

Supplementary Table S1. Relation expression between marine algal coverage and fresh weight.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Ecklonia cava</i>	25.69 (0.36)	0.90	0.90	5034.19	9.20 (0.02)	1.22 (0.46)	0.91	0.91	5989.65	20.41 (10.56)	587
<i>Gelidium elegans</i>	13.61 (0.14)	0.95	0.95	9706.99	5.09 (0.01)	1.24 (0.16)	0.93	0.93	7846.03	8.65 (5.05)	559
<i>Plocamium telfairiae</i>	12.63 (0.11)	0.96	0.96	14110.68	6.01 (0.02)	1.18 (0.15)	0.92	0.91	5659.05	7.74 (3.76)	530
<i>Corallina pilulifera</i>	6.95 (0.07)	0.95	0.95	9024.81	5.85 (0.01)	1.03 (0.16)	0.91	0.91	5089.48	6.76 (3.05)	522
<i>Corallina aberrans</i>	10.72 (0.12)	0.94	0.94	8458.36	6.63 (0.01)	1.11 (0.19)	0.92	0.92	6209.81	8.57 (3.28)	516
<i>Peyssonnelia caulifera</i>	4.11 (0.05)	0.93	0.93	6299.26	3.98 (0.01)	1.00 (0.11)	0.95	0.95	8267.55	4.25 (1.42)	486
<i>Rhodomenia intricata</i>	6.41 (0.05)	0.97	0.97	14357.59	4.17 (0.01)	1.11 (0.08)	0.95	0.95	7608.09	4.80 (1.70)	426
<i>Amphiroa beauvoisii</i>	8.79 (0.12)	0.94	0.94	5495.86	4.23 (0.02)	1.18 (0.14)	0.92	0.92	4206.46	5.89 (2.778)	361
<i>Sargassum horneri</i>	18.00 (0.29)	0.92	0.92	3963.62	5.38 (0.02)	1.29 (0.21)	0.94	0.94	5159.58	9.91 (6.49)	329
<i>Acrosorium ciliolatum</i>	5.94 (0.06)	0.98	0.98	10046.99	3.24 (0.02)	1.20 (0.10)	0.93	0.93	3040.09	3.96 (1.69)	237
<i>Rugulopteryx okamurae</i>	6.05 (0.08)	0.96	0.96	5436.97	3.15 (0.03)	1.28 (0.09)	0.92	0.92	2454.69	3.95 (1.91)	211
<i>Callophyllis adhaerens</i>	2.639 (0.03)	0.98	0.98	10734.15	2.12 (0.02)	1.16 (0.05)	0.93	0.93	2637.26	2.26 (0.69)	206
<i>Grateloupia elliptica</i>	26.51 (0.52)	0.93	0.93	2611.16	7.36 (0.02)	1.30 (0.41)	0.94	0.94	3036.90	15.05 (8.50)	200
<i>Sargassum macrocarpum</i>	19.25 (0.33)	0.95	0.95	3435.58	8.33 (0.02)	1.19 (0.55)	0.94	0.94	3035.87	15.56 (6.49)	193
<i>Lithophyllum okamurae</i>	28.02 (0.45)	0.95	0.95	3848.92	19.23 (0.02)	1.10 (0.61)	0.93	0.93	2485.61	22.34 (7.57)	189
<i>Phycodrys fimbriata</i>	9.56 (0.17)	0.95	0.95	3129.22	4.72 (0.02)	1.16 (0.25)	0.93	0.93	2355.73	6.94 (3.88)	183
<i>Undaria pinnatifida</i>	22.03 (0.59)	0.90	0.89	1387.26	6.50 (0.03)	1.34 (0.44)	0.94	0.94	2748.87	16.56 (9.10)	164
<i>Amphiroa anceps</i>	11.58 (0.22)	0.95	0.95	2842.85	5.60 (0.03)	1.18 (0.36)	0.90	0.90	1444.45	8.54 (3.59)	163
