Supplementary material to

The impact of essential climate variables on respiration rates in subpolar and polar planktonic foraminifera

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Supplementary Tables

Table S1: Quantification of the correlation between size-normalised respiration, essential climate variables and nutrients in *N. incompta.* * Denotes significant correlations ($p \leq 0.01$). Abbreviations: TON= Total Oxidized Nitrogen; PO_4^{3-}=Phosphate; Sal=salinity; Turb=Turbidity; Fluo=Fluorescence; DIC = Dissolved Inorganic Carbon; DO= Dissolved Oxygen; SNR=Size Normalised Respiration; Temp=Temperature, Alk = Alkalinity.

	TON	PO_4^{3-}	Sal	Turb	Fluo.	DIC	DO	SNR	Temp	Alk	pH	ΩCa
TON		0.99*	0.16	-0.99*	0.34	0.83*	-0.57	-0.10	-0.87*	-0.91*	-0.34	-0.77*
PO_4^{3-}	0.99*		0.20	-0.99*	0.37	0.85*	-0.59	-0.07	-0.85*	-0.89*	-0.37	-0.79*
Sal	0.17	0.20		-0.34	0.98*	0.69*	-0.91*	0.83*	0.34	0.26	-0.98*	-0.76*
Turb	-0.99*	-0.99*	-0.34		-0.50	-0.91*	0.70*	-0.05	0.77*	0.82*	0.50	0.87*
Fluo.	0.34	0.37	0.98*	0.50		0.81*	-0.97*	0.78*	0.17	0.09	-1.00*	-0.87*
DIC	0.83*	0.85*	0.69*	-0.91*	0.81*		-0.93*	0.40	-0.44	-0.51	-0.81*	-0.99*
DO	-0.57	-0.59*	-0.91*	0.70*	-0.97*	-0.93*		-0.65*	0.08	0.16	0.97*	0.96*
SNR	-0.10	-0.07	0.83*	-0.05	0.78*	0.40	-0.65*		0.51 *	0.45	-0.78*	-0.48
Temp	-0.87*	-0.85*	0.34	0.77*	0.17	-0.44	0.08	0.51		0.99*	-0.17	0.35
Alk	-0.91*	-0.89*	0.26	0.82*	0.09	-0.51	0.17	0.45	0.99*		-0.09	0.42
pH	-0.34	-0.37	-0.98*	0.50	-1.00*	-0.81*	0.97*	-0.78*	-0.17	-0.09		0.87*
ΩCal	-0.77*	-0.79*	-0.76*	0.87*	-0.87*	-0.99*	0.97*	-0.48	0.35	0.42	0.87*	

Table S2: Source Data for Figure 3:

Source	**Species**	**$^{3}\sqrt{}$ Cavity Volume** [μm^3]	**Max Ø** [μm]
N. incompta (Armitage *et al.*)	*N. incompta*	156.4231063	297.34
N. incompta (Armitage *et al.*)	*N. incompta*	148.6404556	284.89
N. incompta (Armitage *et al.*)	*N. incompta*	161.2871437	291.37
N. incompta (Armitage *et al.*)	*N. incompta*	119.1889755	196.54
N. incompta (Armitage *et al.*)	*N. incompta*	90.66795221	168.36
N. incompta (Burke *et al.*)	*N. incompta*	145.8461819	272.67
N. incompta (Burke *et al.*)	*N. incompta*	177.1611203	349.08
N. incompta (Burke *et al.*)	*N. incompta*	165.5611138	304.45
N. incompta (Burke *et al.*)	*N. incompta*	178.3617815	314.45
N. incompta (Burke *et al.*)	*N. incompta*	148.8339215	264.32
N. incompta (Burke *et al.*)	*N. incompta*	165.5836083	306.85
N. incompta (Burke *et al.*)	*N. incompta*	180.9977514	314.37
N. incompta (Burke *et al.*)	*N. incompta*	173.8393947	306.12
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	138.8239927	261.02
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	86.33611926	165.48
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	99.12489763	178.24
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	111.5679036	201.36
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	118.5022165	227.1
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	153.2046757	264.08
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	148.1530557	277.63
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	138.6868717	236.06
N. pachyderma (Armitage *et al.*)	*N. pachyderma*	119.8771892	210.64
N. pachyderma (Burke *et al.*)	*N. pachyderma*	170.7648353	300.04
N. pachyderma (Burke *et al.*)	*N. pachyderma*	135.9944851	255.31
N. pachyderma (Burke *et al.*)	*N. pachyderma*	129.1240919	215.57
N. pachyderma (Burke *et al.*)	*N. pachyderma*	125.6714798	223.08
N. pachyderma (Burke *et al.*)	*N. pachyderma*	147.3308604	242.14
N. pachyderma (Burke *et al.*)	*N. pachyderma*	167.4659915	265.99
N. pachyderma (Burke *et al.*)	*N. pachyderma*	171.1103787	290.05
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	77.92667885	146.54
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	82.84594252	157.97
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	139.7945967	237.58
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	72.76045834	136.91
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	119.5671908	217.52
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	76.28557151	149.09
T. quinqueloba (Armitage *et al.*)	*Turborotalita quinqueloba*	132.5084841	245
T. quinqueloba (Burke *et al.*)	*Turborotalita quinqueloba*	109.2980089	197.82
T. quinqueloba (Burke *et al.*)	*Turborotalita quinqueloba*	112.7614987	206.68
T. quinqueloba (Burke *et al.*)	*Turborotalita quinqueloba*	144.2537963	263.33

Table S3: Source Data for Figures 5 and 6. Abbreviations: Temp=Temperature; Alk = Alkalinity; DIC = Dissolved Inorganic Carbon; TON= Total Oxidized Nitrogen; PO_4^{3-} =Phosphate; SiO_2=silicon dioxide; Sal=salinity; Turb=Turbidity; Fluo=Fluorescence; DO= Dissolved Oxygen.

Taxon	**Station**	**Lat**	**Long**	**Depth**	**Temp**	**Alk**	**pH**	**Ωc**	**DIC**	**TON**	**PO_4**	**SiO_2**	**Sal**	**Turb**	**Fluo.**	**DO**
				[m]	[C]	[meq.L-1]				[µmol.Kg-1]			[PSU]			[ml.L^{-1}]
N. incompta	1	55.65	-14.01	40	13	2309	7.98	2.8	2138	3.6	0.29	1.24	35.45	0.11	0.14	2.51
N. pachyderma	2	71.63	-8.42	50	1	2276	7.93	1.72	2156	8.51	0.69	4.36	34.58	0.12	0.25	2.52
N. pachyderma	8.1	74.25	-10.07	75	3.5	2300	8.12	2.66	2172	5.95	0.52	2.66	34.92	0.11	0.07	2.31
N. pachyderma	10	70.50	-17.94	100	0.5	2293	8.07	2.28	2158	9.44	0.62	4.45	34.57	0.11	0.07	2.36
N. pachyderma	11	67.87	-21.77	125	2.5	2298	8.06	2.46	2169	7.95	0.55	3.63	34.76	0.11	0.08	2.37
N. pachyderma	12	65.42	-28.33	20	10	2317	8.08	3.52	2110	5.1	0.4	0.99	35.09	0.13	0.26	2.66
N. incompta	16	62.75	-37.51	20	10	2305	8.09	3.5	2112	4.37	0.33	0.83	34.96	0.11	0.09	2.61
N. pachyderma	17	60.18	-39.12	50	6	2299	8.09	3.24	2168	9.44	0.89	5.59	34.91	0.12	0.15	2.47
N. pachyderma	18	58.25	-45.64	45	7.5	2185	7.89	1.22	2129	6.11	0.58	2.51	34.66	0.12	0.08	2.57
N. pachyderma	19	57.55	-48.52	35	6	2296	8.11	3.36	2134	0.73	0.1	1.28	34.7	0.12	0.11	2.61
N. incompta	20	56.36	-27.89	10	14	2311	8.09	4.1	2080	0.73	0.1	1.28	35.04	0.14	0.09	2.64

