

Addressing assumptions: variation in stable isotopes and fatty acids of marine macrophytes can confound conclusions of food web studies

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Supplement. Complete tables showing values for both multiple stable isotopes and fatty acids for all species, sites, and dates.

Table S1. Average multiple stable isotope values, standard errors (SE), and *n* replicates for each group included in the analyses (see ‘Materials and methods’ in the main article). Site abbreviations as in Fig. 1 of the main article

Phylum	Species	Date	Site	<i>n</i>	¹³ C		¹⁵ N		³⁴ S	
					Ave	SE	Ave	SE	Ave	SE
Anthophyta	<i>Zostera marina</i>	August 2010	PIL	3	-8.47	0.48	5.34	0.46	17.56	0.64
Anthophyta	<i>Zostera marina</i>	August 2010	PTC	3	-9.16	0.34	5.56	0.51	17.26	0.73
Anthophyta	<i>Zostera marina</i>	August 2010	SKP	3	-9.33	0.26	4.90	0.13	18.63	0.46
Anthophyta	<i>Zostera marina</i>	March 2011	PTC	9	-12.90	0.14	3.64	0.18	17.85	0.31
Anthophyta	<i>Zostera marina</i>	May 2010	PTC	3	-10.99	0.13	6.62	0.03	19.43	0.19
Chlorophyta	<i>Ulva</i> sp.	August 2010	PIL	3	-14.69	0.50	6.81	0.07	20.22	0.13
Chlorophyta	<i>Ulva</i> sp.	August 2010	PTC	3	-12.66	0.17	6.83	0.09	19.90	0.32
Chlorophyta	<i>Ulva</i> sp.	August 2010	SKP	3	-15.85	0.39	6.88	0.01	19.70	0.24
Chlorophyta	<i>Ulva</i> sp.	May 2010	PTC	3	-16.75	0.27	6.96	0.16	20.96	0.41
Ochrophyta	<i>Agarum fimbriatum</i>	August 2010	PIL	3	-19.07	0.72	7.51	0.17	20.48	0.03
Ochrophyta	<i>Agarum fimbriatum</i>	August 2010	PTC	3	-15.82	1.24	7.01	0.19	20.27	0.15
Ochrophyta	<i>Agarum fimbriatum</i>	August 2010	SKP	3	-17.55	0.40	7.48	0.32	21.46	0.03
Ochrophyta	<i>Agarum fimbriatum</i>	March 2011	PTC	9	-23.58	0.59	5.16	0.20	21.57	0.21