<i>Codium hubbsii</i>	10.84 (0.16)	0.97	0.97	4916.18	7.23 (0.02)	1.17 (0.23)	0.94	0.94	2418.77	8.73 (2.78)	161

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Gracilaria textorii</i>	6.65 (0.09)	0.97	0.97	5170.57	4.18 (0.02)	1.19 (0.12)	0.96	0.96	3426.97	5.06 (1.85)	160
<i>Dichotomaria falcata</i>	10.40 (0.19)	0.95	0.95	2973.83	6.25 (0.03)	1.12 (0.37)	0.90	0.89	1270.44	8.30 (3.66)	151
<i>Callophyllis crispata</i>	1.16 (0.02)	0.96	0.96	3218.52	1.24 (0.02)	0.95 (0.03)	0.94	0.94	2300.56	1.27 (0.38)	149
<i>Grateloupia cornea</i>	11.79 (0.15)	0.98	0.98	5842.61	5.38 (0.04)	1.23 (0.30)	0.90	0.90	1183.80	7.72 (3.93)	149
<i>Synarthrophyton chejuense</i>	2.95 (0.06)	0.94	0.94	2420.59	2.64 (0.03)	1.05 (0.12)	0.87	0.87	1002.97	3.00 (1.08)	146
<i>Dictyopteris prolifera</i>	10.62 (0.18)	0.96	0.96	3347.38	6.08 (0.04)	1.18 (0.33)	0.87	0.87	994.96	7.98 (4.16)	146
<i>Dictyota coriacea</i>	12.17 (0.24)	0.95	0.95	2627.68	5.90 (0.03)	1.18 (0.28)	0.94	0.94	2036.47	8.15 (3.38)	140
<i>Pterocladia capillacea</i>	12.25 (0.17)	0.97	0.97	5144.55	4.87 (0.03)	1.21 (0.29)	0.91	0.91	1342.22	7.08 (3.95)	138
<i>Chondracanthus tenellus</i>	9.58 (0.17)	0.96	0.96	3134.26	4.04 (0.03)	1.20 (0.20)	0.93	0.93	1882.26	5.64 (2.65)	136
<i>Chondracanthus intermedius</i>	2.91 (0.04)	0.98	0.98	5164.52	2.63 (0.03)	0.99 (0.09)	0.90	0.90	1105.06	2.84 (1.11)	131
<i>Fushitsunagia catenata</i>	12.49 (0.19)	0.97	0.97	4297.01	6.39 (0.02)	1.16 (0.24)	0.96	0.96	2750.18	7.95 (3.29)	126
<i>Ulva australis</i>	4.95 (0.12)	0.94	0.94	1809.32	3.53 (0.03)	1.10 (0.15)	0.93	0.93	1670.04	4.14 (1.78)	121
<i>Alatocladia modesta</i>	10.49 (0.25)	0.94	0.94	1774.29	6.45 (0.04)	1.14 (0.37)	0.90	0.90	1080.68	8.42 (3.52)	117
<i>Grateloupia angusta</i>	5.80 (0.13)	0.95	0.95	2079.54	4.69 (0.04)	1.07 (0.30)	0.90	0.90	883.19	5.54 (1.96)	104
<i>Acrosorium polyneurum</i>	6.08 (0.13)	0.96	0.96	2136.42	3.75 (0.03)	1.15 (0.22)	0.93	0.93	1191.80	4.85 (2.21)	97
<i>Padina arborescens</i>	11.44 (0.24)	0.96	0.96	2351.09	6.52 (0.03)	1.11 (0.35)	0.95	0.95	1921.50	8.25 (2.77)	95
<i>Colpomenia sinuosa</i>	14.64 (0.34)	0.95	0.95	1820.52	6.61 (0.04)	1.24 (0.35)	0.92	0.92	952.65	8.45 (4.44)	88
<i>Callophyllis japonica</i>	11.20 (0.29)	0.95	0.95	1491.22	5.40 (0.05)	1.24 (0.36)	0.90	0.89	703.86	7.42 (3.90)	85
