Appendix S1

Burson, A., M. Stomp, E. Greenwell, J. Grosse, and J. Huisman (2018) Competition for nutrients and light: testing advances in resource competition with a natural phytoplankton community. *Ecology*.

Table S1. Composition of the mineral medium in the competition experiments. $NaNO_3$ and K_2HPO_4 concentrations varied per experiment to create different N and P loads.

Compound	Concentration (µM)
Salts/Buffers:	
$MgSO_4•7H_20$	2.0×10^4
KCl	8.0×10^3
$CaCl_2•2H_2O$	2.5×10^3
NaCl	4.3×10^5
$NaHCO_3$	500
Macro-nutrients:	
$NaNO_3$	2000; 160; 64
$K_2HPO_4•3H_2O$	125; 10; 4
$Na_2SiO_3•5H_2O$	160
H_3BO_3	550
Micro-nutrients:	
$FeSO_4•7H_20$	14
Na_2EDTA	35
$MnCl_2•4H_2O$	22
$ZnCl_2$	2.4
$Na_2MoO_4•2H_2O$	5.4
$CuSO_4•5H_2O$	0.2
$CoCl_2•4H_2O$	0.5
Vitamins:	
Thiamine•HCl (B1)	0.6
Biotin	4.0×10^{-3}
Cyanocobalamin (B12)	7.4×10^{-3}

Table S2. Nutrient and light conditions in the mineral medium supplied to the experiments (medium) and measured in the competition experiments at steady state (chemostats).

	HN:LP	LN:LP	LN:HP	HN:MP	MN:MP	MN:HP	HN:HP
$DIN:DIP_{Medium}$	500	16	0.512	200	16	1.28	16
DIN_{Medium} (µM)	2000	64	64	2000	160	160	2000
DIP_{Medium} (µM)	4	4	125	10	10	125	125
$DIN:DIP_{Chemostat}$	2380	2	0.04	275	1	0.04	6
$DIN_{Chemostat}$ (µM)	1190	4	2	825	3	2	181
$DIP_{Chemostat}$ (µM)	0.5	2	46	3	3	49	29
I_{in} (µmol photons m^{-2} s^{-1})	40	40	40	40	40	40	40
I_{out} (µmol photons m^{-2} s^{-1})	23	26	24	9.5	19	17	0.4
Biovolume (mm^3 L^{-1})	60.1	40.6	29.6	158.4	89.6	132.6	247.7
Resource limitation[1]	P	N+P	N	P+light	N+P (+light)	N(+light)	light

[1]*The indicated resource limitation is reflective of the targeted limitation pattern presented in Figure 1B and the realized DIN, DIP and* I_{out} *levels achieved in the competition experiments.*

