

## Biodiversity surveys and stable isotope analyses reveal key differences in intertidal assemblages between tropical seawalls and rocky shores

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Table S1. Three-way PERMANOVA results for the analyses of differences between sites (random, four levels), habitats (fixed, two levels) and months (random, twelve levels) on presence-absence data.

	<b>df</b>	<b>MS</b>	<b>Pseudo-F</b>	<b>P(perm)</b>
<b>Site (S)</b>	3	17623	6.31	<0.001
<b>Habitat (H)</b>	1	56623	3.47	<0.001
<b>Month (M)</b>	11	5158	1.85	<0.001
<b>S × H</b>	3	14153	6.21	<0.001
<b>S × M</b>	33	92238	2795	<0.001
<b>H × M</b>	11	2825	1.24	0.10
<b>S × H × M</b>	33	75136	1.25	<0.001
<b>Residual</b>	480	1817		
<b>Total</b>	575			

Table S2. Top species contributing most to the community differences between habitats in the main dataset (which is square-root transformed and standardised), and when data is transformed to presence and absence data.

<b>Species</b>	<b>Contribution in Presence/Absence dataset (%)</b>	<b>Contribution in main dataset (%)</b>
<i>Ligia exotica</i>	8.5	12.1
<b>Turf algae</b>	8.2	17.7
<i>Drupella magaritcola</i>	5.5	3.6
<b>Amphipods</b>	5.4	4.5
<i>Pictocolumbella ocellata</i>	4.3	4.6
<i>Monodonta labio</i>	3.8	4.2
<i>Nerita undata</i>	3.3	3.5
<i>Nanosesarma minutum</i>	3.1	2.0
<b>Macroalgae</b>	3.0	3.8
<i>Morula fusca</i>	2.7	1.9

Table S3. Three-way ANOVA and SNK tests of faunal species richness across sites, between habitats and across months.

<b>ANOVA</b>					
	<b>df</b>	<b>MS</b>	<b>F-value</b>	<b>P(perm)</b>	
<b>Site (S)</b>	3	69.82	11.57	<0.001	***
<b>Habitat (H)</b>	1	42.25	7.00	0.01	**
<b>Month (M)</b>	11	27.88	4.62	<0.001	***
<b>S × H</b>	3	16.51	2.74	0.04	*
<b>S × M</b>	33	16.21	2.69	<0.001	***
<b>H × M</b>	11	4.52	0.75	0.69	NS
<b>S × H × M</b>	33	5.41	0.90	0.64	NS
<b>Residual</b>	480	6.03			
<b>Total</b>	575				

**SNK tests**  
**Habitat:** Rocky shore > Seawall

Table S4. Three-way ANOVA and SNK tests of all macroalgae cover across sites, between habitats and across months.

<b>ANOVA</b>					
	<b>df</b>	<b>MS</b>	<b>F-value</b>	<b>P(perm)</b>	
<b>Site (S)</b>	3	1.70	22.70	<0.001	***
<b>Habitat (H)</b>	1	2.25	30.14	<0.001	***
<b>Month (M)</b>	11	0.04	0.51	0.90	NS
<b>S × H</b>	3	0.16	2.12	0.10	NS
<b>S × M</b>	33	0.09	1.14	0.27	NS
<b>H × M</b>	11	0.11	1.51	0.16	NS
<b>S × H × M</b>	33	0.11	1.44	0.06	NS
<b>Residual</b>	480	0.07			
<b>Total</b>	575				

**SNK tests**  
**Habitat:** Rocky shore > Seawall

Table S5. Generalised linear mixed model binomial distribution and a logit link function to test effect of Habitat (fixed factor; reference level = Rocky Shore) on Sargassum cover, with Site and Month as random factors. The final model selected was *Sargassum~Habitat+(1|Month)* with an AIC of 88.1.

	<b>Estimate</b>	<b>Std. Error</b>	<b>z value</b>	<b>Pr (&gt; z )</b>	
<b>Intercept</b>	-3.92	0.48	-8.07	<0.001	***
<b>Habitat (Seawall)</b>	-1.12	0.82	-1.36	0.18	NS
	<b>Variance</b>	<b>Std. Deviation</b>			
<b>Month</b>	0.14	0.38			

Table S6. Generalised linear mixed model binomial distribution and a logit link function to test effect of Habitat (fixed factor; reference level = Rocky Shore) on encrusting crustose algae (ECC) cover, with Site and Month as random factors. The final model selected was *ECC~Habitat+(1|Site)* with an AIC of 63.1.

	<b>Estimate</b>	<b>Std. Error</b>	<b>z value</b>	<b>Pr (&gt; z )</b>	
<b>Intercept</b>	-15.97	96.87	-0.17	0.86	
<b>Habitat (Seawall)</b>	11.87	96.88	-0.12	0.90	NS
	<b>Variance</b>	<b>Std. Deviation</b>			
<b>Site</b>	0.58	0.76			

Table S7. Three-way ANOVA and SNK tests of turf algae cover across sites, between habitats and across months.

<b>ANOVA</b>					
	<b>df</b>	<b>MS</b>	<b>F-value</b>	<b>P(perm)</b>	
<b>Site (S)</b>	3	2155	4.83	<0.001	***
<b>Habitat (H)</b>	1	21615	48.50	<0.001	***
<b>Month (M)</b>	11	401	0.90	0.54	NS
<b>S × H</b>	3	3115	6.99	<0.001	***
<b>S × M</b>	33	463	1.04	0.41	NS
<b>H × M</b>	11	777	1.74	0.06	NS
<b>S × H × M</b>	33	604	1.35	0.09	NS
<b>Residual</b>	480	446			
<b>Total</b>	575				
<b>SNK tests</b>					
<b>Habitat: Rocky shore &gt; Seawall</b>					