

SUPPLEMENTARY INFORMATION

Supplementary Table 1: Substrate counts per station.

Station	Soft	Pebble	Cobble	Boulder	Total
A1	30	4	1	0	35
A2	54	2	0	0	56
A3	54	0	0	0	54
A4	91	29	14	1	135
B1	43	7	0	0	50
B2	45	0	0	0	45
B3	41	3	0	0	44
BC	40	4	0	0	44
C1	61	0	0	0	61
C2	36	0	0	0	36
C3	23	18	20	0	61
C4	50	1	1	0	52

Supplementary Table 2: Fuzzy coding specification, adjusted from Robinson et al.⁸²

Trait	Scale	Description/Categories
Trophic Group	Categorical	Autotrophs, Grazer, Filter Feeder, Predator, Scavenger, Deposit Feeder
Adult Mobility	Ordinal	0: Sessile, 1: Limited Movement (vagile), 2: Slow movement, 3: Fast free movement
Larval Type	Ordinal	1: Direct Development (Egg Laying/Brooders), 2: Lecithotrophic larvae, 3: Planktotrophic larvae

Supplementary Table 3: Functional traits for taxon, adjusted from Robinson et al.⁸²

Phylum	Order	Genus	Feeding mode	Larvae dispersal	Adult mobility
Annelida	Annelida	Annelida sp. 1	P/S	Planktotrophic larvae	2
	Annelida	Annelida sp. 2	P/S	Planktotrophic larvae	2
	Polychaeta	Flabelligera munda	FF	Lecithotrophic larvae	0
	Polychaeta	Polychaeta sp.	FF	Lecithotrophic larvae	0
	Polychaeta	Serpulidae spp.	FF	Lecithotrophic larvae	0
	Polychaeta	Terebellid polychaete	FF	Lecithotrophic larvae	0
	Sabellida	Perkinsiana littoralis	FF	Lecithotrophic larvae	0
Bryozoa	Bryozoa	Beania sp.	FF	Lecithotrophic larvae	0
	Bryozoa	Bryozoa sp. 1	FF	Lecithotrophic larvae	0
	Bryozoa	Bryozoa sp. 2	FF	Lecithotrophic larvae	0
	Cyclostomatida	Hornea sp.	FF	Lecithotrophic larvae	0
Chordata	Actinopterygii	Actinopterygii sp.	P/S/O	Egg laying	3
	Actinopterygii	Artedidraco sp.	P/S	Egg laying	3
	Actinopterygii	Channichthyidae	P/S/O	Egg laying	3
	Actinopterygii	Notothenia rossii	P/S/O	Egg laying	3
	Actinopterygii	Notothenia sp.	P/S/O	Egg laying	3
	Aplousobranchia	Clavelina lepadiformis	FF	Lecithotrophic larvae	0
	Ascidians	Ascidian sp.	FF	Lecithotrophic larvae	0
	Ascidians	Clavelina lepadiformis	FF	Lecithotrophic larvae	0
	Ascidians	Colonial ascidian sp. 2	FF	Lecithotrophic larvae	0
	Ascidians	Didemniidae sp.	FF	Lecithotrophic larvae	0
	Ascidians	Mogula sp.	FF	Lecithotrophic larvae	0
	Ascidians	Pareungyriodes arnbackae	FF	Lecithotrophic larvae	0
	Ascidians	Polyclinidae sp. 1	FF	Lecithotrophic larvae	0
	Stolidobranchia	Ascidian green	FF	Lecithotrophic larvae	0
	Stolidobranchia	Ascidian purple	FF	Lecithotrophic larvae	0
	Stolidobranchia	Ascidian red	FF	Lecithotrophic larvae	0
	Stolidobranchia	Cnemidocarpa verrucosa	FF	Lecithotrophic larvae	0
	Stolidobranchia	Mogula sp.	FF	Lecithotrophic larvae	0
	Stolidobranchia	Pyura setosa	FF	Lecithotrophic larvae	0
	Stolidobranchia	Pyura sp.	FF	Lecithotrophic larvae	0
	Tunicata	Tunicate sp.	FF	Egg laying	1
Cnidaria	Actiniaria	Actiniaria sp. 1	P	Lecithotrophic larvae	0
	Actiniaria	Actiniaria sp. 4	P	Lecithotrophic larvae	0
	Actiniaria	Actiniaria sp. 5	P	Lecithotrophic larvae	0
	Actiniaria	Artemidatis victrix	P	Lecithotrophic larvae	0

