Lithophyllum okamurae</i> Foslie	++	HS	T,S,I-P	+	+	♦
<i>Lithophyllum tumidulum</i> Foslie ♦	+	AS	T,S,I-P	+	+	Mz, SzB, TB
ORDER BONNEMAISONIALES						
Family Bonnemaisoniacae						
<i>Asparagopsis taxiformis</i> (Delile) Trevisan de Saint-Léon and <i>Falkenbergia hillebrandii</i> (Sporophytic stage of <i>Asparagopsis taxiformis</i> )	+	Ep HS	T,S	+	+	♦
<i>Bonnemaisonia hamifera</i> Hariot [= <i>Trailliella intricata</i> Batters]	+	Ep EZ	T,S,M	+	+	♦
ORDER CERAMIALES						
Family Ceramiaceae						
<i>Aglaothamnion cordatum</i> (Børgesen) Feldmann-Mazoyer ♦	+	Ep	T,S	+		Swz
<i>Antithamnionella longicellulata</i> Perestenko ♦♦	+	Ep HS	S,M,P	+		TB
<i>Centroceras clavulatum</i> (C. Agardh) Montagne	+++	ASE pEz	T,S	Ip	+	♦
<i>Ceramium aduncum</i> Nakamura ♦	+	Ep	T,S,I-P	+		Swz, TI
<i>Ceramium borneense</i> Weber-van Bosse ♦	++	Ep	T,S,I-P	+	+	Swz, SzB, TB
<i>Ceramium boydenii</i> E.S. Gepp	+	HS		+		Swz, TB
<i>Ceramium cimbricum</i> H.E. Petersen ♦	++	Ep	T,S,M	+	+	Mz, Swz, SzB, TB, TI
<i>Ceramium macilentum</i> J. Agardh ♦	++	Ep	T,S,I-P		+	Swz, SzB
<i>Ceramium marshallense</i> E.Y. Dawson ♦	++	Ep	T,S,I-P	+		Swz
<i>Ceramium procumbens</i> Setchell & N.L. Gardner ♦	+	Ep	T,S,I-P	+	+	Mz, Swz
<i>Ceramium tenerimum</i> (G. Martens) Okamura	++	HSE pEz	T,S	+	+	♦
<i>Ceramium vagans</i> P.C. Silva ♦	+	Ep	T,S	+		TI
<i>Crouania attenuata</i> (C. Agardh) J. Agardh	++	Ep	T,S,M	+	+	♦
						Ak, Mz, Swz, SzB, TB, TI

<i>Gayliella fimbriata</i> (Setchell & N.L. Gardner) T.O. Cho & S.M. Boo [= <i>Ceramium fimbriatum</i> Setchell & N.L. Gardner] ♦	++	Ep Ez	T,S,I-P		+		Ak, Mz, Swz, SzB, TB, TI
<i>Gayliella mazoyerae</i> T.O. Cho, Fredericq & Hommersand ♦	+	Ep HS	T,S	Ip	+	+	Ak, Swz, SzB, TB, TI
<i>Pleonosporium segawae</i> Yoshida ♦	+	Ep	S,P		+	+	Swz, TB
Family Dasyaceae							
<i>Dasya sessilis</i> Yamada ♦	+	HSE p	T,S,M		+		Mz, Swz, TB
<i>Dasysiphonia japonica</i> (Yendo) H.-S.Kim [= <i>Heterosiphonia japonica</i> Yendo]	+	Ep	T,S,M		+	♦	Swz, TB,
<i>Heterosiphonia crispella</i> (C. Agardh) M.J. Wynne ♦	+	Ep	T,S		+		Swz
<i>Heterosiphonia pulchra</i> (Okamura) Falkenberg ♦	+	Ep	T,S		+		Mz, Swz, TB
Family Delesseriaceae							
<i>Acrosorium polyneurum</i> Okamura ♦	+	Ep	S,P		+	+	Swz, SzB
<i>Acrosorium yendoi</i> Yamada ♦	+	Ep	T,S,M		+		Mz, Swz, TB
<i>Acrosorium uncinatum</i> (Turner) Kylin	+	Ep	T,S,M		+	♦	Swz
<i>Hypoglossum attenuatum</i> N.L. Gardner ♦	+	Ep	T,S,I-P		+		Swz
<i>Martensia denticulata</i> Harvey	+	HS	T,S,I-P		+	♦	SzB
<i>Taenioma perpusillum</i> (J. Agardh) J. Agardh	+	Ep HS	T,S		+	♦	Mz, Swz, SzB
Family Rhodomelaceae							
<i>Acrocystis nana</i> Zanardini	+	HS	T,S,I-P	Ip	+	♦	Swz
<i>Bostrychia tenella</i> (J.V. Lamouroux) J. Agardh ♦	+	HS Ez	T,S		+		Swz
<i>Chondria crassicaulis</i> Harvey	+	HS	T,S,M I-P	Ip	+	♦	TB
<i>Chondria dasypylla</i> (Woodward) C. Agardh ♦	+	Ep	T,S, I-P	Ip	+		Ak, TB
<i>Chondria intertexta</i> P.C. Silva [= <i>Chondria intricata</i> Okamura]	+		T,S, I-P		+	♦	Swz, TB
