

Supporting Information

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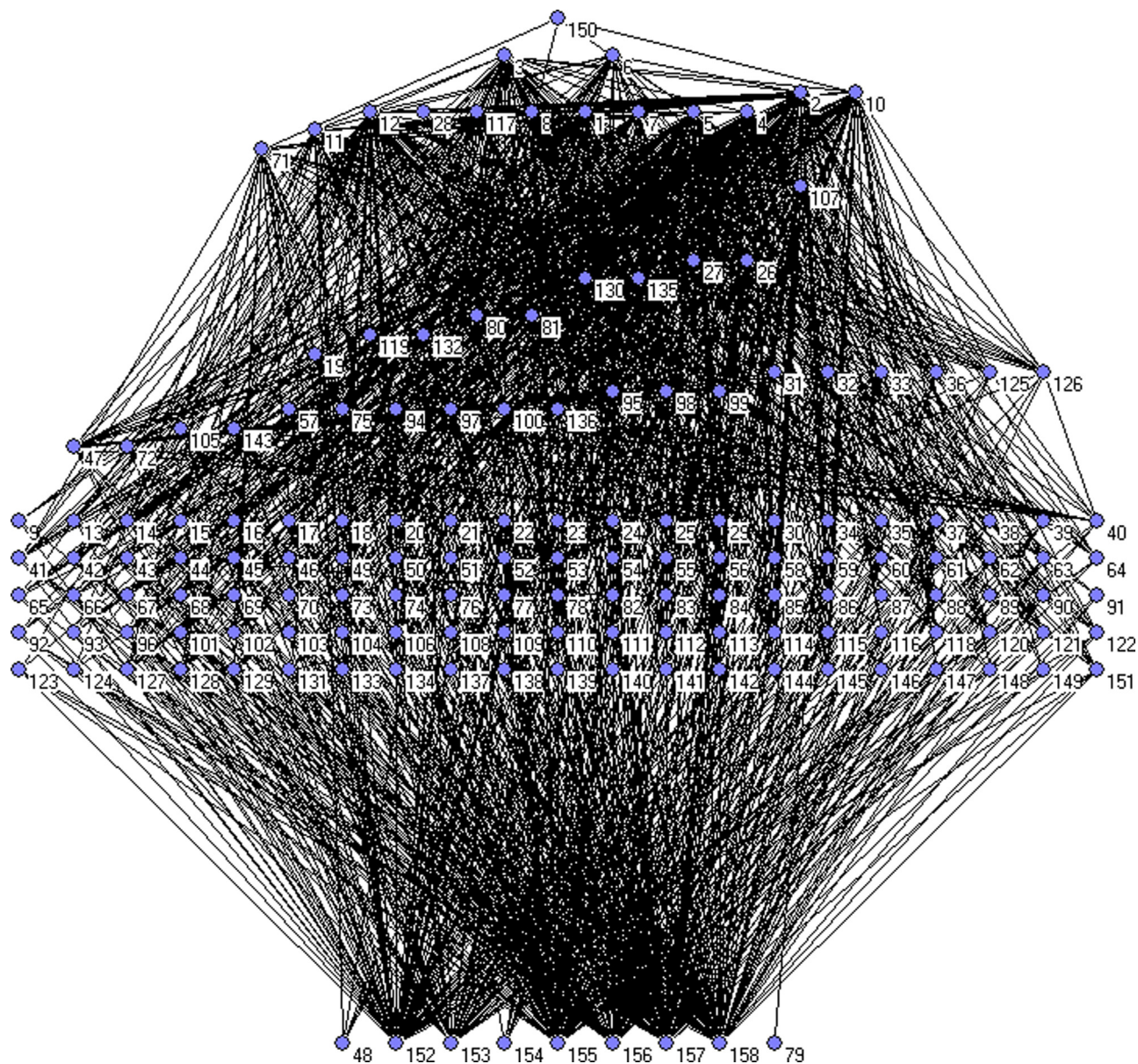


Fig. S1. Core web of species interactions over all of the experimental mesocosms. We calculated trophic height (TH) as the average trophic position of a species in all food chains of which it is a part. The 9 basal resources at the foot of the web have TH = 1. The 5 long parallel rows have TH = 2. All other taxa are arranged in the vertical plane according to their TH. A list of the taxa that correspond to each number in the web (along with their linkage density and TH) can be found in [Table S1](#). Note that species 150 at the top of the web is a parasitic gastropod (feeding on brittle stars). Taxa 48 and 79 at the foot of the web are nonfeeding larvae.