Table S4: Source Data for Figure 5 and 6

Taxon	Station	Max Ø	Log Biovolume	Cube Root Cavity Volume	Blank corrected respiration rate	SNR	Log10 SNR
		[um]		[um^3]	[pmol hr^{-1} ind^{-1}]		
N. incompta	1	260	2.032	107.60	411.209	332.876	2.522
N. incompta	1	286	2.087	122.16	378.025	269.541	2.431
N. incompta	1	242	1.989	97.52	366.207	327.088	2.515
N. incompta	1	205	1.885	76.80	321.727	364.887	2.562
N. incompta	1	273	2.060	114.88	311.535	236.208	2.373
N. incompta	1	230	1.958	90.80	253.768	243.435	2.386
N. pachyderma	10	270	2.054	113.20	25.009	19.243	1.284
N. pachyderma	10	305	2.123	132.80	22.991	15.079	1.178
N. pachyderma	10	262	2.036	108.72	20.439	16.375	1.214
N. pachyderma	10	303	2.120	131.68	18.063	11.948	1.077
N. pachyderma	11	294	2.103	126.64	73.791	50.753	1.705
N. pachyderma	11	250	2.009	102.00	31.518	26.915	1.430
N. pachyderma	12	234	1.969	93.04	69.142	64.730	1.811
N. pachyderma	12	282	2.079	119.92	63.695	46.264	1.665
N. pachyderma	12	210	1.901	79.60	56.266	61.569	1.789
N. pachyderma	12	308	2.129	134.48	56.122	36.350	1.561
N. pachyderma	12	244	1.994	98.64	46.645	41.189	1.615
N. pachyderma	12	279	2.073	118.24	44.750	32.966	1.518
N. pachyderma	12	248	2.004	100.88	38.762	33.468	1.525
N. pachyderma	12	222	1.936	86.32	38.683	39.033	1.591
N. incompta	16	255	2.020	104.80	206.277	171.443	2.234
N. incompta	16	228	1.953	89.68	200.192	194.439	2.289
N. incompta	16	238	1.979	95.28	173.965	159.035	2.201
N. incompta	16	241	1.987	96.96	149.191	134.024	2.127
N. incompta	16	226	1.947	88.56	118.337	116.390	2.066
N. incompta	16	211	1.904	80.16	96.489	104.846	2.021
N. incompta	16	232	1.963	91.92	95.352	90.355	1.956
N. incompta	16	238	1.979	95.28	92.127	84.221	1.925
N. pachyderma	16	187	1.824	66.72	69.888	91.239	1.960
N. pachyderma	16	185	1.817	65.60	28.574	37.940	1.579
N. pachyderma	17	269	2.052	112.64	113.718	87.936	1.944
N. pachyderma	17	238	1.979	95.28	109.678	100.265	2.001
N. pachyderma	17	225	1.944	88.00	101.765	100.727	2.003
N. pachyderma	17	199	1.866	73.44	98.696	117.058	2.068
N. pachyderma	17	266	2.045	110.96	97.444	76.493	1.884
N. pachyderma	17	213	1.910	81.28	92.818	99.467	1.998
N. pachyderma	17	243	1.992	98.08	86.923	77.194	1.888
N. pachyderma	17	206	1.889	77.36	73.673	82.952	1.919
N. pachyderma	17	206	1.889	77.36	54.835	61.740	1.791
N. pachyderma	17	251	2.011	102.56	49.798	42.293	1.626
N. pachyderma	17	200	1.869	74.00	46.213	54.395	1.736
N. pachyderma	17	207	1.892	77.92	45.448	50.804	1.706
N. pachyderma	17	187	1.824	66.72	38.471	50.224	1.701
N. pachyderma	17	149	1.657	45.44	37.574	72.024	1.857
N. pachyderma	17	179	1.794	62.24	35.145	49.184	1.692
N. pachyderma	17	164	1.731	53.84	34.416	55.678	1.746
N. pachyderma	17	199	1.866	73.44	28.944	34.328	1.536
N. pachyderma	18	217	1.922	83.52	72.361	75.465	1.878
N. pachyderma	18	199	1.866	73.44	64.581	76.596	1.884
N. pachyderma	18	228	1.953	89.68	53.870	52.322	1.719
N. pachyderma	18	178	1.790	61.68	48.674	68.736	1.837
N. pachyderma	18	192	1.842	69.52	39.849	49.928	1.698
N. pachyderma	18	198	1.863	72.88	39.423	47.117	1.673

Taxon	Station	Max Ø [um]	Log Biovolume	Cube Root Cavity Volume [um^3]	Blank corrected respiration rate [pmol hr^{-1} ind^{-1}]	SNR	Log10 SNR
N. pachyderma	18	154	1.683	48.24	36.790	66.429	1.822
N. pachyderma	19	307	2.127	133.92	112.627	73.254	1.865
N. pachyderma	19	221	1.933	85.76	86.324	87.676	1.943
N. pachyderma	19	243	1.992	98.08	72.745	64.603	1.810
N. pachyderma	19	299	2.112	129.44	71.787	48.307	1.684
N. pachyderma	19	160	1.713	51.60	70.742	119.416	2.077
N. pachyderma	19	224	1.942	87.44	70.041	69.771	1.844
N. pachyderma	19	248	2.004	100.88	60.996	52.666	1.722
N. pachyderma	19	200	1.869	74.00	52.714	62.048	1.793
N. pachyderma	19	205	1.885	76.80	51.802	58.751	1.769
N. pachyderma	19	186	1.821	66.16	35.577	46.839	1.671
N. pachyderma	19	159	1.708	51.04	26.183	44.683	1.650
N. pachyderma	19	182	1.806	63.92	23.399	31.885	1.504
N. pachyderma	19	142	1.618	41.52	15.860	33.273	1.522
N. pachyderma	2	211	1.904	80.16	67.349	73.182	1.864
N. pachyderma	2	204	1.882	76.24	63.064	72.049	1.858
N. pachyderma	2	217	1.922	83.52	59.582	62.138	1.793
N. pachyderma	2	176	1.782	60.56	57.356	82.494	1.916
N. pachyderma	2	214	1.913	81.84	43.261	46.043	1.663
N. pachyderma	2	189	1.831	67.84	38.954	50.014	1.699
N. pachyderma	2	199	1.866	73.44	38.474	45.632	1.659
N. pachyderma	2	178	1.790	61.68	35.168	49.663	1.696
N. pachyderma	2	197	1.859	72.32	32.090	38.649	1.587
N. incompta	20	287	2.089	122.72	271.452	192.668	2.285
N. incompta	20	266	2.045	110.96	261.538	205.305	2.312
N. incompta	20	254	2.018	104.24	257.874	215.479	2.333
N. incompta	20	271	2.056	113.76	238.582	182.675	2.262
N. incompta	20	278	2.071	117.68	229.016	169.510	2.229
N. incompta	20	270	2.054	113.20	228.163	175.562	2.244
N. incompta	20	194	1.849	70.64	195.337	240.861	2.382
N. incompta	20	211	1.904	80.16	179.294	194.823	2.290
N. incompta	20	239	1.982	95.84	178.743	162.448	2.211
N. incompta	20	181	1.802	63.36	149.894	206.063	2.314
N. incompta	20	180	1.798	62.80	144.381	200.255	2.302
N. pachyderma	8.1	216	1.919	82.96	82.478	86.596	1.937
N. pachyderma	8.1	197	1.859	72.32	74.225	89.398	1.951
N. pachyderma	8.1	219	1.928	84.64	63.344	65.188	1.814
N. pachyderma	8.1	211	1.904	80.16	59.666	64.834	1.812
N. pachyderma	8.1	175	1.778	60.00	42.707	61.998	1.792
N. pachyderma	8.1	151	1.668	46.56	27.629	51.687	1.713