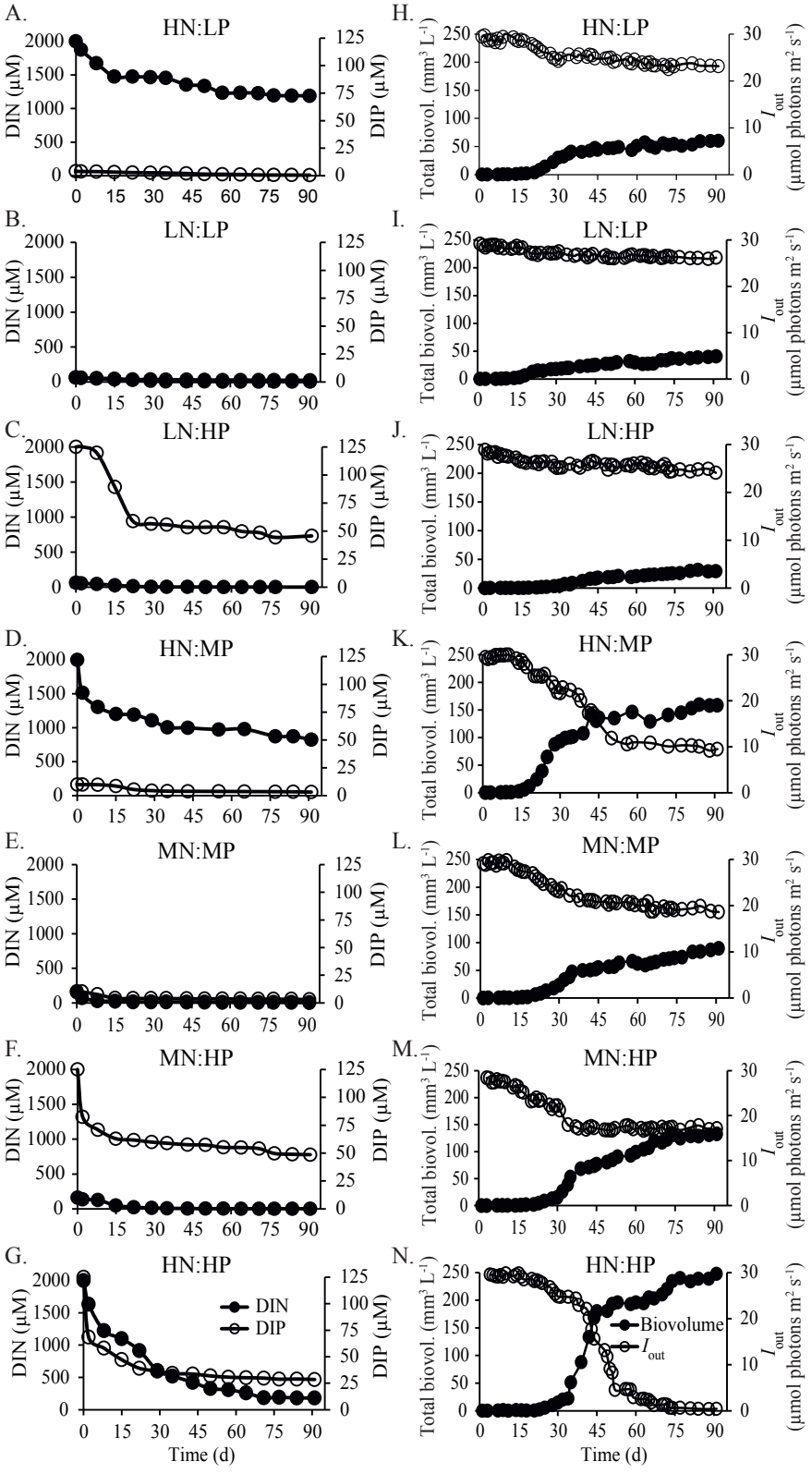

Figure S1. Time series of nutrient and light conditions in the competition experiments. (A-G) Time series of DIN and DIP concentrations, and (H-N) total biovolume and light transmission (I_{out}) in the 7 competition experiments.

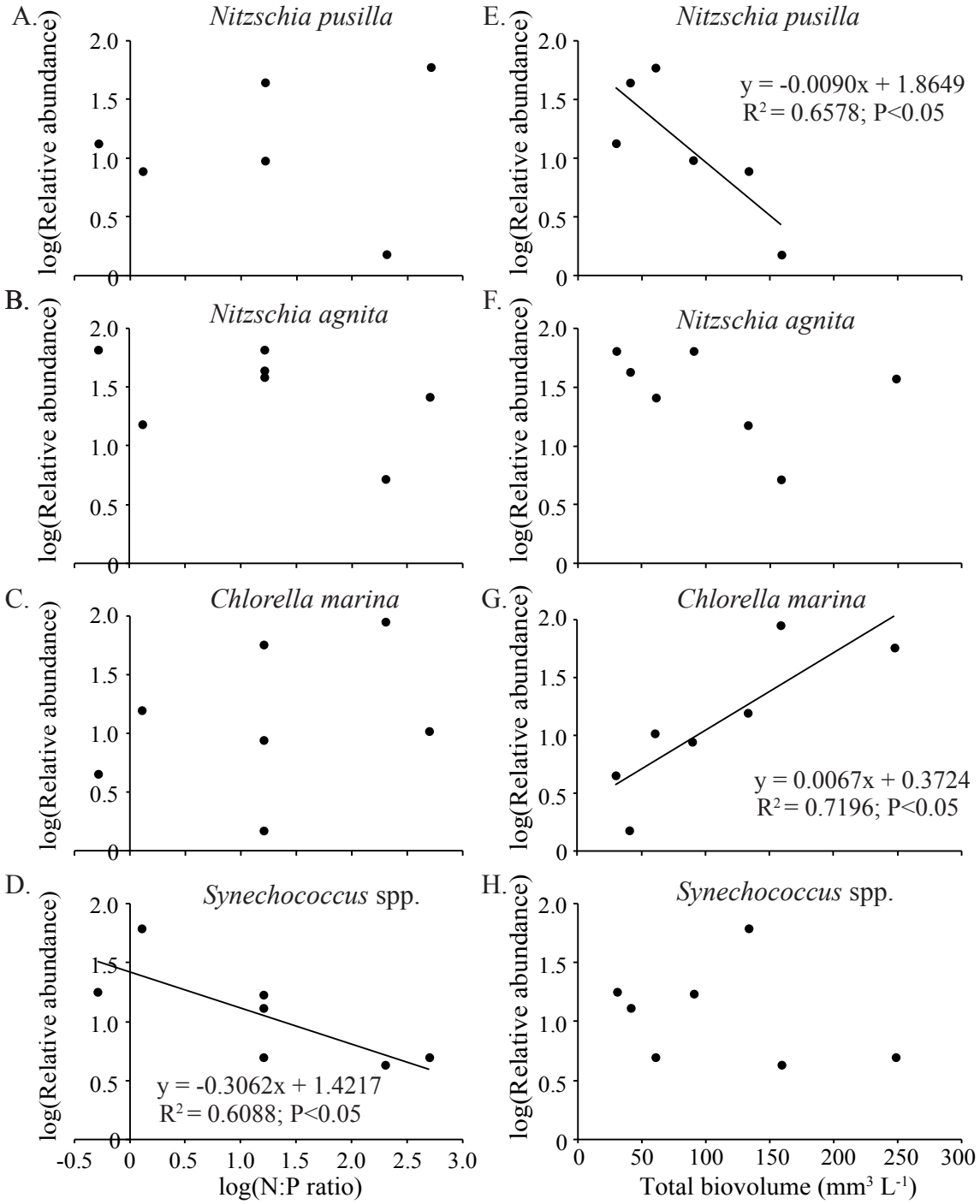

Figure S2. Regression analysis of the coexisting species versus the N:P ratio or total biovolume of the competition experiments. The graphs show linear regression of the relative abundances of the species at steady state versus (A-D) the N:P ratio of the mineral medium, and (E-H) the total biovolume in the competition experiments. The regressions in (A-D) are based on $\log(y)=a \log(N:P_{medium}) + b$, and in (E-H) on $\log(y)=a$ Biovolume + b, where y is the relative abundance of the species concerned. Each datapoint represents an individual competition experiment (n=7); we note that *N. pusilla* was competitively excluded in one of the experiments (and hence n=6 in panels (A) and (E)). Regression lines are shown only if the relationship is significant.