

Supplementary Tables

Table S1. Net growth rates (μ_0) measured in incubations without enrichment and maximal growth (μ_{\max}) and mortality rates (g) subsequently calculated using full N and P enrichment in the two NB and SB stations of Biguglia lagoon. Values were estimated according the linear Landry and Hassett (1982) equation. This model has been compared to alternative models by mixed-effect multiple linear regressions of apparent growth rates, based on Chl *a* concentration from dilution experiments. The parsimony of the different models was checked by the AIC criterion. The linear model was only accepted when it presented a delta-AIC_c, <2 with respect to the most parsimonious model (see Methods). AIC_{c-w} describe the strength of explanation by the model of the model. R²: coefficient of determination. The $\mu_0:\mu_{\max}$ ratio reflects the impact of the nutrient enrichment on the phytoplankton growth (1: no effect; 0: high enhancement of growth), highlighting the nutrient limitation under natural conditions. ****p*-value <0.001, ***p*-value <0.01, **p*-value <0.05.

Stations	Samplings	Fraction	μ_0 μ_{\max} g			n	AICc	Δ AICc	AICc-w	R ²	$\mu_0:\mu_{\max}$	
			(d ⁻¹)									
NB	Nov - Dec 2013	Tot	0.45	<0	0.62	8	11.5	1.45	0.33	0.31	<0	
		Micro	<0	<0	1.45	7	37.1	6.05	0.04	-0.05	-	
		Nano	0.37	0.46	0.26	8	6.4	3.54	0.13	0.10	0.79	
		Ultra	0.96	<0	1.82	8	24.7	0.00	0.55	0.45*	<0	
	April 2014	Tot	<0	0.25	<0	7	1.4	4.25	0.10	0.19	<0	
		Micro	<0	0.24	1.01	8	24.0	2.39	0.19	0.13	<0	
		Nano	1.13	1.83	0.28	8	-5.2	0.00	0.50	0.53*	0.62	
		Ultra	<0	<0	0.43	8	9.9	2.26	0.21	0.23	-	
	September 2014	Tot	0.64	1.78	0.30	9	-10.7	0.00	0.68	0.64**	0.36	
		Micro	1.84	3.40	0.57	9	3.2	0.00	1.00	0.58*	0.54	
		Nano	1.60	2.70	0.57	9	-4.1	0.00	1.00	0.76**	0.59	
		Ultra	0.51	1.12	0.45	8	2.20	0.86	0.39	0.48*	0.45	
	SB	Nov - Dec 2013	Tot	0.48	0.41	0.69	10	1.7	0.00	0.54	0.65**	1.19
			Micro	1.12	0.45	1.12	9	45.3	4.40	0.09	-0.09	2.48
			Nano	1.17	0.90	0.50	10	20.3	2.62	0.18	0.05	1.30
			Ultra	<0	0.14	1.10	8	9.3	0.00	0.93	0.70**	<0
April 2014		Tot	0.17	0.19	<0	7	15.1	5.18	0.07	0.08	0.92	
		Micro	-	-	-	-	-	-	-	-	-	
		Nano	1.91	2.00	0.83	7	12.8	0.37	0.33	0.59*	0.95	
		Ultra	<0	0.01	<0	8	14.3	4.46	0.09	-0.01	<0	
September 2014		Tot	<0	1.79	0.16	7	-21.1	0.45	0.44	0.88**	<0	
		Micro	0.39	10.08	0.39	9	27.9	4.80	0.05	-0.09	0.04	
		Nano	1.42	3.23	1.14	10	11.6	0.69	0.40	0.65**	0.44	
		Ultra	<0	0.87	<0	10	9.6	0.67	0.32	0.38*	<0	

Table S2. Net growth (μ_N) and mortality rates (g) subsequently calculated using enrichment minus N in the two NB and SB stations of Biguglia lagoon. Values were estimated according the equations from Andersen et al. (1991). The linear model has been compared to alternative models by mixed-effect multiple linear regressions of apparent growth rates, based on Chl *a* concentration from dilution experiments. The parsimony of the different models was checked by the AIC criterion. The linear model was only accepted when it presented a delta-AIC_c, <2 with respect to the most parsimonious model (see Methods). AIC_{c-w} describe the strength of explanation by the model of the model. R²: coefficient of determination. ****p*-value <0.001, ***p*-value <0.01, **p*-value <0.05.