<i>Chondria minutula</i> Weber-van Bosse ♦	++	Ep	T,S,I-P		+		Ak, Mz, Swz, SzB, TI
<i>Chondrophycus cartilagineus</i> (Yamada) Garbary & J.T. Harper [= <i>Laurencia cartilaginea</i> Yamada] ♦	+	HS	T,S,I-P		+		Mz, Swz
<i>Chondrophycus intermedius</i> (Yamada) Garbary & J.T. Harper [= <i>Laurencia intermedia</i> Yamada]	++	HS Ez	T,S	+	+	♦	Ak, Swz, SzB, TB, TI
<i>Chondrophycus undulatus</i> (Yamada) Garbary & Harper [= <i>Laurencia undulata</i> Yamada]	+++	HSA S	T,S,I-P		+	+	Ak, Swz, SzB, TB, TI
<i>Digenea simplex</i> (Wulfen) C. Agardh	+	HS	T,S		+	♦	Swz
<i>Herposiphonia secunda</i> (C. Agardh) Ambron & ♦	++	Ep	T,S	Ip	+	+	Ak, Mz, Swz, SzB, TI
<i>Herposiphonia secunda</i> f. <i>tenella</i> (C. Agardh) M.J. Wynne ♦	++	HSE p	T,S	Ip	+	+	Ak, Mz, Swz, SzB, TB, TI
<i>Herposiphonia subdisticha</i> Okamura ♦	+	Ep	T,S,I-P		+		Swz, SzB
<i>Laurencia dendroidea</i> J. Agardh [= <i>Laurencia obtusa</i> var. <i>majuscula</i> Harvey]	+	HS	T,S		+	♦	Swz
<i>Laurencia okamurae</i> Yamada	+	HSA S	T,S,I-P		+	+	Swz, TB

<i>Laurencia pinnata</i> Yamada ♀	+	Ep	T,S,I-P	+	+		Swz
<i>Leveillea jungermannioides</i> (K. Hering & G. Martens) Harvey	+	Ep	T,S,I-P	+	+	♦	TB
<i>Lophosiphonia cristata</i> Falkenberg ♀	+	Ep	T,S	+	+		Mz
<i>Melanothamnus ferulaceus</i> (Suhr ex J. Agardh) Díaz-Tapia & Maggs [= <i>Polysiphonia ferulacea</i> Suhr ex J. Agardh] ♀	++	Ep	T,S	+			Ak, Mz, Swz, SzB
<i>Melanothamnus japonicus</i> (Harvey) Díaz-Tapia & Maggs [= <i>Polysiphonia japonica</i> Harvey]	+	Ep	T,S,I-P	+	+	♦	SzB, TB, TI
<i>Melanothamnus pseudovillum</i> (Hollenberg) Díaz-Tapia & Maggs [= <i>Polysiphonia pseudovillum</i> Hollenberg] ♀ ♀	+	Ep	T,S	+			TB
<i>Melanothamnus yendoi</i> (T. Segi) Díaz-Tapia & Maggs [= <i>Polysiphonia yendoi</i> T. Segi]	+	Ep	T,S,I-P	+		♦	TB
<i>Polysiphonia howei</i> Hollenberg ♀	++	Ep	T,S	+	+		Ak, Swz, TB
<i>Polysiphonia senticulosa</i> Harvey ♀	+	Ez	T,S,M	+			TB
<i>Polysiphonia sphaerospora</i> Børgesen ♀	+	HSE	T,S	+			Swz, TI
<i>Polysiphonia subtilissima</i> Montagne ♀	+	p	T,S	+	+		Ak, SzB, TI
<i>Polysiphonia villum</i> J. Agardh [= <i>Polysiphonia scopulorum</i> var. <i>villum</i> (J. Agardh) Hollenberg] ♀	++	HSE	T,S,M	+			Ak, TB, Swz, SzB
<i>Sympyocladia marchantioides</i> (Harvey) Falkenberg	++	EpH	T,S,M	+		♦	Ak, Mz, Swz, SzB, TB
		SAS					
<i>Sympyocladia pumila</i> (Yendo) S. Uwai & M. Masuda ♀	++	EpH	S,P	+			Mz, Swz, SzB, TB, TI
		S					
Family Wrangeliaceae							
<i>Anotrichium tenuie</i> (C. Agardh) Nägeli [= <i>Griffithsia tenuis</i> C. Agardh]	++	Ep	T,S	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Griffithsia japonica</i> Okamura	+	Ep	T,S,I-P	+		♦	TI
<i>Griffithsia metcalfii</i> C.K. Tseng ♀	++	Ep	T,S,I-P	+	+		Swz, SzB
<i>Griffithsia rhizophora</i> Grunow ex Weber-van Bosse ♀	+	Ep	T,S,I-P	+			SzB
<i>Wrangelia argus</i> (Montagne) Montagne ♀	+	HSE	T,S	+	+		Ak, Swz, SzB, TB, TI
		p					
ORDER GELIDIALES							
Family Gelidiaceae							
		HS					
