

Supplementary Material

Table S1: Mean values ($\pm$ standard error; $n = 3$) for all biological parameters analyzed in each coral species and experimental condition tested in the laboratory (acute) experiment: maximum quantum yield of the photosystem II (F_v/F_m), carbonic anhydrase (CA) and Ca^{2+} -ATPase activity.

Parameter	Species	Increment in Fe concentration (mg L^{-1})			
		0	0.1	0.3	0.9
F_v/F_m	<i>Mu. harttii</i>	0.73 ± 0.03	0.72 ± 0.02	0.65 ± 0.05	0.74 ± 0.01
	<i>Siderastrea</i> sp.	0.71 ± 0.01	0.69 ± 0.01	0.73 ± 0.02	0.73 ± 0.02
	<i>Mi. alcicornis</i>	0.74 ± 0.01	0.73 ± 0.01	0.75 ± 0.02	0.76 ± 0.02
CA	<i>Mu. harttii</i>	161 ± 19	111 ± 19	101 ± 18	326 ± 73
	<i>Siderastrea</i> sp.	226 ± 63	110 ± 18	192 ± 59	369 ± 102
	<i>Mi. alcicornis</i>	115 ± 20	83 ± 8	85 ± 23	182 ± 44
Ca^{2+} -ATPase	<i>Mu. harttii</i>	1.42 ± 0.39	1.48 ± 0.38	1.90 ± 0.48	0.76 ± 0.25
	<i>Siderastrea</i> sp.	0.91 ± 0.14	0.71 ± 0.07	0.71 ± 0.08	1.20 ± 0.25
	<i>Mi. alcicornis</i>	0.63 ± 0.06	0.56 ± 0.04	0.52 ± 0.03	0.60 ± 0.05

Table S2: One-way analysis of variance results for data on the maximum quantum yield of the photosystem II (F_v/F_m) and the activity of enzymes involved in the calcification process in the three coral species exposed to increments in the Fe concentration of the aquarium seawater under laboratory conditions for 4 days. Significant p values are marked in bold.

Variable	Species	ANOVA			
		df	F	p	Fisher
F_v/F_m	<i>Mu. harttii</i>	3	1.45	0.24	
	<i>Siderastrea</i> sp.	3	1.54	0.22	
	<i>Mi. alcicornis</i>	3	0.8	0.49	
Carbonic anhydrase	<i>Mu. harttii</i>	3	7.52	0.00	$900 > \text{CTR} > 300$
	<i>Siderastrea</i> sp.	3	2.27	0.10	
	<i>Mi. alcicornis</i>	3	2.57	0.07	
Ca^{2+}-ATPase	<i>M. harttii</i>	3	1.49	0.23	
	<i>Siderastrea</i> sp.	3	2.07	0.12	
	<i>M. alcicornis</i>	3	1.16	0.33	

Table S3: Mean values ($\pm$ standard error; $n = 4$) for all biological parameters analyzed in each coral species and experimental condition tested in the mesocosm (chronic) experiment: maximum quantum yield of the photosystem II (F_v/F_m), carbonic anhydrase (CA) and Ca^{2+} -ATPase activity.