<i>Symphyocladia marchantioides</i>	5.31 (0.16)	0.95	0.95	1500.05	3.87 (0.05)	1.28 (0.17)	0.91	0.91	802.87	4.27 (1.74)	83

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Carpomitra costata</i>	8.04 (0.21)	0.95	0.95	1440.22	4.11 (0.03)	1.13 (0.25)	0.95	0.95	1594.27	5.39 (2.28)	82
<i>Ecklonia bicyclis</i>	38.20 (1.19)	0.93	0.93	1024.57	16.13 (0.04)	1.16 (2.02)	0.92	0.92	952.39	28.94 (10.29)	80
<i>Corallina confusa</i>	5.47 (0.05)	0.99	0.99	12633.90	4.69 (0.03)	1.07 (0.17)	0.95	0.95	1338.33	5.05 (1.38)	76
<i>Sargassum coreanum</i>	14.85 (0.39)	0.95	0.95	1474.62	7.16 (0.04)	1.18 (0.86)	0.92	0.92	813.53	12.55 (4.49)	74
<i>Amphiroa foliacea</i>	6.06 (0.17)	0.95	0.95	1306.40	5.08 (0.03)	1.06 (0.23)	0.93	0.93	966.53	5.61 (1.61)	72
<i>Cladophora wrightiana</i> var. <i>minor</i>	12.58 (0.34)	0.95	0.95	1377.53	6.71 (0.04)	1.14 (0.52)	0.93	0.93	936.58	9.17 (3.75)	71
<i>Sargassum patens</i>	20.69 (0.42)	0.97	0.97	2467.34	13.13 (0.02)	1.08 (0.68)	0.98	0.98	2790.63	16.18 (4.32)	69
<i>Umbraulva japonica</i>	4.17 (0.08)	0.98	0.98	2674.83	3.23 (0.03)	1.11 (0.12)	0.95	0.95	1310.81	3.63 (0.90)	69
<i>Plocamium cartilagineum</i>	6.22 (0.20)	0.93	0.93	928.68	3.48 (0.04)	1.38 (0.14)	0.94	0.94	989.89	4.22 (1.90)	69
<i>Callophyllis rhynchocarpa</i>	3.73 (0.08)	0.97	0.97	2321.54	2.60 (0.04)	1.19 (0.11)	0.94	0.94	966.46	2.89 (0.93)	67
<i>Chondrus ocellatus</i>	6.90 (0.17)	0.96	0.96	1725.89	2.64 (0.05)	1.39 (0.18)	0.94	0.94	964.56	4.52 (2.14)	66
<i>Calliblepharis saidana</i>	2.30 (0.06)	0.97	0.97	1717.40	1.81 (0.03)	1.08 (0.10)	0.95	0.95	1152.25	2.08 (0.64)	61
<i>Herpochondria dentata</i>	2.80 (0.09)	0.94	0.94	965.82	2.33 (0.04)	1.09 (0.11)	0.92	0.91	615.93	2.55 (0.83)	59
<i>Delisea pulchra</i>	10.73 (0.43)	0.92	0.91	629.01	3.41 (0.08)	1.44 (0.40)	0.86	0.86	343.73	6.92 (4.12)	59
<i>Pachyarthon cretaceum</i>	10.08 (0.32)	0.95	0.95	1002.56	8.55 (0.05)	1.08 (0.53)	0.90	0.89	482.04	9.68 (3.25)	58
<i>Corallina officinalis</i>	8.89 (0.20)	0.97	0.97	1943.55	6.31 (0.04)	1.10 (0.38)	0.95	0.95	972.13	7.48 (2.09)	57
<i>Gelium yoshidae</i>	7.68 (0.26)	0.94	0.94	896.96	5.34 (0.05)	1.12 (0.40)	0.90	0.90	507.43	6.51 (2.35)	57
<i>Myagropsis myagroides</i>	18.67 (0.65)	0.94	0.94	836.23	11.23 (0.04)	1.12 (1.16)	0.95	0.95	1000.24	16.52 (7.31)	54
<i>Symphyocladia latiuscula</i>	3.88 (0.12)	0.95	0.95	997.07	3.93 (0.04)	0.98 (0.18)	0.94	0.93	715.26	3.99 (0.99)	52