Table S1. Key to the taxa in the mesocosm food web shown in Fig. S1

Code	Taxa	Common name	LD	TH
1	<i>Carcinus maenas</i>	Common shore crab	55	3.09
2	<i>Ctenolabrus rupestris</i>	Goldsinny wrasse	85	3.16
3	<i>Gaidropsarus mediterraneus</i>	Shore rockling	65	3.24
4	<i>Gobius niger</i>	Black goby	96	3.14
5	<i>Gobius paganellus</i>	Rock goby	105	3.14
6	<i>Marthasterias glacialis</i>	Spiny starfish	52	3.26
7	<i>Necora puber</i>	Velvet swimming crab	31	3.13
8	<i>Palaemon serratus</i>	Common prawn	33	3.09
9	<i>Paracentrotus lividus</i>	Purple sea urchin	46	2
10	<i>Taurulus bubalis</i>	Sea scorpion	5	3.16
11	<i>Gobiusculus flavescens</i>	Two-spot goby	80	3.05
12	<i>Pomatoschistus pictus</i>	Painted goby	67	3.08
13	<i>Abra alba</i>	White furrow shell	10	2
14	<i>Acanthocardia echinata</i>	Prickly cockle	12	2
15	<i>Acanthochitona crinitus</i>	(chiton)	5	2
16	<i>Aequipecten opercularis</i>	Queen scallop	9	2
17	<i>Alvania beani</i>	(gastropod)	14	2
18	<i>Alvania semistriata</i>	(gastropod)	14	2
19	<i>Amphilocheus manudens</i>	(amphipod)	8	2.46
20	<i>Anomia ephippium</i>	Saddle oyster	15	2
21	<i>Aora gracilis</i>	(amphipod)	10	2
22	<i>Apherusa bispinosa</i>	(amphipod)	5	2
23	<i>Apseudes latreillei</i>	(tanaid)	6	2
24	<i>Apseudes talpa</i>	(tanaid)	6	2
25	<i>Ascidella aspersa</i>	Dirty sea squirt	6	2
26	<i>Asterina phylactica</i>	(starfish)	13	2.71
27	<i>Bittium reticulatum</i>	Needle whelk	22	2.69
28	<i>Buccinum undatum</i>	Common whelk	14	3.08
29	Calanoida	(copepod)	24	2
30	<i>Callopora lineata</i>	(bryozoan)	5	2
31	<i>Caprella acanthifera</i>	(caprellid)	12	2.40
32	<i>Caprella equilibra</i>	(caprellid)	12	2.40
33	<i>Caprella linearis</i>	(caprellid)	12	2.40
34	<i>Ceradocus semiserratus</i>	(amphipod)	6	2
35	<i>Cerastoderma edule</i>	Common cockle	7	2
36	<i>Cerithiopsis tubercularis</i>	(gastropod)	13	2.40
37	<i>Chironomidae spp.</i>	(chironomid)	7	2
38	<i>Chlamys varia</i>	Variiegated scallop	9	2
39	<i>Circulus striatus</i>	(gastropod)	10	2
40	<i>Clathrina coriacea</i>	(sponge)	15	2
41	<i>Coriandria fulgida</i>	(gastropod)	15	2
42	<i>Crassicorophium bonnellii</i>	(gastropod)	12	2
43	<i>Crassicorophium crassicorne</i>	(gastropod)	12	2
44	<i>Crisia denticulata</i>	(bryozoan)	11	2
45	Cumacea A	(cumacean)	11	2
46	<i>Cuthona sp.</i>	(gastropod)	5	2
47	Cyclopoida	(copepod)	22	2.20
48	Cyprid larvae	(cyprid)	5	1
49	<i>Cythere lutea</i>	(ostracod)	11	2
50	<i>Dexamine spinosa</i>	(amphipod)	9	2
51	<i>Dexamine thea</i>	(amphipod)	9	2
52	<i>Disporella hispida</i>	(bryozoan)	5	2
53	<i>Dysidea fragilis</i>	(sponge)	15	2
54	<i>Elasmopus rapax</i>	(amphipod)	8	2
55	<i>Electra pilosa</i>	Hairy sea mat	7	2
56	<i>Elysia viridis</i>	Green elysia	6	2
57	<i>Emarginula fissura</i>	(gastropod)	8	2.33
58	<i>Epilepton clarkiae</i>	(bivalve)	10	2
59	<i>Epitonium clathrus</i>	Common wentletrap	6	2
60	<i>Erichthonius brasiliensis</i>	(amphipod)	12	2
61	<i>Erichthonius punctatus</i>	(amphipod)	12	2
62	<i>Eubranchus farrani</i>	(gastropod)	5	2
63	<i>Exogone gemmifera</i>	(polychaete)	6	2
64	Foraminifera A	(foraminiferan)	10	2

