

Table S1. Seawater carbonate chemistry values (\pm) SD for respiration assay

	Ambient $p\text{CO}_2$	Elevated $p\text{CO}_2$
Temperature °C	23.49 \pm 2.37	23.49 \pm 2.42
pH_r	7.92 \pm 0.06	7.57 \pm 0.02
$p\text{CO}_2$ (μatm)	458.44 \pm 26.57	1138.92 \pm 269.75
Ω Ca	2.76 \pm 0.74	1.30 \pm 0.26
Ω Ar	1.77 \pm 0.47	0.83 \pm 0.16
TCO₂ ($\mu\text{mol L}^{-1}$)	1641.81 \pm 349.39	1741.85 \pm 449.15
CO₃²⁻ ($\mu\text{mol L}^{-1}$)	108.47 \pm 30.34	51.12 \pm 10.66
Total Alkalinity ($\mu\text{mol L}^{-1}$)	1789.68 \pm 383.12	1783.31 \pm 448.90
Salinity	27.33 \pm 0.72	27.33 \pm 0.72

Table S2. Seawater carbonate chemistry values (\pm) SD for food limitation assay

	Ambient $p\text{CO}_2$	Elevated $p\text{CO}_2$
Temperature °C	21.84 \pm 0.06	21.63 \pm 0.11
pH_r	8.14 \pm 0.08	7.49 \pm 0.09
$p\text{CO}_2$ (μatm)	322.57 \pm 78.74	1600.23 \pm 346.23
Ω Ca	5.20 \pm 0.83	1.28 \pm 0.24
Ω Ar	3.36 \pm 0.54	0.83 \pm 0.15
TCO₂ ($\mu\text{mol L}^{-1}$)	1981.30 \pm 35.41	2060.09 \pm 44.85
CO₃²⁻ ($\mu\text{mol L}^{-1}$)	209.07 \pm 33.58	51.61 \pm 9.49

Total Alkalinity ($\mu\text{mol L}^{-1}$)	2268.11 \pm 67.95	1783.31 \pm 448.90
Salinity	30 \pm 0	30 \pm 0

Table S3. Seawater carbonate chemistry values (\pm) SD for flow through system housing adults used in biochemical analyses and sorting assay

	Ambient $p\text{CO}_2$	Elevated $p\text{CO}_2$
Temperature $^{\circ}\text{C}$	23.44 \pm 3.34	23.43 \pm 3.21
pH_r	7.94 \pm 0.02	7.30 \pm 0.43
$p\text{CO}_2$ (μatm)	521.53 \pm 48.68	3061.44 \pm 0.66
Ω Ca	3.45 \pm 0.30	1.03 \pm 0.76
Ω Ar	2.23 \pm 0.22	0.66 \pm 0.48
TCO_2 ($\mu\text{mol L}^{-1}$)	2036.10 \pm 161.36	2225.38 \pm 374.77
CO_3^{2-} ($\mu\text{mol L}^{-1}$)	142.36 \pm 18.12	41.63 \pm 29.87
Total Alkalinity ($\mu\text{mol L}^{-1}$)	2227.00 \pm 188.47	2179.65 \pm 231.50
Salinity	27.03 \pm 2.86	27.40 \pm 3.39