

## Effects of nitrate and phosphate availability on the tissues and carbonate skeleton of scleractinian corals

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Table S1. The results of ANOVA and Tukey HSD tests for the measured variables of *Montipora digitata*. A significant difference between two groups in Tukey HSD tests is shown as \*\* ( $p < 0.01$ ) or \* ( $p < 0.05$ ). T: nutrient treatment, P: culture period, NP: +NP treatment, N: +N treatment, C: control, W2: Week 2, W4: Week 4, W9: Week 9.

Variable	Effect	df	F	P	Tukey HSD test
Chl <i>a</i> ( $\mu\text{g cm}^{-2}$ )	T	2	74.9	<0.0001	C <** NP, C <** N, N <** NP
	P	2	19.6	<0.0001	W9 <** W2, W4 <** W2, W4 = W9
	T × P	4	2.11	0.121	
Endosymbiont C ( $\mu\text{mol cm}^{-2}$ )	T	2	37.5	<0.001	
	P	2	33.4	<0.001	
	T × P	4	3.47	0.0287	Week 2: C <** NP, N <** NP, N = C Week 4: C <* NP, NP = N, N = C Week 9: C <** NP, N <** NP, N = C
Host C ( $\mu\text{mol cm}^{-2}$ )	T	2	6.05	0.0098	
	P	2	46.1	<0.0001	
	T × P	4	3.34	0.0327	Week 2: N <** NP, N = C, NP = C Week 4: NP = N = C Week 9: NP = N = C
Endosymbiont N ( $\mu\text{mol cm}^{-2}$ )	T	2	62.5	<0.001	C <** NP, C <** N, N <* NP
	P	2	16.5	<0.001	W9 <** W2, W4 <** W2, W4 = W9
	T × P	4	1.60	0.217	
Host N ( $\mu\text{mol cm}^{-2}$ )	T	2	7.55	0.0042	
	P	2	53.8	<0.0001	
	T × P	4	4.12	0.0153	Week 2: N <** NP, N = C, NP = C Week 4: NP = N = C Week 9: NP = N = C
Endosymbiont C:N	T	2	252	<0.0001	
	P	2	12.6	0.0004	
	T × P	4	7.39	0.0010	Week 2: N <** C, NP <** C, N <* NP Week 4: N <** C, NP <** C, NP = N Week 9: N <** C, NP <** C, N <** NP N <** C, NP <** C, NP = N
Host C:N	T	2	39.9	<0.0001	
	P	2	0.222	0.803	
	T × P	4	1.154	0.364	
Endosymbiont $\delta^{13}\text{C}$	T	2	19.0	<0.0001	
	P	2	32.8	<0.0001	
	T × P	4	3.89	0.0189	Week 2: NP = N = C Week 4: NP = N = C Week 9: N <** NP, N <** C, NP = C
Host $\delta^{13}\text{C}$	T	2	15.4	0.0001	
	P	2	69.3	<0.0001	
	T × P	4	3.60	0.0252	Week 2: NP = N = C Week 4: NP = N = C Week 9: N <** NP, N <** C, NP = C
Calcification ( $\text{mg cm}^{-2} \text{d}^{-1}$ )	T	2	13.5	0.0003	
	P	2	6.02	0.0100	
	T × P	4	4.95	0.0072	Week 2: NP <* C, NP = N, N = C Week 4: N <** C, NP <** C, NP = N Week 9: NP = N = C

Table S2. The results of ANOVA and Tukey HSD tests for the measured variables of *Porites cylindrica*. A significant difference between two groups in Tukey HSD tests is shown as \*\* ( $p < 0.01$ ) or \* ( $p < 0.05$ ). T: nutrient treatment, P: culture period, NP: +NP treatment, N: +N treatment, C: control, W2: Week 2, W4: Week 4, W9: Week 9.

