

Table S1: Summary of three-factor mixed model ANOVAs comparing the removal rates of (a) *Sargassum cf. baccularia* and (b) *S. polycystum* among three sites within each of three bays on Orpheus Island. Analyses were based on individual *Sargassum* thalli transplanted within each site. The proportion of biomass removed was arcsine-squareroot transformed. Significant effects ($p < 0.05$) are given in bold.

A) *Sargassum cf. baccularia*

Source of variation	SS	df	MS	F	p
Bay	4.6698	2	2.3349	18.8830	0.0026
Day	0.2308	2	0.1154	1.6674	0.2296
Site(Bay)	0.7419	6	0.1237	1.7869	0.1846
Bay × Day	0.5134	4	0.1283	1.8546	0.1833
Day × Site(Bay)	0.8304	12	0.0692	3.1851	0.0017
Residual	1.1732	54	0.0217		

B) *Sargassum polycystum*

Bay	2.4342	2	1.2171	19.7660	0.0023
Day	0.0092	2	0.0046	0.0848	0.9192
Site(Bay)	0.2139	4	0.0535	0.9891	0.4501
Bay × Day	0.3695	6	0.0616	1.1390	0.3975
Day × Site(Bay)	0.6487	12	0.0541	2.8911	0.0038
Residual	1.0098	54	0.0187		

Table S2: Relationship between benthic composition and the herbivorous fish community at nine reef crest sites on Orpheus Island. Benthic categories were based on six transects and fish densities were based on three transects within each site. Pearson’s correlation coefficients are given, and the associated probabilities are shown in parentheses. Significant correlations ($p < 0.05$) are shown in bold.

	Dimension 1 (nMDS)	Dimension 2 (nMDS)	<i>Siganus doliatus</i>	<i>Scarus rivulatus</i>	<i>Chlorurus microrhinos</i>	<i>Scarus flavipectoralis</i>	<i>Acanthurus spp.</i>	<i>Naso unicornis</i>	<i>Pomacanthus spp.</i>	<i>Scarus spp.</i>	<i>Siganus spp.</i>	'other'
Dimension 1 (nMDS)	0.484 (0.187)	-0.388 (0.302)	0.668 (0.049)	0.459 (0.214)	0.089 (0.821)	-0.456 (0.218)	0.462 (0.211)	0.340 (0.371)	-0.632 (0.068)	-0.200 (0.606)	-0.468 (0.203)	0.356 (0.348)
Dimension 2 (nMDS)	-0.090 (0.818)	0.282 (0.462)	-0.396 (0.292)	-0.338 (0.373)	-0.518 (0.153)	-0.200 (0.605)	-0.017 (0.965)	-0.105 (0.788)	0.317 (0.405)	-0.312 (0.411)	-0.091 (0.816)	0.390 (0.300)
Live branching coral	0.295 (0.441)	-0.318 (0.404)	0.181 (0.641)	0.429 (0.249)	0.354 (0.349)	0.507 (0.163)	0.432 (0.246)	-0.084 (0.830)	-0.188 (0.629)	0.876 (0.002)	0.024 (0.951)	0.104 (0.790)
Live massive coral	0.738 (0.023)	0.091 (0.817)	0.555 (0.121)	-0.018 (0.963)	0.007 (0.986)	-0.187 (0.630)	0.088 (0.822)	0.480 (0.191)	-0.626 (0.071)	0.115 (0.768)	-0.283 (0.461)	0.378 (0.316)
Dead branching coral	-0.13 (0.738)	-0.377 (0.317)	0.124 (0.750)	0.478 (0.193)	-0.305 (0.425)	-0.540 (0.133)	0.367 (0.331)	0.181 (0.642)	-0.160 (0.681)	-0.480 (0.191)	-0.525 (0.147)	0.029 (0.941)
Dead massive coral	0.441 (0.235)	0.213 (0.582)	0.287 (0.454)	-0.067 (0.864)	-0.270 (0.482)	0.121 (0.756)	0.233 (0.547)	0.281 (0.463)	-0.133 (0.733)	-0.110 (0.779)	0.177 (0.648)	0.224 (0.563)
Live plate coral	0.273 (0.476)	-0.600 (0.088)	0.754 (0.019)	0.516 (0.155)	0.583 (0.099)	-0.387 (0.304)	0.559 (0.118)	-0.326 (0.392)	-0.514 (0.157)	0.072 (0.854)	-0.330 (0.385)	0.092 (0.813)
Dead plate coral	0.158 (0.686)	-0.062 (0.873)	-0.080 (0.838)	-0.016 (0.968)	0.165 (0.672)	-0.417 (0.264)	-0.149 (0.701)	-0.020 (0.959)	-0.436 (0.241)	0.152 (0.696)	-0.382 (0.310)	0.453 (0.221)
Live encrusting coral	-0.158	0.552	-0.297	-0.584	-0.699	0.059	-0.211	0.071	0.625	-0.464	0.129	-0.145

	(0.686)	(0.123)	(0.438)	(0.099)	(0.036)	(0.880)	(0.585)	(0.856)	(0.072)	(0.208)	(0.740)	(0.709)
Soft coral	-0.187	0.333	-0.471	-0.483	0.073	0.313	-0.261	-0.564	0.419	0.405	0.318	0.016
	(0.630)	(0.381)	(0.201)	(0.188)	(0.852)	(0.412)	(0.498)	(0.114)	(0.262)	(0.280)	(0.404)	(0.968)
Macroalgae	0.243	-0.519	0.666	0.530	0.182	-0.630	0.448	0.194	-0.566	-0.498	-0.437	0.229
	(0.529)	(0.153)	(0.050)	(0.143)	(0.640)	(0.069)	(0.226)	(0.618)	(0.112)	(0.172)	(0.240)	(0.554)
Rubble	-0.709	0.125	-0.579	-0.155	-0.050	0.267	-0.404	-0.243	0.574	-0.082	0.349	-0.612
	(0.033)	(0.748)	(0.103)	(0.690)	(0.898)	(0.487)	(0.281)	(0.529)	(0.106)	(0.833)	(0.357)	(0.080)
Sand	0.537	-0.398	0.650	0.394	0.299	-0.414	0.218	0.461	-0.737	0.049	-0.602	0.355
	(0.136)	(0.288)	(0.058)	(0.295)	(0.435)	(0.268)	(0.573)	(0.212)	(0.024)	(0.900)	(0.086)	(0.348)