	Actiniaria	Dactylanthus sp.	P	Lecithotrophic larvae	0
	Actiniaria	Edwardsiella sp.	P	Lecithotrophic larvae	0
	Actiniaria	Glyphoperidium bursa	P	Lecithotrophic larvae	0
	Actiniaria	Hormosoma scotti	P	Lecithotrophic larvae	0
	Actiniaria	Isotealia antarctica	P	Lecithotrophic larvae	0
	Actiniaria	Stomphia selaginella	P	Lecithotrophic larvae	0
	Hydrozoa	Hydrozoa sp.	FF	Larvae	0
	Octocorallia	Gersemia antarctica	P	Lecithotrophic larvae	0
	Scleralcyocea	Gorgoniidae sp. 2	P	Brooding	0
	Scleralcyocea	Gorgoniidae sp. 3	P	Brooding	0
	Scleralcyocea	Gorgoniidae sp. 4	P	Brooding	0
	Scleralcyocea	Gorgoniidae sp. 5	P	Brooding	0
	Scleralcyocea	Gorgoniidae sp. 6	P	Brooding	0
	Scleralcyocea	Gorgoniidae sp. 7	P	Brooding	0
	Scleralcyocea	Malacobelemnion sp.	P	Brooding	0
	Scleralcyocea	Malacobelemnion sp. 2	P	Brooding	0
	Scleralcyocea	Onogorgia nodosa	P	Brooding	0
	Scleralcyocea	Primnoella sp.	P	Brooding	0
Ctenophora	Platyctenida	Lyrocteis flavopallidus	FF	Larvae	0
Echinodermata	Dendrochiroidea	Stauracium liouvillei	SF	Larvae	1
	Echinoidea	Ctenodaris gigantea	FF	Planktotrophic larvae	2
	Forcipulatida	Cuenotaster sp.	P/S/DF	Brooding/Lecithotrophic larvae	2
	Forcipulatida	Diplasterias brandti	P/S/DF	Brooding/Lecithotrophic larvae	2
	Forcipulatida	Diplasterias brucei	P/S/DF	Lecithotrophic larvae	2
	Forcipulatida	Forcipulatida sp.	P/S/DF	Brooding/Lecithotrophic larvae	2
	Forcipulatida	Labidiaster annulatus	P/S/DF	Brooding/Lecithotrophic larvae	2
	Forcipulatida	Neosmilaster georgianus	P/S/DF	Brooding/Lecithotrophic larvae	2
	Forcipulatida	Neosmilaster sp.	P/S	Lecithotrophic larvae	2
	Holothuroidea	Bathyploes bongraini	DF	Larvae	2
	Holothuroidea	Cucumaria sp.	FF	Brooding	1
	Holothuroidea	Echinopsolus acanthocola	FF	Brooding	1
	Holothuroidea	Heterocucumis steineri	FF/S	Lecithotrophic larvae	1
	Holothuroidea	Holothuroidea sp. 1	FF	Brooding	1
	Holothuroidea	Holothuroidea sp. 2	FF	Brooding	1
	Holothuroidea	Holothuroidea sp. 3	FF	Brooding	1
	Holothuroidea	Holothuroidea sp. 4	FF	Brooding	1
	Ophiurida	Ophiurida victoriae	P/S/DF/O	Larvae	2
	Ophiurida	Ophiurida sp. 1	P/S/DF/O	Larvae	2
	Spatangoida	Sterechinus neumayeri	P/S/O/DF/G	Pelagic embryos/Larvae	2
	Valvatida	Acodontaster sp.	P	Larvae/Pelagic embryos/Lecithotrophic larvae	2
	Valvatida	Cuenotaster involutus	P/S	Lecithotrophic larvae	2
	Valvatida	Mactoptychaster accrescens	P	Larvae	2
	Valvatida	Neosmilaster georgianus	P/S/DF	Brooding/Lecithotrophic larvae	2
	Valvatida	Odontaster validus	O/P/DF/FF/G	Larvae	2
	Valvatida	Perkinsiana sp.	P/S/O/DF/G	Pelagic embryos/Larvae	2
	Valvatida	Perknaster aurorae	P/S	Larvae	2
	Valvatida	Perknaster sp. 2	P/S/O/DF/G	Pelagic embryos/Larvae	2
	Valvatida	Pteraster rugatus	P/S	Lecithotrophic larvae	2
	Valvatida	Sterechinus neumayeri	P/S/O/DF/G	Pelagic embryos/Larvae	2
	Valvatida	Valvatida sp.	P/S/O/DF/G	Pelagic embryos/Larvae	2
Mollusca	Bivalvia	Laternula elliptica	SF/FF	Lecithotrophic larvae	0
	Gastropoda	Gastropoda sp. 2	P	Egg laying	2
	Gastropoda	Gastropoda sp. 3	P	Egg laying	2
	Gastropoda	Gastropoda sp. 4	P	Egg laying	2
	Gastropoda	Newnesia sp.	P	Egg laying	2
	Littorinimorpha	Amauropsis rossiana	P	Egg laying	2
	Littorinimorpha	Marseniopsis mollis	P	Egg laying	2
	Neogastropoda	Neobuccinum eatoni	S	Egg laying	2
	Nuculanida	Aequioldia eightsi	S/DF	NA	1
	Nuculanida	Aequioldia eightsi	S/DF	Egg laying	1
	Nudibranchia	Aegires albus	P	Egg laying	2
	Nudibranchia	Austrodois kerguelensis	P	Egg laying	2
	Nudibranchia	Cuthona crinita	P	Egg laying	2
	Nudibranchia	Nudibranchia sp.	P	Egg laying	2
	Patellogastropoda	Nacella concinna	G	Larvae	2
	Pectinida	Adamussium colbecki	SF	Larvae	1
Nemertea	Heteronemertea	Parborlasia corrugatus (L)	P/S	Lecithotrophic larvae	2
	Heteronemertea	Parborlasia corrugatus (S)	P/S	Lecithotrophic larvae	2

