

Appendix 1. List of species collected in the cage experiment

Total list of algae, mobile and sessile fauna collected in the artificial seagrass patches during 3 sampling dates. The numbers refer to average biomass (g DW m⁻²) for algae and average number of individuals (no. m⁻²) for fauna estimated from all treatments at the end of the 6 week experiment in October, if not otherwise stated (n = 40).

Algae		PHYLUM ARTHROPODA	
Class Chlorophyceae		Subphyla Crustacea	
<i>Ulva</i> spp. (syn. <i>Enteromorpha</i> spp.)	12.04	Class Ostracoda	
<i>Cladophora</i> sp.	0.02	Ostracoda indet.	9740
Class Phaeophyceae		Class Copepoda	
<i>Ectocarpus</i> spp.	10.08	Harpacticoida indet.	105420
<i>Hincksiella</i> sp.	3.24	Class Cirripeda	
<i>Pilayella</i> sp.	1.13	Cyprid larvae	660
<i>Sphaerelaria</i> spp.	0.26	Class Malacostraca	
<i>Stictyosiphon</i> spp.	0.01*	Isopoda	
Class Rhodophyceae		<i>Idotea chelipes</i>	60
<i>Dasya baillouiana</i>	1.87	<i>Idotea granulosa</i>	20
<i>Ceramium ciliculosum</i>	0.24	Amphipoda	
<i>Polysiphonia fibrillosa</i>	0.15	<i>Ericthonius difformis</i>	20500
<i>Ceramium virgatum</i>	0.01*	<i>Corophium insidiosum</i>	12100
Class Cyanophyta		<i>Microdeutopus gryllotalpa</i>	8600
<i>Lyngbya</i> spp.	1.66	<i>Stenothoe monoculoides</i>	2400
<i>Gleotrichia</i> sp.	0.01*	<i>Gammarus locusta</i>	2141
<i>Phorinidium</i> sp.	0.01*	<i>Dexamine spinosa</i>	40
Fauna		<i>Ericthonius punctatus</i>	20
PHYLUM CILIOPHORA		Amphipoda juv. indet.	11600
Folliculinidae indet.	600	Decapoda	
PHYLUM SARCOMASTIGOPHORA		<i>Palaemon elegans</i>	168
Foraminiferida indet.	7160	<i>Carcinus maenas</i>	27
PHYLUM PORIFERA		<i>Macropodia rostrata</i>	11
Porifera indet.	80	<i>Palaemon adspersus</i>	4
PHYLUM CNIDARIA		<i>Eupagurus</i> sp.	0.7
<i>Sagartiogeton</i> sp.	20	<i>Crangon crangon</i>	0.3
Hydroidae indet.	20**	Subphyla Chelicerata	
PHYLUM PLATYHELMINTHES		Halacaridae indet.	1900
Polycladida indet.	20	Subphyla Insecta	
PHYLUM NEMATODA		Chironomidae indet.	60
Nematoda indet.	59280	PHYLUM MOLLUSCA	
PHYLUM NEMERTEA		Class Polyplacophora	
<i>Tetrastemma</i> spp.	60	<i>Lepidochitonina cinereus</i>	20
Nemertea indet.	20**	Polyplacophora indet.	20
PHYLUM ANELIDA		Class Gastropoda	
Class Polychaeta		<i>Pusillina sarsi</i>	4620
<i>Pomatoceros triqueter</i>	5260	Rissoidae indet.	1820**
<i>Spirorbis tridentatus</i>	2460	<i>Pusillina inconspicua</i>	580
<i>Spirorbis spirorbis</i>	1300	<i>Littorina littorea</i>	200
Nereidae indet.	780	<i>Risoella globularis</i>	180
<i>Harmothoe</i> spp.	20	Naticidae indet.	80
Polychaeta indet.	3880	<i>Hydrobia</i> spp.	40
		<i>Bittium reticulatum</i>	20