Table S5: Source data for Figure 7

Source	Species	Temp [C]	Respiration Rate [µmol.h^{-1}]	Max Ø [µm]	Log Biovolume [um^3]	Log10 SNR [pmol.O^2.h^{-1}]
This Study	*N. incompta*	10	2.063E-04	255	6.3358	-4.016
This Study	*N. incompta*	10	2.002E-04	228	6.1895	-4.175
This Study	*N. incompta*	10	1.740E-04	238	6.2456	-4.180
This Study	*N. incompta*	10	1.492E-04	241	6.2620	-4.230
This Study	*N. incompta*	10	1.183E-04	226	6.1780	-4.415
This Study	*N. incompta*	10	9.649E-05	211	6.0883	-4.593
This Study	*N. incompta*	10	9.535E-05	232	6.2123	-4.475
This Study	*N. incompta*	10	9.213E-05	238	6.2456	-4.456
This Study	*N. incompta*	13	4.112E-04	260	6.3611	-3.691
This Study	*N. incompta*	13	3.780E-04	286	6.4856	-3.603
This Study	*N. incompta*	13	3.662E-04	242	6.2674	-3.835
This Study	*N. incompta*	13	3.217E-04	205	6.0506	-4.108
This Study	*N. incompta*	13	3.115E-04	273	6.4249	-3.748
This Study	*N. incompta*	13	2.538E-04	230	6.2010	-4.061
This Study	*N. incompta*	14	2.715E-04	287	6.4902	-3.742
This Study	*N. incompta*	14	2.615E-04	266	6.3909	-3.858
This Study	*N. incompta*	14	2.579E-04	254	6.3306	-3.924
This Study	*N. incompta*	14	2.386E-04	271	6.4153	-3.873
This Study	*N. incompta*	14	2.290E-04	278	6.4486	-3.858
This Study	*N. incompta*	14	2.282E-04	270	6.4104	-3.897
This Study	*N. incompta*	14	1.953E-04	194	5.9785	-4.397
This Study	*N. incompta*	14	1.793E-04	211	6.0883	-4.324
This Study	*N. incompta*	14	1.787E-04	239	6.2511	-4.163
This Study	*N. incompta*	14	1.499E-04	181	5.8878	-4.603
This Study	*N. incompta*	14	1.444E-04	180	5.8805	-4.626
This Study	*N. pachyderma*	0.5	2.501E-05	270	6.4104	-4.858
This Study	*N. pachyderma*	0.5	2.299E-05	305	6.5696	-4.735
This Study	*N. pachyderma*	0.5	2.044E-05	262	6.3712	-4.985
This Study	*N. pachyderma*	0.5	1.806E-05	303	6.5610	-4.848
This Study	*N. pachyderma*	1	6.735E-05	211	6.0883	-4.750
This Study	*N. pachyderma*	1	6.306E-05	204	6.0442	-4.822
This Study	*N. pachyderma*	1	5.958E-05	217	6.1249	-4.766
This Study	*N. pachyderma*	1	5.736E-05	176	5.8511	-5.056
This Study	*N. pachyderma*	1	4.326E-05	214	6.1067	-4.923
This Study	*N. pachyderma*	1	3.895E-05	189	5.9443	-5.131
This Study	*N. pachyderma*	1	3.847E-05	199	6.0117	-5.069
This Study	*N. pachyderma*	1	3.517E-05	178	5.8659	-5.254
This Study	*N. pachyderma*	1	3.209E-05	197	5.9985	-5.161
This Study	*N. pachyderma*	2	4.519E-05	207	6.0633	-4.948
This Study	*N. pachyderma*	2	1.441E-04	317	6.6200	-3.888
This Study	*N. pachyderma*	2	2.276E-05	190	5.9512	-5.358
This Study	*N. pachyderma*	2	2.873E-05	179	5.8732	-5.335
This Study	*N. pachyderma*	2	6.960E-05	264	6.3811	-4.442
This Study	*N. pachyderma*	2	1.198E-04	270	6.4104	-4.177
This Study	*N. pachyderma*	2	6.031E-05	190	5.9512	-4.935
This Study	*N. pachyderma*	2	9.456E-05	260	6.3611	-4.329
This Study	*N. pachyderma*	2.5	7.379E-05	294	6.5217	-4.277
This Study	*N. pachyderma*	2.5	3.152E-05	250	6.3099	-4.858
This Study	*N. pachyderma*	3.5	8.248E-05	216	6.1189	-4.631
This Study	*N. pachyderma*	3.5	7.423E-05	197	5.9985	-4.797
This Study	*N. pachyderma*	3.5	6.334E-05	219	6.1369	-4.728
This Study	*N. pachyderma*	3.5	5.967E-05	211	6.0883	-4.802
This Study	*N. pachyderma*	3.5	4.271E-05	175	5.8437	-5.192
This Study	*N. pachyderma*	3.5	2.763E-05	151	5.6507	-5.574
This Study	*N. pachyderma*	5	9.107E-05	229	6.1953	-4.512
This Study	*N. pachyderma*	5	4.000E-05	190	5.9512	-5.113

