

Efficiency of artificial collectors for quantitative assessment of sea urchin settlement rates

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Supplementary material

Table S1. – Results of the three-way permutational analysis of variance (PERMANOVA) performed to identify significant differences in the number of *P. lividus* settlers/m² between the factors ‘Collector’, ‘Time’ and ‘Locality’ (Abades and Tossa de Mar). Significant results are shown in bold (* p<0.05; ** p<0.01).

Source	df	SS	MS	Pseudo-F	P(perm)
Collector	2	9277.4	4638.7	63.896	0.0001 **
Time	1	31.392	31.392	0.43241	0.6165
Locality	1	1626.9	1626.9	22.409	0.0001 **
Collector × Time	2	25.86	12.93	0.1781	0.9416
Collector × Locality	2	953.95	476.98	6.5701	0.0009 **
Time × Locality	1	16.174	16.174	0.22278	0.7852
Collector × Time × Locality	2	52.088	26.044	0.35875	0.8094
Residual	24	1742.4	72.598		
Total	35	13726			

Table S2. – Pairwise comparisons for the significant interaction of the factors ‘Collector × Locality’ obtained in the permutational analysis of variance (PERMANOVA) assessing differences in number of *P. lividus* settlers per unit area. Differences in settlers/m² densities at Abades (during February 2012) and at Tossa de Mar (during June 2012) among the three kinds of artificial collector tested are given. Significant results are shown in bold (* p<0.05; ** p<0.01).

Locality	Collectors	T	P(perm)
Abades	Biofilter, Mat	6.0721	0.0026 **
	Biofilter, Brush	5.4438	0.0036 **
	Mat, Brush	9.8611	0.0023 **
Tossa de Mar	Biofilter, Mat	2.9239	0.0252 **
	Biofilter, Brush	3.6942	0.0067 **
	Mat, Brush	5.0637	0.0024 **

Table S3. – Results of the two-way permutational analysis of variance (PERMANOVA) performed to identify significant differences in the number of *A. lixula* settlers/m² between the factors ‘Collector’ and ‘Time’ at the Canary Islands site (Abades). Significant results are shown in bold (* p<0.05; ** p<0.01).

Source	df	SS	MS	Pseudo-F	P(perm)
Collector	2	4017.6	2008.8	7.4269	0.0018 **
Time	1	7258.1	7258.1	26835	0.0006 **
Collector × Time	2	1103.1	551.53	2.0391	0.1253
Residual	12	3245.7	270.48		
Total	17	15625			

Table S4. – Pairwise comparisons for the significant factors ‘Collector’ obtained in the permutational analysis of variance (PERMANOVA) assessing differences in number of *A. lixula* settlers/m² collected at Abades in February 2012. Differences in settlers densities among the three kinds of artificial collectors tested are given. Significant results are shown in bold (* p<0.05; ** p<0.01).

Collectors	T	P(perm)
Biofilter, Brush	1.2207	0.272
Biofilter, Mat	7.7712	0.0028 **
Mat, Brush	2.7518	0.0119 *

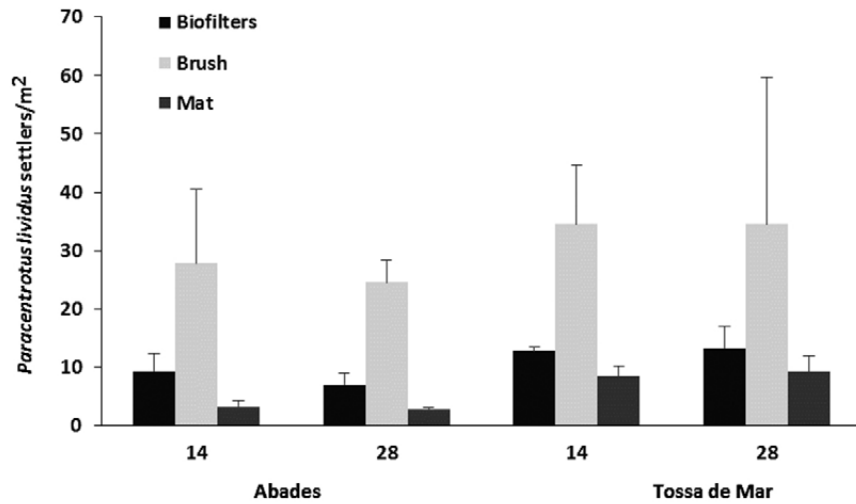


Fig. S1. – Number of *Paracentrotus lividus* settlers/m² found in the artificial collectors deployed at Abades and Tossa de Mar in February and June 2012, respectively. Error bars show standard deviations.

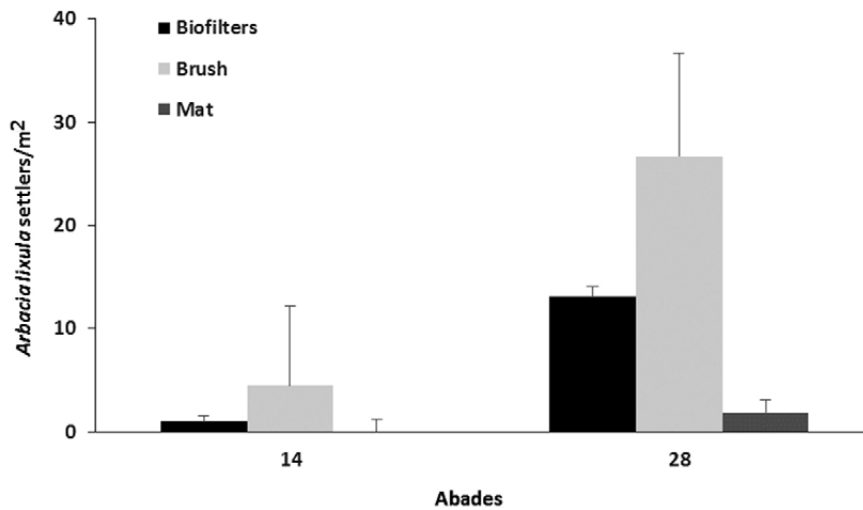


Fig. S2. – Number of *Arbacia lixula* settlers/m² found in the artificial collectors deployed at Abades in February 2012. Error bars show standard deviation.