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Ammonia and nitrite oxidation in the upper euphotic zone of the oligotrophic Red Sea

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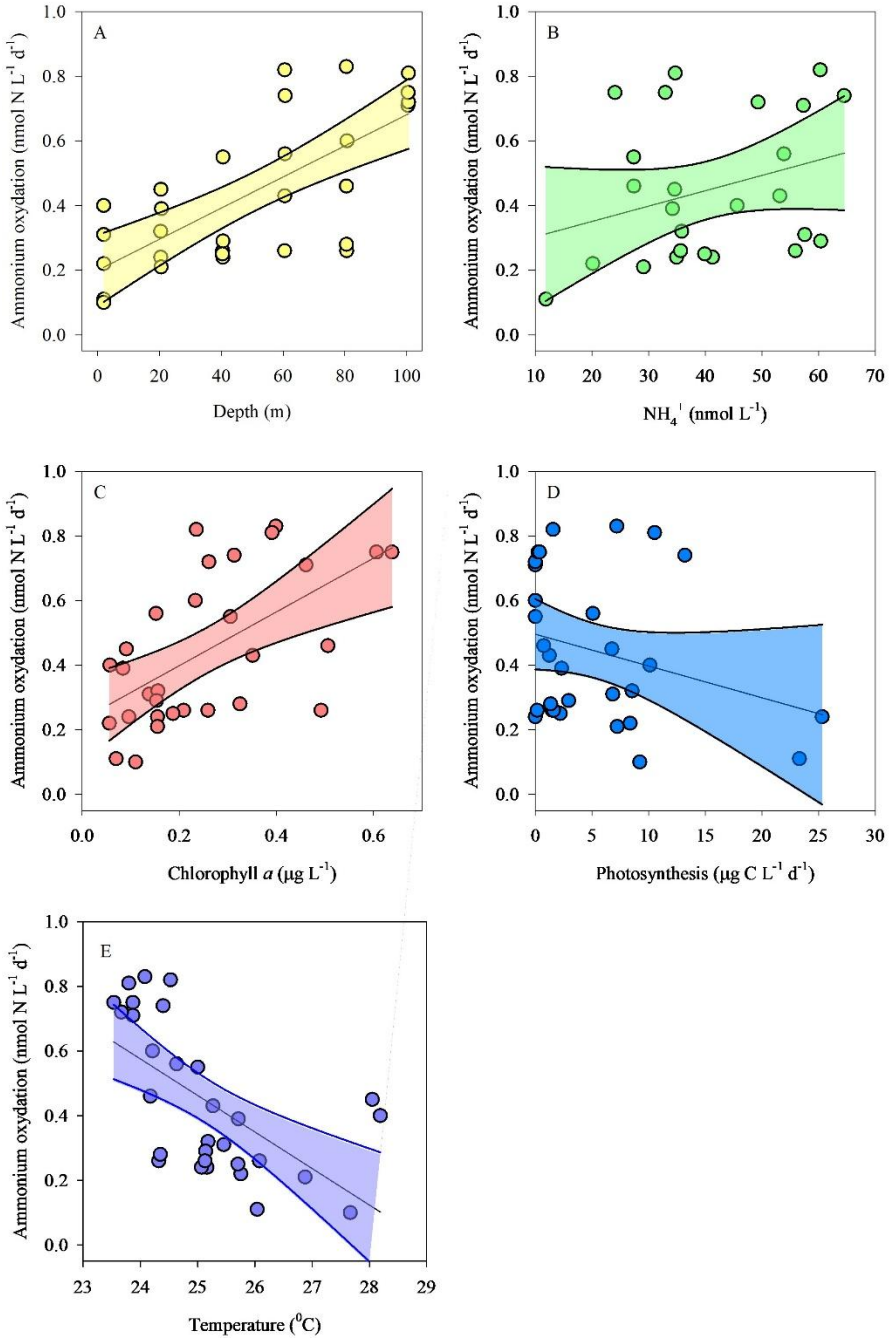

Figure S1. Visual representation of the relationships between key environmental variables and ammonia oxidation rates across all samples (0-100 m). Data shown is ammonia oxidation rates vs. (A) depth (r=0.72, p<0.001), (B) NH_4^+ (r=0.30, p=0.14), (C) chlorophyll *a* (r=0.59, p=0.001), (D) photosynthesis (r=0.28, p=0.139) and (E) temperature (r=0.61, p=0.01). The black line shows the linear fit and the background area signifies the 95% confidence interval. For the full descriptive statistics see Tables S1 and S2.

Table S1: Pearson correlation statistics between environmental variables and ammonium oxidation rates. Correlation coefficients (r), coefficients of determination (r^2), sample size (n), and corresponding p-values are shown for pairwise relationships calculated across all observations (0-100 m, all cruises). Correlations reflect co-variation among variables and do not imply causation.

Variable	**n**	**r**	**r^2**	**p-value**
Pressure	30	0.719	0.517	<0.001
Temperature	30	-0.612	0.375	<0.001
Salinity	30	-0.297	0.088	0.111
Density	30	0.629	0.395	<0.001
Oxygen	30	0.266	0.071	0.155
PAR	30	-0.486	0.236	0.007
pH	29	0.008	~0.000	0.969
NH_4	25	0.303	0.092	0.141
NO_2	30	0.554	0.306	0.002
NO_3	30	0.294	0.087	0.115
PO_4	30	-0.117	0.014	0.536
Chl-a	30	0.591	0.349	<0.001
Photosynthesis	30	-0.277	0.077	0.139
DCF	29	0.178	0.032	0.356

Table S2: Pearson correlation statistics between environmental variables and nitrite oxidation rates. Correlation coefficients (r), coefficients of determination (r^2), sample size (n), and corresponding p-values are shown for pairwise relationships calculated across all observations (0-100 m, all cruises). Correlations reflect co-variation among variables and do not imply causation.

Variable	**n**	**r**	**r^2**	**p-value**
Pressure	30	0.728	0.531	<0.001
Temperature	30	-0.574	0.329	<0.001
Salinity	30	-0.152	0.023	0.424
Density	30	0.620	0.384	<0.001
Oxygen	30	0.329	0.108	0.076
PAR	30	-0.494	0.244	0.006
pH	29	0.020	~0.000	0.920
NH_4	25	0.286	0.082	0.165
NO_2	30	0.443	0.197	0.014
NO_3	30	0.449	0.202	0.013
PO_4	30	-0.301	0.091	0.106
Chl-a	30	0.541	0.292	0.002
Photosynthesis	30	-0.319	0.102	0.086
DCF	29	0.494	0.244	0.006