Ochrophyta	<i>Agarum fimbriatum</i>	May 2010	PTC	3	-19.28	1.44	7.06	0.25	20.32	0.30
Ochrophyta	<i>Alaria marginata</i>	August 2010	PIL	3	-12.06	0.23	6.45	0.13	18.96	0.07
Ochrophyta	<i>Alaria marginata</i>	August 2010	PTC	3	-14.63	0.51	6.58	0.04	18.63	0.21
Ochrophyta	<i>Alaria marginata</i>	August 2010	SKP	3	-12.31	0.56	6.57	0.18	19.69	0.11
Ochrophyta	<i>Alaria marginata</i>	May 2010	PTC	3	-12.71	0.52	7.02	0.28	19.71	0.19
Ochrophyta	<i>Desmarestia munda</i>	August 2010	PIL	3	-21.02	1.17	6.31	0.65	21.25	0.07
Ochrophyta	<i>Desmarestia munda</i>	August 2010	PTC	3	-15.15	1.08	5.80	0.20	21.13	0.06
Ochrophyta	<i>Desmarestia munda</i>	August 2010	SKP	3	-25.59	1.17	6.53	0.44	21.77	0.02
Ochrophyta	<i>Desmarestia munda</i>	May 2010	PTC	3	-19.11	0.54	7.92	0.10	20.88	0.20
Ochrophyta	<i>Fucus distichus</i>	August 2010	PIL	3	-15.48	0.63	7.57	0.24	21.34	0.22
Ochrophyta	<i>Fucus distichus</i>	August 2010	PTC	3	-13.45	0.56	6.91	0.06	21.26	0.02
Ochrophyta	<i>Fucus distichus</i>	August 2010	SKP	3	-11.50	0.54	7.15	0.08	21.19	0.02
Ochrophyta	<i>Fucus distichus</i>	May 2010	PTC	2	-18.16	0.84	7.08	0.10	21.44	0.51
Ochrophyta	<i>Nereocystis luetkeana</i>	August 2010	PIL	3	-14.34	0.67	6.81	0.13	20.78	0.21
Ochrophyta	<i>Nereocystis luetkeana</i>	August 2010	PTC	3	-13.38	0.08	6.17	0.25	20.08	0.24
Ochrophyta	<i>Nereocystis luetkeana</i>	August 2010	SKP	3	-12.81	0.76	6.81	0.20	21.05	0.07
Ochrophyta	<i>Nereocystis luetkeana</i>	March 2011	PTC	9	-15.23	0.37	4.79	0.10	21.54	0.18
Ochrophyta	<i>Nereocystis luetkeana</i>	May 2010	PTC	3	-14.89	0.95	6.65	0.46	20.14	0.21
Ochrophyta	<i>Saccharina subsimplex</i>	August 2010	PIL	3	-13.50	0.15	6.66	0.31	21.05	0.17
Ochrophyta	<i>Saccharina subsimplex</i>	August 2010	PTC	3	-11.36	0.43	6.55	0.23	20.70	0.10
Ochrophyta	<i>Saccharina subsimplex</i>	August 2010	SKP	3	-11.32	0.46	6.74	0.17	21.36	0.16
Ochrophyta	<i>Saccharina subsimplex</i>	March 2011	PTC	9	-16.54	0.47	4.78	0.27	21.18	0.14
Ochrophyta	<i>Saccharina subsimplex</i>	May 2010	SKP	3	-16.09	0.82	6.62	0.32	20.86	0.03
Rhodophyta	<i>Neorhodomela larix</i>	August 2010	PIL	3	-20.11	0.25	6.24	0.02	20.28	0.13
Rhodophyta	<i>Neorhodomela larix</i>	August 2010	PTC	3	-21.03	0.17	6.19	0.06	21.13	0.11
Rhodophyta	<i>Neorhodomela larix</i>	August 2010	SKP	3	-19.50	0.27	9.56	0.50	21.65	0.13
Rhodophyta	<i>Neorhodomela larix</i>	May 2010	PTC	3	-21.39	0.66	6.07	0.16	20.28	0.26
Rhodophyta	<i>Opuntella californica</i>	August 2010	PIL	3	-33.17	0.36	6.50	0.20	20.62	0.13
Rhodophyta	<i>Opuntella californica</i>	August 2010	PTC	3	-32.50	0.71	6.59	0.10	20.91	0.14
Rhodophyta	<i>Opuntella californica</i>	August 2010	SKP	3	-33.10	0.26	6.64	0.09	20.40	0.16
Rhodophyta	<i>Opuntella californica</i>	May 2010	PTC	3	-34.54	0.38	6.58	0.15	21.91	0.16

Table S2. Average percentage of total fatty acids (FA) for each taxon studied at each date with standard deviation (SD) from 3 replicates (see 'Materials and methods' in the main article)