Stations	Samplings	Fraction	μ_N	g	n	AIC _c	Δ AIC _c	AIC _{c-w}	R ₂	
			(d ⁻¹)							
NB	Nov - Dec 2013	Total	<0	0.19	8	-5.3	1.75	0.30	0.28	
		Micro-	<0	1.70	6	-	-	-	-0.13	
		Nano-	0.62	0.29	8	-9	0,00	0.93	0.70**	
		Ultra-	<0	1.82	8	24.7	0,00	0.55	0.45*	
	April 2014	Total	0.51	0.71	9	-5	0,00	1,00	0.84***	
		Micro-	1.59	2.57	8	19.4	0,00	0.93	0.70**	
		Nano-	1.95	0.83	10	-6.1	0,00	1,00	0.86***	
		Ultra-	-1.59	0.13	8	-	-	-	-0.03	
	September 2014	Total	0.86	0.71	10	-1.3	0,00	0.99	0.73**	
		Micro-	1.78	0.55	9	10	0.02	0.50	0.33 .	
		Nano-	1.77	0.99	10	12.6	0,00	0.93	0.56**	
		Ultra-	0.51	0.73	9	1.3	0,00	0.98	0.73**	
	SB	Nov - Dec 2013	Total	0.26	0.39	10	-9.7	0,00	0.98	0.65**
			Micro-	1.09	2.14	9	35.8	0.38	0.45	0.30 .
			Nano-	0.78	0.15	9	-	-	-	-0.08
			Ultra-	1.85	0.82	10	3.1	0,00	0.99	0.69**
April 2014		Total	0.06	0.03	9	-	-	-	-0.14	
		Micro-	-	-	-	-	-	-	-	
		Nano-	1.64	0.42	10	-	-	-	0.08	
		Ultra-	0.10	0.50	9	4.1	0,00	0.71	0.45*	
September 2014		Total	0.28	1.06	10	1.2	0,00	1.00	0.83***	
		Micro-	9.80	1.11	10	8.7	0,00	0.99	0.70**	
		Nano-	1.58	1.01	10	-3.6	0,00	1,00	0.87***	
		Ultra-	<0	1.25	10	7.1	0,00	1.00	0.78***	

Table S3. Net growth (μ_p) and mortality rates (g) subsequently calculated using enrichment minus P in the two NB and SB stations of Biguglia lagoon. Values were estimated according the equations from Andersen et al. (1991). The linear model has been compared to alternative models by mixed-effect multiple linear regressions of apparent growth rates, based on Chl *a* concentration from dilution experiments. The parsimony of the different models was checked by the AIC criterion. The linear model was only accepted when it presented a delta-AIC_c, <2 with respect to the most parsimonious model (see Methods). AIC_{c-w} describe the strength of explanation by the model of the model. R²: coefficient of determination. ****p*-value <0.001, ***p*-value <0.01, **p*-value <0.05.

Stations	Samplings	Fraction	μ_p	g	n	AIC _c	Δ AIC _c	AIC _{c-w}	R ²
			(d ⁻¹)						
NB	Nov - Dec 2013	Total	0.30	0.24	9	-1.9	1.16	0.36	0.24
		Micro-	<0	<0	10	-	-	-	-0.12
		Nano-	1.13	0.44	10	1.9	0,00	0.74	0.40*
		Ultra-	<0	<0	10	-	-	-	-0.12
	April 2014	Total	0.07	0.41	8	1.9	0,00	0.65	0.50*
		Micro-	1.01	1.46	4	-	-	-	0.27
		Nano-	1.54	0.44	8	8.2	1.35	0.34	0.31
		Ultra-	<0	0.53	6	7.4	1.14	0.36	0.71*
	September 2014	Total	1.03	0.24	10	-4.8	0.15	0.48	0.26 .
		Micro-	2.24	0.58	10	12.3	0.01	0.50	0.27
		Nano-	2.13	0.29	10	-5.2	0,00	0.67	0.37*
		Ultra-	0.52	0.31	9	-0.1	0.12	0.49	0.32 .
SB	Nov - Dec 2013	Total	0.53	0.78	10	-0.6	0,00	1.00	0.75***
		Micro-	1.05	2.65	9	25.7	0,00	0.95	0.65**
		Nano-	1.07	0.48	10	3.5	0,00	0.74	0.40*
		Ultra-	2.02	0.83	10	5.2	0,00	0.98	0.65**
	April 2014	Total	0.26	0.57	9	-9.5	0,00	1.00	0.86***
		Micro-	-	-	-	-	-	-	-
		Nano-	1.64	0.52	9	3	0,00	0.83	0.53*
		Ultra-	0.34	0.69	9	-7	0,00	1.00	0.87***
	September 2014	Total	1.34	0.03	9	-	-	-	-0.14
		Micro-	11.72	-0.17	10	-	-	-	-0.06
		Nano-	<0	2.45	8	-	-	-	0.15
		Ultra-	<0	0.19	9	-4.6	1.65	0.30	0.19