= <i>Gelidium divaricatum</i> G. Martens	+++	EzA	T,S,I-P	+		♦	Ak, Mz, Swz, SzB, TB, TI
		S					
		HSA					
<i>Gelidium amansii</i> (J.V. Lamouroux) J.V. Lamouroux	++	S	T,S,I-P	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
		HS					
<i>Gelidium crinale</i> Hare ex Turner Gaillon ♀	++	T,S,M,An		+			TB
		HSA					
<i>Gelidium elegans</i> Kützing ♀	++	S	T,S,M,I-P	+	+		Ak, Mz, Swz, SzB, TB, TI
		HS					
<i>Gelidium pacificum</i> Okamura ♀	++	S,M,P		+	+		Ak, Swz, TB, TI
		HSE					
<i>Gelidium pusillum</i> (Stackhouse) Le Jolis ♀	++	p	T,S	+	+		Mz, Swz, SzB, TB, TI



<i>Chondracanthus intermedius</i> (Suringar) Hommersand [=Gigartina intermedia Suringar]	++	HSA SEp Ez	T,S,I-P	+	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Chondracanthus tenellus</i> (Harvey) Hommersand [=Gigartina tenella Harvey]	++	HSA S	T,S,I-P		+	+	♦	Mz, Swz, SzB, TB, TI
<i>Chondrus giganteus</i> Yendo ♦	+	HS	S,M,P					Mz
<i>Chondrus ocellatus</i> Holmes ♦	+	HS	T,S,M		+			Mz, Swz
<i>Chondrus verrucosus</i> Mikami ♦	+	HS	S,P		+			Mz
Family Gloiosiphoniaceae								
<i>Gloiosiphonia capillaris</i> (Hudson) Carmichael	+	HSA S	T,S,M		+	+	♦	TB
Family Kallymeniaceae								
<i>Kallymenia perforata</i> J. Agardh	+	Ep	T,S		+		♦	TB
Family Phacelocarpaceae								
<i>Phacelocarpus japonicus</i> Okamura	+	HS	S,P		+	+	♦	Swz
Family Phyllophoraceae								
<i>Ahnfeltiopsis flabelliformis</i> (Harvey) Masuda [=Gymnogongrus flabelliformis Harvey]	++	HSA S	T,S,I-P	+	+		♦	Ak, Mz, Swz, SzB, TB, TI
Family Solieriaceae								
<i>Meristotheca papulosa</i> (Montagne) J. Agardh	+	HS	T,S,I-P				♦	Swz
ORDER PLOCAMIALES								
Family Plocamiaceae								
<i>Plocamium cartilagineum</i> (Linnaeus) P.S. Dixon ♦	+	HS	T,S,M,An					Swz
<i>Plocamium ovicorne</i> Okamura ♦	+		S,M P					Swz
<i>Plocamium recurvatum</i> Okamura ♦	+	Ep	S,P		+			Swz
<i>Plocamium telfairiae</i> Harvey	++	Ep HS	T,S,M,An		+	+	♦	Mz, Swz, SzB, TB
Family Sarcodiaceae								
<i>Trematocarpus pygmaeus</i> Yendo	+	HS	T,S,P	+			♦	Mz
Family Rhizophyllidaceae								
<i>Portieria hornemannii</i> (Lyngbye) P.C. Silva	++	HSE z	T,S,I-P		+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Portieria japonica</i> (Harvey) P.C. Silva ♦	+	HS	T,S,P		+			Swz
ORDER PEYSSONNELIALES								
Family Peyssonneliaceae								
<i>Peyssonnelia caulifera</i> Okamura	+	HS	T,S,P		+			Swz, TB
<i>Peyssonnelia rubra</i> Greville J. Agardh ♦	++	EpH SEz	T,S		+	+		Ak, Mz, Swz, SzB, TI
ORDER GRACILARIALES								
Family Graciariaceae								
<i>Agarophyton vermiculophyllum</i> (Ohmi) Gurgel, J.N.Norris et Fredericq [=Graciaria vermiculophylla (Ohmi) Papenfuss] ♦	++	HSS S	T,S,M		+			Ak, Swz, TB, TI

<i>Gracilaria parvispora</i> I.A. Abbott ♦	++	HSS S	T,S,P	+		TB, Swz
<i>Gracilaria textorii</i> (Suringar) De Toni	+	HS	T,S	+	♦	Ak, Swz
<i>Gracilaria longissima</i> (S.G. Gmelin) M. Seentoft, L.M. Irvine & W.F. Farnham [= <i>Gracilaria verrucosa</i> (Hudson) Papenfuss]	+		T,S,M,An	+	♦	TB