Source	Species	Temp [C]	Respiration Rate [µmol.h^{-1}]	Max Ø [µm]	Log Biovolume [um^3]	Log10 SNR [pmol.O^2.h^{-1}]
This Study	*N. pachyderma*	5	4.800E-05	223	6.1606	-4.824
This Study	*N. pachyderma*	5	1.264E-05	126	5.4137	-6.151
This Study	*N. pachyderma*	5	8.499E-05	234	6.2235	-4.513
This Study	*N. pachyderma*	5	1.567E-04	283	6.4719	-3.999
This Study	*N. pachyderma*	5	2.216E-05	160	5.7264	-5.594
This Study	*N. pachyderma*	5	7.705E-05	247	6.2941	-4.485
This Study	*N. pachyderma*	5	1.170E-04	298	6.5393	-4.059
This Study	*N. pachyderma*	5	5.043E-05	190	5.9512	-5.012
This Study	*N. pachyderma*	5	8.502E-05	217	6.1249	-4.612
This Study	*N. pachyderma*	5	3.411E-05	150	5.6420	-5.491
This Study	*N. pachyderma*	5	8.834E-05	233	6.2179	-4.502
This Study	*N. pachyderma*	5	4.552E-05	181	5.8878	-5.120
This Study	*N. pachyderma*	5	5.834E-05	208	6.0696	-4.831
This Study	*N. pachyderma*	5	3.811E-05	198	6.0051	-5.080
This Study	*N. pachyderma*	5	3.839E-05	203	6.0378	-5.044
This Study	*N. pachyderma*	5	5.900E-05	205	6.0506	-4.845
This Study	*N. pachyderma*	5	5.886E-05	218	6.1309	-4.765
This Study	*N. pachyderma*	6	1.137E-04	269	6.4056	-4.205
This Study	*N. pachyderma*	6	1.126E-04	307	6.5782	-4.036
This Study	*N. pachyderma*	6	1.097E-04	238	6.2456	-4.380
This Study	*N. pachyderma*	6	1.018E-04	225	6.1722	-4.486
This Study	*N. pachyderma*	6	9.870E-05	199	6.0117	-4.660
This Study	*N. pachyderma*	6	9.744E-05	266	6.3909	-4.286
This Study	*N. pachyderma*	6	9.282E-05	179	5.8732	-4.825
This Study	*N. pachyderma*	6	8.692E-05	243	6.2728	-4.454
This Study	*N. pachyderma*	6	8.632E-05	221	6.1488	-4.581
This Study	*N. pachyderma*	6	7.367E-05	206	6.0569	-4.742
This Study	*N. pachyderma*	6	7.275E-05	243	6.2728	-4.532
This Study	*N. pachyderma*	6	7.179E-05	299	6.5437	-4.266
This Study	*N. pachyderma*	6	7.074E-05	160	5.7264	-5.090
This Study	*N. pachyderma*	6	7.004E-05	224	6.1664	-4.654
This Study	*N. pachyderma*	6	6.100E-05	248	6.2994	-4.581
This Study	*N. pachyderma*	6	5.483E-05	206	6.0569	-4.870
This Study	*N. pachyderma*	6	5.271E-05	200	6.0183	-4.926
This Study	*N. pachyderma*	6	5.180E-05	205	6.0506	-4.901
This Study	*N. pachyderma*	6	4.980E-05	251	6.3151	-4.654
This Study	*N. pachyderma*	6	4.621E-05	200	6.0183	-4.983
This Study	*N. pachyderma*	6	4.545E-05	207	6.0633	-4.945
This Study	*N. pachyderma*	6	3.847E-05	187	5.9304	-5.151
This Study	*N. pachyderma*	6	3.757E-05	149	5.6332	-5.458
This Study	*N. pachyderma*	6	3.558E-05	221	6.1488	-4.966
This Study	*N. pachyderma*	6	3.514E-05	179	5.8732	-5.247
This Study	*N. pachyderma*	6	3.442E-05	164	5.7588	-5.371
This Study	*N. pachyderma*	6	2.894E-05	199	6.0117	-5.193
This Study	*N. pachyderma*	6	2.618E-05	159	5.7182	-5.530
This Study	*N. pachyderma*	6	2.340E-05	182	5.8950	-5.402
This Study	*N. pachyderma*	6	1.586E-05	142	5.5702	-5.896
This Study	*N. pachyderma*	7.5	7.236E-05	217	6.1249	-4.682
This Study	*N. pachyderma*	7.5	6.458E-05	199	6.0117	-4.844
This Study	*N. pachyderma*	7.5	5.387E-05	228	6.1895	-4.745
This Study	*N. pachyderma*	7.5	4.867E-05	178	5.8659	-5.113
This Study	*N. pachyderma*	7.5	3.985E-05	192	5.9649	-5.101
This Study	*N. pachyderma*	7.5	3.942E-05	198	6.0051	-5.065
This Study	*N. pachyderma*	7.5	3.679E-05	154	5.6764	-5.424
This Study	*N. pachyderma*	8	3.874E-05	160	5.7264	-5.352
This Study	*N. pachyderma*	8	2.440E-05	156	5.6933	-5.585
This Study	*N. pachyderma*	8	3.830E-05	151	5.6507	-5.432

