

Coral characterised benthic assemblages of the deep N. E. Atlantic: defining ‘Coral Gardens’ to support future habitat mapping efforts.

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Supplementary Material

S1

Descriptions of potential “coral garden” assemblages identified by the SIMPROF routine including and full morphospecies lists with recorded density values and comparisons with biotopes previously defined by (Howell et al. 2010).

Species identified as characteristic of coral gardens in current definitions are **high-lit**. Species identified as characteristic of the assemblage by SIMPER routine in Primer v6 (Clarke and Warwick, 2001) are indicated (*).

1. Shallow data set assemblages (<1100m)

s5. Isolated colonies of *Lophelia* and *Madrepora* on hard substrate outcrops with associated coral and sponge species.

SIMPROF analyses identified 44 10m samples from 6 transects of this assemblage covering a total area of 669.24m² at an average depth of 845.2m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 31.23%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0044.

This assemblage was observed to be present on cobbles and boulders on predominately sand and gravel sediments. The dominant characterizing species of this assemblage identified by SIMPER were the species *Caryophyllum* sp. 2, *Phakellia ventilarium*, and the morphospecies group, lobose sponge. Reef forming corals occur, mainly as dead frameworks and rubble in small, scattered clumps in areas of sandy gravel and caryophyllid species. The high density of sponge species suggests the assemblage could be considered as a sponge aggregation, however these species are also associated with, and deemed characteristic of coral garden. This assemblage corresponds to an assortment of mixed and hard substrate biotopes previously defined by (Howell et al., 2010) but predominately was undescribed.

Species	Assemblage s5					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Caryophyllia</i> sp. 2	*	0.004	0.592	0	2.040	84
<i>Phakellia ventilabrum</i>	*	0.014	6.312	0	15.097	64
Lobose sponge	*	0.005	0.723	0	2.672	61
<i>Stichopathes</i> cf. <i>gravieri</i>	*	0.007	0.986	0	3.691	57
<i>Madrepora oculata</i>	*	0.004	0.394	0	1.740	55
<i>Lophelia pertusa</i>	*	0.005	0.657	0	2.342	50
Cerianthidae sp. 1	*	0.004	0.855	0	2.474	43
Green encrusting sponge	*	0.005	0.592	0	2.139	36
Ascidiae sp. 1	*	0.004	0.329	0	1.440	34
Aphrocallistes sp.	*	0.002	0.394	0	1.108	34
Porifera cup sp. 3	0.016	2.827	0	7.496	25	
<i>Caryophyllia</i> sp. 3	0.002	0.197	0	0.624	20	
<i>Phelliactis</i> sp. 1	0.002	0.197	0	0.624	20	
White encrusting sponge	0.002	0.263	0	0.734	20	
Yellow encrusting sponge	0.003	0.263	0	0.829	18	
Porifera spherical sp. 1	0.003	0.394	0	1.002	14	
<i>Pliobothrus</i> sp.	0.002	0.131	0	0.553	14	
Ophiuroidea sp. 2	0.004	0.197	0	0.817	11	
<i>Bonellia viridis</i>	0.001	0.066	0	0.321	11	
<i>Parantipathes</i> sp.	0.001	0.066	0	0.321	11	
Blue encrusting sponge	0.001	0.066	0	0.321	11	
Globose sponge	0.001	0.066	0	0.321	11	
Ascidiae sp. 2	0.002	0.131	0	0.387	9	
Echinoidea sp. 1	0.001	0.066	0	0.291	9	
Corallimorphidae sp. 1	0.001	0.066	0	0.255	7	
Paguridae spp	0.001	0.066	0	0.255	7	
<i>Chaceon affinis</i>	0.002	0.131	0	0.362	7	
Actiniaria sp. 1	0.008	0.394	0	1.164	5	
<i>Cidaris cidaris</i>	0.002	0.131	0	0.334	5	
Ceramaster/Peltaster/Plinthaster sp. 1	0.001	0.066	0	0.211	5	
<i>Koehlermetra porrecta</i>	0.001	0.066	0	0.211	5	
<i>Bathypathes</i> sp. 1	0.001	0.066	0	0.211	5	
<i>Isididae</i> sp. 1	0.003	0.131	0	0.421	5	
Porifera spherical sp. 3	0.001	0.066	0	0.211	5	
<i>Munida tenuimana</i>	0.002	0.131	0	0.334	5	
Grey encrusting sponge	0.001	0.066	0	0.211	5	
Halcampoididae sp. 1	0.003	0.131	0	0.302	2	
<i>Gorgonacea</i> sp. 2	0.001	0.066	0	0.151	2	
<i>Gersemia</i> sp. 2	0.001	0.066	0	0.151	2	
187	0.001	0.066	0	0.151	2	
Echinus spp.	0.004	0.197	0	0.452	2	
<i>Stichastrella rosea</i>	0.001	0.066	0	0.151	2	
<i>Parastichopus tremulus</i>	0.001	0.066	0	0.151	2	
Majidae sp. 2	0.001	0.066	0	0.151	2	
<i>Leiopathes</i> sp. 1	0.001	0.066	0	0.151	2	
<i>Anthothela grandiflora</i>	0.001	0.066	0	0.151	2	
<i>Primnoa resedaeformis</i>	0.001	0.066	0	0.151	2	
Actiniaria sp. 10	0.001	0.066	0	0.151	2	
Cream encrusting sponge	0.001	0.066	0	0.151	2	
Gastropod	0.001	0.066	0	0.151	2	
<i>Gastroptychus</i>	0.001	0.066	0	0.151	2	
Lamellate sponge	0.001	0.066	0	0.151	2	
Orange encrusting sponge	0.001	0.066	0	0.151	2	

S6. *Pliobothrus* and associated coral species on mixed hard substratum

SIMPROF analyses identified 64 10m samples from 19 transects of this assemblage covering a total area of 973.4m² at an average depth of 644.4m.

Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 27.01%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0066.

This assemblage is found predominately on mixed substrates with the majority of live coral and associated species on hard substrates; larger cobbles and boulders scattered on a mixed sandy gravel seabed. This assemblage corresponds to an assortment of previously identified mixed and hard substrate biotopes predominately biotope RHD (Howell et al., 2010). Live coral and associated species were found almost exclusively on patchily distributed hard substrates. Although patchily distributed, live coral and associated species were observed in relatively high densities where larger cobble and boulder hard substrates were present conforming to the working coral garden definitions.

Species	Assemblage s6				
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)	% Samples in which species occurs
<i>Pliobothrus</i> sp.	*	0.013	2.301	9.315	69
<i>Parastichopus tremulus</i>	*	0.002	0.263	1.047	53
<i>Cerianthidae</i> sp. 1	*	0.002	0.657	1.613	52
Lobose sponge	*	0.004	0.855	2.904	47
<i>Madrepora oculata</i>	*	0.002	0.592	1.533	34
Yellow encrusting sponge	*	0.003	0.855	1.974	34
<i>Phelliactis</i> sp. 1	*	0.003	0.657	2.028	31
<i>Paguridae</i> spp	*	0.003	0.394	1.320	20
<i>Lophelia pertusa</i>		0.004	0.526	1.956	19
Cream encrusting sponge		0.005	1.315	2.882	19
Corallimorphidae sp. 1		0.001	0.197	0.584	17
Grey encrusting sponge		0.002	0.197	0.611	16
Green encrusting sponge		0.002	0.263	0.654	14
<i>Calveriosoma fenestratum</i>		0.002	0.263	0.647	13
<i>Cidaris cidaris</i>		0.002	0.329	0.745	13
<i>Paramola cuvieri</i>		0.001	0.131	0.393	13
<i>Anthomastus grandiflorus</i>		0.003	0.329	1.003	11
<i>Munida sarsi</i>		0.001	0.066	0.294	9
<i>Bonellia viridis</i>		0.002	0.329	0.672	9
<i>Callogorgia verticillata</i>		0.003	0.460	0.924	8
Globose sponge		0.007	1.315	2.568	6
<i>Caryophyllia</i> sp. 2		0.003	0.263	0.630	5
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>		0.001	0.066	0.213	5
Orange encrusting sponge		0.001	0.066	0.213	5
White encrusting sponge		0.001	0.066	0.213	5
Corallimorphidae sp. 2		0.003	0.329	0.635	3
<i>Syringammina</i> <i>fragilissima</i>		0.001	0.066	0.175	3
<i>Porania pulvillus</i>		0.001	0.066	0.175	3
<i>Stichopathes</i> cf. <i>gravieri</i>		0.001	0.066	0.175	3
<i>Parantipathes</i> sp.		0.001	0.066	0.175	3
Stylasterid		0.001	0.066	0.175	3
<i>Majidae</i> sp. 1		0.002	0.131	0.250	2
Halcampoididae sp. 1		0.002	0.131	0.250	2
<i>Pandalus borealis</i>		0.001	0.066	0.125	2
<i>Gorgonacea</i> sp. 2		0.001	0.066	0.125	2
Ophiuroidea sp. 2		0.001	0.066	0.125	2
Porifera massive lobose sp. 8		0.002	0.131	0.250	2
Echinus spp.		0.001	0.066	0.125	2
<i>Gorgonocephalus</i> sp. 1		0.001	0.066	0.125	2
<i>Chaceon affinis</i>		0.002	0.131	0.250	2
<i>Gorgonacea</i> (dead)		0.001	0.066	0.125	2
<i>Margarites</i> sp. 1		0.001	0.066	0.125	2
Echinoidea sp. 1		0.002	0.131	0.250	2
Actiniaria sp. 9		0.002	0.131	0.250	2

Alcyonacea sp. 4	0.001	0.066	0	0.125	2
Unknown sp. 7	0.001	0.066	0	0.125	2
Porifera massive globose sp. 10	0.001	0.066	0	0.125	2
Blue encrusting sponge	0.001	0.066	0	0.125	2
Gorgonian Sponge	0.001	0.066	0	0.125	2
	0.002	0.131	0	0.250	2

s9. Isolated live coral colonies on dead frameworks of *Lophelia pertusa* reef and hard substratum

SIMPROF analyses identified 21 10m samples from 2 transects of this assemblage covering a total area of 319.41m² at an average depth of 319.4m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 57.1%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0186.

This assemblage is found on dead framework slopes of *Lophelia pertusa* and mixed coral rubble on bedrock and gravel seabed types with the majority of live coral and associated species being observed on the dead coral framework and rubble. Sessile sponges, echinoderms and anemones associated with cold-water corals and mobile fish and crustacean species were predominantly in areas of high coral density.

This assemblage, identified by SIMPROF, corresponds to the bioherm biotope RHFii described by (Howell et al., 2010) which describes discrete colonies of live coral on hard substratum and dead framework slopes of *Lophelia pertusa*. Overall densities of reef forming corals in this assemblage exceed the density of non-reef forming coral garden species.

Species		Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)	% Samples in which species occurs
Corallimorphidae sp. 1	*	0.018	0.789	0.0657	3.375	100
<i>Lophelia pertusa</i>	*	0.063	2.893	0	14.334	95
Stichopathes cf. gravieri	*	0.019	0.723	0	3.434	95
Lobose sponge	*	0.015	1.118	0	3.763	95
Actiniaria sp. 9	*	0.020	0.986	0	4.507	90
Acanella sp. 1	*	0.008	0.460	0	1.648	86
cf. Antipathella spp.	*	0.007	0.394	0	1.596	86
Phelliactis sp. 1	*	0.010	0.526	0	2.182	81
Parantipathes sp.	*	0.009	0.526	0	2.189	76
Koehlermetra porrecta	*	0.007	0.460	0	1.720	71
Drifa sp. 1	0.011	0.460	0	2.476	62	
Madrepora oculata	0.027	1.315	0	6.655	48	
Ascidiae sp. 2	0.008	0.394	0	1.569	33	
Aphrocallistes sp.	0.005	0.197	0	0.926	33	
Calveriosoma fenestratum	0.003	0.066	0	0.463	29	
Anthomastus grandiflorus	0.004	0.131	0	0.669	29	
Ascidiae sp. 1	0.008	0.329	0	1.250	19	
Cidaris cidaris	0.007	0.329	0	1.165	19	
Cerianthidae sp. 1	0.004	0.131	0	0.512	14	
Gorgonacea sp. 2	0.003	0.066	0	0.359	14	
Syringammina fragillissima	0.003	0.066	0	0.359	14	
Echinoidea sp. 1	0.003	0.066	0	0.359	14	
Isididae sp. 1	0.003	0.066	0	0.359	14	
Gersemia sp. 2	0.005	0.131	0	0.478	10	
Munida sarsi	0.006	0.197	0	0.680	10	
Parastichopus tremulus	0.003	0.066	0	0.301	10	
Bonellia viridis	0.003	0.066	0	0.301	10	
Caryophyllia sp. 2	0.003	0.066	0	0.218	5	

Porifera spherical sp. 1	0.031	0.657	0	2.182	5
<i>Caryophyllia</i> sp. 3	0.003	0.066	0	0.218	5
Porifera massive lobose sp. 8	0.003	0.066	0	0.218	5
<i>Paguridae</i> spp	0.003	0.066	0	0.218	5
<i>Gorgonocephalus</i> sp. 1	0.003	0.066	0	0.218	5
Porifera lamellate sp. 4	0.022	0.460	0	1.528	5
<i>Heliofomia glacialis</i>	0.003	0.066	0	0.218	5
<i>Chaceon affinis</i>	0.003	0.066	0	0.218	5
<i>Callogorgia verticillata</i>	0.003	0.066	0	0.218	5
<i>Leiopathes</i> sp. 1	0.003	0.066	0	0.218	5
Actiniaria sp. 8	0.022	0.460	0	1.528	5
Bathypathes sp. 1	0.006	0.131	0	0.436	5
Antipatharia sp. 8	0.003	0.066	0	0.218	5
<i>Pennatula phosphorea</i>	0.003	0.066	0	0.218	5
<i>Antipatharia</i> sp. 9	0.003	0.066	0	0.218	5
Blue encrusting sponge	0.003	0.066	0	0.218	5
White encrusting sponge	0.013	0.263	0	0.873	5

s10. Discrete colonies of *Lophelia* and *Madrepora* on hard substratum, dead framework and coral rubble slopes.

