

Resistance of benthic intertidal communities to multiple disturbances and stresses

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Marine Ecology Progress Series 534: 49–64 (2015)

Supplement

Table S1. Taxa list (with classification) found during the sampling period at Sainte-Flavie, Quebec, Canada. Taxa marked with * were removed in the canopy treatments, and taxa with ** were removed in the grazer exclusion treatments.

Species	Type	Phylum	Class	Order	Family
Algae					
<i>Chordaria flagelliformis</i>	Brown algae	Ochrophyta	Phaeophyceae	Ectocarpales	Chordariaceae
<i>Ectocarpus</i> sp.	Brown algae	Ochrophyta	Phaeophyceae	Ectocarpales	Ectocarpaceae
<i>Fucus distichus edentatus</i> *	Brown algae	Ochrophyta	Phaeophyceae	Fucales	Fucaceae
<i>Fucus vesiculosus</i> *	Brown algae	Ochrophyta	Phaeophyceae	Fucales	Fucaceae
<i>Laminaria</i> sp.	Brown algae	Ochrophyta	Phaeophyceae	Laminariales	Laminariaceae
<i>Ralfsia fungiformis</i>	Brown algae	Ochrophyta	Phaeophyceae	Ralfsiales	Ralfsiaceae
<i>Stragularia clavata</i>	Brown algae	Ochrophyta	Phaeophyceae	Scytosiphonales	Scytosiphonaceae
<i>Clathromorphum circumscriptum</i>	Red algae	Rhodophyta	Floriideophyceae	Corallinales	Hapalidiaceae
<i>Rhodomela confervoides</i>	Red algae	Rhodophyta	Floriideophyceae	Ceramiales	Rhodomelaceae
<i>Hildenbrandia rubra</i>	Red algae	Rhodophyta	Rhodophyceae	Hildenbrandiales	Hildenbrandiaceae
Ulviceae	Green algae	Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae
Invertebrates					
<i>Lacuna vincta</i> **	Animals	Mollusca	Gastropoda	Littorinimorpha	Littorinidae
<i>Littorina obtusata</i> **	Animals	Mollusca	Gastropoda	Littorinimorpha	Littorinidae
<i>Littorina saxatilis</i> **	Animals	Mollusca	Gastropoda	Littorinimorpha	Littorinidae
<i>Littorina littorea</i> **	Animals	Mollusca	Gastropoda	Littorinimorpha	Littorinidae
<i>Margarites</i> sp.**	Animals	Mollusca	Gastropoda	Archaeogastropoda	Trochidae
Nudibranchia	Animals	Mollusca	Gastropoda	Nudibranchia	
<i>Skeneopsis planorbis</i> **	Animals	Mollusca	Gastropoda	Littorinimorpha	Skeneopsidae
<i>Tectura Testudinalis</i> **	Animals	Mollusca	Gastropoda	Patellogastropoda	Lottidae
<i>Macoma Balthica</i>	Animals	Mollusca	Bivalva	Veneroidea	Tellinidae
<i>Mya arenaria</i>	Animals	Mollusca	Bivalva	Myoidea	Myidae
<i>Mytilus edulis</i>	Animals	Mollusca	Bivalva	Mytiloidea	Mytilidae
<i>Balanus</i> sp.	Animals	Arthropoda	Maxillopoda	Sessilia	Balanidae
<i>Jaera marina</i> **	Animals	Arthropoda	Malacostraca	Isopoda	Janiridae
<i>Etone</i> sp.	Animals	Annelida	Polychaeta	Phyllodocida	Phyllodocidae
<i>Fabricia sabella</i>	Animals	Annelida	Polychaeta	Sabellida	Fabriciidae
<i>Lepidonotus squamatus</i>	Animals	Annelida	Polychaeta	Phyllodocida	Polynoidae
<i>Nereis</i> sp.	Animals	Annelida	Polychaeta	Phyllodocida	Nereididae
<i>Pectinaria gouldii</i>	Animals	Annelida	Polychaeta	Terebellida	Pectinariidae
Phyllodocidae	Animals	Annelida	Polychaeta	Phyllodocida	
<i>Phyllodoce maculata</i>	Animals	Annelida	Polychaeta	Phyllodocida	Phyllodocidae
<i>Oligochaeta</i> sp.	Animals	Annelida	Clitellata (oligochaeta)		
<i>Cyanophthalma obscura</i>	Animals	Nemertea	Enopla	Monostilifera	Tetrastemmatidae
Nemerta	Animals	Nemertea			
<i>Aulactinia stella</i>	Animals	Cnidaria	Anthozoa	Actiniaria	Actiniidae

Table S2. Summary of repeated measures ANOVAs showing the effects among Periods (2 to 4; Period 1 was excluded in this analysis) of canopy (Ca), grazer (Gr) and nutrient enrichment (Nu) treatments and crossed factors on a) % cover, b) richness, and c) Simpson's index of diversity of the associated species of the community. Significant values are shown in bold.

	df	F Ratio	p		df	F Ratio	p
a) % Cover				b) Richness			
Between subjects				Between subjects			
Ca	1	0.4791	0.4955	Ca	1	49.9307	<.0001
Gr	1	1.6410	0.2124	Gr	1	0.7426	0.3974
Nu	1	0.0252	0.8752	Nu	1	0.0297	0.8646
CaxGr	1	0.0575	0.8125	CaxGr	1	3.5941	0.0701
CaxNu	1	1.2562	0.2735	CaxNu	1	0.2673	0.6099
GrxNu	1	0.2039	0.6557	GrxNu	1	8.5842	0.0073
CaxGrxNu	1	1.9641	0.1739	CaxGrxNu	1	0.2673	0.6099
Residual	24			Residual	24		
Within subjects				Within subjects			
Period	2	2.4870	0.0938	Period	2	181.16	<.0001
Period x Ca	2	0.8563	0.4311	Period x Ca	2	10.666	0.0001
Period x Gr	2	0.8079	0.4518	Period x Gr	2	0.2558	0.7754
Period x Nu	2	0.8965	0.4147	Period x Nu	2	0.0484	0.9528
Period x CaxGr	2	0.8412	0.4375	Period x CaxGr	2	0.1313	0.8772
Period x CaxNu	2	0.3138	0.7321	Period x CaxNu	2	1.3894	0.2591
Period x GrxNu	2	2.5536	0.0883	Period x GrxNu	2	3.6152	0.0345
Period x CaxGrxNu	2	0.9655	0.3881	Period x CaxGrxNu	2	0.1452	0.8653
Residual	48			Residual	48		
c) Diversity*							
Between subjects							
Ca	1	1.2167	0.2810				
Gr	1	2.4978	0.1271				
Nu	1	0.4291	0.5187				
CaxGr	1	9.0454	0.0061				
CaxNu	1	0.5752	0.4556				
GrxNu	1	0.0617	0.8060				
CaxGrxNu	1	0.4469	0.5102				
Residual	24						
Within subjects							
Period	2	4.8607	0.0120				
Period x Ca	2	1.3092	0.2795				
Period x Gr	2	0.7229	0.4905				
Period x Nu	2	0.0324	0.9681				
Period x CaxGr	2	0.0508	0.9505				
Period x CaxNu	2	0.9447	0.3959				
Period x GrxNu	2	0.4969	0.6115				
Period x CaxGrxNu	2	0.0484	0.9528				
Residual	48						

*Mauchly's test of sphericity only failed for Diversity, however conclusions remains unchanged irrespective of whether adjusted or unadjusted df and p-values from Huynh-Feldt or Greenhouse-Geisser corrections are used.