Source	Species	Temp [C]	Respiration Rate [µmol.h^{-1}]	Max Ø [µm]	Log Biovolume [um^3]	Log10 SNR [pmol.O^2.h^{-1}]
This Study	*N. pachyderma*	8	3.929E-05	138	5.5328	-5.539
This Study	*N. pachyderma*	8	7.338E-05	210	6.0821	-4.718
This Study	*N. pachyderma*	8	2.654E-05	137	5.5233	-5.719
This Study	*N. pachyderma*	8	3.328E-05	122	5.3714	-5.773
This Study	*N. pachyderma*	8	6.358E-05	142	5.5702	-5.293
This Study	*N. pachyderma*	8	3.423E-05	133	5.4845	-5.647
This Study	*N. pachyderma*	8	3.400E-05	110	5.2357	-5.899
This Study	*N. pachyderma*	8	9.854E-05	190	5.9512	-4.721
This Study	*N. pachyderma*	8	5.277E-05	163	5.7508	-5.193
This Study	*N. pachyderma*	8	9.016E-05	183	5.9021	-4.809
This Study	*N. pachyderma*	8	4.181E-05	117	5.3166	-5.728
This Study	*N. pachyderma*	8	5.934E-05	166	5.7746	-5.118
This Study	*N. pachyderma*	10	6.989E-05	187	5.9304	-4.891
This Study	*N. pachyderma*	10	6.914E-05	234	6.2235	-4.603
This Study	*N. pachyderma*	10	6.370E-05	282	6.4672	-4.395
This Study	*N. pachyderma*	10	5.627E-05	210	6.0821	-4.834
This Study	*N. pachyderma*	10	5.612E-05	308	6.5824	-4.335
This Study	*N. pachyderma*	10	4.664E-05	244	6.2782	-4.719
This Study	*N. pachyderma*	10	4.475E-05	279	6.4533	-4.562
This Study	*N. pachyderma*	10	3.876E-05	248	6.2994	-4.778
This Study	*N. pachyderma*	10	3.868E-05	222	6.1547	-4.924
This Study	*N. pachyderma*	10	2.857E-05	185	5.9164	-5.294
This Study	*N. pachyderma*	13	8.871E-05	155	5.6849	-5.033
This Study	*N. pachyderma*	13	7.109E-05	157	5.7017	-5.113
This Study	*N. pachyderma*	13	9.516E-05	160	5.7264	-4.961
This Study	*N. pachyderma*	13	5.901E-05	123	5.3821	-5.513
This Study	*N. pachyderma*	13	4.586E-05	120	5.3498	-5.655
This Study	*T. quinqueloba*	5	2.529E-05	140	5.5517	-5.712
This Study	*T. quinqueloba*	5	1.415E-05	189	5.9443	-5.571
This Study	*T. quinqueloba*	5	3.041E-05	214	6.1067	-5.076
This Study	*T. quinqueloba*	5	1.799E-05	178	5.8659	-5.545
This Study	*T. quinqueloba*	5	3.289E-05	232	6.2123	-4.937
This Study	*T. quinqueloba*	5	4.380E-05	230	6.2010	-4.824
This Study	*T. quinqueloba*	5	5.971E-05	195	5.9852	-4.905
This Study	*T. quinqueloba*	5	3.323E-05	208	6.0696	-5.075
This Study	*T. quinqueloba*	5	3.359E-05	228	6.1895	-4.950
This Study	*T. quinqueloba*	5	1.612E-05	178	5.8659	-5.593
This Study	*T. quinqueloba*	2	1.267E-05	194	5.9785	-5.585
This Study	*T. quinqueloba*	2	8.594E-06	162	5.7427	-5.989
This Study	*T. quinqueloba*	2	2.433E-05	216	6.1189	-5.161
This Study	*T. quinqueloba*	2	1.359E-05	255	6.3358	-5.197
This Study	*T. quinqueloba*	8	3.670E-05	161	5.7346	-5.367
This Study	*T. quinqueloba*	8	4.580E-05	199	6.0117	-4.994
This Study	*T. quinqueloba*	8	4.297E-05	205	6.0506	-4.982
This Study	*T. quinqueloba*	8	3.473E-05	209	6.0758	-5.050
This Study	*T. quinqueloba*	13	7.957E-05	154	5.6764	-5.089
This Study	*T. quinqueloba*	13	1.283E-04	197	5.9985	-4.559
This Study	*T. quinqueloba*	13	7.421E-05	210	6.0821	-4.714
This Study	*T. quinqueloba*	13	6.094E-05	219	6.1369	-4.744
This Study	*T. quinqueloba*	13	5.283E-05	182	5.8950	-5.048
Rink *et al.* 1998	*O. universa*	21	1.720E-03		7.0609	-2.370
Rink *et al.* 1998	*O. universa*	21.5	1.710E-03		7.5263	-1.907
Rink *et al.* 1998	*O. universa*	22	4.690E-03		7.5038	-1.491
Rink *et al.* 1998	*O. universa*	23	5.940E-03		7.6949	-1.197
Rink *et al.* 1998	*O. universa*	23.5	5.170E-03		7.6949	-1.258
Lombard *et al.* 2009	*G. siphonifera*	18.7	6.800E-04	347.00	6.6095	-3.224
Lombard *et al.* 2009	*G. siphonifera*	27.8	1.340E-03	347.00	6.6095	-2.930

Source	Species	Temp [C]	Respiration Rate [µmol.h^{-1}]	Max Ø [µm]	Log Biovolume [um^3]	Log10 SNR [pmol.O^2.h^{-1}]
Lombard *et al.* 2009	*G. siphonifera*	24.3	8.200E-04	347.00	6.6095	-3.143
Lombard *et al.* 2009	*G. ruber*	29.5	6.700E-04	249.00	6.4881	-3.352
Lombard *et al.* 2009	*G. ruber*	24.2	4.700E-04	249.00	6.4881	-3.506
Lombard *et al.* 2009	*G. ruber*	19.4	1.900E-04	249.00	6.4881	-3.899
Lombard *et al.* 2009	*G. ruber*	24.1	3.300E-04	241.00	6.4428	-3.705
Lombard *et al.* 2009	*G. ruber*	29.6	6.200E-04	241.00	6.4428	-3.431
Lombard *et al.* 2009	*G. ruber*	24.1	4.300E-04	189.00	6.1032	-3.930
Lombard *et al.* 2009	*G. ruber*	17.3	1.500E-04	189.00	6.1032	-4.387
Lombard *et al.* 2009	*G. ruber*	21.6	1.900E-04	189.00	6.1032	-4.284
Lombard *et al.* 2009	*O. universa*	29.3	1.910E-03	521.00	7.7444	-1.641
Lombard *et al*. 2009	*O. universa*	24.3	1.080E-03	521.00	7.7444	-1.888
Lombard *et al.* 2009	*O. universa*	19.9	6.000E-04	521.00	7.7444	-2.144
Lombard *et al*. 2009	*O. universa*	15.3	3.500E-04	521.00	7.7444	-2.378
Burke *et al.* 2025	*G. ruber*	24	1.087E-03	229.98	6.2361	-3.394
Burke *et al.* 2025	*G. ruber*	21	2.005E-03	337.55	6.6077	-2.756
Burke *et al.* 2025	*G. ruber*	21	6.312E-04	526.49	7.4380	-2.428
Burke *et al.* 2025	*G. ruber*	24	3.217E-04	277.01	6.5382	-3.621
Burke *et al.* 2025	*G. ruber*	21	2.005E-03	383.92	7.0658	-2.298
Burke *et al.* 2025	*G. ruber*	21	6.827E-04	361.40	6.8594	-2.972
Burke *et al.* 2025	*G. menardii*	26	1.900E-03	555.95	6.8964	-2.491
Burke *et al.* 2025	*G. menardii*	26	1.100E-03	431.55	6.7560	-2.869
Burke *et al.* 2025	*G. menardii*	26	3.700E-03	490.02	6.6130	-2.485
Burke *et al.* 2025	*G. menardii*	26	1.500E-03	478.34	6.8008	-2.689
Burke *et al.* 2025	*G. menardii*	26	1.600E-03	637.00	7.1034	-2.359
Burke *et al.* 2025	*G. menardii*	26	8.000E-04	754.50	7.2155	-2.548
Burke *et al.* 2025	*G. menardii*	26	2.200E-03	572.18	6.9643	-2.359
Burke *et al.* 2025	*H. pelagica*	21	2.565E-03	629.18	7.5262	-1.731
Burke *et al.* 2025	*O. universa*	21	5.596E-03	670.38	7.8434	-1.075
Burke *et al.* 2025	*P. obliquiloculata*	26	1.400E-03	336.92	6.7545	-2.766
Burke *et al.* 2025	*P. obliquiloculata*	26	3.300E-03	533.67	7.5161	-1.632
Burke *et al.* 2025	*P. obliquiloculata*	26	3.700E-03	443.59	7.2997	-1.798

Table S6: Source Data for Figure 8 (a, b, and c)