<i>Hydropuntia edulis</i> (S.G. Gmelin) Gurgel & Fredericq [= <i>Gracilaria edulis</i> (S.G. Gmelin) P.C. Silva] ♦	+	HS	T,S,I-P	+		TB
ORDER HALYMENIALES						
Family Halyeniaceae						
<i>Carpopeltis maillardii</i> (Montagne & Millardet) Chiang [= <i>Carpopeltis rigida</i> (Harvey ex J. Agardh) F. Schmitz]	+	HS AS	T,S,I-P	+	♦	Mz, Swz, TB
<i>Grateloupia asiatica</i> S. Kawaguchi & H.W. Wang ♦	++	HS	T,S	+		Ak, Mz, TB
<i>Grateloupia carnosia</i> Yamada & Segawa ♦	+	HS	T,S,I-P	+		Swz
<i>Grateloupia elliptica</i> Holmes ♦	++	HS	T,S,M,I-P	+	+	Ak, Mz, Swz, TB, TI
<i>Grateloupia filicina</i> (J.V. Lamouroux) C. Agardh	++	HSA S	T,S,M,An	+	♦	Ak, Swz, SzB, TB, TI
<i>Grateloupia imbricata</i> Holmes ♦	++	HSA S	T,S	+		Ak, Swz, TB, TI
<i>Grateloupia ramosissima</i> Okamura ♦	+	HS	T,S,I-P	+		Swz
<i>Grateloupia sparsa</i> (Okamura) Chiang ♦	+	HSA S	S,P	+	+	Swz, TB
<i>Pachymeniopsis lanceolata</i> (K. Okamura) Y. Yamada ex S. Kawabata [= <i>Grateloupia lanceolata</i> (Okamura) S. Kawaguchi] ♦	+	HSA S	T,S	+	+	TB
<i>Polyopes affinis</i> (Harvey) Kawaguchi & Wang [= <i>Carpopeltis affinis</i> (Harvey) Okamura]	++	HSA S	T,S,P	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Polyopes lancifolius</i> (Harvey) Kawaguchi & Wang [= <i>Grateloupia okamurae</i> Yamada]	+	HS	S,M	+	♦	Swz
<i>Polyopes prolifer</i> (Hariot) Kawaguchi & Wang [= <i>Carpopeltis prolifer</i> (Hariot) Kawaguchi & Masuda] ♦	+	HS	S,P	+		SzB
ORDER RHODYMENIALES						
Family Champiaceae						
<i>Champia bifida</i> Okamura ♦	+		T,S,P	+		Swz, TI
<i>Champia expansa</i> Yendo	+	Ep	T,S,P	+	♦	Swz
<i>Champia japonica</i> Okamura ♦	+	Ez	T,S,P	+		Swz
		HS				
<i>Champia parvula</i> C. (Agardh) Harvey	++	Ep Ez	T,S,M	+	♦	Ak, Swz, SzB, TB, TI
Family Lomentariaceae						
<i>Ceratodictyon intricatum</i> (C. Agardh) R.E. Norris ♦	++	HS	T,S	+	+	Ak, Mz, Swz, TB, TI
<i>Ceratodictyon variabile</i> J. Agardh R.E. Norris [= <i>Gelidopsis variabilis</i> Greville ex J. Agardh] F. Schmitz] ♦	+	HS	T,S	+		Swz
<i>Fushitsunagia catenata</i> (Harvey) Filloromo & G.W. Saunders [= <i>Lomentaria catenata</i> Harvey]	++	HSA S	T,S,I-P	+	♦	Ak, Mz, Swz, SzB, TB, TI

<i>Lomentaria hakodatensis</i> Yendo ♀	++	HSA S	T,S,M		+		SzB, TB
<i>Lomentaria corallicola</i> Børgesen ♀	++	HS	T,S	+	+		Swz, SzB
<i>Lomentaria pinnata</i> Segawa ♀	+	Ep	T,S,P		+		Ak, Swz, TB
Family Rhodymeniaceae							
<i>Botryocladia wrightii</i> (Harvey) W.E. Schmidt, D.L. Ballantine & Fredericq [=Chrysomenia wrightii (Harvey) Yamada]	+	HS	T,S,M		+	♦	Swz
<i>Chrysomenia okamurae</i> Yamada & Segawa	+		T,S		+	♦	Swz, TB
<i>Chrysomenia kaernbachii</i> Grunow [=Cryptarachne kaernbachii (Grunow) Kylin] ♀	+	HS	T,S				TB
<i>Rhodymenia intricata</i> (Okamura) Okamura ♀	+	HS	T,S,I-P		+		Swz, TB
PHYLUM OCHROPHYTA							
CLASS PHAEOPHYCEAE							
ORDER ECTOCARPALES							
Family Acinetosporaceae							
<i>Feldmannia irregularis</i> (Kützing) G. Hamel ♀	+++	ASE P HSA	T,S	+	+	+	Ak, Swz, SzB, TB