Phylum:	Species:	<i>Agarum fimbritum</i>						<i>Saccharina subsimplex</i>						<i>Ochrophyta</i>												
		May 2010		August 2010		March 2011		May 2010		August 2010		March 2011		May 2010		August 2010		March 2011		May 2010		August 2010		March 2011		
FA	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD		
c14:0	4.94	1.19	11.85	1.74	6.51	0.78	9.04	1.06	12.49	2.81	5.70	0.50	11.23	0.97	17.53	1.16	13.70	0.70	4.07	0.45	9.11	1.75	9.65	0.86	12.31	0.55
c16:0	15.30	5.20	31.14	4.96	19.31	1.32	21.60	3.75	31.27	2.95	14.06	0.52	18.25	3.42	30.37	4.66	21.71	1.73	10.84	0.49	19.08	3.85	16.33	2.05	19.24	1.01
16:1n-9	8.07	0.74	11.96	2.69	9.84	0.74	3.28	0.58	4.37	1.91	1.10	0.48	0.59	0.13	0.44	0.19	0.34	0.05	0.41	0.06	0.52	0.08	1.42	0.20	1.40	0.16
16:1n-7	6.50	2.30	0.97	0.06	6.56	0.76	4.00	0.20	2.48	1.72	4.51	0.29	2.96	0.57	2.64	0.56	4.42	0.33	4.28	0.41	2.19	0.39	2.31	0.83	1.16	0.79
16:1n-5	0.76	0.07	1.01	0.54	0.54	0.66	0.44	0.06	0.41	0.42	0.29	0.03	0.59	0.25	0.50	0.26	0.47	0.16	6.56	0.60	4.54	0.13	0.03	0.05	0.11	0.00
16:2n-4	4.37	0.74	2.41	0.43	4.97	0.59	0.34	0.29	0.16	0.27	0.76	0.04	0.53	0.23	0.15	0.14	0.32	0.03	0.44	0.08	0.23	0.19	0.85	0.17	0.43	0.04
16:3n-4/5	4.08	1.89	1.56	0.79	5.06	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16:3n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.12	0.22	0.02
16:4n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
c18:0	1.70	0.35	1.73	0.38	1.10	0.11	1.91	0.22	1.73	0.74	0.63	0.07	1.64	0.23	1.99	0.46	1.70	0.26	0.76	0.17	1.29	0.23	0.64	0.08	0.70	0.06
18:1n-9	3.25	1.48	3.57	0.78	2.94	0.50	12.80	1.21	8.49	0.70	9.30	0.62	13.13	1.86	12.21	2.51	10.58	0.34	7.39	0.56	10.05	0.35	16.53	5.13	22.52	1.41
18:1n-7	0.20	0.17	0.53	0.18	0.54	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.05	0.09	0.12	0.03
18:2n-6	9.72	0.43	6.55	2.70	6.79	0.32	6.87	0.66	5.00	1.45	5.88	0.45	6.00	0.99	4.42	1.15	5.24	0.60	3.58	0.20	4.35	0.48	11.29	0.55	10.31	0.78
18:3n-6	2.43	0.80	1.73	1.44	1.58	0.29	1.56	0.41	2.11	0.73	1.40	0.14	0.83	0.32	0.64	0.20	0.70	0.21	0.69	0.08	1.04	0.19	0.77	0.09	0.41	0.05
18:3n-3	1.57	0.11	0.73	0.47	1.30	0.20	4.81	0.93	2.39	1.49	7.20	0.21	7.15	1.29	2.41	1.08	4.66	0.20	11.79	0.40	9.05	0.91	5.78	0.80	4.50	0.89
18:4n-3	1.52	0.24	2.72	2.03	0.86	0.13	7.28	2.46	5.36	3.35	15.88	0.78	12.36	4.39	4.32	1.61	7.81	0.53	20.86	0.23	14.31	2.48	6.87	2.24	3.85	0.93
c20:0	0.45	0.14	1.02	0.32	0.56	0.03	0.00	0.00	0.35	0.31	0.06	0.11	0.09	0.16	0.54	0.11	0.12	0.21	0.09	0.08	0.37	0.09	0.08	0.14	0.34	0.07
20:3n-6	0.78	0.06	0.36	0.32	0.79	0.05	0.35	0.31	0.27	0.24	0.54	0.02	0.86	0.07	0.51	0.13	0.67	0.17	0.53	0.06	1.09	0.07	0.86	0.14	0.71	0.10
20:4n-6	13.16	0.60	6.19	2.36	12.57	0.41	14.97	2.19	8.44	2.36	19.31	0.50	11.31	1.23	7.11	2.40	11.28	0.80	12.84	0.94	9.86	1.31	14.39	0.91	10.14	0.94
20:4n-3	0.09	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.07	0.70	0.21	0.13	0.22	0.30	0.27	0.88	0.11	1.42	0.06	0.49	0.10	0.20	0.06
20:5n-3	13.78	1.50	4.71	2.49	9.01	1.28	6.75	1.41	3.41	1.21	12.17	0.70	8.34	0.53	2.95	1.55	6.13	0.64	12.18	0.99	8.39	1.55	8.88	0.88	4.78	1.24