Porifera	Dendrochirotida	Dendrilla antarctica	SF	Larvae	1
	Hadromerida	Suberites topsenti	FF	Lecithotrophic larvae	0
	Haplosclerida	Haliclona sp.	FF	Lecithotrophic larvae	0
	Haplosclerida	Hemigellius fimbriatus	FF	Lecithotrophic larvae	0
	Haplosclerida	Microxina benedeni	FF	Lecithotrophic larvae	0
	Lyssacinosida	Rossella antarctica	FF	Lecithotrophic larvae	0
	Lyssacinosida	Rossella levis	FF	Lecithotrophic larvae	0
	Lyssacinosida	Rossella podagrosa	FF	Lecithotrophic larvae	0
	Poecilosclerida	Mycale acerata	FF	Lecithotrophic larvae	0
	Polymastiida	Polymastia invaginata	FF	Lecithotrophic larvae	0
	Polymastiida	Polymastiidae sp.	FF	Lecithotrophic larvae	0
	Porifera	Bioluminescence 1	FF	Lecithotrophic larvae	0
	Porifera	Bioluminescence 2	FF	Lecithotrophic larvae	0
	Porifera	Haliclona sp.	FF	Lecithotrophic larvae	0
	Porifera	Polymastia invaginata	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 1	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 10	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 11	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 12	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 13	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 14	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 15	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 16	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 18	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 19	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 2	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 21	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 4	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 5	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 6	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 7	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 8	FF	Lecithotrophic larvae	0
	Porifera	Porifera sp. 9	FF	Lecithotrophic larvae	0
	Suberitida	Homaxinella balfourensis	FF/SF	Lecithotrophic larvae	0
	Suberitida	Homaxinella sp.	FF/SF	Lecithotrophic larvae	0
	Suberitida	Sphaerotylus antarcticus	FF	Lecithotrophic larvae	0
	Suberitida	Sphaerotylus sp.	FF	Lecithotrophic larvae	0
	Suberitida	Suberites camitus	FF/SF	Lecithotrophic larvae	0
	Suberitida	Suberites topsenti	FF	Lecithotrophic larvae	0
	Tetractinellida	Antarctotetilla leptoderma	FF	Larvae/Rely on bud-like propagules	0
	Tetractinellida	Cinachyra antarctica	FF	Larvae/Rely on bud-like propagules	0
	Tetractinellida	Tetillidae sp.	FF	Lecithotrophic larvae	0