

Table S1. Analyses among sites, years and seasons of: the number of taxa per sample (SR), the % coverage of total SR calculated from the sample SR, the mean number of taxa per boulder (SD), the percentage of rare (found on <10 boulders per site for algae and sessile animals, <5 boulders for mobile animals) and common (found on > 50 boulders per site for algae and sessile animals, >10 boulders for mobile animals) taxa and Bray-Curtis dissimilarities among boulders using presence/absence data; n = 2 (times of sampling within each season and year). Variances adjusted as described in the Methods for algae SR and coverage; sessile animals SR and coverage (details in Results).

SR	Algae			Sessile animals			Mobile animals				
	Source	DF	MS	F	p	MS	F	p	MS	F	p
Site = Si	5	587.68	18.68	<0.01	52.80	5.68	<0.05	1404.07	67.52	<0.001	
Year = Y	1	127.00	6.00	<0.05	18.75	9.79	<0.01	0.19	0.25	>0.25	
Season = Se	1	4.08	5.37	>0.25	2.08	0.03	>0.25	67.68	0.42	>0.25	
Si x Y	5	4.65	1.03	>0.25	9.30	4.86	<0.01	15.14	0.28	>0.25	
Si x Se	5	2.53	0.43	>0.25	5.03	0.48	>0.25	46.64	1.86	>0.25	
Y x Se	1	0.75	0.17	>0.25	60.75	31.72	<0.001	172.52	4.39	<0.05	
Si x Y x Se	5	5.90	1.31	>0.25	10.40	5.43	<0.01	39.87	0.57	>0.25	
Residual	23	4.50			1.92			40.69			
Cochrans test	0.17, p >0.05			0.19, p >0.05			0.18, p >0.05				
Coverage-1 (Space)											
Source	DF	MS	F	p	MS	F	p	MS	F	p	
Site = Si	5	5315.50	8.38	<0.05	165.79	3.04	>0.05	184.09	11.46	<0.01	
Year = Y	1	1221.07			79.76			0.61			
Season = Se	1	129.65			25.49			49.82			
Si x Y	5	537.64			54.61			16.06			
Si x Se	5	18.51			22.70			44.62			
Y x Se	1	6.41			303.14			227.26			
Si x Y x Se	5	54.35			68.89			48.28			
Residual	23	38.83			10.47			40.99			
Cochrans test	0.16, p >0.05			0.17, p >0.05			0.22, p <0.05				
Coverage-2 (Time)											
Source	DF	MS	F	p	MS	F	p	MS	F	p	
Site = Si	5	5624.32			363.40			1318.60			
Year = Y	1	1205.82	4.16	>0.05	62.08	0.96	>0.25	74.05	2.68	>0.05	
Season = Se	1	155.28	1.62	>0.25	38.69	8.00	>0.05	25.88	2.48	>0.25	
Si x Y	5	36.78			63.76			12.66			
Si x Se	5	17.48			28.93			44.88			
Y x Se	1	134.14	0.69	>0.25	4.84	0.07	>0.25	10.42	0.38	>0.25	
Si x Y x Se	5	44.58			85.90			38.64			
Residual	23	49.45			64.65			22.65			
Cochrans test	0.29, p >0.05			0.34, p >0.05			0.21, p <0.05				
SD											
Source	DF	MS	F	p	MS	F	p	MS	F	p	
Site = Si	5	7.30	7.13	<0.05	24.51	25.35	<0.01	38.34	72.27	<0.001	
Year = Y	1	0.01	0.01	>0.25	2.01	2.95	>0.05	3.12	7.79	<0.05	
Season = Se	1	5.84	2.37	>0.25	2.43	1.05	>0.25	5.71	4.08	>0.25	

Si x Y	5	1.02	0.86	>0.25	0.97	1.42	>0.25	0.53	1.34	>0.25
Si x Se	5	0.29	0.23	>0.25	0.33	1.41	>0.25	0.79	3.20	>0.05
Y x Se	1	2.47	2.30	>0.05	2.32	3.40	>0.05	1.40	3.50	>0.05
Si x Y x Se	5	1.31	1.22	>0.25	0.23	0.34	>0.25	0.25	0.62	>0.25
Residual	24	1.07			0.68			0.40		
Cochrans test	0.20, p >0.05			0.27, p >0.05			0.26, p >0.05			

Percentage of rare taxa

Source	DF	MS	F	p	MS	F	p	MS	F	p
Site = Si	5	165.65	2.91	>0.05	1052.82	18.82	<0.01	539.55	14.05	<0.01
Year = Y	1	196.64	1.45	>0.05	82.00	1.33	>0.25	5.51	1.18	>0.25
Season = Se	15	66.22	24.05	>0.05	586.08	88.41	>0.05	561.19	2.70	>0.25
Si x Y	5	57.01	0.06	>0.25	55.94	0.91	>0.25	38.41	1.22	>0.25
Si x Se	5	11.67	0.20	>0.25	129.32	1.17	>0.25	49.12	2.44	>0.05
Y x Se	1	123.54	0.35	>0.25	6.63	0.11	>0.25	208.20	6.63	<0.05
Si x Y x Se	5	57.35	0.86	>0.25	110.79	1.79	>0.05	20.17	0.64	>0.25
Residual	24	66.50			61.72			31.39		
Cochrans test	0.21, p >0.05			0.30, p >0.05			0.28, p <0.05			

Percentage of common taxa

Source	DF	MS	F	p	MS	F	p	MS	F	p
Site = Si	5	52.70	0.99	>0.25	65.71	4.27	>0.05	125.52	38.59	<0.001
Year = Y	1	111.03	0.57	>0.25	98.14	16.51	<0.001	0.05	0.01	>0.25
Season = Se	12	20.04	2.84	>0.25	22.32	5.03	>0.25	19.89	0.85	>0.25
Si x Y	5	53.28	2.73	<0.05	15.39	2.59	>0.05	3.25	0.69	>0.25
Si x Se	5	17.22	0.60	>0.25	2.83	0.59	>0.25	5.69	0.54	>0.25
Y x Se	1	177.46	3.97	>0.05	4.44	0.75	>0.25	23.50	4.98	<0.05
Si x Y x Se	5	28.91	1.48	>0.05	4.76	0.80	>0.25	10.45	2.21	>0.05
Residual	24	19.49			5.94			4.72		
Cochrans test	0.26, p >0.05			0.17, p >0.05			0.26, p >0.05			

Bray-Curtis dissimilarity, presence/absence data

Source	DF	MS	F	p	MS	F	p	MS	F	p
Site = Si	5	316.56	36.06	<0.001	118.08	1.80	>0.25	236.06	14.70	<0.01
Year = Y	1	0.04	0.00	>0.25	86.94	5.79	<0.05	78.87	7.31	<0.05
Season = Se	15	8.96	1.21	>0.25	20.12	8.56	>0.05	21.13	1.81	>0.25
Si x Y	5	8.78	0.55	>0.25	10.05	0.67	>0.25	16.06	1.49	>0.05
Si x Se	5	58.00	7.98	<0.05	5.86	0.76	>0.25	9.91	2.07	>0.05
Y x Se	1	149.92	3.07	>0.05	2.35	0.16	>0.25	11.69	1.08	>0.25
Si x Y x Se	5	7.27	0.46	>0.25	7.73	0.51	>0.25	4.78	0.44	>0.25
Residual	24	15.92			15.03			10.78		
Cochrans test	0.20, p >0.05			0.21, p >0.05			0.26, p >0.05			