Parameter	Species	Exposure time	Increment in Fe concentration (mg L ⁻¹)				
			0	0.1	0.3	0.9	
Fv/Fm	Mu. harttii	5 days	0.55 ± 0.02	0.57 ± 0.03	0.61 ± 0.02	0.61 ± 0.02	
		10 days	0.56 ± 0.01	0.61 ± 0.04	0.59 ± 0.05	0.62 ± 0.02	
		17 days	0.51 ± 0.05	0.53 ± 0.01	0.58 ± 0.02	0.57 ± 0.03	
		24 days	0.45 ± 0.06	0.48 ± 0.08	0.49 ± 0.00	0.48 ± 0.06	
	Siderastrea sp.	5 days	0.64 ± 0.02	0.67 ± 0.03	0.63 ± 0.03	0.64 ± 0.03	
		10 days	0.56 ± 0.06	0.59 ± 0.03	0.66 ± 0.02	0.53 ± 0.04	
		17 days	0.70 ± 0.03	0.69 ± 0.05	0.62 ± 0.03	0.62 ± 0.08	
		24 days	0.72 ± 0.07	0.61 ± 0.05	0.57 ± 0.03	0.60 ± 0.05	
	Mi. alcicornis	5 days	0.69 ± 0.02	0.67 ± 0.03	0.68 ± 0.02	0.66 ± 0.03	
		10 days	0.69 ± 0.02	0.62 ± 0.04	0.67 ± 0.02	0.68 ± 0.01	
		17 days	0.71 ± 0.06	0.56 ± 0.06	0.68 ± 0.02	0.63 ± 0.02	
		24 days	0.66 ± 0.06	0.59 ± 0.07	0.55 ± 0.07	0.70 ± 0.04	
	CA	Mu. harttii	14 days	61 ± 12	76 ± 15	84 ± 17	109 ± 18
			28 days	86 ± 22	139 ± 26	116 ± 23	63 ± 16
		Siderastrea sp.	14 days	66 ± 10	71 ± 17	66 ± 17	113 ± 23
			28 days	112 ± 37	52 ± 9	45 ± 6	115 ± 35
Mi. alcicornis		14 days	112 ± 22	87 ± 18	43 ± 4	51 ± 10	
		28 days	37 ± 7	44 ± 14	52 ± 16	58 ± 12	
Ca ²⁺ -	Mu. harttii	14 days	0.61 ± 0.04	0.80 ± 0.10	0.85 ± 0.19	0.86 ± 0.31	
		28 days	2.51 ± 0.56	2.52 ± 0.81	1.18 ± 0.29	2.65 ± 0.31	
	Siderastrea sp.	14 days	0.62 ± 0.14	0.88 ± 0.08	0.58 ± 0.21	0.87 ± 0.15	
		28 days	0.57 ± 0.06	0.66 ± 0.06	0.62 ± 0.06	0.60 ± 0.06	
	Mi. alcicornis	14 days	0.59 ± 0.19	0.65±0.14	0.38 ± 0.12	0.65 ± 0.14	
		28 days	0.34 ± 0.05	0.56 ± 0.21	0.30 ± 0.05	0.38 ± 0.13	

Table S4: One-way analysis of variance results for data on the maximum quantum yield of the photosystem II (F_v/F_m) and the activity of enzymes involved in the calcification process in the three coral species exposed to increments in the Fe concentration of the mesocosm seawater for 14 and 28 days. Significant p values are marked in bold.

Parameters	Treatments	ANOVA							
		df	F	p	Fisher				
<i>Fv/Fm – Mu. harttii</i>	Fe	3	1.49	0.22	5, 10, 17 > 24				
	Time	3	7.57	0.00					
	Fe x Time	9	0.15	0.99					
<i>Fv/Fm – Siderastrea</i> sp.	Fe	3	1.52	0.21					
	Time	3	2.65	0.05					
	Fe x Time	9	1.38	0.20					
<i>Fv/Fm – Mi. alcornis</i>	Fe	3	3.24	0.02	<i>CTR > 100</i>				
	Time	3	1.47	0.22					
	Fe x Time	9	1.19	0.30					
Coral species		ANOVA – 14 days				ANOVA – 28 days			
		df	F	p	Fisher	df	F	p	Fisher
Carbonic anhydrase	<i>Mu. harttii</i>	3	1.69	0.22	<i>CTR, 100 ></i>	3	2.30	0.12	
	<i>Siderastrea</i> sp.	3	1.79	0.20		3	1.43	0.28	
	<i>Mi. alcornis</i>	3	5.93	0.01		3	0.52	0.67	
Ca ²⁺ -ATPase	<i>Mu. harttii</i>	3	0.35	0.78		3	1.66	0.22	
	<i>Siderastrea</i> sp.	3	1.00	0.42		3		0.70	
	<i>Mi. alcornis</i>	3	0.76	0.53		3	0.83	0.49	