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Jania nipponica</i>	3.80 (0.12)	0.95	0.95	957.03	3.12 (0.05)	1.11 (0.17)	0.92	0.92	530.17	3.50 (1.16)	49
<i>Zonaria diesingiana</i>	5.13 (0.17)	0.95	0.95	874.67	4.67 (0.05)	0.99 (0.37)	0.89	0.89	373.24	4.88 (1.56)	47
<i>Gymnogongrus flabelliformis</i>	2.32 (0.09)	0.93	0.93	614.02	1.85 (0.04)	1.10 (0.12)	0.94	0.93	625.34	2.16 (0.65)	45
<i>Desmarestia viridis</i>	9.97 (0.34)	0.95	0.95	860.67	7.82 (0.05)	1.04 (0.83)	0.92	0.92	486.92	8.93 (3.04)	45
<i>Amphiroa ephedraea</i>	6.56 (0.17)	0.97	0.97	1450.35	5.54 (0.04)	1.05 (0.36)	0.93	0.93	582.36	6.12 (1.86)	44
<i>Binghamia californica</i>	1.77 (0.09)	0.90	0.90	387.55	1.29 (0.09)	1.18 (0.13)	0.80	0.79	163.17	1.61 (0.70)	43
<i>Dictyopteris undulata</i>	6.44 (0.23)	0.95	0.95	793.79	3.86 (0.05)	1.19 (0.32)	0.95	0.94	691.82	5.36 (2.13)	42
<i>Portieria japonica</i>	2.86 (0.10)	0.96	0.96	853.77	2.33 (0.06)	1.14 (0.14)	0.92	0.92	423.98	2.67 (0.82)	40
<i>Dasyisiphonia japonica</i>	8.60 (0.48)	0.89	0.89	327.58	3.54 (0.07)	1.43 (0.28)	0.92	0.91	407.51	5.31 (2.57)	40
<i>Distromium decumbens</i>	2.53 (0.09)	0.96	0.95	809.40	1.48 (0.04)	1.19 (0.10)	0.95	0.95	771.54	1.96 (0.70)	39
<i>Laurencia obtusa</i>	6.00 (0.26)	0.94	0.93	550.04	3.81 (0.06)	1.23 (0.27)	0.93	0.93	496.66	4.88 (1.74)	39
<i>Halopteris filicina</i>	3.55 (0.11)	0.97	0.96	1015.83	3.32 (0.04)	0.98 (0.19)	0.93	0.93	489.18	3.39 (0.87)	38
<i>Jania arborescens</i>	3.81 (0.16)	0.94	0.94	561.54	2.22 (0.05)	1.21 (0.18)	0.94	0.94	569.89	3.03 (1.04)	37
<i>Caulacanthus okamurae</i>	2.19 (0.08)	0.96	0.96	811.97	1.93 (0.05)	1.04 (0.13)	0.93	0.92	421.30	2.09 (0.62)	36
<i>Halopeltis adnata</i>	4.04 (0.18)	0.93	0.93	485.74	1.86 (0.06)	1.39 (0.14)	0.93	0.93	479.31	2.63 (1.18)	36
<i>Ecklonia cava</i> subsp. <i>stolonifera</i>	27.31 (1.07)	0.95	0.95	656.15	11.71 (0.06)	1.19 (2.20)	0.93	0.93	450.25	23.29 (9.54)	35
<i>Sargassum hemiphyllum</i>	11.54 (0.29)	0.98	0.98	1631.55	5.56 (0.04)	1.14 (0.43)	0.96	0.95	692.72	6.91 (2.59)	35
<i>Grateloupia crispata</i>	5.16 (0.22)	0.94	0.94	538.47	2.25 (0.07)	1.51 (0.17)	0.93	0.93	470.18	3.45 (1.82)	35
<i>Lychaete sakaii</i>	5.10 (0.12)	0.98	0.98	1679.14	2.60 (0.04)	1.18 (0.19)	0.96	0.96	741.32	3.45 (1.19)	34