SIMPROF analyses identified 296 10m samples from 38 transects of this assemblage covering a total area of 4502.2m² at an average depth of 678.8m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 27.85%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.001.

This assemblage was characterized by the presence of patchily distributed coral species on dead framework slopes of reef forming corals, mixed coral rubble, bedrock, large cobbles and boulders and gravel seabed types. The majority of live coral and associated species were observed on the dead coral framework and coral rubble. In areas of soft and gravelly substrates encompassed by this assemblage live coral and associated species were found almost exclusively on the patchily distributed hard substrate. Although patchily distributed, live coral and associated species were observed in high densities where larger cobble and boulder hard substrates were present. This assemblage, identified by SIMPROF, encompasses a large number of previously identified biotopes but predominately corresponds to the biotopes RHFii and PBCi, described by (Howell et al., 2010) which comprise of discrete colonies of live coral on hard substratum and dead framework slopes of the reef forming coral *Lophelia pertusa*.

Species	Assemblage s10				
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)	% Samples in which species occurs
<i>Lophelia pertusa</i>	*	0.0013	2.367	0	6.543
<i>Madrepora oculata</i>	*	0.0015	3.353	0	7.167
<i>Phelliactis</i> sp. 1	*	0.0007	1.052	0	2.635
<i>Stichopathes cf. gravieri</i>	*	0.0012	1.841	0	4.610
<i>Corallimorphidae</i> sp. 1	*	0.0015	3.156	0	5.994
<i>Lobose sponge</i>	*	0.0005	0.592	0	1.418
<i>Cidaris cidaris</i>	*	0.0004	0.592	0	1.423
<i>Anthomastus grandiflorus</i>	0.0004	0.460	0	0.942	20
<i>Cerianthidae</i> sp. 1	0.0004	0.460	0	0.969	19
<i>Bonellia viridis</i>	0.0005	0.657	0	1.122	16
<i>Brisingella coronata / Brisinga endecacnemos</i>	0.0004	0.329	0	0.756	15

Gorgonian	0.0003	0.263	0	0.580	14
Yellow encrusting sponge	0.0004	0.394	0	0.671	13
Parantipathes sp.	0.0006	0.855	0	1.208	13
Actiniaria sp. 9	0.0005	0.723	0	1.118	12
<i>Parastichopus tremulus</i>	0.0003	0.263	0	0.508	10
<i>Calveriosoma fenestratum</i>	0.0003	0.131	0	0.359	10
Aphrocallistes sp.	0.0007	0.723	0	1.253	10
Pliobothrus sp.	0.0004	0.460	0	0.726	10
Actiniaria sp. 1	0.0004	0.263	0	0.563	9
Ascidiaeae sp. 2	0.0004	0.394	0	0.678	8
Caryophyllia sp. 2	0.0004	0.329	0	0.539	8
Paguridae spp	0.0003	0.263	0	0.399	8
Blue encrusting sponge	0.0003	0.197	0	0.399	7
<i>Munida sarsi</i>	0.0004	0.394	0	0.569	7
Porifera massive lobose sp. 8	0.0003	0.197	0	0.350	6
Styelasterid	0.0003	0.131	0	0.289	6
Alcyonacea sp. 2	0.0004	0.460	0	0.523	5
Ceramaster/Peltaster/Plinthaster sp. 1	0.0003	0.131	0	0.255	5
Octocorallia sp. 3	0.0003	0.263	0	0.352	5
<i>Callogorgia verticillata</i>	0.0003	0.131	0	0.262	4
<i>Munida tenuimana</i>	0.0003	0.197	0	0.275	4
Acanella sp. 1	0.0003	0.263	0	0.309	4
Antipatharia sp. 8	0.0011	1.446	0	1.499	4
Octocorallia sp. 1	0.0003	0.131	0	0.229	3
Gorgonacea sp. 2	0.0003	0.197	0	0.281	3
Isididae sp. 1	0.0003	0.131	0	0.287	3
Globose sponge	0.0004	0.263	0	0.335	3
Sponge	0.0004	0.197	0	0.349	3
<i>Gersemia</i> sp. 2	0.0003	0.131	0	0.222	3
Echinoidea sp. 1	0.0002	0.066	0	0.162	3
<i>Chaceon affinis</i>	0.0002	0.131	0	0.191	3
Cream encrusting sponge	0.0003	0.131	0	0.215	3
Green encrusting sponge	0.0003	0.131	0	0.237	3
Corallimorphidae sp. 2	0.0004	0.197	0	0.315	3
<i>Henricia sanguinolenta</i>	0.0002	0.066	0	0.152	2
<i>Porania pulvillus</i>	0.0002	0.066	0	0.152	2
White encrusting sponge	0.0002	0.066	0	0.152	2
cf. <i>Antipathella</i> spp.	0.0003	0.131	0	0.182	2
<i>Stichastrella rosea</i>	0.0002	0.066	0	0.141	2
Majidae sp. 2	0.0002	0.066	0	0.141	2
Bathynectes sp.	0.0002	0.066	0	0.129	2
<i>Paramola cuvieri</i>	0.0002	0.066	0	0.129	2
<i>Pandalus borealis</i>	0.0003	0.197	0	0.209	2
Koehlermetra porrecta	0.0004	0.263	0	0.278	2
Actiniaria sp. 4	0.0004	0.263	0	0.306	2
Porifera massive globose sp. 4	0.0005	0.263	0	0.322	2
Alcyonacea sp. 4	0.0002	0.066	0	0.116	1
<i>Pennatula phosphorea</i>	0.0002	0.066	0	0.116	1
Halcampoididae sp. 1	0.0003	0.197	0	0.201	1
Drifa sp. 1	0.0004	0.197	0	0.259	1
Porifera spherical sp. 1	0.0012	0.986	0	0.905	1
Hydrozoa (bushy)	0.0002	0.066	0	0.100	1
<i>Asterias rubens</i>	0.0002	0.066	0	0.100	1
Porifera branching-erect sp. 1	0.0002	0.066	0	0.100	1
Bathypathes sp. 1	0.0002	0.066	0	0.100	1
Pennatulid	0.0002	0.066	0	0.100	1
Ophiuroidea sp. 7	0.0003	0.131	0	0.142	1
Porifera cup sp. 2	0.0003	0.131	0	0.142	1
Antipatharia sp. 9	0.0003	0.131	0	0.142	1
<i>Syringammina fragilissima</i>	0.0004	0.131	0	0.174	1
Hydrocoral	0.0006	0.329	0	0.318	1
Ophiuroidea sp. 2	0.0009	0.592	0	0.538	1
Caryophyllia sp. 3	0.0002	0.066	0	0.082	1
Sagartiidae sp. 3	0.0002	0.066	0	0.082	1
Pterasteridae sp. 2	0.0002	0.066	0	0.082	1
Echinus spp.	0.0002	0.066	0	0.082	1
Porifera massive lobose sp. 10	0.0002	0.066	0	0.082	1
Leiopathes sp. 1	0.0002	0.066	0	0.082	1
Echinus sp. 1	0.0002	0.066	0	0.082	1
Branching sponge	0.0002	0.066	0	0.082	1
Lamellate sponge	0.0002	0.066	0	0.082	1

Ascidiae sp. 1	0.0003	0.131	0	0.130	1
<i>Bolocera tuediae</i>	0.0003	0.131	0	0.130	1
Alcyonacea sp. 1	0.0003	0.131	0	0.130	1
Cup sponge	0.0003	0.131	0	0.130	1
Ophiuroidea sp. 1	0.0002	0.066	0	0.058	0.3
Sagartiidae sp. 2	0.0002	0.066	0	0.058	0.3
Crinoidea sp. 1	0.0002	0.066	0	0.058	0.3
Porifera massive globose sp. 7	0.0002	0.066	0	0.058	0.3
Anthozoa sp. 2	0.0002	0.066	0	0.058	0.3
<i>Phakellia ventilabrum</i>	0.0002	0.066	0	0.058	0.3
<i>Astropecten irregularis</i>	0.0002	0.066	0	0.058	0.3
Hydrozoa (irregularly branched)	0.0002	0.066	0	0.058	0.3
Gorgonacea sp. 5	0.0002	0.066	0	0.058	0.3
Margarites sp. 1	0.0002	0.066	0	0.058	0.3
Gorgonacea sp. 7	0.0002	0.066	0	0.058	0.3
Alcyonacea sp. 3	0.0002	0.066	0	0.058	0.3
Actiniaria sp. 11	0.0002	0.066	0	0.058	0.3
Stylaster sp. 1	0.0002	0.066	0	0.058	0.3
Crinoidea sp. 3	0.0002	0.066	0	0.058	0.3
Ophiuroidea sp. 8	0.0002	0.066	0	0.058	0.3
<i>Pachycerianthus multiplicatus</i>	0.0002	0.066	0	0.058	0.3
Anemone	0.0002	0.066	0	0.058	0.3
Gastrophtychus	0.0002	0.066	0	0.058	0.3
Octocoral	0.0002	0.066	0	0.058	0.3
Cnidaria sp. 1	0.0004	0.131	0	0.116	0.3
Gorgonacea sp. 1	0.0004	0.131	0	0.116	0.3
Porifera massive globose sp. 3	0.0007	0.197	0	0.174	0.3
<i>Heliofomia glacialis</i>	0.0007	0.197	0	0.174	0.3
Gorgonacea sp. 6	0.0007	0.197	0	0.174	0.3
Gersemia sp. 1	0.0009	0.263	0	0.232	0.3
Desmophyllum sp. 1	0.0027	0.789	0	0.697	0.3

s16. Live summit and framework slope regions of *Lophelia pertusa* coral reef

SIMPROF analyses identified 56 10m samples from 4 transects of this assemblage covering a total area of 851.8m² at an average depth of 820.5m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 45.29%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0027.

This assemblage was identified on gravelly sand, pebble and cobble and bedrock substrates dominated by predominately dead reef forming corals. The assemblage corresponds predominately with biotopes RHFii and PBCi described by (Howell et al. 2010) described as dead frameworks of *Lophelia pertusa* and discrete areas of live coral reef.

Species	Assemblage s16					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Koehlermetra porrecta</i>	*	0.021	3.682	1	11.327	100
cf. <i>Antipathella</i> spp.	*	0.003	0.526	0	2.006	79
<i>Stichopathes cf. gravieri</i>	*	0.004	0.592	0	2.353	73
Ascidiae sp. 2	*	0.004	0.592	0	2.343	73
<i>Aphrocallistes</i> sp.	*	0.004	1.183	0	3.711	68
<i>Caryophyllia</i> sp. 2	*	0.003	0.789	0	2.428	57
Lobose sponge	*	0.002	0.394	0	1.361	50
<i>Octocorallia</i> sp. 1	*	0.002	0.263	0	1.311	43
Echinus sp. 1	0.002	0.263	0	1.121	32	
<i>Antipatharia</i> sp. 9	0.002	0.394	0	1.283	32	
<i>Parantipathes</i> sp.	0.002	0.197	0	0.808	30	
Yellow encrusting sponge	0.002	0.197	0	1.006	30	

<i>Porania pulvillus</i>	0.001	0.066	0	0.437	25
<i>Isididae sp. 1</i>	0.001	0.197	0	0.548	21
<i>Majidae sp. 2</i>	0.002	0.197	0	0.624	21
<i>Gorgonacea sp. 6</i>	0.003	0.329	0	1.160	21
<i>Gastroptrychus</i>	0.001	0.131	0	0.417	14
<i>Cidaris cidaris</i>	0.001	0.066	0	0.334	13
<i>Leiopathes sp. 1</i>	0.001	0.066	0	0.334	13
<i>Munida sarsi</i>	0.001	0.131	0	0.401	13
<i>Antipatharia sp. 8</i>	0.001	0.131	0	0.401	13
<i>Callogorgia verticillata</i>	0.002	0.197	0	0.585	13
<i>Chaceon affinis</i>	0.001	0.066	0	0.312	11
<i>Henricia sanguinolenta</i>	0.001	0.131	0	0.384	11
<i>Ceramaster/Peltaster/Plinthaster sp. 1</i>	0.002	0.197	0	0.520	9
<i>Gorgonian</i>	0.002	0.197	0	0.520	9
<i>Gorgonacea sp. 7</i>	0.002	0.197	0	0.565	9
<i>Corallimorphidae sp. 1</i>	0.001	0.131	0	0.345	7
<i>Gorgonacea sp. 5</i>	0.001	0.131	0	0.345	7
Blue encrusting sponge	0.001	0.131	0	0.345	7
<i>Bonellia viridis</i>	0.002	0.131	0	0.412	7
<i>Acanella sp. 1</i>	0.002	0.197	0	0.507	7
Porifera spherical sp. 3	0.002	0.197	0	0.554	7
<i>Gorgonacea sp. 3</i>	0.001	0.066	0	0.227	5
Globose sponge	0.001	0.066	0	0.227	5
<i>Alcyonacea sp. 2</i>	0.002	0.197	0	0.493	5
<i>Desmophyllum sp. 1</i>	0.002	0.263	0	0.562	5
<i>Gorgonacea sp. 2</i>	0.001	0.066	0	0.187	4
<i>Pliobothrus sp.</i>	0.001	0.066	0	0.187	4
<i>Gorgonocephalus sp. 1</i>	0.001	0.066	0	0.187	4
<i>Anthothelia grandiflora</i>	0.001	0.066	0	0.187	4
Actiniaria sp. 9	0.001	0.066	0	0.187	4
Porifera massive lobose sp. 8	0.003	0.263	0	0.549	4
<i>Cerianthidae sp. 1</i>	0.001	0.066	0	0.134	2
<i>Caryophyllia sp. 3</i>	0.001	0.066	0	0.134	2
Porifera lamellate sp. 1	0.001	0.066	0	0.134	2
<i>Colus sp. 2</i>	0.001	0.066	0	0.134	2
<i>Calveriosoma fenestratum</i>	0.001	0.066	0	0.134	2
<i>Stichastrella rosea</i>	0.001	0.066	0	0.134	2
Hydrozoa (irregularly branched)	0.001	0.066	0	0.134	2
<i>Parastichopus tremulus</i>	0.001	0.066	0	0.134	2
<i>Paramola cuvieri</i>	0.001	0.066	0	0.134	2
<i>Bathypathes sp. 1</i>	0.001	0.066	0	0.134	2
<i>Munida tenuimana</i>	0.001	0.066	0	0.134	2
<i>Octocorallia sp. 3</i>	0.001	0.066	0	0.134	2
Branching sponge	0.001	0.066	0	0.134	2
Gastropod	0.001	0.066	0	0.134	2
<i>Lamellate sponge</i>	0.001	0.066	0	0.134	2
White encrusting sponge	0.001	0.066	0	0.134	2
<i>Anthomastus grandiflorus</i>	0.002	0.131	0	0.267	2
<i>Primnoidae sp.</i>	0.002	0.131	0	0.267	2
<i>Phakellia ventilarium</i>	0.004	0.197	0	0.401	2

s17. Discrete colonies of *Lophelia* and *Madrepora* and associated coral and sponge species on coral framework slopes and mixed substrates

SIMPROF analyses identified 19 10m samples from 5 transects of this assemblage covering a total area of 289m² at an average depth of 762.7m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 48.33%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0184.