<i>Nassarius reticulatus</i>	20	PHYLUM ECHINODERMATA
<i>Retrotrolina fuscata</i>	20	Class Asteriodea
<i>Rissoa membranacea</i>	20	<i>Asterias rubens</i>
<i>Skenea cutleriana</i>	20	PHYLUM CHORDATA
<i>Triphora adversa</i>	6	Subphylum Tunicata
Gastropoda indet.	560	<i>Botryllus schlosseri</i>
Class Opisthobranchia		<i>Ciona intestinalis</i>
Nudibranchia indet.	80	Asciidae indet.
Class Bivalvia		<i>Ascidia spp.</i>
<i>Mytilus edulis</i>	9340	<i>Ascidia obliqua</i>
Cardiidae juv. indet.	1680	<i>Ascidia virginea</i>
<i>Modiolus modiolus</i>	1140	<i>Clavelina lepadiformis</i>
<i>Mya</i> spp.	460	<i>Ascidia aspersa</i>
<i>Heteranomia squamula</i>	240	Subphylum Vertebrata
<i>Paphia</i> spp.	80	<i>Pomatoschistus microps</i>
<i>Hiatella arctica</i>	20	<i>Gobius niger</i>
<i>Macoma balthica</i>	20	<i>Gobiusculus flavescens</i>
<i>Modiolarca tumida</i>	20	<i>Myoxocephalus scorpius</i>
<i>Musculus</i> spp.	20	<i>Syngnathus typhle</i>
Bivalvia indet.	1540	<i>Ctenolabrus rupestris</i>
PHYLUM BRYOZOA		<i>Crenilabrus melops</i>
<i>Aetea truncata</i>	280	<i>Gasterosteus aculeatus</i>
<i>Cribrilina punctata</i>	360	<i>Pomatoschistus minutus</i>
<i>Cryptosula pallasiana</i>	140	<i>Pomatoschistus pictus</i>
<i>Electra pilosa</i>	20	

* Only encountered at the start of the experiment in August

** Only encountered at midsampling in September

Appendix 2. Linear regression analyses.

Table B1. Cage experiment – effect of *Gammarus locusta*. Linear regression analyses using the total biomass (g DW) of macroalgae, amphipods, gastropods, or meiofauna that were collected on the seagrass leaves at the end of the experiment from the closed and fish cage treatments as a function of the number of adult (≥ 9.0 mm L) and juvenile *G. locusta* (DF = 1,18 in all analyses). The regressions between biomass of macroalgae and meiofauna, and the number of adult *G. locusta* showed a non-random distribution of residuals, indicating a curvilinear relationship. The analyses were therefore repeated after a log-transformation of the dependent variables. The transformation improved the random distribution of residuals, giving a stronger negative relationship for macroalgae and meiofauna, but not for the other variables.

Dependent variable	Biomass			Log(biomass)		
	SS	F	r ²	SS	F	r ²
Adult <i>G. locusta</i>						
Algae	5.02	4.87*	0.21	1.11	11.7**	0.39
Amphipods	0.29	10.58**	0.37	0.92	6.76 *	0.27
Gastropods	3.00	5.34*	0.23	1.18	4.91 *	0.21
Meiofauna	1.62	14.2**	0.44	1.54	29.7****	0.62
Juvenile <i>G. locusta</i>						
Algae	0.00	0.00 (ns)	0.00	0.00	0.01 (ns)	0.00
Amphipods	0.03	0.80 (ns)	0.04	0.60	3.91 (ns)	0.18
Gastropods	1.76	2.79 (ns)	0.13	0.97	3.88 (ns)	0.18
Meiofauna	1.79	0.92 (ns)	0.05	0.23	1.83 (ns)	0.09

* p < 0.05 ** p < 0.01**** p < 0.001, (ns) p > 0.05

Table B2. Cage experiment – effect of mesograzers. Linear regression analyses testing the total biomass (g DW) of macroalgae, and log-transformed algal biomass as a function of the number of adult *Gammarus locusta*, the amphipod *Microdeutopus* sp., other amphipods, and all gastropods that were sampled at the end of the experiment from all replicates (DF = 1,36 in all analyses). The regressions between biomass of macroalgae and the number of adult *G. locusta* showed a non-random distribution of residuals, indicating a curvilinear relationship. A log-transformation improved the random distribution of residuals in the regression between macroalgae and adult *G. locusta*, but not in the other regressions.

Independent variable	Algal biomass			Log(algal biomass)		
	SS	F	r ²	SS	F	r ²
Adult <i>G. locusta</i>						
19.8	11.2**	0.24	2.66	27.3****	0.43	
<i>Microdeutopus</i> sp.	0.54	0.22 (ns)	0.01	0.02	0.10 (ns)	0.00
Other amphipods	4.23	1.80 (ns)	0.05	0.30	1.81 (ns)	0.05
All gastropods	4.62	1.98 (ns)	0.05	0.19	1.13 (ns)	0.03

** p < 0.01**** p < 0.001, (ns) p > 0.05