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Dichotomaria apiculata</i>	12.09 (0.26)	0.99	0.99	2213.35	7.23 (0.03)	1.17 (0.45)	0.98	0.98	1643.45	9.98 (3.02)	34
<i>Laurencia pinnata</i>	2.62 (0.12)	0.93	0.93	460.30	2.16 (0.07)	1.15 (0.14)	0.89	0.89	263.87	2.37 (0.81)	34
<i>Erythroglossum minimum</i>	3.11 (0.11)	0.96	0.96	738.98	2.27 (0.07)	1.21 (0.15)	0.91	0.91	334.57	2.63 (0.98)	34
<i>Dictyopteris pacifica</i>	6.20 (0.24)	0.96	0.96	653.47	6.21 (0.05)	0.95 (0.55)	0.92	0.92	331.57	6.24 (1.91)	31
<i>Codium fragile</i>	11.55 (0.27)	0.98	0.98	1799.34	9.39 (0.04)	1.05 (0.60)	0.96	0.96	778.54	10.27 (2.66)	31
<i>Callophyllis adnata</i>	3.68 (0.13)	0.97	0.97	852.76	2.62 (0.05)	1.19 (0.22)	0.95	0.95	493.13	3.35 (1.20)	29
<i>Herpochondria elegans</i>	3.27 (0.24)	0.87	0.87	185.05	3.38 (0.09)	1.00 (0.27)	0.82	0.81	119.42	3.65 (1.37)	28
<i>Amphiroa echigoensis</i>	7.58 (0.44)	0.92	0.92	301.27	7.39 (0.04)	1.06 (0.48)	0.97	0.97	816.37	8.10 (2.44)	28
<i>Dictyota dichotoma</i>	6.28 (0.18)	0.98	0.98	1272.52	4.27 (0.06)	1.15 (0.38)	0.94	0.94	418.51	5.32 (1.88)	28
<i>Desmarestia dudresnayi</i> subsp. <i>tabacoides</i>	7.89 (0.33)	0.96	0.95	569.97	6.95 (0.05)	1.00 (0.92)	0.94	0.93	373.44	7.17 (1.62)	28
<i>Sphacelaria californica</i>	3.78 (0.11)	0.98	0.98	1172.52	3.63 (0.06)	1.03 (0.25)	0.93	0.92	308.54	3.86 (1.28)	27
<i>Champia recta</i>	9.31 (0.23)	0.99	0.99	1705.51	6.07 (0.05)	1.18 (0.41)	0.96	0.96	539.32	7.22 (2.33)	26
<i>Sargassum yendoii</i>	14.19 (0.41)	0.98	0.98	1214.60	8.56 (0.06)	1.15 (1.48)	0.94	0.93	336.45	13.20 (3.36)	25
<i>Dictyopteris latiuscula</i>	6.56 (0.35)	0.94	0.94	343.82	4.31 (0.09)	1.11 (0.52)	0.88	0.87	154.12	5.22 (2.09)	24
<i>Sargassum serratifolium</i>	15.37 (0.76)	0.95	0.95	412.73	5.13 (0.08)	1.26 (1.38)	0.93	0.92	262.24	13.01 (3.61)	23
<i>Caulerpa okamurai</i>	12.30 (0.53)	0.96	0.96	538.11	11.33 (0.06)	1.07 (0.80)	0.94	0.94	317.82	12.24 (3.27)	22
<i>Cryptopleura membranacea</i>	4.26 (0.17)	0.97	0.97	599.32	3.33 (0.06)	1.08 (0.34)	0.95	0.95	372.02	3.89 (1.09)	22
<i>Padina gymnospora</i>	6.67 (0.19)	0.99	0.98	1282.74	5.08 (0.05)	1.13 (0.33)	0.97	0.97	613.71	5.93 (1.46)	21
<i>Laurencia okamurai</i>	11.16 (0.34)	0.98	0.98	1057.80	7.36 (0.05)	1.27 (0.39)	0.98	0.97	752.56	9.31 (2.47)	21

Supplementary Table S1. Continued.