c22:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:3n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.04	0.00	0.00	0.00	0.00
22:5n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
c24:0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Phylum:	Anthrophyta						Rhodophyta						Chlorophyta						
	<i>Zostera marina</i>						<i>Opuntella californica</i>						<i>Neorhodomela larix</i>				<i>Ulva</i> sp.		
Species:	May 2010		August 2010		March 2011		May 2010		August 2010		May 2010		August 2010		May 2010		August 2010		
FA	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	
c14:0	0.00	0.00	0.11	0.18	0.21	0.19	1.77	0.39	2.68	0.27	3.86	0.68	5.94	0.99	0.39	0.12	0.63	0.09	
c16:0	18.20	1.80	36.53	6.16	24.78	1.35	36.30	4.81	42.93	1.79	23.75	2.08	56.31	6.56	16.77	0.88	26.33	4.84	
16:1n-9	0.00	0.00	0.11	0.20	0.00	0.00	0.51	0.88	0.94	0.44	9.03	3.25	3.82	1.78	0.36	0.09	0.54	0.26	
16:1n-7	7.24	0.96	4.86	2.12	9.82	0.34	4.29	0.38	0.84	0.03	7.44	1.04	3.54	2.56	5.59	2.22	6.09	1.42	
16:1n-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06	
16:2n-4	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.27	0.00	0.00	3.66	0.54	3.16	1.70	0.00	0.00	0.04	0.07	
16:3n-4/5	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.24	0.00	0.00	3.82	0.59	0.99	0.89	0.00	0.00	0.00	0.00	
16:3n-3	7.99	1.56	2.40	1.21	4.89	1.72	0.16	0.27	0.00	0.00	0.19	0.33	0.00	0.00	2.14	0.23	2.13	0.12	
16:4n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.31	0.11	0.18	18.61	3.31	10.37	1.41	
c18:0	2.14	0.31	3.94	0.65	1.09	0.96	3.60	0.27	1.41	0.14	2.45	0.38	2.16	0.48	0.63	0.30	0.41	0.11	
18:1n-9	1.02	0.18	2.00	0.46	0.79	0.71	5.56	0.40	8.61	0.24	2.10	0.42	3.48	0.57	0.11	0.18	0.61	0.13	
18:1n-7	0.07	0.13	0.14	0.25	0.00	0.00	0.22	0.38	0.30	0.33	3.71	0.44	3.99	0.77	5.05	0.76	6.95	0.99	
18:2n-6	6.74	1.90	9.71	2.67	9.64	0.26	0.56	0.97	0.84	0.08	1.64	0.21	0.72	0.26	4.11	0.88	5.46	2.60	
18:3n-6	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.23	0.09	0.15	0.00	0.00	0.00	0.00	0.79	0.44	0.91	0.50	
18:3n-3	50.67	2.57	26.96	5.86	43.22	5.76	0.00	0.00	0.00	0.00	4.15	1.00	5.26	0.37	22.44	2.33	18.66	3.93	
18:4n-3	0.00	0.00	0.59	0.52	0.00	0.00	0.00	0.00	0.00	0.00	4.53	1.80	0.86	0.17	15.59	1.30	11.17	1.11	
c20:0	1.63	0.18	2.92	0.25	1.10	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20:3n-6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20:4n-6	0.00	0.00	0.00	0.00	0.00	0.00	29.15	3.00	31.71	0.86	4.24	1.27	1.70	0.49	0.14	0.24	0.51	0.24	
20:4n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.29	0.31	0.11	
20:5n-3	0.00	0.00	0.00	0.00	0.00	0.00	6.64	1.35	6.84	1.79	21.13	1.56	3.09	1.69	0.82	0.12	0.58	0.26	
c22:0	2.71	0.34	5.67	0.52	2.75	2.38	6.42	3.91	0.35	0.31	0.00	0.00	0.00	0.00	0.10	0.17	1.16	0.61	
22:3n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	1.13	1.97	0.33	0.00	0.00	0.47	0.18	
22:5n-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14	0.48	2.15	0.87	
c24:0	1.12	0.24	1.96	0.40	0.92	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	