Variable	Effect	df	F	P	Tukey HSD test
Chl <i>a</i> density ( $\mu\text{g cm}^{-2}$ )	T	2	10.3	0.0010	C <* N, C <** NP, NP = N
	P	2	3.98	0.0371	W2 = W4 = W9
	T × P	4	0.706	0.598	
Endosymbiont C ( $\mu\text{mol cm}^{-2}$ )	T	2	3.01	0.0746	
	P	2	8.48	0.0025	W9 <** W2, W9 <* W4, W2 = W4
	T × P	4	0.241	0.911	
Host C ( $\mu\text{mol cm}^{-2}$ )	T	2	0.339	0.717	
	P	2	14.4	0.0002	W9 <** W4, W9 <** W2, W2 = W4
	T × P	4	0.370	0.827	
Endosymbiont N ( $\mu\text{mol cm}^{-2}$ )	T	2	5.56	0.0132	C <* NP, N = C, NP = N
	P	2	6.25	0.0087	W9 <** W2, W9 <* W4, W2 = W4
	T × P	4	0.326	0.857	
Host N ( $\mu\text{mol cm}^{-2}$ )	T	2	0.582	0.569	
	P	2	16.3	<0.0001	W9 <** W2, W9 <** W4, W2 = W4
	T × P	4	0.360	0.834	
Endosymbiont C:N	T	2	33.7	<0.0001	N <** C, NP <** C, NP = N
	P	2	5.05	0.0182	W9 <* W2, W9 <* W4, W2 = W4
	T × P	4	0.184	0.944	
Host C:N	T	2	0.823	0.455	
	P	2	0.0206	0.980	
	T × P	4	0.188	0.942	
Endosymbiont $\delta^{13}\text{C}$	T	2	5.14	0.0171	N <* C, NP = N, NP = C
	P	2	21.2	<0.0001	W9 <** W2, W9 <** W4, W4 <* W2
	T × P	4	1.02	0.425	
Host $\delta^{13}\text{C}$	T	2	4.15	0.0329	N <* C, NP = N, NP = C
	P	2	19.0	<0.0001	W9 <** W2, W9 <** W4, W4 = W2
	T × P	4	0.571	0.687	
Calcification ( $\text{mg cm}^{-2} \text{d}^{-1}$ )	T	2	1.62	0.226	
	P	2	0.151	0.861	
	T × P	4	0.277	0.889	

Table S3. Regression lines for the correlation between skeletal isotope ratios ( $\delta^{13}\text{C}_s$  and  $\delta^{18}\text{O}_s$ ), skeletal extension rate (EXT;  $\mu\text{m}$ ), and endosymbiont and host carbon isotope ratios ( $\delta^{13}\text{C}_e$  and  $\delta^{13}\text{C}_h$ , respectively). The relationship is plotted in Fig. 4 except  $\delta^{13}\text{C}_s$  vs.  $\delta^{18}\text{O}_s$ .

Coral	Regression	$r^2$	p
<i>Montipora digitata</i>	$\delta^{13}\text{C}_s = -0.00560 \text{ EXT} - 3.59$	0.65	<0.0001
	$\delta^{18}\text{O}_s = -0.00336 \text{ EXT} - 4.85$	0.71	<0.0001
	$\delta^{13}\text{C}_s = 1.26 \delta^{18}\text{O}_s + 2.31$	0.53	0.0009
	$\delta^{13}\text{C}_s = 0.870 \delta^{13}\text{C}_e + 12.6$	0.59	0.0023
	$\delta^{13}\text{C}_s = 0.581 \delta^{13}\text{C}_h + 6.61$	0.40	0.021
<i>Porites cylindrica</i>	$\delta^{13}\text{C}_s = -0.0335 \text{ EXT} - 3.38$	0.62	0.0002
	$\delta^{13}\text{C}_s = 1.57 \delta^{13}\text{C}_e + 21.4$	0.43	0.015
	$\delta^{13}\text{C}_s = 2.08 \delta^{13}\text{C}_h + 29.9$	0.41	0.018