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	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Heterosiphonia pulchra</i>	3.57 (0.07)	0.99	0.99	2326.25	2.57 (0.06)	1.21 (0.19)	0.96	0.95	377.93	2.89 (0.97)	20
<i>Botryocladia wrightii</i>	11.04 (0.35)	0.98	0.98	992.68	9.02 (0.03)	1.08 (0.44)	0.98	0.98	1111.87	9.96 (1.56)	20
<i>Sargassum fulvellum</i>	10.61 (0.57)	0.95	0.95	351.47	4.60 (0.09)	1.26 (0.98)	0.93	0.92	221.16	8.99 (2.57)	20
<i>Sargassum micracanthum</i>	12.99 (0.19)	1.00	1.00	4584.17	10.93 (0.03)	1.05 (0.71)	0.98	0.98	1078.83	11.98 (1.89)	19
<i>Polycoelia harveyana</i>	3.15 (0.13)	0.97	0.97	618.18	1.92 (0.09)	1.42 (0.17)	0.93	0.93	240.96	2.74 (0.84)	19
<i>Laurencia intricata</i>	5.14 (0.20)	0.97	0.97	640.07	3.27 (0.08)	1.28 (0.25)	0.94	0.94	256.98	3.60 (1.37)	18
<i>Phacelocarpus japonicus</i>	12.87 (0.63)	0.96	0.96	423.81	6.88 (0.07)	1.31 (0.78)	0.95	0.95	319.39	10.86 (3.82)	18
<i>Lychaete herpestica</i>	5.96 (0.24)	0.98	0.97	628.75	5.65 (0.06)	0.99 (0.33)	0.95	0.94	266.83	5.69 (0.99)	17
<i>Gelidium longiramulosum</i>	7.48 (0.12)	1.00	1.00	3748.29	6.23 (0.04)	1.11 (0.40)	0.98	0.98	809.53	7.25 (1.23)	16
<i>Undaria peterseniana</i>	13.83 (0.69)	0.96	0.96	405.75	4.80 (0.07)	1.26 (1.21)	0.96	0.96	318.13	12.23 (4.29)	16
<i>Hypnea asiatica</i>	6.25 (0.11)	1.00	1.00	3449.18	5.37 (0.04)	1.05 (0.29)	0.98	0.98	809.82	5.59 (1.00)	16
<i>Codium coactum</i>	16.03 (0.59)	0.98	0.98	728.44	11.62 (0.07)	1.12 (1.46)	0.95	0.95	278.69	14.67 (3.58)	16
<i>Codium minus</i>	20.58 (0.50)	0.99	0.99	1668.35	12.75 (0.03)	1.20 (0.62)	0.99	0.99	1439.62	16.38 (3.84)	16
<i>Sargassum confusum</i>	12.94 (0.41)	0.99	0.99	1005.63	9.92 (0.05)	1.10 (0.87)	0.98	0.98	552.68	11.89 (2.01)	15
<i>Kallymenia crassiuscula</i>	4.04 (0.27)	0.94	0.94	219.21	2.55 (0.07)	1.18 (0.22)	0.96	0.96	307.37	2.98 (1.18)	15
<i>Derbesia marina</i>	3.74 (0.16)	0.98	0.98	581.89	3.53 (0.09)	1.08 (0.23)	0.92	0.91	131.08	3.67 (0.85)	14
<i>Pterothamnion yezoense</i>	1.36 (0.05)	0.99	0.99	906.78	1.26 (0.05)	1.01 (0.06)	0.97	0.97	437.90	1.28 (0.19)	14
<i>Palisada intermedia</i>	7.59 (0.06)	1.00	1.00	16617.76	5.94 (0.03)	1.09 (0.29)	0.99	0.99	1508.77	6.58 (1.28)	13
<i>Grateloupia turuturu</i>	14.71 (0.46)	0.99	0.99	1006.20	13.85 (0.05)	0.99 (1.02)	0.98	0.97	397.91	13.95 (2.43)	12

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio		n
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)		
<i>Sonderophycus capensis</i>	4.80 (0.25)	0.97	0.97	368.27	4.43 (0.12)	1.04 (0.97)	0.89	0.88	72.471	4.89 (1.41)	11	
<i>Schizymenia dubyi</i>	6.51 (0.17)	0.99	0.99	1420.18	5.66 (0.08)	1.08 (0.58)	0.96	0.95	204.91	6.32 (0.96)	11	
<i>Ardissonula regularis</i>	8.09 (0.27)	0.99	0.99	875.42	5.42 (0.07)	1.21 (0.52)	0.97	0.97	341.38	7.30 (1.13)	11	
<i>Dictyota implexa</i>	2.81 (0.15)	0.97	0.97	338.03	3.23 (0.05)	0.92 (0.20)	0.98	0.97	316.69	3.06 (0.43)	10	