This assemblage is found predominately on dead framework slopes of *Lophelia pertusa* on sand and gravel seabed types with the majority of live coral and

associated species being observed on the dead coral framework. Reef forming coral species dominated this assemblage however non-reef forming coral species were also recorded at densities of 1.03 (colonies per m²) from areas of high coral density.

This assemblage, identified by SIMPROF, predominately corresponds with the biotope RHFii described by (Howell et al., 2010) comprising of colonies of live coral on dead framework slopes of *Lophelia pertusa*.

Species	Assemblage s17					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Stichopathes cf. gravieri</i>	*	0.018	0.920	1	2.926	100
<i>Ascidiae sp. 2</i>	*	0.019	0.986	0	4.525	89
<i>Lophelia pertusa</i>	*	0.063	2.367	0	9.256	89
<i>Madrepora oculata</i>	*	0.032	1.249	0	5.735	84
Lobose sponge	*	0.017	0.723	0	3.532	84
<i>Aphrocallistes</i> sp.	*	0.005	0.197	0	0.809	68
<i>Koehlermetra porrecta</i>	*	0.011	0.657	0	2.699	68
<i>Parantipathes</i> sp.	*	0.009	0.329	0	1.710	63
<i>Caryophyllia</i> sp. 2	*	0.008	0.394	0	1.710	58
cf. <i>Antipathella</i> spp.	*	0.009	0.394	0	1.837	58
Yellow encrusting sponge	*	0.007	0.329	0	1.374	47
<i>Caryophyllia</i> sp. 3	0.007	0.263	0	1.357	37	
<i>Octocorallia</i> sp. 1	0.004	0.131	0	0.607	37	
Globose sponge	0.005	0.197	0	0.902	37	
<i>Henricia sanguinolenta</i>	0.004	0.131	0	0.597	32	
<i>Echinus</i> sp. 1	0.005	0.131	0	0.692	32	
Blue encrusting sponge	0.004	0.131	0	0.582	26	
<i>Cidaris cidaris</i>	0.004	0.131	0	0.562	21	
<i>Porania pulvillus</i>	0.003	0.066	0	0.419	21	
<i>Bonellia viridis</i>	0.005	0.197	0	0.749	21	
Majidae sp. 2	0.004	0.131	0	0.562	21	
Antipatharia sp. 8	0.003	0.066	0	0.419	21	
Isididae sp. 1	0.003	0.066	0	0.419	21	
Antipatharia sp. 9	0.006	0.263	0	0.955	21	
Porifera massive lobose sp. 8	0.008	0.263	0	1.012	16	
Ceramaster/Peltaster/Plinthaster sp. 1	0.003	0.066	0	0.375	16	
<i>Gorgonacea</i> sp. 5	0.003	0.066	0	0.375	16	
<i>Anthomastus grandiflorus</i>	0.005	0.131	0	0.535	16	
<i>Acanella</i> sp. 1	0.003	0.066	0	0.375	16	
<i>Leiopathes</i> sp. 1	0.005	0.131	0	0.535	16	
<i>Munida tenuimana</i>	0.005	0.131	0	0.535	16	
White encrusting sponge	0.010	0.394	0	1.429	16	
Hydrozoa (bushy)	0.003	0.066	0	0.315	11	
<i>Pliobothrus</i> sp.	0.017	0.592	0	2.065	11	
<i>Primnoa resedaeformis</i>	0.005	0.131	0	0.501	11	
<i>Gastroptychus</i>	0.003	0.066	0	0.315	11	
<i>Halcampoididae</i> sp. 1	0.003	0.066	0	0.229	5	
<i>Gorgonacea</i> sp. 1	0.003	0.066	0	0.229	5	
<i>Pandalus borealis</i>	0.003	0.066	0	0.229	5	
<i>Gorgonacea</i> sp. 2	0.003	0.066	0	0.229	5	
Porifera cup sp. 3	0.010	0.197	0	0.688	5	
<i>Alcyonacea</i> sp. 2	0.003	0.066	0	0.229	5	
Aeolidiidae sp. 1	0.003	0.066	0	0.229	5	
<i>Calveriosoma fenestratum</i>	0.003	0.066	0	0.229	5	
<i>Stichastrella rosea</i>	0.003	0.066	0	0.229	5	
<i>Munida sarsi</i>	0.003	0.066	0	0.229	5	
Paguridae spp	0.003	0.066	0	0.229	5	
Cyclostomatida sp. 4	0.003	0.066	0	0.229	5	
<i>Syringammina fragillissima</i>	0.007	0.131	0	0.459	5	
<i>Parastichopus tremulus</i>	0.003	0.066	0	0.229	5	
<i>Brisingella coronata / Brisinga endecacnemos</i>	0.003	0.066	0	0.229	5	
<i>Callogorgia verticillata</i>	0.014	0.263	0	0.918	5	
Pectinidae spp	0.003	0.066	0	0.229	5	
<i>Gorgonacea</i> sp. 6	0.003	0.066	0	0.229	5	

Pterasteridae sp. 1	0.003	0.066	0	0.229	5
Gorgonacea sp. 7	0.003	0.066	0	0.229	5
Actiniaria sp. 9	0.010	0.197	0	0.688	5
Epizoanthus sp. 1	0.003	0.066	0	0.229	5
Primnoidae sp.	0.003	0.066	0	0.229	5
Porifera massive lobose sp. 11	0.014	0.263	0	0.918	5
Stylaster sp. 1	0.007	0.131	0	0.459	5
Branching sponge	0.003	0.066	0	0.229	5
Cream encrusting sponge	0.003	0.066	0	0.229	5
Green encrusting sponge	0.007	0.131	0	0.459	5
Orange encrusting sponge	0.003	0.066	0	0.229	5

s21. Caryophyllids and associated species on sandy substrates

SIMPROF analyses identified 12 10m samples from 6 transects of this assemblage covering a total area of 182.52m² at an average depth of 739.7m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 36.64%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.091.

This assemblage was recorded exclusively from sand substrates with sparse cobbles and boulders. SIMPER analysis indicated the assemblage was characterized by anemone species including caryophyllids. Densities of coral garden characterizing species were fairly low across the whole assemblage, only just meeting the working definition lower limit of 0.1 colonies per m². The assemblage predominately corresponds to the *Lanice* bed biotope OB described by (Howell et al., 2010).

Species	Assemblage s21					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
Caryophyllia sp. 3	*	0.010	0.197	0	1.084	75
Actiniaria sp. 1	*	0.011	0.263	0	1.337	42
Ascidiae sp. 2	*	0.007	0.131	0	0.669	33
Echinus spp.	0.008	0.131	0	0.622	17	
Gorgonacea sp. 7	0.005	0.066	0	0.389	17	
Koehlermetra porrecta	0.022	0.460	0	2.015	17	
Caryophyllia sp. 2	0.005	0.066	0	0.289	8	

s24. Majidae and sparse gorgonians on hard substratum

SIMPROF analyses identified 23 10m samples from 8 transects of this assemblage covering a total area of 349.83m² at an average depth of 679.77m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 33.42%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0038.

Recorded from bedrock and sandy gravel substrates and dominated by the morphospecies Majidae sp. 2 and sparse unidentified gorgonian species this assemblage was largely undescribed by (Howell et al. 2010).

Species	Assemblage s24					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
Majidae sp. 2	*	0.010	0.855	0	3.476	65
Gorgonian	*	0.004	0.197	0	0.821	43
<i>Cidaris cidaris</i>		0.003	0.066	0	0.277	9
Porifera massive globose sp. 9		0.004	0.131	0	0.440	9
Cerianthidae sp. 1		0.003	0.066	0	0.200	4
Ophiuroidae sp. 1		0.006	0.131	0	0.400	4
Reteponella sp. 1		0.003	0.066	0	0.200	4
Lobose sponge		0.003	0.066	0	0.200	4

s28. *Pliobothrus* colonies on hard substrates and dead coral rubble

SIMPROF analyses identified 15 10m samples from 7 transects of this assemblage covering a total area of 228.15m² at an average depth of 739.8m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 53.91%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0074.

This assemblage was recorded from bedrock, sand and gravel substrates with sparse, scattered coral rubble. SIMPER analysis indicated the assemblage being characterised solely by *Pliobothrus* sp. Densities of coral garden species were relatively low across this assemblage only slightly higher than the working definition lower limit of 0.1 colonies per m². Corresponding partially to biotopes from mixed and hard substrates; RHC and RHD the majority of this assemblage was undescribed by (Howell et al., 2010).

Species	Assemblage s28					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Pliobothrus</i> sp.	*	0.008	0.263	0	1.234	93
Cerianthidae sp. 1		0.004	0.066	0	0.458	27
<i>Chaceon affinis</i>		0.004	0.066	0	0.352	13
Styelaster sp. 1		0.004	0.066	0	0.352	13
<i>Bonellia viridis</i>		0.004	0.066	0	0.258	7
Lobose sponge		0.009	0.131	0	0.516	7

s42. *Stichopathes*, gorgonians and associated corals on coral rubble and hard substratum

SIMPROF analyses identified 105 10m samples from 21 transects of this assemblage covering a total area of 2201m² at an average depth of 713m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 15.42%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.016.

This assemblage was recorded from bedrock, bedrock with carbonate veneer, gravel and coral rubble substrates and the majority of coral garden species recorded on small outcrops of reef forming corals and on sparsely distributed cobbles and boulders. This assemblage corresponds predominately to the

biotope RHFii as described by (Howell et al., 2010) and whilst highest abundances of coral garden species were observed in areas of highest density of reef forming corals the overall densities of non-reef forming corals exceed those of reef forming coral species in this assemblage.

Species	Assemblage s42					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Phelliactis</i> sp. 1	*	0.002	0.657	0	2.432	52
<i>Stichopathes</i> cf. <i>gravieri</i>	*	0.001	0.657	0	1.684	51
<i>Gorgonian</i>	*	0.002	0.723	0	1.635	33
<i>Cerianthidae</i> sp. 1	*	0.002	0.855	0	2.380	32
<i>Cidaris</i> <i>cidaris</i>	*	0.001	0.263	0	0.833	32
<i>Actiniaria</i> sp. 1	*	0.001	0.329	0	1.157	30
<i>Madrepora oculata</i>	*	0.002	0.920	0	1.876	24
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>	*	0.001	0.263	0	0.895	24
<i>Lophelia pertusa</i>	*	0.002	0.657	0	1.861	22
<i>Ophiuroidea</i> sp. 1	*	0.006	3.550	0	7.038	21
<i>Anthomastus grandiflorus</i>	*	0.001	0.263	0	0.788	18
<i>Alcyonacea</i> sp. 3	*	0.002	0.723	0	1.743	17
Globose sponge	*	0.001	0.263	0	0.647	17
Porifera massive globose sp. 4	*	0.002	0.526	0	1.475	14
<i>Calveriosoma fenestratum</i>	0.001	0.263	0	0.551	14	
Echinus spp.	0.001	0.131	0	0.426	12	
Aphrocallistes sp.	0.002	1.249	0	1.916	12	
<i>Alcyonacea</i> sp. 1	0.002	0.723	0	1.165	10	
<i>Munida tenuimana</i>	0.002	0.526	0	1.056	10	
Stylerterid	0.003	1.118	0	2.098	9	
<i>Axinella infundibuliformis</i>	0.004	0.920	0	2.279	9	
<i>Stichastrella rosea</i>	0.001	0.131	0	0.314	8	
<i>Henricia sanguinolenta</i>	0.001	0.197	0	0.380	8	
Sponge	0.001	0.197	0	0.445	8	
<i>Drifa</i> sp. 1	0.001	0.197	0	0.437	7	
<i>Caryophyllia</i> sp. 2	0.002	0.263	0	0.611	6	
Parantipathes sp.	0.001	0.263	0	0.471	6	
cf. <i>Antipathella</i> spp.	0.001	0.131	0	0.331	6	
Cirripedia sp.	0.015	5.128	0	8.197	6	
<i>Reteaporella</i> sp. 1	0.003	1.118	0	1.676	6	
Orange anemone	0.003	0.526	0	1.199	6	
Yellow encrusting sponge	0.001	0.197	0	0.419	5	
<i>Gersemia</i> sp. 2	0.001	0.197	0	0.409	4	
Antipatharia sp. 9	0.001	0.066	0	0.192	4	
<i>Phakellia ventilabrum</i>	0.001	0.263	0	0.422	4	
<i>Ophiuroidea</i> sp. 7	0.001	0.066	0	0.192	4	
<i>Pheronema carpenteri</i>	0.001	0.131	0	0.347	4	
Ceramaster/Peltaster/Plinthaster sp. 2	0.001	0.131	0	0.255	4	
<i>Bolocera tuediae</i>	0.001	0.197	0	0.322	3	
Corallimorphidae sp. 1	0.002	0.197	0	0.454	3	
<i>Paguridae</i> spp	0.001	0.131	0	0.237	3	
Ceramaster/Peltaster/Plinthaster sp. 1	0.001	0.066	0	0.167	3	
<i>Porania pulvillus</i>	0.001	0.066	0	0.167	3	
Porifera branching-erect sp. 1	0.001	0.131	0	0.290	3	
Porifera massive globose sp. 9	0.001	0.131	0	0.237	3	
Anemone	0.001	0.131	0	0.237	3	
Blue encrusting sponge	0.001	0.131	0	0.290	3	
Cup sponge	0.001	0.131	0	0.237	3	
Lobose sponge	0.001	0.131	0	0.237	3	
<i>Gorgonocephalus</i> sp. 1	0.001	0.197	0	0.308	2	
<i>Callogorgia verticillata</i>	0.001	0.197	0	0.308	2	
Octocoral	0.001	0.066	0	0.137	2	
<i>Edwardsiidae</i> sp. 1	0.002	0.394	0	0.593	2	
<i>Majidae</i> sp. 1	0.001	0.066	0	0.137	2	
<i>Echinoidea</i> sp. 1	0.001	0.066	0	0.137	2	
<i>Majidae</i> sp. 2	0.002	0.263	0	0.401	2	
<i>Ophiuroidea</i> sp. 6	0.004	0.789	0	1.174	2	
Orange encrusting sponge	0.001	0.131	0	0.217	2	

