SUPPLEMENTARY MATERIAL

Lipid Characterization of Beach-Cast Seaweeds from Gran Canaria Island: Potential Use in Human and Animal Nutrition

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Supplementary Table S1. Relative abundance of each macroalgal wrack species collected from Las Canteras beach (Gran Canaria, Spain) between 2018 and 2019.

Group/Phylum	Species	Relative abundance (%)
Chlorophyta	*Cymopolia barbata*	14.84
	Anadyomene stellata	0.41
Rhodophyta	*Jania* sp.	5.55
	Liagora sp.	1.06
	Asparagopsis sp.	3.63
	Laurencia sp.	0.27
	Hypnea spinella	1.87
Ochrophyta	*Stypocaulon* sp.	3.83
	Lobophora sp.	41.80
	Dictyota sp.	16.38
	Taonia atomaria	1.16
Other minor species		9.20

Supplementary Table S2. Rotated component loadings of the first five principal components. Major loadings for each lipid class are presented in bold.

	Rotated component loadings					
	Component					
Lipid class	1	2	3	4	5	Communalities
PC	-0.191	0.389	**0.677**	-0.300	0.276	0.812
PS+PI	0.157	-0.075	-0.067	**0.919**	-0.013	0.880
SQDG+PE	0.257	**0.881**	0.280	0.131	-0.026	0.938
DGDG	-0.026	**0.850**	-0.195	-0.204	-0.129	0.819
MGDG	0.051	0.017	**0.912**	0.003	-0.160	0.861
P	**0.894**	-0.246	-0.031	0.075	-0.192	0.904
DAG	0.276	0.266	-0.563	**0.597**	-0.132	0.838
PTS	0.355	**-0.709**	-0.174	-0.242	-0.368	0.853
FFA	**-0.936**	-0.150	0.027	-0.102	0.131	0.927
TAG	-0.093	-0.028	-0.035	-0.040	**0.959**	0.932
SE	**-0.710**	-0.139	0.092	-0.434	-0.289	0.803

Supplementary Table S3. Mean factor scores for each cluster of the dendrogram based on lipid class data. Results represent mean ± SD. PC1, PC2, PC3, PC4, and PC5 were extracted through principal component analysis of the lipid classes.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
PC1	-0.40 ± 0.88	0.35 ± 0.44	1.04 ± 0.12	-2.40 ± 0.22	0.38 ± 0.75	0.11 ± 0.09
PC2	1.48 ± 0.88	-0.27 ± 0.59	-0.19 ± 0.57	-0.69 ± 0.26	-0.79 ± 0.22	-0.33 ± 0.29
PC3	-0.40 ± 0.81	-0.57 ± 0.45	2.42 ± 0.71	0.75 ± 0.41	-0.53 ± 0.36	-0.43 ± 0.80
PC4	-0.32 ± 0.55	0.93 ± 0.82	-0.39 ± 0.60	0.17 ± 0.44	-1.30 ± 0.13	0.37 ± 0.42
PC5	0.09 ± 0.16	-0.24 ± 0.75	-0.20 ± 0.45	-0.78 ± 0.24	-0.81 ± 0.65	2.47 ± 0.79

Supplementary Table S4. Rotated component loadings of the first five principal components. Major loadings for each fatty acid are presented in bold.