<i>Amphiroa galapagensis</i>	6.77 (0.15)	1.00	1.00	1972.18	4.67 (0.16)	1.33 (0.86)	0.90	0.88	68.87	6.53 (1.89)	10	
<i>Grateloupia elata</i>	10.63 (0.29)	0.99	0.99	1368.81	6.66 (0.08)	1.20 (1.14)	0.97	0.96	237.39	10.30 (2.18)	10	
<i>Sargassum piluliferum</i>	12.34 (0.52)	0.98	0.98	564.89	12.98 (0.05)	1.01 (1.76)	0.98	0.98	462.22	13.39 (2.60)	10	
<i>Chaetomorpha moniligera</i>	9.11 (0.44)	0.98	0.98	433.18	4.85 (0.07)	1.18 (0.62)	0.98	0.97	316.96	6.48 (2.79)	10	
<i>Sporochnus radiciformis</i>	5.89 (0.12)	1.00	1.00	2289.63	4.74 (0.02)	1.08 (0.19)	1.00	1.00	2439.98	5.25 (0.83)	10	
<i>Polysiphonia morrowii</i>	6.67 (0.20)	0.99	0.99	1073.77	3.74 (0.04)	1.23 (0.26)	0.99	0.99	840.98	5.20 (1.31)	10	
<i>Sargassum pinnatifidum</i>	16.33 (0.44)	0.99	0.99	1371.88	14.81 (0.05)	1.04 (1.31)	0.98	0.98	385.48	15.71 (2.73)	10	
<i>Jania rubens</i>	6.68 (0.21)	0.99	0.99	1037.38	6.06 (0.12)	1.03 (0.86)	0.90	0.89	74.07	6.50 (1.84)	10	
<i>Dictyopteris divaricata</i>	15.65 (0.86)	0.97	0.97	328.33	8.60 (0.05)	1.20 (0.99)	0.99	0.98	566.08	13.27 (3.43)	10	
<i>Scinaia japonica</i>	12.00 (1.05)	0.94	0.93	129.48	6.60 (0.10)	1.30 (0.94)	0.95	0.95	162.86	9.80 (3.09)	10	
<i>Scinaia okamurae</i>	15.97 (0.77)	0.98	0.98	430.11	8.82 (0.06)	1.25 (0.71)	0.98	0.98	415.03	11.06 (3.70)	10	
<i>Portieria hornemannii</i>	6.96 (0.43)	0.97	0.96	262.75	4.77 (0.17)	1.40 (0.59)	0.89	0.88	64.27	5.54 (2.02)	10	
<i>Lomentaria lubrica</i>	3.27 (0.08)	1.00	1.00	1693.59	2.95 (0.08)	1.13 (0.26)	0.97	0.97	179.22	3.14 (0.70)	7	
<i>Chondracanthus teedei</i>	3.96 (0.15)	0.99	0.99	682.93	5.17 (0.09)	0.82 (0.58)	0.95	0.93	85.47	4.33 (0.90)	7	
<i>Peyssonnelia orientalis</i>	3.61 (0.09)	1.00	1.00	1583.80	3.12 (0.07)	1.07 (0.30)	0.98	0.97	220.27	3.39 (0.44)	7	

Supplementary Table S1. Continued.

Species	Linear regression (FW = aC)				Power regression (FW = aC ^b)					FW/Cov. ratio	
	a (SE)	R ²	Adj. R ²	F-value	a (SE)	b (SE)	R ²	Adj. R ²	F-value	Mean (SE)	n
<i>Champia bifida</i>	6.90 (0.30)	0.99	0.99	515.70	6.77 (0.05)	0.98 (0.40)	0.99	0.99	439.37	6.73 (0.90)	7
<i>Gelidium pusillum</i>	5.15 (0.47)	0.95	0.94	118.49	4.94 (0.18)	0.98 (0.68)	0.86	0.83	30.42	5.07 (1.32)	7
<i>Ecklonia</i> complex	27.36 (0.37)	0.89	0.89	5456.01	9.63 (0.45)	1.22 (0.02)	0.91	0.91	7009.33	21.53 (0.41)	702
<i>Sargassum/Undaria</i> complex	18.39 (0.17)	0.92	0.92	11574.70	6.57 (0.16)	1.26 (0.01)	0.94	0.94	17228.44	13.13 (0.22)	1056
Understory complex	10.42 (0.06)	0.74	0.74	27684.20	4.38 (0.03)	1.18 (0.01)	0.87	0.87	66536.92	6.55 (0.05)	9866
Total	17.72 (0.10)	0.75	0.75	33994.82	4.48 (0.01)	1.25 (0.04)	0.89	0.89	94651.36	8.05 (0.06)	11624

All regression analysis results were significant (p<0.001).

n, number of samples; R², coefficient of determination; Adj., adjusted; FW, fresh weight; Cov., coverage