Source	Species	Log10 biovolume [um^3]	Log10 (24C) [pmol.O_2.h-1]	Log10 (15C) [pmol.O_2.h-1]	Log10 (4C) [pmol.O_2.h-1]
This Study	*N. incompta*	6.336	*-2.910*	*-3.409*	*-4.018*
This Study	*N. incompta*	6.190	*-2.923*	*-3.422*	*-4.031*
This Study	*N. incompta*	6.246	*-2.984*	*-3.483*	*-4.092*
This Study	*N. incompta*	6.262	*-3.051*	*-3.549*	*-4.159*
This Study	*N. incompta*	6.178	*-3.151*	*-3.650*	*-4.259*
This Study	*N. incompta*	6.088	*-3.240*	*-3.739*	*-4.348*
This Study	*N. incompta*	6.212	*-3.245*	*-3.744*	*-4.353*
This Study	*N. incompta*	6.246	*-3.260*	*-3.759*	*-4.368*
This Study	*N. incompta*	6.361	*-2.777*	*-3.275*	*-3.884*
This Study	*N. incompta*	6.486	*-2.813*	*-3.312*	*-3.921*
This Study	*N. incompta*	6.267	*-2.827*	*-3.325*	*-3.935*
This Study	*N. incompta*	6.051	*-2.883*	*-3.382*	*-3.991*
This Study	*N. incompta*	6.425	*-2.897*	*-3.396*	*-4.005*
This Study	*N. incompta*	6.201	*-2.986*	*-3.485*	*-4.094*
This Study	*N. incompta*	6.490	*-3.012*	*-3.511*	*-4.120*
This Study	*N. incompta*	6.391	*-3.029*	*-3.527*	*-4.136*
This Study	*N. incompta*	6.331	*-3.035*	*-3.533*	*-4.142*
This Study	*N. incompta*	6.415	*-3.068*	*-3.567*	*-4.176*
This Study	*N. incompta*	6.449	*-3.086*	*-3.585*	*-4.194*
This Study	*N. incompta*	6.410	*-3.088*	*-3.586*	*-4.196*

Source	Species	Log10 biovolume [um^3]	Log10 (24C) [pmol.O_2.h-1]	Log10 (15C) [pmol.O_2.h-1]	Log10 (4C) [pmol.O_2.h-1]
This Study	*N. incompta*	5.978	*-3.155*	*-3.654*	*-4.263*
This Study	*N. incompta*	6.088	*-3.193*	*-3.691*	*-4.300*
This Study	*N. incompta*	6.251	*-3.194*	*-3.692*	*-4.302*
This Study	*N. incompta*	5.888	*-3.270*	*-3.769*	*-4.378*
This Study	*N. incompta*	5.881	*-3.287*	*-3.785*	*-4.394*
This Study	*N. pachyderma*	6.410	*-4.251*	*-4.386*	*-4.550*
This Study	*N. pachyderma*	6.570	*-4.288*	*-4.422*	*-4.586*
This Study	*N. pachyderma*	6.371	*-4.339*	*-4.473*	*-4.637*
This Study	*N. pachyderma*	6.561	*-4.393*	*-4.527*	*-4.691*
This Study	*N. pachyderma*	6.088	*-3.828*	*-3.963*	*-4.127*
This Study	*N. pachyderma*	6.044	*-3.857*	*-3.991*	*-4.155*
This Study	*N. pachyderma*	6.125	*-3.882*	*-4.016*	*-4.180*
This Study	*N. pachyderma*	5.851	*-3.898*	*-4.033*	*-4.197*
This Study	*N. pachyderma*	6.107	*-4.021*	*-4.155*	*-4.319*
This Study	*N. pachyderma*	5.944	*-4.066*	*-4.201*	*-4.365*
This Study	*N. pachyderma*	6.012	*-4.072*	*-4.206*	*-4.370*
This Study	*N. pachyderma*	5.866	*-4.111*	*-4.245*	*-4.409*
This Study	*N. pachyderma*	5.999	*-4.150*	*-4.285*	*-4.449*
This Study	*N. pachyderma*	6.063	*-4.017*	*-4.151*	*-4.315*
This Study	*N. pachyderma*	6.620	*-3.513*	*-3.647*	*-3.812*
This Study	*N. pachyderma*	5.951	*-4.315*	*-4.449*	*-4.613*
This Study	*N. pachyderma*	5.873	*-4.213*	*-4.348*	*-4.512*
This Study	*N. pachyderma*	6.381	*-3.829*	*-3.963*	*-4.128*
This Study	*N. pachyderma*	6.410	*-3.593*	*-3.728*	*-3.892*
This Study	*N. pachyderma*	5.951	*-3.891*	*-4.026*	*-4.190*
This Study	*N. pachyderma*	6.361	*-3.696*	*-3.830*	*-3.994*
This Study	*N. pachyderma*	6.522	*-3.811*	*-3.945*	*-4.110*
This Study	*N. pachyderma*	6.310	*-4.181*	*-4.315*	*-4.479*
This Study	*N. pachyderma*	6.119	*-3.778*	*-3.912*	*-4.076*
This Study	*N. pachyderma*	5.999	*-3.824*	*-3.958*	*-4.122*
This Study	*N. pachyderma*	6.137	*-3.892*	*-4.027*	*-4.191*
This Study	*N. pachyderma*	6.088	*-3.918*	*-4.053*	*-4.217*
This Study	*N. pachyderma*	5.844	*-4.064*	*-4.198*	*-4.362*
This Study	*N. pachyderma*	5.651	*-4.253*	*-4.387*	*-4.551*
This Study	*N. pachyderma*	6.195	*-3.757*	*-3.891*	*-4.056*
This Study	*N. pachyderma*	5.951	*-4.114*	*-4.249*	*-4.413*
This Study	*N. pachyderma*	6.161	*-4.035*	*-4.169*	*-4.334*
This Study	*N. pachyderma*	5.414	*-4.615*	*-4.749*	*-4.913*
This Study	*N. pachyderma*	6.223	*-3.787*	*-3.921*	*-4.086*
This Study	*N. pachyderma*	6.472	*-3.521*	*-3.656*	*-3.820*
This Study	*N. pachyderma*	5.726	*-4.371*	*-4.505*	*-4.669*
This Study	*N. pachyderma*	6.294	*-3.830*	*-3.964*	*-4.128*
This Study	*N. pachyderma*	6.539	*-3.648*	*-3.783*	*-3.947*
This Study	*N. pachyderma*	5.951	*-4.014*	*-4.148*	*-4.312*
This Study	*N. pachyderma*	6.125	*-3.787*	*-3.921*	*-4.085*
This Study	*N. pachyderma*	5.642	*-4.184*	*-4.318*	*-4.482*
This Study	*N. pachyderma*	6.218	*-3.770*	*-3.905*	*-4.069*
This Study	*N. pachyderma*	5.888	*-4.058*	*-4.193*	*-4.357*
This Study	*N. pachyderma*	6.070	*-3.951*	*-4.085*	*-4.249*
This Study	*N. pachyderma*	6.005	*-4.135*	*-4.270*	*-4.434*
This Study	*N. pachyderma*	6.038	*-4.132*	*-4.267*	*-4.431*
This Study	*N. pachyderma*	6.051	*-3.946*	*-4.080*	*-4.244*
This Study	*N. pachyderma*	6.131	*-3.947*	*-4.081*	*-4.245*
This Study	*N. pachyderma*	6.406	*-3.676*	*-3.810*	*-3.974*
This Study	*N. pachyderma*	6.578	*-3.680*	*-3.814*	*-3.978*
This Study	*N. pachyderma*	6.246	*-3.691*	*-3.826*	*-3.990*
This Study	*N. pachyderma*	6.172	*-3.724*	*-3.858*	*-4.022*