<i>Feldmannia mitchelliae</i> (Harvey) H.-S. Kim ♀	+++	S Ep	T,S,M		+	+	Ak, Mz, Swz, SzB, TB
Family Chordariaceae							
<i>Eudesme virescens</i> (Carmichael ex Berkeley) J. Agardh	+	HS	S,M,An,Ar		+	♦	Mz, Swz
<i>Leathesia marina</i> (Lyngbye) Decaisne [=Leathesia difformis Areschoug]	++	HS Ep	S,M,Ar	Ip	+	♦	Ak, Swz, TB, TI
Family Petrosangiaceae							
<i>Petrospongium rugosum</i> (Okamura) Setchell & N.L. Gardner	+++	HS	T,S,I-P	+	+	♦	Mz, TB, TI
Family Scytoniphonaceae							
<i>Colpomenia bulbosa</i> (De A. Saunders) Yamada	+	HS HSA	T,S,I-P		+	♦	TB
<i>Colpomenia sinuosa</i> (Mertens ex Roth) Derbès & Solier	+++	S Ep	T,S,M,An	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Dactylosiphon wynnei</i> (K.M.Lee, R.Riosmena-Rodriguez, Kogame & S.M. Boo) Santiañez, K.M.Lee, S.M.Boo & Kogame ♀	+	HSA S HSA	S,P	+	+		Ak, Mz, Swz, SzB, TB
<i>Hydroclathrus clathratus</i> (C. Agardh) M.A. Howe	++	S Ep	T,S	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Hydroclathrus tenuis</i> C.K. Tseng & Lu ♀	+	HS HSA	T,S	+	+		Mz, Swz, TB
<i>Myelophycus simplex</i> (Harvey) Papenfuss [=Myelophycus caespitosum Kjellman]	++	S Ez HSA	S,P	+		♦	Ak, Swz, TB
<i>Petalonia fascia</i> (O.F. Müller) Kuntze	+	S HSA	S,M,Ar	+		♦	Swz, TB

<i>Scytoniphon lomentaria</i> (Lyngbye) Link	+++	HSA S	T,S,M,An	+	+	+	♦	Swz, SzB, TB, TI
ORDER ISHIGEALES								
Family Ishigeaceae								
<i>Ishige foliacea</i> Okamura	+++	HSA S	S,P	+	+		♦	Ak, Mz, Swz, TB, TI
<i>Ishige okamurae</i> Yendo	+++	HS	S,P	Ip	+		♦	Ak, Swz, SzB, TB, TI,
ORDER RALFSIALES								
Family Neoralfsiaceae								
<i>Neoralfsia expansa</i> (J. Agardh) P.-E. Lim & H. Kawai ex Cormaci & G. Furnari ♦	+++	HS	T,S	+	+			Ak, Swz, TB, TI
Family Ralfsiaceae								
<i>Ralfsia verrucosa</i> (Areschoug) Areschoug ♦	+++	HSA S	T,S,M,Ar	+	+			Mz, Swz, TB, TI
ORDER SPHACELARIALES								
Family Sphacelariaceae								
<i>Sphacelaria novae-hollandiae</i> Sonder ♦	+++	EpE z	T,S	Ip	+			Swz, TI
ASE								
<i>Sphacelaria rigidula</i> Kützing ♦	++	p Ez	T,S,M,An	Ip	+	+		Ak, Mz, Swz, SzB, TB, TI
<i>Sphacelaria tribuloides</i> Meneghini	+	Ep	T,S	+	+		♦	Ak, Mz, Swz
<i>Sphacelaria yamadae</i> Segawa	+	Ep	S,M,P	+	+		♦	SzB
ORDER TILOPTERIDALES								
Family Cutleriacae								
<i>Cutleria adspersa</i> (Mertens ex Roth) De Notaris		HS	S,M		+		♦	TI
<i>Mutimo cylindricus</i> (Okamura) H. Kawai & T. Kitayama [= <i>Cutleria cylindrica</i> Okamura]	+	HS	T,S,P	+		♦		TI
ORDER DICTYOTALES								
Family Dictyotaceae								
<i>Canistrocarpus cervicornis</i> (Kützing) De Paula & De Clerck ♦	+	HS	T,S	+				Swz
<i>Dictyopteris latiuscula</i> (Okamura) Okamura	+	HS	S,P		+		♦	SzB
<i>Dictyopteris polypodioides</i> (A.P. De Candolle) J.V. Lamouroux ♦	+	HS	T,S,M		+			Swz
<i>Dictyopteris prolifera</i> (Okamura) Okamura	+++	HS	T,S	+	+		♦	Ak, Mz, Swz, SzB, TI
<i>Dictyopteris undulata</i> (Holmes) Okamura	++	HS	T,S,P	+	+		♦	Ak, Swz, SzB
<i>Dictyota coriacea</i> (Holmes) I.K. Wang, Hy. S. Kim & W.J. Lee [= <i>Pachydictyon coriaceum</i> Holmes Okamura]	+++	HSA S	T,S,P	+	+		♦	Ak, Mz, Swz, SzB, TB, TI