Alcyonacea sp. 2	0.001	0.066	0	0.098	1
Gorgonacea sp. 6	0.001	0.066	0	0.098	1
Bathypathes sp. 1	0.001	0.066	0	0.098	1
Isididae sp. 1	0.002	0.197	0	0.293	1
Alcyonacea sp. 4	0.001	0.066	0	0.098	1
Porifera massive lobose sp. 2	0.001	0.066	0	0.098	1
Porifera spherical sp. 1	0.001	0.066	0	0.098	1
Sagartiidae sp. 1	0.015	1.512	0	2.245	1
Ascidiaecea sp. 2	0.001	0.066	0	0.098	1
Brachiopoda sp. 1	0.001	0.066	0	0.098	1
Sagartiidae sp. 3	0.001	0.066	0	0.098	1
Corallimorphidae sp. 2	0.001	0.131	0	0.195	1
Porifera massive globose sp. 3	0.001	0.131	0	0.195	1
Actiniaria sp. 4	0.001	0.066	0	0.098	1
Porifera cup sp. 3	0.001	0.066	0	0.098	1
Crinoidea sp. 1	0.001	0.066	0	0.098	1
Sagartiidae sp. 4	0.001	0.066	0	0.098	1
Geodia sp. 1	0.003	0.263	0	0.390	1
Munida sarsi	0.001	0.066	0	0.098	1
<i>Helio metra glacialis</i>	0.003	0.263	0	0.390	1
Chaetopteridae sp. 1	0.001	0.131	0	0.195	1
<i>Parastichopus tremulus</i>	0.001	0.066	0	0.098	1
<i>Bonellia viridis</i>	0.001	0.066	0	0.098	1
Koehlermetra porrecta	0.001	0.131	0	0.195	1
<i>Primnoa resedaeformis</i>	0.001	0.066	0	0.098	1
Crinoidea sp. 3	0.001	0.066	0	0.098	1
Porifera lamellate sp. 7	0.001	0.066	0	0.098	1
Ascidian	0.001	0.066	0	0.098	1
Lamellate sponge	0.001	0.066	0	0.098	1

2. Deep data set assemblages (>1100m)

d1. *Ophiomusium lymani* and encrusting sponges on soft gravelly substratum

SIMPROF analyses identified 351 10m samples from 16 transects of this assemblage covering a total area of 5338.71m² at an average depth of 1340.5m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 1.61%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0003.

This assemblage was recorded predominately on mixed, soft and gravelly sand substrates and dominated by deep sea sponge species. The assemblage was described visually as encompassing two dominant biotopes; *Ophiomusium lymani* and cerianthid anemones on mixed substrate and *L. pertusa*, soft corals and sponges on mixed substrate.

Species	Assemblage d1				
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)	% Samples in which species occurs
<i>Ophiomusium lymani</i>	*	0.000	0.460	0.740	9
Blue encrusting sponge	*	0.000	0.329	0.545	7
Yellow encrusting sponge	*	0.000	0.526	0.603	4
<i>Lepidisis</i> sp.	*	0.000	0.131	0.183	3
<i>Keratoisis</i> sp. 2	0.000	0.066	0	0.140	2
<i>Syringammina fragilissima</i>	0.000	0.131	0	0.184	2
<i>Coryphaenoides rupestris</i>	0.000	0.131	0	0.159	2
<i>Madrepora oculata</i>	0.000	0.263	0	0.255	1
Anemone	0.000	0.131	0	0.150	1
<i>Cidaris cidaris</i>	0.000	0.131	0	0.141	1
<i>Lophelia pertusa</i>	0.000	0.066	0	0.106	1
<i>Pheronema carpenteri</i>	0.000	0.066	0	0.106	1

<i>Caryophyllia</i> sp. 3	0.000	0.066	0	0.092	1
Porifera massive globose sp. 4	0.000	0.131	0	0.130	1
<i>Phelliactis</i> sp. 1	0.000	0.066	0	0.092	1
<i>Actiniaria</i> sp. 10	0.000	0.263	0	0.244	1
<i>Pentametrocrinus atlanticus</i>	0.000	0.066	0	0.092	1
<i>Cerianthidae</i> sp. 1	0.000	0.066	0	0.075	1
<i>Porifera</i> boring sp. 1	0.000	0.066	0	0.075	1
<i>Velatida</i> sp. 1	0.000	0.066	0	0.075	1
<i>Hericia sanguinolenta</i>	0.000	0.066	0	0.075	1
<i>Psolus squamatus</i>	0.000	0.066	0	0.075	1
<i>Chaceon affinis</i>	0.000	0.066	0	0.075	1
<i>Gorgonacea</i> sp. 6	0.001	0.197	0	0.226	1
<i>Crinoidea</i> sp. 2	0.000	0.066	0	0.075	1
<i>Munida tenuimana</i>	0.000	0.066	0	0.075	1
<i>Kophobelemnion stelliferum</i>	0.000	0.066	0	0.075	1
<i>Actinauge richardi</i>	0.000	0.066	0	0.075	1
<i>Brisingida</i> sp.	0.000	0.066	0	0.075	1
<i>Echinus acutus</i>	0.000	0.066	0	0.075	1
<i>Halipteris</i> sp.	0.001	0.329	0	0.341	1
White encrusting sponge	0.000	0.263	0	0.220	1
<i>Caryophyllia</i> sp. 2	0.000	0.066	0	0.053	0.3
<i>Bolocera tuediae</i>	0.000	0.066	0	0.053	0.3
<i>Porifera</i> spherical sp. 1	0.001	0.329	0	0.267	0.3
<i>Porifera</i> massive lobose sp. 3	0.000	0.066	0	0.053	0.3
<i>Ophiuroidea</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Sagartiidae</i> sp. 3	0.000	0.066	0	0.053	0.3
<i>Porifera</i> massive globose sp. 1	0.001	0.329	0	0.267	0.3
<i>Porifera</i> lamellate sp. 1	0.000	0.066	0	0.053	0.3
<i>Serpulidae</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Alcyonacea</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Porifera</i> cup sp. 3	0.000	0.131	0	0.107	0.3
<i>Porifera</i> massive globose sp. 7	0.001	0.263	0	0.214	0.3
<i>Crossaster papposus</i>	0.000	0.066	0	0.053	0.3
<i>Calveriosoma fenestratum</i>	0.000	0.066	0	0.053	0.3
<i>Echinus</i> spp.	0.001	0.197	0	0.160	0.3
<i>Phakellia ventilabrum</i>	0.000	0.066	0	0.053	0.3
<i>Reteporella</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Paguridae</i> spp	0.000	0.066	0	0.053	0.3
<i>Heliometra glacialis</i>	0.001	0.197	0	0.160	0.3
<i>Caridea</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Gorgonacea</i> (dead)	0.001	0.197	0	0.160	0.3
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>	0.000	0.066	0	0.053	0.3
<i>Anthomastus grandiflorus</i>	0.000	0.066	0	0.053	0.3
<i>Parantipathes</i> sp.	0.000	0.066	0	0.053	0.3
<i>Paromola cuvieri</i>	0.000	0.066	0	0.053	0.3
<i>Koehlermetra porrecta</i>	0.000	0.066	0	0.053	0.3
<i>Pennatula phosphorea</i>	0.001	0.329	0	0.267	0.3
<i>Antipatharia</i> sp. 9	0.000	0.066	0	0.053	0.3
<i>Acanthogorgia granulata</i>	0.000	0.066	0	0.053	0.3
<i>Echinoidea</i> sp. 4	0.000	0.066	0	0.053	0.3
<i>Keratoisis</i> sp. 1	0.000	0.131	0	0.107	0.3
<i>Bathyphathes</i> sp. 2	0.000	0.066	0	0.053	0.3
<i>Echinoidea</i> sp. 5	0.000	0.131	0	0.107	0.3
<i>Solaster endeca</i>	0.000	0.066	0	0.053	0.3
<i>Holothuroidea</i> sp. 2	0.000	0.066	0	0.053	0.3
<i>Umbellula</i> sp.	0.000	0.066	0	0.053	0.3
<i>Asteroidea</i> sp. 1	0.000	0.066	0	0.053	0.3
<i>Crinoidea</i> sp. 7	0.000	0.066	0	0.053	0.3
<i>Crinoidea</i> sp. 9	0.000	0.066	0	0.053	0.3
<i>Porifera</i> lamellate sp. 10	0.000	0.066	0	0.053	0.3
<i>Ophiuroidea</i> sp. 10	0.000	0.066	0	0.053	0.3
<i>Gorgonacea</i> sp. 16	0.000	0.066	0	0.053	0.3
Cream encrusting sponge	0.000	0.066	0	0.053	0.3
<i>Cup</i> sponge	0.000	0.066	0	0.053	0.3
<i>Echinoid</i>	0.000	0.066	0	0.053	0.3
<i>Gorgonian</i>	0.000	0.066	0	0.053	0.3

Green encrusting sponge	0.000	0.066	0	0.053	0.3
Soft coral	0.000	0.066	0	0.053	0.3

d4. Live summit and frameworks of *Lophelia pertusa* coral reef

SIMPROF analyses identified 11 10m samples from 2 transects of this assemblage covering a total area of 167.31m² at an average depth of 1234.8m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 42%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0334.

This assemblage was recorded on bedrock, bedrock with carbonate veneer and coral rubble substrates with the majority of live coral and associated species growing on frameworks of predominately dead reef forming corals. Described visually as live biogenic coral reef and predominantly dead, low-lying coral rubble this assemblage features high abundances of coral garden characterising and associated species, particularly sponges and fish species however overall densities of reef forming corals exceed the density of non-reef forming species.

Species	Assemblage d4				
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)	% Samples in which species occurs
<i>Lophelia pertusa</i>	*	0.111	2.170	0.46	7.353
<i>Phakellia ventilabrum</i>	*	0.015	0.394	0	1.991
<i>Gorgonacea</i> sp. 12	*	0.010	0.263	0	1.221
<i>Gorgonacea</i> sp. 16	*	0.013	0.329	0	1.567
<i>Madrepora oculata</i>	*	0.027	0.986	0	4.413
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>	*	0.008	0.131	0	0.786
<i>Koehlermetra porrecta</i>	*	0.007	0.131	0	0.674
<i>Keratoisis</i> sp. 2		0.010	0.131	0	0.924
Porifera massive lobose sp. 24		0.010	0.263	0	1.206
<i>Anthothела grandiflora</i>		0.016	0.263	0	1.348
<i>Isididae</i> sp. 1		0.016	0.263	0	1.421
Porifera massive lobose sp. 18		0.016	0.263	0	1.421
Porifera lamellate sp. 10		0.006	0.066	0	0.467
Yellow encrusting sponge		0.008	0.131	0	0.674
Porifera cup sp. 3		0.009	0.131	0	0.647
<i>Velatida</i> sp. 1		0.006	0.066	0	0.405
<i>Phelliactis</i> sp. 1		0.009	0.131	0	0.647
<i>Anthomastus grandiflorus</i>		0.006	0.066	0	0.405
<i>Callogorgia verticillata</i>		0.027	0.329	0	1.834
<i>Brisingida</i> sp.		0.006	0.066	0	0.405
<i>Antipatharia</i> sp. 7		0.006	0.066	0	0.405
Porifera massive lobose sp. 2		0.006	0.066	0	0.302
<i>Corallimorphidae</i> sp. 1		0.006	0.066	0	0.302
Porifera massive lobose sp. 6		0.018	0.197	0	0.905
<i>Crossaster papposus</i>		0.006	0.066	0	0.302
Porifera massive lobose sp. 8		0.006	0.066	0	0.302
<i>Heliometra glacialis</i>		0.012	0.131	0	0.603
<i>Gorgonacea</i> sp. 6		0.006	0.066	0	0.302
<i>Pinnoidae</i> sp.		0.012	0.131	0	0.603
<i>Actiniaria</i> sp. 10		0.006	0.066	0	0.302
<i>Pheronema carpenteri</i>		0.006	0.066	0	0.302

Mysida sp. 2	0.006	0.066	0	0.302	9
Actinauge richardi	0.006	0.066	0	0.302	9
Porifera cup sp. 2	0.006	0.066	0	0.302	9
Antipatharia sp. 9	0.006	0.066	0	0.302	9
Acanthogorgia granulata	0.006	0.066	0	0.302	9
Placogorgia graciosa	0.006	0.066	0	0.302	9
Lepidisis sp.	0.006	0.066	0	0.302	9
Echinus acutus	0.006	0.066	0	0.302	9
Gastrophtychus formosus	0.006	0.066	0	0.302	9
Halipteris sp.	0.006	0.066	0	0.302	9
Ophiuroidea sp. 10	0.006	0.066	0	0.302	9
Asconema setubalense	0.012	0.131	0	0.603	9
Anemone	0.006	0.066	0	0.302	9
Green encrusting sponge	0.006	0.066	0	0.302	9
White encrusting sponge	0.006	0.066	0	0.302	9

d5. Live summit of *Lophelia pertusa* reef with associated gorgonians, sponge and coral species

SIMPROF analyses identified 94 10m samples from 2 transects of this assemblage covering a total area of 1429.7m² at an average depth of 1336.6m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 31.48%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0021.

