

**Table S1. Results from two-way ANOVA for skeletal development (% spat)**

Data were arc sin square root transformed in order to homogenize variances prior to analyses. Table reports df (degrees of freedom), and MS (mean sum of squares), *F* (F statistic) and *p* (significance level) for indicated sources.

Source	df	MS	<i>F</i>	<i>p</i>
Feeding	1	2.108	126.876	<0.001
CO2	1	0.010	0.579	0.469
CO2xFeeding	1	0.000	0.004	0.949
Error	8	0.017		

**Table S2. Results from two-way, nested MANOVA of mean corallite diameter and weight**

Dependent variables were weight and diameter, tank effect was nested within CO<sub>2</sub> and feeding interaction. Prior to analysis, corallite weight was natural log transformed and diameter was square root transformed. Table reports df (degrees of freedom),  $\lambda$  (Wilk's lambda), *F* (F statistic) and *p* (significance level) for indicated sources.

Source	df	$\lambda$	<i>F</i>	<i>p</i>
Feeding	2, 7	0.010	337.628	<0.001
CO2	2, 7	0.064	50.924	<0.001
Feeding x CO2	2, 7	0.630	2.055	0.199
Tank (Feeding x CO2)	16, 558	0.953	0.858	0.619

**Table S3. Univariate results on each dependent variable used in the MANOVA**

F-tests were declared significant at alpha = 0.0062 determined for a Bonferroni correction on a total of eight F-tests. Table reports df (degrees of freedom),  $\lambda$  (Wilk's lambda), *F* (F statistic) and *p* (significance level) for indicated sources.

Source	Weight				Diameter		
	df	MS	<i>F</i>	<i>p</i>	MS	<i>F</i>	<i>p</i>
Feeding	1	10.002	136.696	<0.001	3893.983	589.073	<0.001
CO2	1	4.766	65.135	<0.001	35.606	5.386	0.049
CO2xFeeding	1	0.097	1.326	0.283	0.144	0.022	0.886
Tank (CO2xFEEDING)	8	0.073	0.688	0.702	6.610	0.741	0.655
Error	280	0.107			8.923		

**Table S4. Results from two-way, nested ANOVAs for mean, area-normalized tissue lipid content and symbiont density**

Lipid data were  $-1/x$  transformed to homogenize the variances prior to analysis. Table reports df (degrees of freedom), MS (mean sum of squares), *F* (F statistic) and *p* (significance level) for indicated sources.

Source	df	Tissue Lipid Content			Symbiont Density		
		MS	<i>F</i>	<i>p</i>	MS	<i>F</i>	<i>p</i>
Feeding	1	2.817E-03	2.279	0.170	1.201E+07	0.136	0.722
CO2	1	1.150E-04	0.093	0.768	2.164E+08	2.456	0.156
CO2xFeeding	1	1.170E-04	0.095	0.766	1.670E+08	1.895	0.206
Tank Replicate (CO2xFEEDING)	8	1.236E-03	2.870	0.022	8.811E+07	4.158	0.003
Error	24	4.310E-04			2.119E+07		

**Table S5. Sample size (n) for each statistical assessment reported in order of tank replicate (1, 2, 3) for a given condition**

<b>Treatment</b>	<b>Skeletal Development</b>	<b>Skeletal Diameter ANOVA (MANOVA)</b>	<b>Skeletal Weight ANOVA (MANOVA)</b>	<b>Symbiont Density</b>	<b>Lipid Weight</b>
<b>Ambient CO<sub>2</sub>, Fed</b>	11,12,45	10,10,44 (10,10,41)	11,11,42 (10,10,41)	4,3,3	2,3,3
<b>Ambient CO<sub>2</sub>, Unfed</b>	39,36,54	42,34,60 (39,26,51)	41,27,55 (39,26,51)	4,4,4	4,4,3
<b>High CO<sub>2</sub>, Fed</b>	14,17,17	11,13,12 (11,10,11)	12,11,11 (11,10,11)	2,2,3	3,3,2
<b>High CO<sub>2</sub>, Unfed</b>	33,35,44	30,31,39 (25,25,35)	26,27,37 (25,25,35)	3,3,3	2,3,4