<i>Dictyota dichotoma</i> (Hudson) J.V. Lamouroux	++	HSA S	T,S,M,An	+	+		♦	Ak, Swz, SzB, TB
<i>Dictyota friabilis</i> Setchell ♦	++	EpH S	T,S,I-P	+	+			Mz, Swz, SzB
<i>Dictyota implexa</i> (Desfontaines) J.V. Lamouroux [= <i>Dictyota divaricata</i> J.V. Lamouroux]	+	HS	T,S	+	+		♦	Swz, SzB

<i>Lobophora variegata</i> (J.V. Lamouroux) Womersley ex Oliveira [= <i>Pocockiella variegata</i> Lamouroux Papenfuss]	+	HSA S Ep	T,S	+	+	♦	Swz
<i>Padina arborescens</i> Holmes	++	HSA S	T,S,I-P	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Padina gymnospora</i> (Kützing) Sonder [= <i>Padina crassa</i> Yamada]	+	HS	T,S	+	♦		Mz, TI
<i>Padina minor</i> Yamada	+	HS	T,S,I-P	+	+	♦	Ak, Swz, SzB, TI
<i>Zonaria diesingiana</i> J. Agardh	++	HS	T,S,I-P	+	+	♦	Mz, Swz, TI
ORDER LAMINARIALES							
Family Alariaceae							
<i>Ecklonia kurome</i> Okamura	++	HS	S,M,P	+	♦		Swz, TI
<i>Undaria pinnatifida</i> (Harvey) Suringar	++	HSA S	S,M	+	+	♦	Ak, Mz, TB, TI
ORDER FUCALES							
Family Sargassaceae							
<i>Myagropsis myagroides</i> (Mertens ex Turner) Fensholt [= <i>Cystophyllum turneri</i> Yendo]	+	HS	T,S,M,P	+	♦		Swz
<i>Sargassum alternato-pinnatum</i> Yamada	+	HS	T,S,P	+	♦		Swz
<i>Sargassum crispifolium</i> Yamada ♦	+	HS	T,S,I-P	+	+		Swz
<i>Sargassum fusiforme</i> (Harvey) Setchell [= <i>Hizikia fusiforme</i> (Harvey) Okamura]	+++	HS	T,S,I-P	Ip	+	♦	Ak, Swz, TB, TI
<i>Sargassum giganteifolium</i> Yamada ♦	+	HS	T,S,P	+			TB
<i>Sargassum hemiphyllum</i> (Turner) C. Agardh	+++	HS	T,S,I-P	+	+	♦	Ak, Mz, TB, TI
<i>Sargassum horneri</i> (Turner) C. Agardh [= <i>Sargassum filicinum</i> Harvey]	+++	HS	T,S,I-P	+	♦		Ak, Mz, TB, TB, TI
<i>Sargassum macrocarpum</i> C. Agardh ♦	+	HS	S,P	+			Ak, Swz, SzB, TB
<i>Sargassum patens</i> C. Agardh	++	HS	T,S,P	+	♦		Ak, Mz, SzB, TB, TI
<i>Sargassum pilularium</i> (Turner) C. Agardh	+++	HS	T,S,P	+	♦		Ak, Mz, Swz, SzB, TB, TI
<i>Sargassum polycystum</i> C. Agardh ♦	+	HS	T,S,I-P	+	+		Ak, Swz
<i>Sargassum siliquastrum</i> (Mertens ex Turner) C. Agardh [= <i>Sargassum tortile</i> (C. Agardh) C. Agardh]	++	HSA S	T,S,P	+	♦		Ak, Mz, Swz, TB
<i>Sargassum thunbergii</i> (Mertens ex Roth) Kuntze	+++	HS	T,S	+	+	♦	Ak, Mz, Swz, SzB, TB, TI
<i>Sargassum yamadae</i> Yoshida & T. Konno ♦	+	HS	T,S,P	+	+		Swz, SzB, TB, TI
CLASS ULVOPHYCEAE							
ORDER ULOTRICHALES							
Family Gomontiaceae							
<i>Collinsiella cava</i> (Yendo) Printz ♦	+	HSA S	T,S,M,Ar	+			SzB, TB
<i>Monostroma nitidum</i> Wittrock	+++	HSA S	T,S	+	♦		Ak, Mz, Swz, SzB, TB, TI
Family Ulotrichaceae							

<i>Ulothrix implexa</i> (Kützing) Kützing ♦	++	Ep	T,S,M,Ar,An	+		Ak, TB	
ORDER ULVALES							
Family Kormmanniaceae							
<i>Blidingia minima</i> (Nägeli ex Kützing) Kylin ♦	+	HSA S	T,S,M	+		SzB, TB	
Family Ulvaceae							
<i>Acrochaete geniculata</i> (N.L. Gardner) O'Kelly ♦♦	+	En	T,S,M	+	+	SzB, Swz	