This assemblage was recorded predominately on bedrock substrates interspersed by areas of sandy gravel, pebbles, cobbles and coral rubble. The majority of live coral and associated species were observed on hard substrates and on coral rubble. This assemblage encompasses from visual review the biotopes; gorgonian dominated "coral garden", *Lophelia pertusa*, soft corals and sponges on mixed substrates and predominantly dead, low-lying coral rubble. Coral garden characterizing species were observed to be patchily distributed over a large area but found in relatively high abundances where present. Density of reef forming corals again however exceeds the overall density of non reef forming species.

Species	Assemblage d5					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Phakellia ventilarium</i>	*	0.002	0.460	0	1.578	67
<i>Madrepora oculata</i>	*	0.006	1.446	1	6.393	63
Green encrusting sponge	*	0.002	1.052	1	2.776	61
<i>Lophelia pertusa</i>	*	0.003	0.657	0	2.774	54
<i>Callogorgia verticillata</i>	*	0.002	0.657	0	2.155	54
Porifera lamellate sp. 10	*	0.002	0.526	0	1.606	51
<i>Anthomastus grandiflorus</i>	*	0.001	0.263	0	0.819	46
Blue encrusting sponge	*	0.002	0.723	0	2.106	34
<i>Gorgonacea</i> sp. 12	*	0.001	0.329	0	0.887	32
<i>Koehlermetra porrecta</i>	*	0.002	0.460	0	1.438	31
Porifera massive lobose sp. 18	*	0.001	0.263	0	0.759	31
<i>Coryphaenoides rupestris</i>	*	0.001	0.394	0	1.212	28
<i>Caryophyllia</i> sp. 2	*	0.001	0.197	0	0.656	21
Actiniaria sp. 4	0.001	0.131	0	0.543	21	
<i>Yellow encrusting sponge</i>	*	0.001	0.329	0	1.019	21
<i>Phelliactis</i> sp. 1	0.001	0.131	0	0.481	20	
<i>Keratoisis</i> sp. 3	*	0.003	0.657	0	2.138	18
<i>Keratoisis</i> sp. 2	0.001	0.263	0	0.694	17	

Porifera massive globose sp. 4	0.001	0.197	0	0.585	16
Porifera cup sp. 3	0.001	0.263	0	0.702	15
Porifera massive lobose sp. 24	0.001	0.329	0	0.896	15
<i>Keratoisis</i> sp. 1	0.001	0.197	0	0.495	14
<i>Echinus</i> spp.	0.001	0.131	0	0.463	13
<i>Styaster</i> sp. 1	0.001	0.197	0	0.573	13
<i>Asconema setubalense</i>	0.001	0.197	0	0.758	13
<i>Actiniaria</i> sp. 1	0.001	0.131	0	0.418	12
<i>Alcyonacea</i> sp. 1	0.001	0.131	0	0.379	12
<i>Velatida</i> sp. 1	0.001	0.066	0	0.334	12
<i>Halipterus</i> sp.	0.001	0.131	0	0.445	11
White encrusting sponge	0.001	0.197	0	0.503	11
<i>Asterias rubens</i>	0.001	0.131	0	0.398	10
<i>Pentametrocrinus</i> <i>atlanticus</i>	0.001	0.131	0	0.398	10
<i>Sagartiidae</i> sp. 1	0.001	0.197	0	0.486	9
<i>Anthothela grandiflora</i>	0.001	0.131	0	0.387	9
<i>Alcyonacea</i> sp. 4	0.001	0.131	0	0.342	9
<i>Brisingida</i> sp.	0.001	0.131	0	0.426	9
<i>Leiopathes</i> sp. 2	0.001	0.131	0	0.375	7
Porifera massive lobose sp. 3	0.001	0.131	0	0.478	6
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>	0.001	0.131	0	0.313	6
<i>Actiniaria</i> sp. 8	0.001	0.131	0	0.313	6
<i>Antipatharia</i> sp. 6	0.001	0.066	0	0.255	6
<i>Ophiuroidea</i> sp. 10	0.001	0.066	0	0.255	6
<i>Antipatharia</i> sp. 7	0.001	0.131	0	0.297	5
Porifera massive lobose sp. 6	0.001	0.131	0	0.334	4
<i>Pennatula phosphorea</i>	0.001	0.131	0	0.279	4
<i>Echinus acutus</i>	0.001	0.066	0	0.211	4
Porifera lamellate sp. 9	0.001	0.066	0	0.211	4
<i>Henricia sanguinolenta</i>	0.001	0.066	0	0.184	3
<i>Gorgonacea</i> sp. 6	0.001	0.066	0	0.184	3
<i>Porifera cup</i> sp. 2	0.001	0.066	0	0.184	3
Porifera massive lobose sp. 16	0.001	0.263	0	0.452	3
<i>Caryophyllia</i> sp. 3	0.001	0.066	0	0.151	2
<i>Gorgonacea</i> sp. 1	0.001	0.066	0	0.151	2
Porifera massive globose sp. 3	0.001	0.066	0	0.151	2
<i>Stichastrella rosea</i>	0.001	0.131	0	0.239	2
<i>Psolus squamatus</i>	0.001	0.066	0	0.151	2
<i>Porania pulvillus</i>	0.001	0.066	0	0.151	2
<i>Acanella</i> sp. 1	0.001	0.131	0	0.239	2
<i>Isididae</i> sp. 1	0.001	0.066	0	0.151	2
<i>Virgularia mirabilis</i>	0.001	0.066	0	0.151	2
<i>Anemone</i>	0.001	0.066	0	0.151	2
Porifera massive lobose sp. 2	0.001	0.066	0	0.107	1
Porifera massive lobose sp. 5	0.001	0.066	0	0.107	1
<i>Calveriosoma fenestratum</i>	0.001	0.131	0	0.214	1
Porifera lamellate sp. 4	0.002	0.197	0	0.322	1
<i>Actiniaria</i> sp. 6	0.001	0.066	0	0.107	1
<i>Gorgonacea</i> sp. 5	0.001	0.066	0	0.107	1
<i>Syringammina</i> <i>fragillissima</i>	0.001	0.066	0	0.107	1
<i>Leiopathes</i> sp. 1	0.001	0.066	0	0.107	1
<i>Primnoidae</i> sp.	0.001	0.066	0	0.103	1
<i>Pheronema carpenteri</i>	0.001	0.066	0	0.107	1
<i>Mysida</i> sp. 2	0.001	0.131	0	0.214	1
<i>Actinauge richardi</i>	0.001	0.066	0	0.107	1
<i>Lepidisis</i> sp.	0.001	0.066	0	0.107	1
<i>Bathyphantes</i> sp. 2	0.001	0.066	0	0.107	1
Porifera massive lobose sp. 22	0.001	0.066	0	0.107	1
<i>Gorgonacea</i> sp. 16	0.001	0.066	0	0.103	1

Grey encrusting sponge	0.001	0.066	0	0.107	1
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d8. *Lophelia pertusa*, caryophylids, antipatharians and sponges on hard substratum

SIMPROF analyses identified 82 10m samples from 4 transects of this assemblage covering a total area of 1247.2m² at an average depth of 1505.4m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 51%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0229.

This assemblage was recorded predominately on bedrock substrates interspersed by areas of sandy gravel, pebbles, cobbles and some coral rubble. The majority of live coral and associated species were observed on hard substrates. This assemblage comprised of the visually identified biotopes *Lophelia pertusa*, soft corals and sponges on mixed substrates, *Lophelia pertusa*, antipatharians and crinoids on bedrock and mixed substrates and predominantly dead, low lying coral rubble. Coral garden characterizing species were observed to be patchily distributed over a large area but found, particularly on bedrock ridges and on larger hard substrate formations interspersed by areas of mixed sand and gravel substrate, in relatively high abundances where present. Densities of reef forming corals again exceed the density of non reef forming species within this assemblage.

Species	Assemblage d8					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
Blue encrusting sponge	*	0.009	2.170	1	6.013	100
Green encrusting sponge	*	0.013	3.550	2	11.262	100
<i>Lophelia pertusa</i>	*	0.005	1.775	0	4.912	71
Yellow encrusting sponge	*	0.003	0.789	0	2.911	71
<i>Caryophyllia</i> sp. 2	*	0.002	1.249	0	3.014	63
<i>Madrepora oculata</i>	*	0.003	0.789	0	2.698	48
<i>Psolus squamatus</i>	0.002	0.329	0	1.108	30	
<i>Phakellia ventilabrum</i>	0.002	0.394	0	1.184	28	
Porifera massive globose sp. 4	0.001	0.197	0	0.618	22	
<i>Lepidisis</i> sp.	0.002	0.263	0	0.925	20	
<i>Bathyphantes</i> sp. 2	0.001	0.197	0	0.629	20	
Porifera massive lobose sp. 18	0.001	0.197	0	0.718	20	
<i>Ophiomusium lymani</i>	0.002	0.263	0	0.962	17	
<i>Brisingida</i> sp.	0.001	0.131	0	0.400	15	
Grey encrusting sponge	0.001	0.197	0	0.609	15	
White encrusting sponge	0.001	0.263	0	0.672	15	
<i>Pentametrocrinus atlanticus</i>	0.001	0.131	0	0.389	13	
<i>Syringammina fragillissima</i>	0.002	0.394	0	0.890	12	
<i>Koehlermetra porrecta</i>	0.001	0.131	0	0.457	12	
<i>Halipteris</i> sp.	0.002	0.394	0	0.828	11	
<i>Actiniaria</i> sp. 4	0.001	0.131	0	0.352	10	
<i>Anthomastus grandiflorus</i>	0.001	0.066	0	0.299	10	
Porifera branching-erect sp. 1	0.001	0.131	0	0.465	9	
Porifera cup sp. 3	0.001	0.131	0	0.322	7	
<i>Cerianthidae</i> sp. 1	0.001	0.263	0	0.521	6	

<i>Isididae</i> sp. 1	0.001	0.131	0	0.306	6
<i>Kophobelemnon stelliferum</i>	0.001	0.131	0	0.358	6
<i>Keratoisis</i> sp. 2	0.001	0.131	0	0.306	6
<i>Anemone</i>	0.001	0.197	0	0.391	6
<i>Actiniaria</i> sp. 1	0.001	0.066	0	0.217	5
<i>Velatida</i> sp. 1	0.001	0.066	0	0.217	5
<i>Mysida</i> sp. 2	0.001	0.131	0	0.287	5
<i>Coryphaenoides rupestris</i>	0.001	0.066	0	0.217	5
<i>Antipatharia</i> sp. 6	0.001	0.131	0	0.344	5
<i>Ophiuroidea</i> sp. 1	0.002	0.263	0	0.558	4
<i>Echinus</i> spp.	0.001	0.066	0	0.189	4
<i>Gorgonacea</i> (dead)	0.001	0.066	0	0.189	4
<i>Anthothela grandiflora</i>	0.001	0.131	0	0.328	4
<i>Keratoisis</i> sp. 1	0.001	0.066	0	0.189	4
<i>Echinus acutus</i>	0.001	0.066	0	0.189	4
<i>Stichopathes</i> sp.	0.001	0.131	0	0.328	4
<i>Porifera lamellate</i> sp. 10	0.001	0.066	0	0.189	4
<i>Gorgonacea</i> sp. 16	0.001	0.131	0	0.268	4
Cream encrusting sponge	0.002	0.263	0	0.502	4
<i>Porifera massive lobose</i>	0.002	0.131	0	0.310	2
sp. 6					
<i>Crinoidea</i> sp. 1	0.001	0.066	0	0.155	2
<i>Alcyonacea</i> sp. 4	0.001	0.066	0	0.155	2
<i>Porifera cup</i> sp. 2	0.001	0.066	0	0.155	2
<i>Antipatharia</i> sp. 4	0.001	0.131	0	0.246	2
<i>Ophiuroidea</i> sp. 10	0.001	0.066	0	0.155	2
<i>Keratoisis</i> sp. 3	0.001	0.066	0	0.155	2
<i>Asconema setubalense</i>	0.001	0.066	0	0.155	2
<i>Sagartiidae</i> sp. 1	0.001	0.066	0	0.110	1
<i>Porifera massive lobose</i>	0.001	0.066	0	0.110	1
sp. 3					
<i>Serpulidae</i> sp. 1	0.002	0.131	0	0.221	1
<i>Porifera boring</i> sp. 1	0.001	0.066	0	0.110	1
<i>Mysida</i> sp. 1	0.001	0.066	0	0.110	1
<i>Sagartiidae</i> sp. 4	0.001	0.066	0	0.110	1
<i>Calveriosoma fenestratum</i>	0.001	0.066	0	0.110	1
<i>Stichastrella rosea</i>	0.001	0.066	0	0.110	1
<i>Heliometra glacialis</i>	0.001	0.066	0	0.110	1
<i>Drifa</i> sp. 1	0.001	0.066	0	0.110	1
<i>Asterias rubens</i>	0.001	0.066	0	0.110	1
<i>Phelliactis</i> sp. 1	0.001	0.066	0	0.110	1
<i>Gorgonacea</i> sp. 5	0.002	0.131	0	0.221	1
<i>Callogorgia verticillata</i>	0.001	0.066	0	0.110	1
<i>Gorgonacea</i> sp. 6	0.001	0.066	0	0.110	1
<i>Pterasteridae</i> sp. 1	0.001	0.066	0	0.110	1
<i>Actiniaria</i> sp. 8	0.001	0.066	0	0.110	1
<i>Crinoidea</i> sp. 2	0.001	0.066	0	0.110	1
<i>Styloaster</i> sp. 1	0.001	0.066	0	0.110	1
<i>Ophiuroidea</i> sp. 8	0.001	0.066	0	0.110	1
<i>Virgularia mirabilis</i>	0.001	0.066	0	0.110	1
<i>Pennatula phosphorea</i>	0.001	0.066	0	0.110	1
<i>Actinauge richardi</i>	0.001	0.066	0	0.110	1
<i>Solaster endeca</i>	0.001	0.066	0	0.110	1
<i>Crinoidea</i> sp. 8	0.001	0.066	0	0.110	1
<i>Gorgonacea</i> sp. 15	0.001	0.066	0	0.110	1
<i>Porifera massive lobose</i>	0.001	0.066	0	0.110	1
sp. 23					
<i>Porifera lamellate</i> sp. 11	0.001	0.066	0	0.110	1
1004	0.001	0.066	0	0.110	1
<i>Orange encrusting sponge</i>	0.001	0.066	0	0.110	1
<i>Purple encrusting sponge</i>	0.001	0.066	0	0.110	1

d9. Caryophyllids and sponges on mixed substratum

SIMPROF analyses identified 114 10m samples from 10 transects of this assemblage covering a total area of 1733.92m² at an average depth of 1342.3m.

Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 31.89%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.012.

This assemblage was recorded predominately on bedrock and mixed substrates with some areas of sandy gravel, pebbles, cobbles and coral rubble. The majority of live coral and associated species were observed on hard substrates: bedrock, boulders and mixed pebbles and cobbles. This assemblage predominantly comprised of the visually identified biotopes *Lophelia pertusa*, soft corals and sponges on mixed substrates and *Psolus*, caryophyllids and lamellate sponges on mixed and boulder substrates. Patchily distributed over a large area, but in relatively high abundances where present non-reef forming coral garden characterizing species exceed the overall density of reef forming species in this assemblage and meet the minimum density criteria of the working definition. The high density and characterization of this assemblage by predominately sponge species, indicated by SIMPER analysis, however requires further investigation.

Species	Assemblage d9					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Caryophyllia</i> sp. 2	*	0.002	0.789	0	2.745	75
Blue encrusting sponge	*	0.002	1.315	0	3.462	74
<i>Phakellia ventilabrum</i>	*	0.002	0.723	0	2.361	61
Green encrusting sponge	*	0.001	0.657	0	1.562	29
Porifera lamellate sp. 10	*	0.002	0.526	0	1.736	25
Porifera massive lobose sp. 6	0.001	0.394	0	0.923	20	
White encrusting sponge	0.001	0.723	0	1.403	20	
<i>Velatida</i> sp. 1	0.001	0.131	0	0.488	18	
Yellow encrusting sponge	0.001	0.131	0	0.483	17	
<i>Pentametrocrinus atlanticus</i>	0.001	0.197	0	0.587	14	
<i>Lophelia pertusa</i>	0.001	0.329	0	0.604	11	
<i>Syringammina fragillissima</i>	0.001	0.263	0	0.579	11	
<i>Asconema setubalense</i>	0.001	0.197	0	0.584	11	
Antipatharia sp. 6	0.001	0.131	0	0.325	9	
Cream encrusting sponge	0.001	0.131	0	0.361	9	
<i>Mysida</i> sp. 2	0.001	0.197	0	0.376	8	
<i>Anthomastus grandiflorus</i>	0.001	0.131	0	0.302	7	
Anemone	0.001	0.131	0	0.289	6	
Stylaster sp. 1	0.001	0.131	0	0.275	5	
<i>Coryphaenoides rupestris</i>	0.001	0.066	0	0.224	5	
Grey encrusting sponge	0.001	0.197	0	0.486	5	
Actiniaria sp. 1	0.001	0.066	0	0.206	4	
<i>Asterias rubens</i>	0.001	0.131	0	0.261	4	
Porifera lamellate sp. 9	0.001	0.066	0	0.206	4	
Antipatharia sp. 7	0.001	0.131	0	0.261	4	
Porifera massive globose sp. 4	0.001	0.066	0	0.185	4	
<i>Sagartiidae</i> sp. 1	0.001	0.066	0	0.161	3	
<i>Caryophyllia</i> sp. 3	0.002	0.394	0	0.576	3	
<i>Echinus</i> spp.	0.001	0.066	0	0.161	3	
<i>Stichastrella rosea</i>	0.001	0.066	0	0.161	3	
<i>Madrepora oculata</i>	0.001	0.131	0	0.228	3	
<i>Isididae</i> sp. 1	0.001	0.066	0	0.161	3	
<i>Pheronema carpenteri</i>	0.001	0.131	0	0.279	3	
<i>Echinus acutus</i>	0.001	0.066	0	0.161	3	
Porifera massive lobose sp. 18	0.001	0.131	0	0.228	3	
Ophiuroidea sp. 10	0.001	0.131	0	0.279	3	
Cerianthidae sp. 1	0.001	0.066	0	0.132	2	
Actiniaria sp. 4	0.001	0.066	0	0.132	2	
Porifera cup sp. 3	0.001	0.066	0	0.132	2	
Porifera massive lobose sp. 8	0.001	0.131	0	0.209	2	

<i>Hericia sanguinolenta</i>	0.001	0.066	0	0.132	2
<i>Cidaris cidaris</i>	0.001	0.066	0	0.132	2
Ceramaster/Peltaster/Plinthaster sp. 1	0.001	0.066	0	0.132	2
<i>Phelliactis</i> sp. 1	0.001	0.131	0	0.209	2
Porifera branching-erect sp. 1	0.001	0.066	0	0.132	2
<i>Leptometra celtica</i>	0.001	0.066	0	0.132	2
<i>Bathypathes</i> sp. 2	0.001	0.066	0	0.132	2
<i>Gastroptychus formosus</i>	0.001	0.131	0	0.209	2
<i>Leiopathes</i> sp. 2	0.001	0.066	0	0.132	2
Porifera massive lobose sp. 24	0.001	0.066	0	0.132	2
<i>Edwardsiidae</i> sp. 1	0.001	0.066	0	0.094	1
Porifera spherical sp. 1	0.001	0.066	0	0.094	1
Porifera massive lobose sp. 3	0.001	0.066	0	0.094	1
<i>Ophiuroidea</i> sp. 1	0.001	0.066	0	0.094	1
<i>Gorgonacea</i> sp. 1	0.001	0.066	0	0.094	1
<i>Hydrozoa</i> (bushy)	0.001	0.066	0	0.094	1
Porifera massive lobose sp. 5	0.001	0.066	0	0.094	1
<i>Gersemia</i> sp. 2	0.001	0.066	0	0.094	1
<i>Crossaster papposus</i>	0.001	0.066	0	0.094	1
<i>Pliobothrus</i> sp.	0.001	0.131	0	0.187	1
<i>Echiura</i> sp. 1	0.002	0.197	0	0.281	1
<i>Helioconcha glacialis</i>	0.001	0.066	0	0.094	1
<i>Caridea</i> sp. 1	0.001	0.066	0	0.094	1
<i>Bonellia viridis</i>	0.001	0.066	0	0.094	1
<i>Gorgonacea</i> (dead)	0.001	0.066	0	0.094	1
<i>Brisingella coronata / Brisinga endecacnemos</i>	0.001	0.066	0	0.094	1
<i>Echinoidea</i> sp. 1	0.001	0.066	0	0.094	1
<i>Stichopathes</i> cf. <i>gravieri</i>	0.001	0.066	0	0.094	1
<i>Crinoidea</i> sp. 2	0.001	0.066	0	0.094	1
Porifera cup sp. 1	0.001	0.066	0	0.094	1
<i>Benthogone</i> sp.	0.001	0.066	0	0.094	1
<i>Actinauge richardi</i>	0.001	0.066	0	0.094	1
<i>Hippasteria phrygiana</i>	0.001	0.066	0	0.094	1
<i>Ophiomusium lymani</i>	0.001	0.066	0	0.094	1
<i>Brisingida</i> sp.	0.001	0.066	0	0.094	1
<i>Keratoasis</i> sp. 1	0.001	0.131	0	0.187	1
<i>Keratoasis</i> sp. 2	0.001	0.066	0	0.094	1
<i>Actiniaria</i> sp. 18	0.001	0.066	0	0.094	1
Porifera massive lobose sp. 23	0.001	0.066	0	0.094	1
Porifera branching-erect sp. 3	0.001	0.066	0	0.094	1
<i>Annelida</i> sp. 3	0.001	0.066	0	0.094	1
Purple encrusting sponge	0.001	0.066	0	0.094	1

d10. Gorgonian dominated coral garden on dead *Lophelia pertusa* frameworks and coral rubble

SIMPROF analyses identified 48 10m samples from 1 transect of this assemblage covering a total area of 730.08m² at an average depth of 1516.7m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 46.6%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0064.

This assemblage was recorded predominantly from coral rubble substrate and was described as a gorgonian dominated "coral garden" upon review of the video. Gorgonian species were observed in high densities on coral rubble and associated coral species were observed on bedrock and coral rubble interspersed with areas of gravel and sand.

Species	Assemblage d10					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Lophelia pertusa</i>	*	0.011	2.367	0	5.967	98
Blue encrusting sponge	*	0.008	1.118	0	4.594	90
<i>Gorgonacea</i> sp. 6	*	0.014	1.381	0	6.506	85
<i>Gorgonacea</i> sp. 16	*	0.004	0.592	0	2.107	81
<i>Madrepora oculata</i>	*	0.006	1.118	0	3.917	71
<i>Koehlermetra porrecta</i>	*	0.003	0.329	0	1.336	67
<i>Calveriosoma fenestratum</i>	*	0.004	0.460	0	1.989	52
<i>Keratoisis</i> sp. 2	*	0.003	0.329	0	1.292	44
<i>Isididae</i> sp. 1		0.005	0.723	0	2.590	29
<i>Lepidisisis</i> sp.		0.002	0.263	0	0.989	29
<i>Keratoisis</i> sp. 3		0.002	0.131	0	0.676	29
<i>Brisingida</i> sp.		0.001	0.131	0	0.494	25
<i>Callogorgia verticillata</i>		0.004	0.592	0	1.718	23
Porifera massive lobose sp. 18		0.054	5.128	0	20.184	23
Grey encrusting sponge		0.002	0.394	0	1.026	23
<i>Antipatharia</i> sp. 4		0.002	0.263	0	0.713	21
Green encrusting sponge		0.006	1.118	0	2.734	21
Yellow encrusting sponge		0.003	0.394	0	1.304	21
<i>Gorgonacea</i> sp. 15		0.002	0.197	0	0.719	19
<i>Phakellia ventilabrum</i>		0.002	0.131	0	0.504	17
<i>Caryophyllia</i> sp. 2		0.002	0.329	0	0.812	15
<i>Gorgonacea</i> (dead)		0.002	0.131	0	0.592	15
<i>Actinauge richardii</i>		0.002	0.131	0	0.491	15
<i>Ophiomusium lymani</i>		0.003	0.394	0	1.059	15
<i>Primnoidae</i> sp.		0.003	0.394	0	0.905	13
Porifera massive globose sp. 3		0.003	0.197	0	0.683	10
Porifera massive lobose sp. 6		0.002	0.131	0	0.444	8
<i>Henricia sanguinolenta</i>		0.001	0.066	0	0.279	8
Anemone		0.002	0.131	0	0.371	8
<i>Keratoisis</i> sp. 1		0.003	0.197	0	0.618	6
Porifera massive lobose sp. 8		0.005	0.263	0	0.714	4
<i>Cidaris cidaris</i>		0.001	0.066	0	0.202	4
Cyclostomatida sp. 4		0.001	0.066	0	0.202	4
<i>Acanella</i> sp. 1		0.001	0.066	0	0.202	4
<i>Pennatula phosphorea</i>		0.001	0.066	0	0.202	4
<i>Gorgonacea</i> sp. 12		0.002	0.131	0	0.320	4
Purple encrusting sponge		0.002	0.131	0	0.320	4
Red encrusting sponge		0.001	0.066	0	0.202	4
White encrusting sponge		0.001	0.066	0	0.202	4
<i>Cerianthidae</i> sp. 1		0.001	0.066	0	0.144	2
Porifera massive lobose sp. 3		0.001	0.066	0	0.144	2
Porifera massive globose sp. 4		0.001	0.066	0	0.144	2
Porifera cup sp. 3		0.001	0.066	0	0.144	2
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>		0.001	0.066	0	0.144	2

<i>Parantipathes</i> sp.	0.001	0.066	0	0.144	2
<i>Placogorgia graciosa</i>	0.001	0.066	0	0.144	2
<i>Bathyphathes</i> sp. 2	0.001	0.066	0	0.144	2
<i>Coryphaenoides rupestris</i>	0.001	0.066	0	0.144	2
<i>Holothuroidea</i> sp. 2	0.003	0.131	0	0.289	2
<i>Anthoptilum grandiflorum</i>	0.001	0.066	0	0.144	2
Porifera massive lobose sp. 22	0.001	0.066	0	0.144	2
Porifera massive lobose sp. 24	0.001	0.066	0	0.144	2
Porifera massive globose sp. 13 1003	0.001	0.066	0	0.144	2
Cream encrusting sponge	0.001	0.066	0	0.144	2
White globose sponge	0.001	0.066	0	0.144	2

d11. *Lophelia pertusa*, soft corals and sponges on hard substratum and coral rubble

SIMPROF analyses identified 63 10m samples from 5 transects of this assemblage covering a total area of 958.2m² at an average depth of 1229.1m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 34.96%. . Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0041.

This assemblage was observed on bedrock and mixed sand and gravel substrates with some coral rubble and described visually as *Lophelia pertusa*, soft corals and sponges on mixed substrates and predominantly dead low lying coral rubble. This assemblage is characterised and dominated by the reef forming coral *Lophelia pertusa* which was observed to be present in 96.8% of the samples, providing habitat for associated coral garden characterising species present at lower densities and distributed patchily but at moderate densities where present.

