

Effects of grazer diversity on marine microphytobenthic biofilm: a ‘tug of war’ between complementarity and competition

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Table S1. Treatment combinations used to assess variation in gastropod species richness, identity and density of on biofilm. PU, PR and PT stand for *Patella ulyssiponensis*, *P. rustica*, and *Porchus turbinatus*, respectively.

Number of species	Number of individuals	Species combination
0	0	None
1	3	PU
1	3	PR
1	3	PT
1	6	PU
1	6	PR
1	6	PT
2	6	PU + PR
2	6	PT + PU
2	6	PT + PR
3	3	PU + PR + PT
3	6	PU + PR + PT

Table S2. Results of the mixed-effect model comparing treatments with 1 and 3 species and *a priori* contrasts at two levels of density on photosynthetic efficiency ($\Delta F/F_m'$) and photosynthetic biomass (F_0). PU, PR and PT identify single species treatments with *Patella ulyssiponensis*, *P. rustica* and *Porchus turbinatus*, respectively. Significant effects are indicated in bold.

Photosynthetic efficiency

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>P</i>	Coefficient (SE)	<i>P</i>
Intercept	0.0847 (0.0396)	0.037	0.0014 (0.0021)	0.517
1 vs 3 species	0.0168 (0.0224)	0.461	-0.0011 (0.0012)	0.379
(PU & PR) vs PT	0.0068 (0.032)	0.833	-0.0004 (0.0017)	0.813
PU vs PR	-0.1529 (0.0577)	0.014	0.003 (0.0031)	0.336
Density	-0.0091 (0.0082)	0.281	0.0003 (0.0004)	0.522
1 vs 3 species x density	-0.0023 (0.0047)	0.629	0.0001 (0.0003)	0.570
(PU & PR) vs PT x density	-0.0018 (0.0067)	0.795	0.0001 (0.0004)	0.687
PU vs PR x density	0.0235 (0.0119)	0.060	-0.0003 (0.0006)	0.666

Photosynthetic biomass

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>P</i>	Coefficient (SE)	<i>P</i>
Intercept	341.8 (125.2)	0.009	-4.98 (2.49)	0.051
1 vs 3 species	-55.1 (70.7)	0.444	1.62 (1.41)	0.255
(PU & PR) vs PT	-76.7 (101.1)	0.456	1.36 (2.01)	0.502
PU vs PR	1.69 (182.5)	0.993	1.94 (3.63)	0.596
Density	-15.4 (26.1)	0.560	0.19 (0.52)	0.719
1 vs 3 species x density	7.60 (14.9)	0.614	-0.38 (0.3)	0.205
(PU & PR) vs PT x density	21.3 (21.1)	0.324	-0.48 (0.42)	0.256
PU vs PR x density	3.96 (37.6)	0.917	-0.76 (0.75)	0.318

Table S3. Summary of the model including Control and Control for Artefacts (CA) treatments to test for potential artefacts due to the presence of cages on photosynthetic efficiency ($\Delta F/F_m'$) and photosynthetic biomass (F_0). Significant effects are indicated in bold.

Photosynthetic efficiency

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>P</i>	Coefficient (SE)	<i>P</i>
Intercept	0.019 (0.044)	0.671	0.0027 (0.0018)	0.152
Control vs. CA	0.035 (0.063)	0.594	-0.0011 (0.0026)	0.671

Photosynthetic biomass

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>p</i>	Coefficient (SE)	<i>p</i>
Intercept	220.7 (74.7)	0.011	-4.64 (1.78)	0.021
Control vs. CA	70.24 (105.7)	0.531	1.92 (2.52)	0.458

Table S4. Results of *a priori* contrasts comparing photosynthetic efficiency ($\Delta F/F_m'$) and photosynthetic biomass (F_0) between Control and treatments with 3 species at low (3 animals per plot) and high density (6 animals per plot).

Photosynthetic efficiency

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>P</i>	Coefficient (SE)	<i>P</i>
Intercept	0.019 (0.040)	0.597	0.0027 (0.0018)	0.148
Control vs. 3 species at low density	0.0086 (0.051)	0.869	0.0014 (0.0026)	0.593
Control vs. 3 species at high density	0.0020 (0.051)	0.970	0.00096 (0.0026)	0.713

Photosynthetic biomass

	Mean at first sampling date		Temporal trends	
	Coefficient (SE)	<i>p</i>	Coefficient (SE)	<i>p</i>
Intercept	220.7 (135.7)	0.119	-4.64 (2.76)	0.108
Control vs. 3 species at low density	171.6 (192.0)	0.394	-1.23 (3.90)	0.756
Control vs. 3 species at high density	56.95 (192.0)	0.773	2.75 (3.90)	0.489