<i>Ulrella lens</i> P. Crouan & H. Crouan ♦	+	Ep	T,S,M	+		SzB, TB	
<i>Ulrella leptochaete</i> (Huber) R. Nielsen, C.J. O'Kelly & B. Wysor ♦	++	Ep	T,S,M,Ar	+		TB	
<i>Ulrella viridis</i> (Reinke) R. Nielsen, C.J. O'Kelly & B. Wysor ♦	++	Ep En	T,S,M,Ar,An	+		Ak, Swz, SzB, TB	
<i>Ulrella scutata</i> (Reinke) R. Nielsen, C.J. O'Kelly & B. Wysor [=Pringsheimiella scutata (Reinke) Marchewianka] ♦	+	Ep	T,S,M,Ar	+		Swz, TB	
Family Ulvaceae							
<i>Ulva australis</i> Areschoug [= <i>Ulva pertusa</i> Kjellman]	++	HSA S	T,S,M,Ar,An	+	+	♦	Mz, Swz, SzB, TB
<i>Ulva chaetomorphoides</i> (Börgesen) Hayden, Blomster, Maggs, P.C. Silva, M.J. Stanhope & J.R. Waaland ♦♦	+	HS	T,S	+			Swz
<i>Ulva clathrata</i> (Roth) C. Agardh ♦	+++	HSA S Ep Ez	T,S,M,Ar,An	+	+	+	Ak, Mz, Swz, SzB, TB, TI
<i>Ulva compressa</i> Linnaeus ♦	++	HS Ez	T,S,M,Ar,An	+	+		Mz, Swz, SzB, TB
<i>Ulva conglobata</i> Kjellman	++	HSA S	T,S,I-P	+	+	♦	TB, Swz, SzB, TI
<i>Ulva flexuosa</i> Wulfen ♦	+++	HSA S EpE z	T,S,M,Ar,An	+	+		Ak, Mz, Swz, SzB, TB, TI
<i>Ulva intestinalis</i> Linnaeus ♦	++	HSA S Ep HSA	T,S,M,Ar,An	+	+		Ak, Swz, TB
<i>Ulva lactuca</i> Linnaeus	+++	S Ez	T,S,M,Ar	+	+	♦	Mz, Swz, SzB, TB
<i>Ulva linza</i> Linnaeus	++	HSA S	T,S,M,Ar,An	+	+	♦	TB
<i>Ulva prolifera</i> O.F. Müller ♦	+++	S Ez	T,S,M,Ar	+	+		Ak Mz Swz TB , TI
<i>Ulva ralfsii</i> (Harvey) Le Jolis ♦♦	+	HS	T,S,M	+			SzB TI
<i>Ulva rigida</i> C. Agardh ♦	+	HS AS	T,S,M,Ar,An		+		Mz, TB

<i>Percursaria percusa</i> (C. Agardh) Rosenvinge ♦	++	Fl	T,S,M,Ar	Ip			Swz, SzB, TB
ORDER CLADOPHORALES							
Family Anadyomenaceae							
<i>Anadyomene wrightii</i> Harvey ex J.E. Gray ♦	+	Ep	T,S,I-P		+		Swz
<i>Microdictyon japonicum</i> Setchell	+	HSE p	T,S,I-P	Ip	+	+	♦
Family Boodleaceae							
<i>Boodlea coacta</i> (Dickie) G. Murray & De Toni ♦	+	HS Ez	T,S		+	+	Swz, TB
<i>Cladophoropsis membranacea</i> (Hofman Bang ex C. Agardh) Børgesen ♦	+	Ep	T,S		+		SzB
<i>Cladophoropsis sundanensis</i> Reinbold ♦	++	Ep Ez	T,S	+	+		Mz, Swz, TB
<i>Phyllodictyon anastomosans</i> (Harvey) Kraft et & M.J. Wynne ♦	+	HSE p	T,S		+	+	Swz, SzB
Family Cladophoraceae							
<i>Chaetomorpha aerea</i> (Dillwyn) Kützing [= <i>Chaetomorpha crassa</i> (C. Agardh) Kützing]	++	HSE p	T,S,M,Ar,An	+	+	♦	Swz, TB
<i>Chaetomorpha javanica</i> Kützing ♦♦	+	HS Ep	T,S	+			SzB
<i>Chaetomorpha minima</i> F.S. Collins & Hervey ♦	+	Ep HSA	T,S		+		Swz
<i>Cladophora flexuosa</i> (O.F. Müller) Kützing ♦	++	S Ep Ez HS	T,S,M, An	+	+		Ak, Mz, Swz, SzB, TB, TI
<i>Cladophora laetevirens</i> (Dillwyn) Kützing ♦	+	EpE z	T,S,M		+	+	Swz SzB TB, TI
<i>Cladophora rugulosa</i> G. Martens ♦	+	HS	T,S,I-P	Ip	+		Swz
<i>Cladophora vagabunda</i> (Linnaeus) Hoek ♦	++	HSA S Ep	T,S,M	Ip	+		Swz, SzB, TB, TI
<i>Rhizoclonium riparium</i> var. <i>implexum</i> (Dillwyn) Rosenvinge ♦	++	ASE p	T,S,M	Ip	+	+	Ak, Swz, SzB, TB, TI
Family Pseudocladophoraceae							
<i>Pseudocladophora conchopheria</i> (Sakai) Boedeker & Leliaert [= <i>Cladophora conchopheria</i> Sakai] ♦	++	Ez	S,P		+		Ak, TB, TI
