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Epilithic diatom communities from areas of invasive *Caulerpa* species (*Caulerpa taxifolia* and *Caulerpa cylindracea*) in the Adriatic Sea, NE Mediterranean

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Supplementary Data

Epilithic diatom communities from areas of invasive *Caulerpa* species (*Caulerpa taxifolia* and *Caulerpa cylindracea*) in the Adriatic Sea, NE Mediterranean

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Table S1. Monthly distribution of the physical-chemical parameters; sea temperature (T), salinity (S), nitrate (NO₃⁻), nitrite (NO₂⁻), ammonium (NH₄⁺), phosphate (PO₄³⁻), silicate (SiO₄⁴⁻), total inorganic nitrogen (TIN), oxygen saturation (O₂/O₂[']) and chlorophyll *a* concentrations (Chl *a*) at sampling sites Dubrovnik, Mljet and Hvar throughout 24-month period from November 2008 to October 2010. N/A = not available.

Season	Site	Dubrovnik										Mljet										Hvar		
		TEMP (°C)	SAL	O ₂ /O ₂ [']	NO ₃ ⁻ (µM)	NO ₂ ⁻ (µM)	NH ₄ ⁺ (µM)	PO ₄ ³⁻ (µM)	SiO ₄ ⁴⁻ (µM)	TIN	Chl <i>a</i>	TEMP (°C)	SAL	O ₂ /O ₂ [']	NO ₃ ⁻ (µM)	NO ₂ ⁻ (µM)	NH ₄ ⁺ (µM)	PO ₄ ³⁻ (µM)	SiO ₄ ⁴⁻ (µM)	TIN	Chl <i>a</i>		TEMP (°C)	
Autumn	Nov 2008	19.59	38.18	1.08	1.00	0.02	0.21	0.02	1.42	1.23	0.15	19.00	38.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.00
	Dec 2008	17.62	38.12	1.00	1.00	0.07	0.18	0.03	2.24	1.25	0.22	17.00	38.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.00
Winter	Jan 2009	14.22	37.66	0.96	1.05	0.15	0.26	0.04	2.06	1.45	0.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.00
	Feb 2009	12.96	37.30	1.01	1.37	0.13	0.30	0.02	3.31	1.80	0.12	13.00	38.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.00
	Mar 2009	12.73	37.71	1.00	2.22	0.10	0.29	0.04	3.09	2.61	0.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.00
Spring	Apr 2009	13.18	37.67	0.99	1.73	0.05	0.29	0.06	2.66	2.07	0.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.00
	May 2009	15.78	37.77	1.09	1.59	0.02	0.57	0.05	2.70	2.18	0.13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17.00
	Jun 2009	21.05	36.83	1.11	1.43	0.02	0.42	0.05	3.71	1.86	0.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.00