Species	Assemblage d11					% Samples in which species occurs
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Lophelia pertusa</i> *	0.007	1.841	0	5.739	97	
Blue encrusting sponge*	0.004	0.723	0	2.958	62	
<i>Brisingida</i> sp.*	0.001	0.263	0	0.777	30	
<i>Koehlermetra porrecta</i> *	0.002	0.394	0	1.299	27	
<i>Pentametrocrinus atlanticus</i> *	0.002	0.592	0	1.529	27	
Yellow encrusting sponge	0.003	0.592	0	1.766	27	
<i>Phakellia ventilabrum</i>	0.002	0.263	0	0.728	17	
<i>Madrepora oculata</i>	0.004	1.052	0	2.267	17	
Anemone	0.001	0.131	0	0.435	17	
Porifera massive globose sp. 4	0.001	0.131	0	0.503	14	
<i>Lepidisis</i> sp.	0.001	0.131	0	0.410	14	
Gorgonacea (dead)	0.002	0.263	0	0.618	13	
<i>Antipatharia</i> sp. 9	0.001	0.131	0	0.381	11	
<i>Keratoisis</i> sp. 2	0.002	0.131	0	0.515	10	

<i>Ophiomusium lymani</i>	0.001	0.066	0	0.272	8
<i>Antipatharia</i> sp. 6	0.001	0.066	0	0.272	8
<i>Henricia sanguinolenta</i>	0.001	0.131	0	0.326	6
<i>Coryphaenoides rupestris</i>	0.001	0.066	0	0.246	6
Green encrusting sponge	0.004	0.723	0	1.396	6
<i>Caryophyllia</i> sp. 2	0.001	0.066	0	0.215	5
<i>Heliofungia glacialis</i>	0.001	0.131	0	0.304	5
<i>Brisingella coronata</i> / <i>Brisinga endecacnemos</i>	0.001	0.131	0	0.304	5
<i>Echinus</i> sp. 1	0.001	0.066	0	0.215	5
<i>Echinus acutus</i>	0.001	0.066	0	0.215	5
White encrusting sponge	0.001	0.131	0	0.304	5
Porifera massive lobose sp. 6	0.001	0.066	0	0.177	3
<i>Asterias rubens</i>	0.001	0.066	0	0.177	3
<i>Callogorgia verticillata</i>	0.001	0.066	0	0.177	3
Porifera branching-erect sp. 1	0.001	0.066	0	0.177	3
<i>Parantipathes</i> sp.	0.001	0.066	0	0.177	3
<i>Gorgonacea</i> sp. 12	0.001	0.066	0	0.177	3
<i>Gorgonacea</i> sp. 16	0.001	0.066	0	0.177	3
Actiniaria sp. 1	0.001	0.066	0	0.126	2
Porifera lamellate sp. 1	0.001	0.066	0	0.126	2
Porifera lamellate sp. 2	0.001	0.066	0	0.126	2
Crinoidea sp. 1	0.001	0.066	0	0.126	2
Porifera massive globose sp. 6	0.001	0.066	0	0.126	2
<i>Gorgonacea</i> sp. 5	0.001	0.066	0	0.126	2
<i>Syringammina fragilissima</i>	0.001	0.066	0	0.126	2
<i>Anthomastus grandiflorus</i>	0.001	0.066	0	0.126	2
<i>Gorgonacea</i> sp. 6	0.001	0.066	0	0.126	2
Pterasteridae sp. 1	0.001	0.066	0	0.126	2
Actiniaria sp. 8	0.001	0.066	0	0.126	2
Crinoidea sp. 2	0.001	0.066	0	0.126	2
<i>Isididae</i> sp. 1	0.001	0.066	0	0.126	2
<i>Caryophyllidae</i> sp. 2	0.001	0.066	0	0.126	2
Actiniaria sp. 16	0.001	0.066	0	0.126	2
<i>Bathyphathes</i> sp. 2	0.002	0.131	0	0.252	2
Echinoidea sp. 5	0.001	0.066	0	0.126	2
Porifera massive lobose sp. 18	0.001	0.066	0	0.126	2
Crinoidea sp. 8	0.001	0.066	0	0.126	2
Porifera massive lobose sp. 24	0.001	0.066	0	0.126	2
Grey encrusting sponge	0.002	0.131	0	0.252	2

d13. *Ophiomusium lymani*, Xenophyophores and ophiuroids on mixed substratum

SIMPROF analyses identified 120 10m samples from 11 transects of this assemblage covering a total area of 1825.2m² at an average depth of 1224.7m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 18.71%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0009.

This assemblage was observed across mixed soft and sandy gravel and areas of dead, low -lying coral rubble. Described visually as *Ophiomusium lymani* and

cerianthid anemones on mixed substrate and Xenophyophores and ophiuroids on mixed substrate.

Species		Assemblage d13				% Samples in which species occurs
		Mean density (m ⁻²)	Max density (m ⁻²)	Min density (m ⁻²)	Standard deviation (abundance)	
Cerianthidae sp. 1	*	0.001	0.460	0	1.680	67
<i>Phakellia ventilabrum</i>	*	0.001	0.394	0	1.333	30
Echinus spp.	*	0.001	0.263	0	0.783	21
Gorgonian	*	0.001	0.263	0	0.879	20
Blue encrusting sponge	*	0.001	0.197	0	0.618	19
Phelliactis sp. 1	*	0.001	0.197	0	0.526	18
<i>Syringammina fragillissima</i>	*	0.001	0.394	0	1.005	16
Aphrocallistes sp.	*	0.002	1.841	0	3.028	16
Porifera massive globose sp. 4	0.001	0.263	0	0.710	13	
Actiniaria sp. 1	0.001	0.197	0	0.569	13	
<i>Cidaris cidaris</i>	0.001	0.197	0	0.429	11	
Porifera spherical sp. 1	0.001	0.197	0	0.513	10	
<i>Pheronema carpenteri</i>	0.002	0.394	0	0.966	9	
Porifera massive globose sp. 9	0.001	0.197	0	0.523	8	
<i>Calveriosoma fenestratum</i>	0.001	0.131	0	0.306	8	
Cirripedia sp.	0.010	1.972	0	4.529	6	
Cup sponge	0.001	0.131	0	0.357	6	
Yellow encrusting sponge	0.001	0.330	0	0.634	6	
Caryophyllia sp. 2	0.001	0.263	0	0.509	5	
Ophiuroidea sp. 7	0.001	0.132	0	0.269	5	
Mysida sp. 2	0.001	0.066	0	0.219	5	
Actiniaria sp. 18	0.001	0.131	0	0.347	5	
Ophiuroidea sp. 1	0.010	2.564	0	4.350	4	
Porifera lamellate sp. 1	0.001	0.197	0	0.325	4	
<i>Anthomastus grandiflorus</i>	0.001	0.066	0	0.201	4	
<i>Pennatula phosphorea</i>	0.001	0.263	0	0.433	4	
Caryophyllia sp. 3	0.001	0.132	0	0.239	3	
Majidae sp. 2	0.002	0.394	0	0.719	3	
<i>Munida tenuimana</i>	0.001	0.131	0	0.239	3	
Benthogone sp.	0.001	0.131	0	0.286	3	
<i>Brisingella coronata / Brisinga endecacnemos</i>	0.002	0.394	0	0.582	3	
<i>Pentametrocrinus atlanticus</i>	0.001	0.197	0	0.395	3	
<i>Ophiomusium lymani</i>	0.001	0.066	0	0.157	3	
Anemone	0.001	0.263	0	0.386	3	
Pterasteridae sp. 2	0.001	0.066	0	0.129	2	
<i>Munida sarsi</i>	0.001	0.131	0	0.203	2	
<i>Astropecten irregularis</i>	0.001	0.066	0	0.129	2	
Caridea sp. 1	0.001	0.066	0	0.129	2	
<i>Madrepora oculata</i>	0.001	0.066	0	0.129	2	
Actiniaria sp. 10	0.001	0.066	0	0.129	2	
Porifera lamellate sp. 6	0.001	0.131	0	0.203	2	
Decapod	0.001	0.066	0	0.129	2	
Lobose sponge	0.001	0.197	0	0.288	2	
<i>Bolocera tuediae</i>	0.002	0.197	0	0.274	1	
Sagartiidae sp. 1	0.001	0.066	0	0.091	1	
Sagartiidae sp. 3	0.001	0.066	0	0.091	1	
Porifera lamellate sp. 2	0.001	0.066	0	0.091	1	
Actiniaria sp. 4	0.001	0.066	0	0.091	1	
Colus sp. 2	0.001	0.066	0	0.091	1	
Porifera cup sp. 3	0.001	0.066	0	0.091	1	
Crinoidea sp. 1	0.001	0.066	0	0.091	1	
<i>Crossaster papposus</i>	0.001	0.066	0	0.091	1	
Sagartiidae sp. 4	0.002	0.197	0	0.274	1	
Cyclostomatida sp. 3	0.001	0.066	0	0.091	1	
<i>Stichastrella rosea</i>	0.001	0.066	0	0.091	1	
<i>Heliometra glacialis</i>	0.001	0.066	0	0.091	1	
Ceramaster/Peltaster/Plinthaster sp. 1	0.001	0.066	0	0.091	1	
<i>Lophelia pertusa</i>	0.002	0.197	0	0.274	1	
<i>Parastichopus tremulus</i>	0.001	0.066	0	0.091	1	
<i>Stichopathes cf. gravieri</i>	0.001	0.066	0	0.091	1	
Parantipathes sp.	0.001	0.066	0	0.091	1	

Crinoidea sp. 2	0.001	0.131	0	0.183	1
Porifera spherical sp. 3	0.001	0.066	0	0.091	1
Kophobelemn stelliferum	0.001	0.066	0	0.091	1
<i>Actinauge richardi</i>	0.001	0.066	0	0.091	1
Porifera lamellate sp. 10	0.001	0.066	0	0.091	1
Antipatharia sp. 7	0.001	0.066	0	0.091	1
Gastropod	0.001	0.066	0	0.091	1
White encrusting sponge	0.001	0.066	0	0.091	1

d15. Caryophyllids and Xenophyophores on sand and gravel substratum

SIMPROF analyses identified 401 10m samples from 9 transects of this assemblage covering a total area of 6099.2m² at an average depth of 1346.2m. Analysis of this cluster with the SIMPER routine revealed average similarity within the assemblage to be 44.81%. Across the total area of this assemblage the average density of species characteristic of coral gardens (number of colonies per m²) was 0.0022.

This assemblage was observed across mixed soft and sandy gravel substrates and bedrock. Described visually Xenophyophores and ophiuroids on mixed substrate the assemblage was dominated by *Syringammina fragillissima* and *Caryophyllia* sp. 2.

Species	Assemblage d15				% Samples in which species occurs	
	Mean density (m ²)	Max density (m ²)	Min density (m ²)	Standard deviation (abundance)		
<i>Syringammina fragillissima</i>	*	0.002	4.931	0	9.845	98
<i>Caryophyllia</i> sp. 2	*	0.003	20.907	0	30.132	63
<i>Cerianthidae</i> sp. 1	0.001	2.235	0	2.994	30	
Pennatula phosphorea	0.001	1.709	0	2.751	17	
<i>Pheronema carpenteri</i>	0.000	1.446	0	1.517	15	
<i>Caridea</i> sp. 1	0.000	0.197	0	0.458	9	
Blue encrusting sponge	0.000	0.394	0	0.606	9	
Halipterus sp.	0.000	0.263	0	0.542	8	
<i>Actiniaria</i> sp. 1	0.000	0.394	0	0.425	6	
Porifera massive globose sp. 4	0.000	0.131	0	0.243	5	
<i>Ophiomusium lymani</i>	0.000	0.197	0	0.294	5	
Green encrusting sponge	0.000	0.263	0	0.434	4	
<i>Echinoidea</i> sp. 1	0.000	0.131	0	0.219	4	
<i>Ophiuroidea</i> sp. 10	0.000	0.197	0	0.310	4	
White encrusting sponge	0.000	0.263	0	0.423	4	
<i>Bonellia viridis</i>	0.000	0.197	0	0.337	4	
<i>Brisingida</i> sp.	0.000	0.131	0	0.282	4	
<i>Mysida</i> sp. 2	0.000	0.131	0	0.203	3	
Yellow encrusting sponge	0.000	0.131	0	0.236	3	
<i>Caryophyllia</i> sp. 3	0.000	0.131	0	0.197	3	
<i>Calveriosoma fenestratum</i>	0.000	0.131	0	0.215	3	
<i>Phakellia ventilabrum</i>	0.000	0.329	0	0.393	3	
<i>Cidaris cidaris</i>	0.000	0.197	0	0.275	3	
<i>Benthogone</i> sp.	0.000	0.066	0	0.171	3	
<i>Solaster endeca</i>	0.000	0.066	0	0.164	3	
<i>Actiniaria</i> sp. 18	0.000	0.197	0	0.210	2	
Porifera boring sp. 1	0.000	0.526	0	0.453	2	
<i>Asterias rubens</i>	0.000	0.131	0	0.179	2	
<i>Coryphaenoides rupestris</i>	0.000	0.066	0	0.131	2	
Caryophyllia sp. 5	0.000	0.131	0	0.149	1	
Anemone	0.000	0.131	0	0.192	1	
<i>Echinus acutus</i>	0.000	0.197	0	0.199	1	
Holothuroidea sp. 2	0.000	0.066	0	0.111	1	
<i>Psolus squamatus</i>	0.000	0.066	0	0.099	1	
<i>Echinoidea</i> sp. 3	0.000	0.066	0	0.099	1	
<i>Majidae</i> sp. 1	0.000	0.066	0	0.086	1	