Code	Taxa	Common name	LD	TH
65	<i>Foraminifera B</i>	(foraminiferan)	10	2
66	<i>Foraminifera C</i>	(foraminiferan)	10	2
67	<i>Foraminifera D</i>	(foraminiferan)	10	2
68	<i>Foraminifera E</i>	(foraminiferan)	10	2
69	<i>Foraminifera F</i>	(foraminiferan)	10	2
70	<i>Foraminifera G</i>	(foraminiferan)	10	2
71	<i>Galathea squamifera</i>	Black squat lobster	26	3.02
72	<i>Gammaropsis maculata</i>	(amphipod)	8	2.20
73	<i>Gammarus locusta</i>	(amphipod)	8	2
74	<i>Gammarus zaddachi</i>	(amphipod)	8	2
75	<i>Gibbula umbilicalis</i>	Flat top shell	9	2.33
76	<i>Halacarellus basteri</i>	(sea mite)	3	2
77	Harpacticoida	(copepod)	24	2
78	<i>Hiatella arctica</i>	Wrinkled rock borer	15	2
79	Hymenopteran larvae	(hymenopteran)	1	1
80	<i>Iothia fulva</i>	(gastropod)	11	2.57
81	<i>Idotea A</i>	(isopod)	11	2.57
82	<i>Idotea B</i>	(isopod)	4	2
83	<i>Janua pagenstecheri</i>	(spirorbid)	10	2
84	<i>Lasaea rubra</i>	(bivalve)	11	2
85	<i>Lembos websteri</i>	(amphipod)	11	2
86	<i>Leptocheirus tricristatus</i>	(amphipod)	11	2
87	<i>Leptochelia savignyi</i>	(tanaid)	7	2
88	<i>Leptocythere pellucida</i>	(ostracod)	11	2
89	<i>Leptomysis lingvura</i>	(mysid)	6	2
90	<i>Loxococoncha rhomboidea</i>	(ostracod)	11	2
91	<i>Lysianassa ceratina</i>	(amphipod)	5	2
92	<i>Melita palmata</i>	(amphipod)	8	2
93	<i>Microdeutopus anomalus</i>	(amphipod)	9	2
94	<i>Microprotopus maculatus</i>	(amphipod)	6	2.33
95	<i>Modiolula phaseolina</i>	Bean horse mussel	22	2.36
96	<i>Monia patelliformis</i>	Ribbed saddle oyster	14	2
97	<i>Munna kroyeri</i>	(isopod)	10	2.33
98	<i>Musculus discors</i>	Green crenella	22	2.36
99	<i>Mytilus edulis</i>	Common mussel	22	2.36
100	<i>Nannastacus unguiculatus</i>	(cumacean)	7	2.33
101	Nematoda spp.	(nematode)	11	2
102	<i>Nereis sp.</i>	(polychaete)	10	2
103	<i>Odostomia plicata</i>	(gastropod)	6	2
104	<i>Omalogyra atomus</i>	(gastropod)	10	2
105	<i>Onoba semicosta</i>	(gastropod)	11	2.25
106	<i>Ophiothrix fragilis</i>	Common brittle star	13	2
107	<i>Ophiura ophiura</i>	Serpent star	32	2.88
108	<i>Ostracod A</i>	(ostracod)	11	2
109	<i>Ostracod B</i>	(ostracod)	11	2
110	<i>Ostracod C</i>	(ostracod)	11	2
111	<i>Paradoxostoma variabile</i>	(ostracod)	11	2
112	<i>Parvicardium exiguum</i>	(bivalve)	14	2
113	<i>Parvicardium ovale</i>	(bivalve)	14	2
114	<i>Parvicardium scabrum</i>	(bivalve)	14	2
115	<i>Perinereis cultrifera</i>	(polychaete)	9	2
116	<i>Phyllodocidae sp.</i>	(polychaete)	6	2
117	<i>Pilumnus hirtellus</i>	Hairy crab	36	3.08
118	<i>Platynereis dumerilii</i>	(polychaete)	10	2
119	<i>Podocoryne borealis</i>	(hydrozoa)	9	2.50
120	<i>Pomatoceros lamarcki</i>	(serpulid polychaete)	12	2
121	<i>Pomatoceros triqueter</i>	(serpulid polychaete)	12	2
122	<i>Pontocypris mytiloides</i>	(ostracod)	11	2
123	<i>Pseudoparatanaïs batei</i>	(tanaid)	6	2
124	<i>Retusa truncatula</i>	(gastropod)	7	2
125	<i>Rissoa parva</i>	(gastropod)	15	2.40
126	<i>Rissoa sarsi</i>	(gastropod)	15	2.40
127	<i>Rissoella diaphana</i>	(gastropod)	15	2
128	<i>Rissoella opalina</i>	(gastropod)	15	2
129	<i>Sabella pavonina</i>	(sabellid)	11	2

Table S2. Length–weight (L–W) relationships used to estimate body size of all taxa identified in the experiment