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	Jul 2009	25.66	37.04	4.20	2.06	0.01	0.22	0.07	2.70	2.29	0.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25.00
	Aug 2009	20.00	38.28	1.07	2.11	0.01	0.30	0.09	2.56	2.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25.00
Autumn	Sep 2009	N/A	N/A	0.53	1.69	0.01	N/A	0.06	2.17	1.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23.00
	Oct 2009	23.00	38.37	1.05	1.82	0.02	0.18	0.06	2.38	2.01	N/A	20.40	38.45	N/A	2.21	0.02	0.23	0.14	2.16	2.46	N/A	N/A	20.00	
	Nov 2009	18.55	38.02	1.07	0.57	0.03	0.21	0.06	3.00	0.81	0.17	N/A	N/A	N/A	0.14	0.03	0.19	0.08	3.16	0.36	N/A	N/A	18.00	
	Dec 2009	14.92	37.84	0.94	1.25	0.05	0.28	0.07	1.70	1.58	0.39	14.93	38.04	0.94	1.50	0.04	0.22	0.07	1.65	1.76	0.48	N/A	12.00	
Winter	Jan 2010	13.66	35.15	1.02	0.87	0.19	0.21	0.07	8.06	1.26	0.49	13.10	36.93	0.95	0.45	0.19	0.09	0.11	6.66	0.72	0.30	N/A	12.00	
	Feb 2010	12.34	37.21	0.52	0.68	0.15	0.30	0.08	5.04	1.13	0.30	13.85	38.19	0.92	0.25	0.18	0.17	0.39	8.64	0.60	0.06	N/A	12.00	
	Mar 2010	13.18	37.07	1.03	0.31	0.13	0.60	0.04	6.10	1.04	0.23	13.05	37.25	0.96	0.17	0.19	0.15	0.04	3.95	0.51	0.13	N/A	12.00	
Spring	Apr 2010	15.24	37.13	1.06	0.08	0.01	1.14	0.01	0.73	1.23	0.12	15.38	37.56	0.99	0.35	0.03	0.24	0.02	1.24	0.62	0.12	N/A	15.00	
	May 2010	16.06	38.10	1.08	0.03	0.01	1.19	0.04	1.82	1.23	0.08	18.52	37.23	1.01	0.24	0.01	0.14	0.02	2.62	0.39	0.00	N/A	16.00	
	Jun 2010	23.91	38.06	1.15	0.04	0.01	0.20	0.04	2.56	0.26	0.05	20.88	37.67	1.06	0.06	0.02	0.04	0.02	2.70	0.12	0.07	N/A	23.00	
	Jul 2010	19.19	38.08	1.17	0.01	0.02	0.04	0.03	4.41	0.07	0.04	17.74	38.26	1.09	0.04	0.01	0.11	0.00	3.76	0.16	0.02	N/A	24.00	
Summer	Aug 2010	16.84	38.33	1.12	0.06	0.01	0.10	0.04	1.93	0.17	0.01	17.94	38.46	1.12	0.14	0.01	0.25	0.00	1.91	0.39	0.00	N/A	25.00	
	Sep 2010	21.28	38.38	1.03	0.05	0.02	0.11	0.06	2.19	0.18	0.06	21.63	38.50	1.01	0.14	0.05	0.16	0.15	2.38	0.35	0.00	N/A	23.00	
Autumn	Oct 2010	21.00	N/A	N/A	0.84	0.01	0.10	0.03	1.92	0.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	

Table S2. The t-test between Dubrovnik and Mljet for December 2009 to September 2010 (N = 10).

Site	T value	Dubrovnik		Mljet	
		Average	StDev	Average	StDev
T (°C)	0.490	16.661	3.544	16.700	2.949
S	0.228	37.537	0.922	37.808	0.529
O ₂ /O ₂ '	0.464	1.011	0.177	1.005	0.063
NO ₃ ⁻ (μM)	0.489	0.338	0.418	0.332	0.407
NO ₂ ⁻ (μM)	0.363	0.060	0.066	0.072	0.075
NH ₄ ⁺ (μM)	0.043	0.416	0.400	0.157	0.063
PO ₄ ³⁻ (μM)	0.204	0.048	0.022	0.081	0.113
SiO ₄ ⁴⁻ (μM)	0.463	3.453	2.225	3.552	2.244
TIN (μM)	0.147	0.814	0.543	0.562	0.439
Chl a (μg L ⁻¹)	0.214	0.177	0.159	0.118	0.150

Table S3. SIMPER analysis of diatom taxa contributing (% cumulative = 70%) to dissimilarities between epilithic diatom assemblages from areas of *C. cylindracea* and *C. taxifolia*.