Source	Species	Log10 biovolume [um^3]	Log10 (24C) [pmol.O_2.h-1]	Log10 (15C) [pmol.O_2.h-1]	Log10 (4C) [pmol.O_2.h-1]
This Study	*N. pachyderma*	6.012	*-3.737*	*-3.871*	*-4.036*
This Study	*N. pachyderma*	6.391	*-3.743*	*-3.877*	*-4.041*
This Study	*N. pachyderma*	5.873	*-3.764*	*-3.898*	*-4.062*
This Study	*N. pachyderma*	6.273	*-3.792*	*-3.927*	*-4.091*
This Study	*N. pachyderma*	6.149	*-3.795*	*-3.930*	*-4.094*
This Study	*N. pachyderma*	6.057	*-3.864*	*-3.998*	*-4.163*
This Study	*N. pachyderma*	6.273	*-3.870*	*-4.004*	*-4.168*
This Study	*N. pachyderma*	6.544	*-3.875*	*-4.010*	*-4.174*
This Study	*N. pachyderma*	5.726	*-3.882*	*-4.016*	*-4.180*
This Study	*N. pachyderma*	6.166	*-3.886*	*-4.020*	*-4.184*
This Study	*N. pachyderma*	6.299	*-3.946*	*-4.080*	*-4.245*
This Study	*N. pachyderma*	6.057	*-3.992*	*-4.127*	*-4.291*
This Study	*N. pachyderma*	6.018	*-4.009*	*-4.144*	*-4.308*
This Study	*N. pachyderma*	6.051	*-4.017*	*-4.151*	*-4.315*
This Study	*N. pachyderma*	6.315	*-4.034*	*-4.168*	*-4.333*
This Study	*N. pachyderma*	6.018	*-4.067*	*-4.201*	*-4.365*
This Study	*N. pachyderma*	6.063	*-4.074*	*-4.208*	*-4.372*
This Study	*N. pachyderma*	5.930	*-4.146*	*-4.281*	*-4.445*
This Study	*N. pachyderma*	5.633	*-4.157*	*-4.291*	*-4.455*
This Study	*N. pachyderma*	6.149	*-4.180*	*-4.315*	*-4.479*
This Study	*N. pachyderma*	5.873	*-4.186*	*-4.320*	*-4.484*
This Study	*N. pachyderma*	5.759	*-4.195*	*-4.329*	*-4.493*
This Study	*N. pachyderma*	6.012	*-4.270*	*-4.404*	*-4.568*
This Study	*N. pachyderma*	5.718	*-4.313*	*-4.448*	*-4.612*
This Study	*N. pachyderma*	5.895	*-4.362*	*-4.497*	*-4.661*
This Study	*N. pachyderma*	5.570	*-4.531*	*-4.665*	*-4.830*
This Study	*N. pachyderma*	6.125	*-3.894*	*-4.029*	*-4.193*
This Study	*N. pachyderma*	6.012	*-3.944*	*-4.078*	*-4.242*
This Study	*N. pachyderma*	6.190	*-4.022*	*-4.157*	*-4.321*
This Study	*N. pachyderma*	5.866	*-4.066*	*-4.201*	*-4.365*
This Study	*N. pachyderma*	5.965	*-4.153*	*-4.288*	*-4.452*
This Study	*N. pachyderma*	6.005	*-4.158*	*-4.292*	*-4.456*
This Study	*N. pachyderma*	5.676	*-4.188*	*-4.322*	*-4.486*
This Study	*N. pachyderma*	5.726	*-4.173*	*-4.307*	*-4.472*
This Study	*N. pachyderma*	5.693	*-4.374*	*-4.508*	*-4.672*
This Study	*N. pachyderma*	5.651	*-4.178*	*-4.312*	*-4.476*
This Study	*N. pachyderma*	5.533	*-4.167*	*-4.301*	*-4.465*
This Study	*N. pachyderma*	6.082	*-3.896*	*-4.030*	*-4.194*
This Study	*N. pachyderma*	5.523	*-4.337*	*-4.472*	*-4.636*
This Study	*N. pachyderma*	5.371	*-4.239*	*-4.373*	*-4.538*
This Study	*N. pachyderma*	5.570	*-3.958*	*-4.092*	*-4.256*
This Study	*N. pachyderma*	5.485	*-4.227*	*-4.361*	*-4.525*
This Study	*N. pachyderma*	5.236	*-4.230*	*-4.364*	*-4.528*
This Study	*N. pachyderma*	5.951	*-3.768*	*-3.902*	*-4.066*
This Study	*N. pachyderma*	5.751	*-4.039*	*-4.173*	*-4.337*
This Study	*N. pachyderma*	5.902	*-3.806*	*-3.941*	*-4.105*
This Study	*N. pachyderma*	5.317	*-4.140*	*-4.274*	*-4.438*
This Study	*N. pachyderma*	5.775	*-3.988*	*-4.122*	*-4.286*
This Study	*N. pachyderma*	5.930	*-3.947*	*-4.081*	*-4.245*
This Study	*N. pachyderma*	6.223	*-3.951*	*-4.086*	*-4.250*
This Study	*N. pachyderma*	6.467	*-3.987*	*-4.121*	*-4.285*
This Study	*N. pachyderma*	6.082	*-4.041*	*-4.175*	*-4.339*
This Study	*N. pachyderma*	6.582	*-4.042*	*-4.176*	*-4.340*
This Study	*N. pachyderma*	6.278	*-4.122*	*-4.257*	*-4.421*
This Study	*N. pachyderma*	6.453	*-4.140*	*-4.275*	*-4.439*
This Study	*N. pachyderma*	6.299	*-4.203*	*-4.337*	*-4.501*
This Study	*N. pachyderma*	6.155	*-4.204*	*-4.338*	*-4.502*