Taxa	L–W Relationship	r ²
<i>Carcinus maenas</i>	$y=0.2668x^{2.9545}$	0.9693
<i>Ctenolabrus rupestris</i>	$y=0.0057x^{3.181}$	0.9734
<i>Gaidropsarus mediterraneus</i>	$y=0.0008x^{3.3972}$	0.9847
<i>Gobius niger</i>	$y=0.0074x^{3.0788}$	0.9320
<i>Gobius paganellus</i>	$y=0.0014x^{3.4672}$	0.9356
<i>Marthasterias glacialis</i>	$y=0.3088x^{2.7417}$	0.9187
<i>Necora puber</i>	$y=0.2989x^{2.9639}$	0.9204
<i>Palaemon serratus</i>	$y=0.0014x^{3.3838}$	0.9201
<i>Paracentrotus lividus</i>	$y=1.2774x^{2.737}$	0.9398
<i>Taurulus bubalis</i>	$y=0.0032x^{3.3258}$	0.9604
<i>Gobiusculus flavescens</i>	$y=0.0004x^{3.7234}$	0.9612
<i>Pomatoschistus pictus</i>	$y=0.0039x^{3.1954}$	0.9733
<i>Alvania</i> spp.	$y=0.1391x^{2.71}$	0.9877
<i>Anomia ephippium</i>	$y=0.0304x^{2.9244}$	0.9428
<i>Aora gracilis</i>	$y=0.0018x^{3.2994}$	0.9202
Aoridae	$y=0.0031x^{2.8427}$	0.9596
<i>Ascidia aspersa</i>	$y=0.1159x^{2.3628}$	0.8922
<i>Bittium reticulatum</i>	$y=0.1224x^{2.3117}$	0.9831
<i>Buccinum undatum</i>	$y=0.0958x^{3.0601}$	0.9804
Cardiidae	$y=0.1084x^{3.0951}$	0.9870
<i>Chlamys varia</i>	$y=0.0508x^{3.036}$	0.9893
<i>Clathrina coriacea</i>	$y=0.2909x^{1.9999}$	0.9541
<i>Crassikorophium</i> spp.	$y=0.0046x^{3.1972}$	0.9491
Cumacea	$y=0.0101x^{1.9552}$	0.8806
<i>Dysidea fragilis</i>	$y=0.1435x^{1.9328}$	0.8442
<i>Epilepton clarkiae</i>	$y=0.0959x^{2.8774}$	0.9805
Foraminifera	$y=0.1598x^{3.2349}$	0.9801
<i>Galathea squamifera</i>	$y=0.0284x^{4.3903}$	0.9353
<i>Hiatella arctica</i>	$y=0.053x^{2.9161}$	0.9540
<i>Janua pagenstecheri</i>	$y=0.1117x^{3.0229}$	0.9314
<i>Lembos websteri</i>	$y=0.0037x^{2.6724}$	0.9806
<i>Lysianassa ceratina</i>	$y=0.0096x^{3.0979}$	0.9877
Melitidae	$y=0.004x^{3.095}$	0.9598
<i>Microdeutopus anomalus</i>	$y=0.0016x^{3.3615}$	0.9685
<i>Musculus discors</i>	$y=0.0986x^{2.7968}$	0.9766
Mysidae	$y=0.0006x^{3.2529}$	0.9236
Nudibranchia	$y=0.0096x^{2.8116}$	0.9726
<i>Ophiothrix fragilis</i>	$y=0.4875x^{2.9185}$	0.9435
<i>Ophiura ophiura</i>	$y=0.2936x^{2.5329}$	0.9603
Ostracoda	$y=0.1738x^{4.2678}$	0.7896
<i>Parvicardium exiguum</i>	$y=0.1104x^{3.0932}$	0.9786
<i>Parvicardium ovale</i>	$y=0.1018x^{3.1784}$	0.9900
<i>Parvicardium scabrum</i>	$y=0.1103x^{3.0607}$	0.9870
Pectinidae	$y=0.0698x^{2.8284}$	0.9871
<i>Perinereis cultrifera</i>	$y=0.0015x^{3.0023}$	0.9733
<i>Pilumnus hirtellus</i>	$y=0.1324x^{2.963}$	0.9438
<i>Platynereis dumerilii</i>	$y=0.0113x^{2.2781}$	0.8051
Polychaeta	$y=0.0021x^{2.395}$	0.8612
<i>Pomatoceros</i> spp.	$y=0.0029x^{2.781}$	0.9688
<i>Rissoa</i> spp.	$y=0.1532x^{2.3992}$	0.9691
<i>Scrupocellaria</i> spp.	$y=0.00004x^{2.6928}$	0.9691
<i>Tubulipora liliacea</i>	$y=0.0504x^{2.5072}$	0.9272

For taxa with no L–W relationship, we identified the closest taxa in terms of body shape and used that L–W relationship as a substitute. Weight (y) is measured in mg. Length (x) is measured in mm.