Taxa	<i>C. cylindracea</i> sampling sites		<i>C. taxifolia</i> sampling site		
	Av.Abund	Av.Abund	Av.Dis s	Contrib %	Cum. %
<i>Cocconeis scutellum</i> Ehrenberg var. <i>scutellum</i>	13.22	3.18	5.21	7.59	7.59
<i>Rhopalodia pacifica</i> Krammer	0.61	6.99	3.27	4.76	12.36
<i>Navicula ramosissima</i> (Agardh) Cleve	8.86	6.96	2.86	4.17	16.53
<i>Berkeleya rutilans</i> (Trentepohl) Grunow	0.39	5.27	2.47	3.59	20.12
<i>Cocconeis molesta</i> var. <i>crucifera</i> Grunow in Van Heurck	5.05	1.90	2.41	3.51	23.63
<i>Nitzschia macilenta</i> W.Gregory	1.30	4.06	2.32	3.38	27.01
<i>Grammatophora oceanica</i> (Ehrenberg 1854 pro parte) Grunow	4.15	0.04	2.06	2.99	30.01
<i>Nitzschia lanceolata</i> var. <i>minima</i> Grunow	1.94	4.73	1.70	2.47	32.48
<i>Cocconeis costata</i> Gregory var. <i>costata</i>	3.41	0.22	1.66	2.41	34.89
<i>Mastogloia binotata</i> (Grunow) Cleve	3.73	0.68	1.64	2.39	37.28
<i>Hyalosynedra laevigata</i> (Grunow) Williams & Round	3.31	4.56	1.33	1.94	39.22
<i>Opephora pacifica</i> (Grunow) Petit	0.30	2.78	1.27	1.84	41.06
<i>Berkeleya scopulorum</i> (Brébisson ex Kützing) E.J.Cox	0.36	2.65	1.25	1.81	42.88
<i>Tabularia ktenooides</i> M.Kuylenstierna	2.96	1.58	1.23	1.79	44.67
<i>Licmophora paradoxa</i> (L yngbye) Agardh	2.56	0.49	1.17	1.71	46.38
<i>Nitzschia angularis</i> W. Smith	2.84	3.81	1.17	1.71	48.09

<i>Nitzschia fusiformis</i> Grunow	1.25	2.90	1.00	1.46	49.54
<i>Cocconeis peltoides</i> Hustedt	0.26	2.22	1.00	1.45	50.99
<i>Fragilaria investiens</i> (W. Smith) Cleve-Euler	2.20	0.79	0.99	1.44	52.43
<i>Tryblionella persuadens</i> (Cholnoki) K.P.Cavalcante. P.I.Tremerin & T.A.V.Ludwig	0.17	2.07	0.96	1.40	53.83
<i>Nitzschia panduriformis</i> Gregory var. <i>panduriformis</i>	0.83	2.19	0.81	1.17	55.01
<i>Halamphora acutiuscula</i> (Kützing) Levkov	2.10	1.78	0.73	1.07	56.08
<i>Navicula subagnita</i> Proschkina-Lavrenko	1.59	1.36	0.73	1.06	57.13
<i>Licmophora gracilis</i> (Ehrenberg) Grunow var. <i>gracilis</i>	1.35	0.27	0.69	1.00	58.13
<i>Mastogloia crucicula</i> var. <i>alternans</i> Zanon	1.40	0.39	0.64	0.93	59.06
<i>Amphora helenensis</i> Giffen	0.84	1.73	0.62	0.90	59.96
<i>Mastogloia crucicula</i> (Grunow) Cleve var. <i>crucicula</i>	1.57	0.48	0.61	0.89	60.85
<i>Amphora pseudohyalina</i> Simonsen	0.35	1.23	0.60	0.88	61.73
<i>Toxarium undulatum</i> Bailey	1.35	0.31	0.58	0.85	62.58
<i>Halamphora kolbei</i> (Aleem) Álvarez-Blanco & S.Blanco	1.15	0.13	0.57	0.84	63.42
<i>Mastogloia pusilla</i> (Grunow) Cleve var. <i>pusilla</i>	0.65	0.85	0.56	0.82	64.24
<i>Cocconeis</i> cf. <i>distantula</i> Giffen	0.21	1.26	0.55	0.81	65.04
<i>Mastogloia manokwariensis</i> Cholnoky	0.04	1.09	0.54	0.79	65.83
<i>Mastogloia fimbriata</i> (Brightwell) Cleve	1.09	0.09	0.53	0.77	66.60
<i>Dimmeregrana minor</i> (Gregory) Ralfs var. <i>minor</i>	0.83	0.88	0.51	0.74	67.34
<i>Fallacia forcipata</i> (Greville) Stickle & D.G.Mann	0.01	1.01	0.50	0.73	68.07
<i>Ardissonia crystallina</i> (C.A. Agardh) Grunow	1.12	0.43	0.49	0.71	68.78
<i>Mastogloia cuneata</i> (Meister) Simonsen	0.84	0.41	0.46	0.67	69.46

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