Source	Species	Log10 biovolume [um^3]	Log10 (24C) [pmol.O_2.h-1]	Log10 (15C) [pmol.O_2.h-1]	Log10 (4C) [pmol.O_2.h-1]
This Study	*N. pachyderma*	5.916	*-4.335*	*-4.469*	*-4.634*
This Study	*N. pachyderma*	5.685	*-3.888*	*-4.022*	*-4.186*
This Study	*N. pachyderma*	5.702	*-3.984*	*-4.118*	*-4.283*
This Study	*N. pachyderma*	5.726	*-3.857*	*-3.992*	*-4.156*
This Study	*N. pachyderma*	5.382	*-4.065*	*-4.199*	*-4.363*
This Study	*N. pachyderma*	5.350	*-4.174*	*-4.309*	*-4.473*
This Study	*T. quinqueloba*	5.552	*-3.350*	*-3.941*	*-4.663*
This Study	*T. quinqueloba*	5.944	*-3.603*	*-4.193*	*-4.915*
This Study	*T. quinqueloba*	6.107	*-3.270*	*-3.861*	*-4.583*
This Study	*T. quinqueloba*	5.866	*-3.498*	*-4.089*	*-4.811*
This Study	*T. quinqueloba*	6.212	*-3.236*	*-3.827*	*-4.549*
This Study	*T. quinqueloba*	6.201	*-3.112*	*-3.702*	*-4.424*
This Study	*T. quinqueloba*	5.985	*-2.977*	*-3.568*	*-4.290*
This Study	*T. quinqueloba*	6.070	*-3.232*	*-3.822*	*-4.544*
This Study	*T. quinqueloba*	6.190	*-3.227*	*-3.818*	*-4.539*
This Study	*T. quinqueloba*	5.866	*-3.546*	*-4.136*	*-4.858*
This Study	*T. quinqueloba*	5.978	*-3.454*	*-4.044*	*-4.766*
This Study	*T. quinqueloba*	5.743	*-3.622*	*-4.213*	*-4.935*
This Study	*T. quinqueloba*	6.119	*-3.170*	*-3.761*	*-4.483*
This Study	*T. quinqueloba*	6.336	*-3.423*	*-4.014*	*-4.736*
This Study	*T. quinqueloba*	5.735	*-3.386*	*-3.976*	*-4.698*
This Study	*T. quinqueloba*	6.012	*-3.289*	*-3.880*	*-4.602*
This Study	*T. quinqueloba*	6.051	*-3.317*	*-3.908*	*-4.629*
This Study	*T. quinqueloba*	6.076	*-3.410*	*-4.000*	*-4.722*
This Study	*T. quinqueloba*	5.676	*-3.378*	*-3.968*	*-4.690*
This Study	*T. quinqueloba*	5.999	*-3.170*	*-3.760*	*-4.482*
This Study	*T. quinqueloba*	6.082	*-3.408*	*-3.998*	*-4.720*
This Study	*T. quinqueloba*	6.137	*-3.493*	*-4.084*	*-4.806*
This Study	*T. quinqueloba*	5.895	*-3.555*	*-4.146*	*-4.868*
Rink *et al*. 1998	*O. universa*	7.061	*-2.614*	*-3.066*	*-3.619*
Rink *et al*. 1998	*O. universa*	7.526	*-2.641*	*-3.094*	*-3.646*
Rink *et al*. 1998	*O. universa*	7.504	*-2.228*	*-2.681*	*-3.233*
Rink *et al*. 1998	*O. universa*	7.695	*-2.176*	*-2.628*	*-3.181*
Rink *et al*. 1998	*O. universa*	7.695	*-2.261*	*-2.714*	*-3.266*
Lombard *et al.* 2009	*G. siphonifera*	6.610	*-2.901*	*-3.353*	*-3.906*
Lombard *et al.* 2009	*G. siphonifera*	6.610	*-3.064*	*-3.516*	*-4.069*
Lombard *et al.* 2009	*G. siphonifera*	6.610	*-3.101*	*-3.553*	*-4.106*
Lombard *et al.* 2009	*G. ruber*	6.488	*-3.450*	*-3.902*	*-4.455*
Lombard *et al.* 2009	*G. ruber*	6.488	*-3.338*	*-3.790*	*-4.343*
Lombard *et al.* 2009	*G. ruber*	6.488	*-3.490*	*-3.942*	*-4.495*
Lombard *et al.* 2009	*G. ruber*	6.443	*-3.487*	*-3.939*	*-4.491*
Lombard *et al.* 2009	*G. ruber*	6.443	*-3.489*	*-3.941*	*-4.494*
Lombard *et al.* 2009	*G. ruber*	6.103	*-3.372*	*-3.824*	*-4.376*
Lombard *et al.* 2009	*G. ruber*	6.103	*-3.487*	*-3.939*	*-4.492*
Lombard *et al.* 2009	*G. ruber*	6.103	*-3.601*	*-4.053*	*-4.606*
Lombard *et al.* 2009	*O. universa*	7.744	*-2.985*	*-3.437*	*-3.990*
Lombard *et al.* 2009	*O. universa*	7.744	*-2.982*	*-3.434*	*-3.987*
Lombard *et al.* 2009	*O. universa*	7.744	*-3.016*	*-3.468*	*-4.021*
Lombard *et al.* 2009	*O. universa*	7.744	*-3.019*	*-3.471*	*-4.024*
Burke *et al.* 2025	*G. ruber*	6.236	*-2.964*	*-3.416*	*-3.969*
Burke *et al.* 2025	*G. ruber*	6.608	*-2.547*	*-2.999*	*-3.552*
Burke *et al.* 2025	*G. ruber*	7.438	*-3.049*	*-3.501*	*-4.054*
Burke *et al.* 2025	*G. ruber*	6.538	*-3.493*	*-3.945*	*-4.497*
Burke *et al.* 2025	*G. ruber*	7.066	*-2.547*	*-2.999*	*-3.552*
Burke *et al.* 2025	*G. ruber*	6.859	*-3.015*	*-3.467*	*-4.020*
Burke *et al.* 2025	*G. menardii*	6.896	*-2.822*	*-3.274*	*-3.827*
Burke *et al.* 2025	*G. menardii*	6.756	*-3.059*	*-3.511*	*-4.064*

Source	Species	Log10 biovolume [um^3]	Log10 (24C) [pmol.O_2.h-1]	Log10 (15C) [pmol.O_2.h-1]	Log10 (4C) [pmol.O_2.h-1]
Burke *et al.* 2025	*G. menardii*	6.613	*-2.532*	*-2.984*	*-3.537*
Burke *et al.* 2025	*G. menardii*	6.801	*-2.924*	*-3.377*	*-3.929*
Burke *et al.* 2025	*G. menardii*	7.103	*-2.896*	*-3.349*	*-3.901*
Burke *et al.* 2025	*G. menardii*	7.215	*-3.197*	*-3.650*	*-4.202*
Burke *et al.* 2025	*G. menardii*	6.964	*-2.758*	*-3.210*	*-3.763*
Burke *et al.* 2025	*H. pelagica*	7.696	*-3.402*	*-3.854*	*-4.406*
Burke *et al.* 2025	*H. pelagica*	7.526	*-2.440*	*-2.892*	*-3.445*
Burke *et al.* 2025	*O. universa*	7.843	*-2.101*	*-2.554*	*-3.106*
Burke *et al.* 2025	*P. obliquiloculata*	6.754	*-2.954*	*-3.407*	*-3.959*
Burke *et al.* 2025	*P. obliquiloculata*	7.516	*-2.582*	*-3.034*	*-3.587*
Burke *et al.* 2025	*P. obliquiloculata*	7.202	*-3.498*	*-3.951*	*-4.503*
Burke *et al.* 2025	*P. obliquiloculata*	7.344	*-3.799*	*-4.252*	*-4.804*
Burke *et al.* 2025	*P. obliquiloculata*	7.300	*-2.532*	*-2.984*	*-3.537*