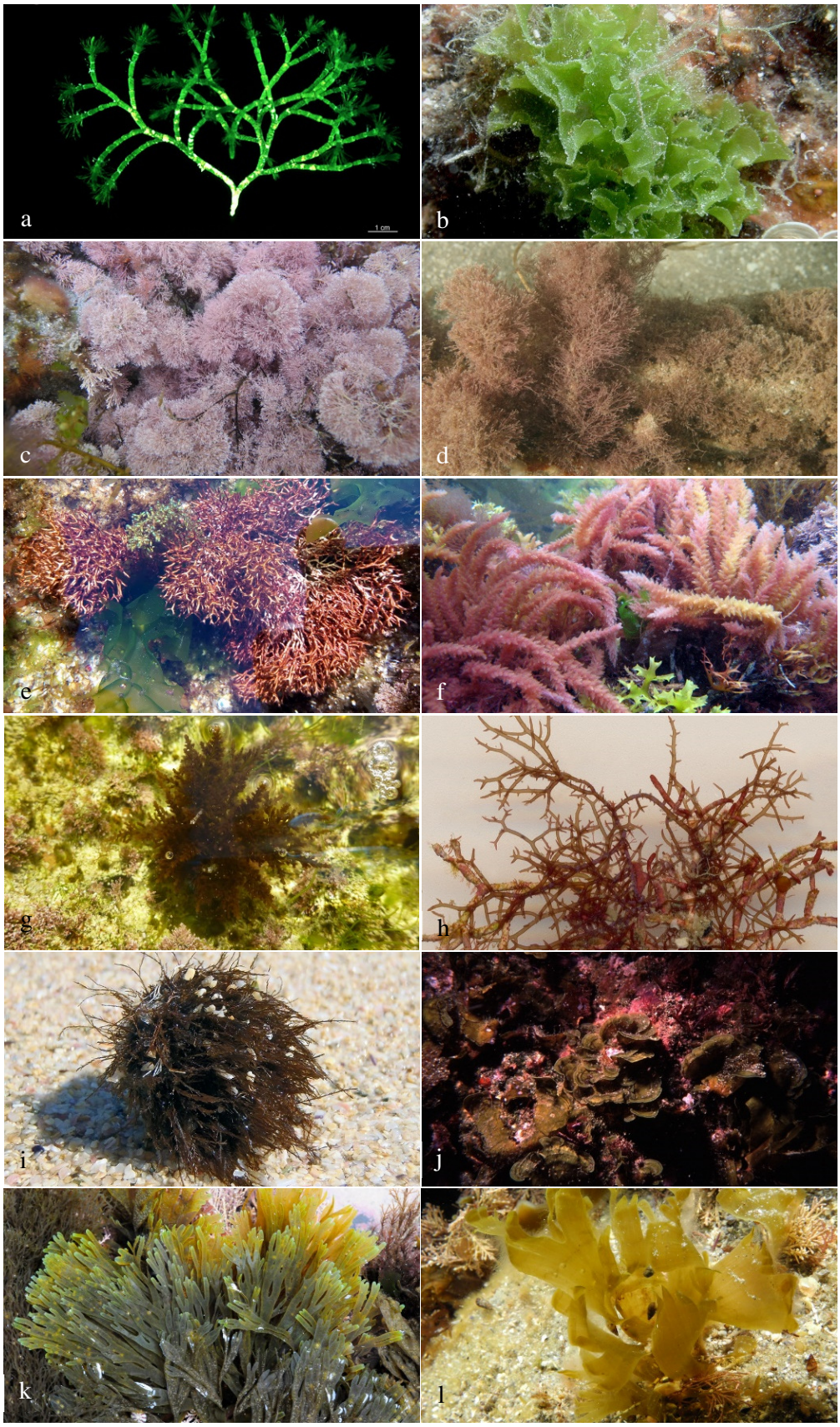
	Rotated component loadings					
	Component					
Fatty acid	1	2	3	4	5	Communalities
14:0	-0.112	-0.100	**0.807**	-0.300	-0.220	0.811
16:0	**-0.841**	-0.331	0.391	0.090	0.003	0.977
16:1n-11	-0.012	0.117	-0.147	0.005	**0.938**	0.914
16:1n-7	-0.412	-0.219	**-0.554**	-0.027	-0.486	0.762
16:1n-5	-0.006	**0.950**	-0.029	-0.151	0.061	0.930
18:0	-0.249	-0.236	-0.028	**0.884**	-0.220	0.949
18:1n-9	0.457	**0.699**	0.190	0.445	-0.191	0.969
18:1n-7	-0.101	-0.327	**-0.826**	-0.329	0.013	0.909
18:1n-5	-0.076	**0.864**	0.141	-0.034	0.303	0.866
18:2n-6	**0.786**	-0.437	-0.279	0.145	0.082	0.916
18:3n-3	0.294	0.110	-0.009	**0.780**	0.423	0.886
18:4n-3	**0.883**	0.281	0.068	-0.016	0.224	0.914
20:4n-6	**0.800**	-0.013	0.421	0.395	0.059	0.976
20:5n-3	**0.787**	-0.219	0.297	-0.156	-0.156	0.804

Supplementary Table S5. Mean factor scores for each cluster of the dendrogram based on fatty acid data. Results represent mean ± SD. PC1, PC2, PC3, PC4, and PC5 were extracted through principal component analysis of the fatty acids.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
PC1	0.60 ± 0.11	1.73 ± 0.39	-1.05 ± 0.29	-0.47 ± 0.61	0.36 ± 0.40	0.30 ± 0.51
PC2	-0.65 ± 0.10	-0.70 ± 0.07	-0.47 ± 0.32	-0.24 ± 0.15	-0.03 ± 0.10	2.00 ± 0.84
PC3	-2.58 ± 0.94	0.88 ± 0.36	-0.75 ± 0.43	-0.30 ± 0.38	-0.39 ± 0.27	0.14 ± 0.48
PC4	-1.05 ± 0.41	-0.66 ± 0.21	-0.60 ± 0.23	1.12 ± 1.06	0.58 ± 0.53	-0.09 ± 0.74
PC5	0.07 ± 0.37	-0.34 ± 0.21	-0.42 ± 0.74	0.80 ± 0.62	-1.90 ± 0.79	0.38 ± 0.62

Supplementary Figure S1. Pictures from macroalgae species used in this study. (a) *Cymopolia barbata* (Linnaeus) J.V. Lamouroux (Order Dasycladales); (b) *Anadyomene stellata* (Wulfen) C. Agardh (Order Cladophorales); (c) *Jania rubens* (Linnaeus) J.V. Lamouroux (Order Corallinales); (d) *Jania* sp. (Order Corallinales); (e) *Liagora* sp. (Order Nemaliales); (f) *Asparagopsis* sp. (Order Bonnemaisoniales); (g) *Laurencia* sp. (Order Ceramiales); (h) *Hypnea spinella* (C.Agardh) Kützing (Order Gigartinales); (i) *Stypocaulon sp.* (Order Sphacelariales); (j) *Lobophora* sp. (Order Dictyotales); (k) *Dictyota* sp. (Order Dictyotales); (l) *Taonia atomaria* (Woodward) J. Agardh (Order

38 Dictyotales). AlgaeBase. Available online: https://www.algaebase.org (accessed May



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