Family Siphonocladaceae							
<i>Dictyosphaeria cavernosa</i> (Forsskål) Børgesen	++	HS	T,S		+	+	♦
<i>Siphonocladus rigidus</i> M.A. Howe ♦	+	HSE p	T,S	+	+		SzB, TI
ORDER BRYOPSIDALES							
Family Bryopsidaceae							
<i>Bryopsis pennata</i> J.V. Lamouroux ♦	+	AS	T,S		+	+	Mz, SzB
<i>Bryopsis plumosa</i> (Hudson) C. Agardh ♦	+	HS	T,S,M,Ar,An		+		TB

			AS					
	Family Codiaceae							
<i>Codium coactum</i> Okamura ♦	+	HS	S,P	+		♦	SzB	
<i>Codium cylindricum</i> Holmes	++	HS	T,S,P	+	♦		Ak, Mz, Swz, SzB, TB, TI	
<i>Codium fragile</i> (Suringar) Hariot	++	HS	T,S,M	+	♦		Ak, Mz, Swz, TB, TI	
<i>Codium geppiorum</i> O.C. Schmidt [= <i>Codium divaricatum</i> A. Gepp & E. Gepp]	++	HS	T,S,I-P	+	+	♦	Mz, Swz	
<i>Codium intricatum</i> Okamura	++		T,S,I-P	+	♦		Swz, SzB, TI	
<i>Codium repens</i> P. Crouan & H. Crouan ♦	+	HSA S	T,S	+	+		TB	
<i>Codium tenue</i> (Kützing) Kützing	+	HS	T,S,I-P	+	♦		Mz, TB	
Family Derbesiaceae								
<i>Derbesia marina</i> (Lyngbye) Solier ♦	+	Ep	T,S,M,Ar	+			Swz, SzB, TI	
Family Caulerpaceae								
<i>Caulerpa ambigua</i> Okamura ♦	+	Ep	T,S				Swz, TI	
<i>Caulerpa brachypus</i> Harvey	+	HS	T,S	+	♦		Swz, SzB	
<i>Caulerpa subserrata</i> Okamura ♦	+++	HS	T,S,P	+	+		Ak, Swz, SzB, TI	
<i>Caulerpa webbiana</i> f. <i>tomentella</i> (Harvey ex J. Agardh) Weber-van Bosse	+++	HS	T,S,I-P	+	+	♦	Ak, Swz, SzB, TI	
Family Udoteaceae								
<i>Rhipidosiphon javensis</i> Montagne [= <i>Udotea javensis</i> (Montagne) A. Gepp & E.S. Gepp]	+	HS	T,S	+	+	♦	SzB	
ORDER DASYCLADALES								
Family Polyphysaceae								
<i>Parvocaulis parvulus</i> (Solms-Laubach) S. Berger, Fettweiss, Gleissberg, Liddle, U. Richter, Sawitzky & Zuccarello	+	HS	T,S	Ip	+	♦	Swz, TI	
[= <i>Acetabularia moebii</i> Solms-Laubach, <i>A. parvula</i> Solms-Laubach]								

The abundance of taxa (At): rare sightings (+); common (++) ; abundant (+++). Distribution of species in the geographical zones (Dg): T – tropical; S – subtropical; M – temperate; Ar – Arctic; An – Antarctic; T,S,M,Ar,An – from tropics to Arctic and Antarctic; T,S,M,An – from tropics to Antarctic; T,S,M – from tropics to temperate zones; T,S – tropics and subtropics of Atlantic, Indian and Pacific Oceans; T,S,(I-P) – tropical and subtropical Indo-Pacific. Tidal zone: (um) – the upper and middle intertidal zones; (l) – the lower intertidal zone; (s) – the upper subtidal zone. Life forms (Lf): As – algae growing on artificial substrates; Ep – epiphytic algae; En – endophytic algae; Ez – epizoic algae (algae growing on shells); HS – algae growing on hard substrate (epilithic); Fl – floating algae; Ip – algae growing in intertidal pools; SS – algae growing on soft substrates. Column “Species, varieties and forms”: New records: ♦ – for Amakusa Island, ♦♦ – for Japan. Column “Locality abbreviations”: Akaiwa, Ak; Magarizaki, Mz; Shikizaki Bay, SzB; Shiraiwazaki, Swz; Tomioka Bay, TB; Tsujishima Islet, TI.