<i>Anthomastus grandiflorus</i>	0.000	0.197	0	0.165	1
<i>Leptometra celtica</i>	0.000	0.066	0	0.086	1
<i>Kophobelemn stelliferum</i>	0.000	0.066	0	0.086	1
Cream encrusting sponge	0.000	0.066	0	0.086	1
Grey encrusting sponge	0.000	0.131	0	0.122	1
Porifera massive lobose sp. 2	0.000	0.066	0	0.071	0
Ophiuroidea sp. 1	0.000	0.131	0	0.112	0
Porifera massive globose sp. 1	0.000	0.066	0	0.071	0
Porifera massive globose sp. 3	0.000	0.066	0	0.071	0
Porifera massive lobose sp. 6	0.000	0.066	0	0.071	0
Mysida sp. 1	0.000	0.066	0	0.071	0
Stylasteridae sp. 1	0.000	0.066	0	0.071	0
Echinus spp.	0.000	0.066	0	0.071	0
Velatida sp. 1	0.000	0.066	0	0.071	0
<i>Lophelia pertusa</i>	0.000	0.131	0	0.112	0
<i>Octocorallia sp. 1</i>	0.000	0.066	0	0.071	0
<i>Crinoidea sp. 2</i>	0.000	0.066	0	0.071	0
<i>Pentametrocrinus atlanticus</i>	0.000	0.131	0	0.112	0
<i>Pachycerianthus multiplicatus</i>	0.000	0.066	0	0.071	0
<i>Actinauge richardi</i>	0.000	0.066	0	0.071	0
<i>Mesothuria intestinalis</i>	0.000	0.066	0	0.071	0
Porifera massive lobose sp. 18	0.000	0.066	0	0.071	0
Porifera spherical sp. 1	0.000	0.066	0	0.050	0
Porifera massive lobose sp. 3	0.000	0.066	0	0.050	0
<i>Pandalus borealis</i>	0.000	0.066	0	0.050	0
Ophiuroidea sp. 2	0.000	0.066	0	0.050	0
Porifera massive globose sp. 2	0.000	0.066	0	0.050	0
Porifera lamellate sp. 2	0.000	0.066	0	0.050	0
Serpulidae sp. 1	0.001	0.263	0	0.200	0
Alcyonacea sp. 1	0.000	0.066	0	0.050	0
Porifera cup sp. 3	0.000	0.066	0	0.050	0
<i>Crossaster papposus</i>	0.000	0.066	0	0.050	0
Porifera massive lobose sp. 8	0.000	0.066	0	0.050	0
<i>Stichastrella rosea</i>	0.000	0.066	0	0.050	0
Paguridae spp	0.000	0.066	0	0.050	0
<i>Candelabrum sp. 1</i>	0.000	0.066	0	0.050	0
<i>Gorgonacea sp. 5</i>	0.000	0.066	0	0.050	0
Porifera branching-erect sp. 1	0.000	0.066	0	0.050	0
Pterasteridae sp. 1	0.000	0.066	0	0.050	0
<i>Paromola cuvieri</i>	0.000	0.066	0	0.050	0
Porifera spherical sp. 3	0.000	0.066	0	0.050	0
<i>Munida tenuimana</i>	0.000	0.066	0	0.050	0
377	0.000	0.131	0	0.100	0
<i>Plutonaster bifrons</i>	0.000	0.066	0	0.050	0
Echinus sp. 1	0.000	0.066	0	0.050	0
Actiniaria sp. 14	0.000	0.066	0	0.050	0
Porifera cup sp. 2	0.000	0.066	0	0.050	0
<i>Spatangus raschi</i>	0.000	0.066	0	0.050	0
Actiniaria sp. 16	0.000	0.066	0	0.050	0
<i>Bathypathes sp. 2</i>	0.000	0.066	0	0.050	0
<i>Gorgonacea sp. 12</i>	0.000	0.066	0	0.050	0
<i>Hypsogastropoda</i>	0.000	0.066	0	0.050	0
Porifera massive lobose sp. 24	0.000	0.066	0	0.050	0
Porifera massive lobose sp. 25	0.000	0.197	0	0.150	0
Holothuroidea sp. 4	0.001	0.460	0	0.350	0
Antipatharia sp. 7	0.000	0.066	0	0.050	0
Asconema setubalense	0.000	0.066	0	0.050	0
1004	0.000	0.066	0	0.050	0
1005	0.000	0.066	0	0.050	0

1006	0.000	0.066	0	0.050	0
Gorgonian	0.000	0.066	0	0.050	0

Supplementary Table S2.

Metadata for identified potential coral garden areas.

Data set	SIMPROF Assemblage	Site Name	Transect Name	10m Sample Name	Latitude	Longitude	Average Depth	Substrate
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_49	58.949355	-17.697646	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_50	58.94922	-17.697827	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_51	58.949162	-17.697576	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_52	58.949105	-17.697642	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_53	58.94908	-17.697544	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_58	58.948614	-17.697311	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_59	58.948478	-17.697282	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HB_E-F#1	HB_E-F#1_60	58.948471	-17.697331	837	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HS_3_3	HS_3_3_71	57.789341	-13.124089	928	Gravel (Boulders & Cobbles)
Shallow	s5	HattonBank	HS_3_3	HS_3_3_72	57.789255	-13.124147	928	Gravel (Boulders & Cobbles)
Shallow	s6	HattonBank	HB_H#1	HB_H#1_13	59.162148	-17.105142	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_14	59.161977	-17.104869	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_15	59.161803	-17.104586	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_16	59.161638	-17.104418	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_17	59.161559	-17.104299	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_4	59.162738	-17.10583	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_5	59.162652	-17.105712	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_6	59.162629	-17.105666	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_7	59.16268	-17.105607	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_8	59.162619	-17.105626	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_9	59.162545	-17.105554	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_10	59.162421	-17.105488	491	Bedrock
Shallow	s6	HattonBank	HB_H#1	HB_H#1_11	59.162243	-17.105233	491	Bedrock
Shallow	s6	HattonBank	HB_M#1	HB_M#1_7	58.758172	-18.07623	538	Gravel (Boulders & Cobbles)
Shallow	s6	HattonBank	HB_M#1	HB_M#1_8	58.758147	-18.076053	538	Gravel (Boulders & Cobbles)
Shallow	s6	HattonBank	HB_M#1	HB_M#1_9	58.758094	-18.076016	538	Gravel (Boulders & Cobbles)
Shallow	s6	HattonBank	HB_M#1	HB_M#1_29	58.756826	-18.073258	562	Bedrock
Shallow	s6	HattonBank	HB_M#1	HB_M#1_30	58.756576	-18.073104	562	Bedrock
Shallow	s6	HattonBank	HB_M#1	HB_M#1_32	58.756418	-18.072852	562	Bedrock
Shallow	s6	HattonBank	HB_M#1	HB_M#1_33	58.756349	-18.072632	562	Bedrock
Shallow	s6	AntonDohrn	SAMS Geo1#1	SAMS_Geo1#1_3	57.465934	-10.834137	810	Sandy Gravel (Pebbles & Cobbles)
Shallow	s6	AntonDohrn	SAMS Geo1#1	SAMS_Geo1#1_4	57.46594	-10.834094	811	Sandy Gravel (Pebbles & Cobbles)
Shallow	s10	HattonBank	HB_N#1	HB_N#1_38	58.819573	-17.951516	585	Gravel (Coral Rubble)

Shallow	s10	HattonBank	HB_N#1	HB_N#1_39	58.819607	-17.951576	582	Gravel (Coral Rubble)
Shallow	s10	HattonBank	HS_C5	HS_C5_15	57.970589	-17.597885	589	Bedrock
Shallow	s10	HattonBank	HS_C5	HS_C5_16	57.97051	-17.597846	589	Bedrock
Shallow	s10	HattonBank	HS_C5	HS_C5_24	57.970002	-17.597892	599	Gravel (Coral Rubble)
Shallow	s10	HattonBank	HS_C5	HS_C5_25	57.969902	-17.597928	599	Gravel (Coral Rubble)
Shallow	s10	HattonBank	HS_C5	HS_C5_26	57.969779	-17.597946	599	Gravel (Coral Rubble)
Shallow	s10	HattonBank	HS_C5	HS_C5_27	57.9697	-17.597942	599	Gravel (Coral Rubble)
Shallow	s10	HattonBank	HS_C5	HS_C5_28	57.969598	-17.597929	599	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_24	59.130566	-16.741574	616	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_25	59.130479	-16.741525	618	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_26	59.130388	-16.741482	618	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_27	59.130299	-16.74143	618	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_28	59.130199	-16.741376	619	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_29	59.130113	-16.741325	620	Gravel (Coral Rubble)
Shallow	s42	HattonBank	HT_C2	HT_C2_46	59.12857	-16.740564	665	Gravel (Boulders & Cobbles)
Shallow	s42	HattonBank	HT_C2	HT_C2_47	59.128482	-16.740501	665	Gravel (Boulders & Cobbles)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_84	57.577675	-11.397507	1739	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_85	57.577736	-11.39739	1740	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_90	57.578057	-11.396762	1736	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_91	57.578153	-11.39658	1735	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_92	57.578197	-11.396515	1734	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_95	57.578569	-11.395963	1729	Bedrock
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_96	57.578532	-11.395895	1733	Bedrock
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_97	57.578553	-11.395857	1736	Bedrock
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_184	57.584395	-11.385648	1726	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_185	57.584442	-11.385574	1725	Gravel (Coral Rubble)
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_196	57.585344	-11.384206	1718	Bedrock
Deep	d8	AntonDohrn	AD_DC_13	AD_DC_13_197	57.585398	-11.38411	1717	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_75	57.578489	-11.333848	1105	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_76	57.578577	-11.33398	1111	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_77	57.578643	-11.334097	1116	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_78	57.578694	-11.334157	1121	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_79	57.578765	-11.33423	1125	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_80	57.578832	-11.334315	1130	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_81	57.578893	-11.334422	1135	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_83	57.579034	-11.33467	1143	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_84	57.579108	-11.3348	1148	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_85	57.579175	-11.33489	1153	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_86	57.579242	-11.334944	1158	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_88	57.579364	-11.335155	1166	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_89	57.579425	-11.335213	1171	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_90	57.579485	-11.335303	1176	Bedrock

Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_93	57.57971	-11.335636	1190	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_94	57.579768	-11.335727	1196	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_123	57.580054	-11.335413	1228	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_124	57.580105	-11.335539	1233	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_125	57.580172	-11.335648	1236	Bedrock
Deep	d9	AntonDohrn	AD_DC_12	AD_DC_12_126	57.580237	-11.335782	1239	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_02	57.616618	-11.223525	1220	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_03	57.616497	-11.223542	1222	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_05	57.616732	-11.223348	1226	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_06	57.616819	-11.223274	1230	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_09	57.616981	-11.222914	1240	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_10	57.617099	-11.222785	1243	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_11	57.617201	-11.222646	1246	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_12	57.61717	-11.222442	1250	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_14	57.61735	-11.222014	1258	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_15	57.617456	-11.221797	1262	Bedrock
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_16	57.617548	-11.221502	1270	Gravel (Coral Rubble)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_17	57.61761	-11.221399	1278	Gravel (Coral Rubble)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_19	57.617695	-11.221094	1319	Gravel (Coral Rubble)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_20	57.617775	-11.221014	1328	Gravel (Coral Rubble)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_21	57.617836	-11.220885	1334	Gravel (Coral Rubble)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_31	57.618447	-11.219362	1370	Gravelly Sand (Pebbles)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_32	57.618522	-11.219317	1372	Gravelly Sand (Pebbles)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_34	57.618645	-11.219046	1376	Gravelly Sand (Pebbles)
Deep	d9	AntonDohrn	AD_DC_16	AD_DC_16_35	57.618688	-11.218876	1375	Gravelly Sand (Pebbles)
Deep	d9	AntonDohrn	AD_DC_8	AD_DC_8_86	57.454633	-10.713774	211	Bedrock
Deep	d9	AntonDohrn	AD_DC_8	AD_DC_8_87	57.45464	-10.713625	255	Bedrock
Deep	d9	EastRockall	ER_N_02	ER_N_02_95	58.473783	-14.060845	1127	Bedrock
Deep	d9	EastRockall	ER_N_02	ER_N_02_96	58.473821	-14.060821	1127	Bedrock
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_15	57.575847	-11.409413	1451	Gravel (Coral Rubble)
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_16	57.575863	-11.409209	1452	Gravel (Coral Rubble)
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_22	57.57588	-11.408056	1471	Gravel (Coral Rubble)
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_23	57.575889	-11.407835	1473	Gravel (Coral Rubble)
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_24	57.575887	-11.4076	1476	Gravel (Coral Rubble)
Deep	d10	AntonDohrn	AD_DC_13	AD_DC_13_25	57.575898	-11.407429	1478	Gravel (Coral Rubble)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_109	57.579368	-11.394232	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_110	57.579439	-11.394154	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_111	57.579533	-11.394007	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_112	57.579525	-11.39369	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_113	57.579666	-11.393763	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_114	57.579704	-11.393561	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_115	57.579773	-11.393681	1768	Sandy Gravel (Pebbles & Cobbles)

Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_116	57.579876	-11.393233	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_117	57.579817	-11.393276	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_118	57.579896	-11.393266	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_119	57.579965	-11.393211	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_120	57.580032	-11.393043	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_121	57.580093	-11.392879	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_122	57.580163	-11.392749	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_123	57.580199	-11.392658	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_124	57.5802	-11.392579	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_125	57.580275	-11.392403	1769	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_126	57.580376	-11.392231	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_127	57.580414	-11.392287	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_128	57.580415	-11.392154	1768	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_129	57.580576	-11.392063	1767	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_130	57.580588	-11.391991	1767	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_131	57.580672	-11.391755	1767	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_132	57.580719	-11.391671	1766	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_133	57.580804	-11.391629	1766	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_134	57.58088	-11.39145	1766	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_135	57.580917	-11.391428	1766	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_136	57.580971	-11.391251	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_137	57.581075	-11.39133	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_138	57.581131	-11.391125	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_139	57.581185	-11.39105	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_140	57.581271	-11.390826	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_141	57.581262	-11.390574	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_142	57.58132	-11.390605	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_143	57.581433	-11.390507	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_144	57.581476	-11.390464	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_145	57.581534	-11.390321	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_146	57.581597	-11.390313	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_147	57.581715	-11.390122	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_148	57.581759	-11.389935	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_149	57.581819	-11.38984	1765	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_150	57.581878	-11.3898	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_151	57.581931	-11.389724	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_152	57.581979	-11.38955	1764	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_153	57.582052	-11.389464	1763	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_154	57.582152	-11.389325	1763	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_155	57.582209	-11.389202	1763	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_156	57.58228	-11.389098	1762	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_157	57.582339	-11.388923	1762	Sandy Gravel (Pebbles & Cobbles)

Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_158	57.582429	-11.38892	1762	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_159	57.582493	-11.388774	1761	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_160	57.582528	-11.388673	1761	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_161	57.582586	-11.388539	1761	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_162	57.582682	-11.388495	1761	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_163	57.582726	-11.388276	1761	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_164	57.58279	-11.388215	1760	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_165	57.582886	-11.388044	1760	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_166	57.582957	-11.387888	1759	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_167	57.583056	-11.387886	1758	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_168	57.583105	-11.387764	1758	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_169	57.583166	-11.38762	1757	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_170	57.583249	-11.387412	1757	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_171	57.583336	-11.387329	1757	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_172	57.583473	-11.387042	1756	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_173	57.583621	-11.386915	1756	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_174	57.583714	-11.386828	1756	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_175	57.583701	-11.386733	1756	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_13	AD_DC_13_176	57.583742	-11.386633	1755	Sandy Gravel (Pebbles & Cobbles)
Deep	d15	AntonDohrn	AD_DC_16	AD_DC_16_28	57.618296	-11.219723	1365	Gravelly Sand (Pebbles)
Deep	d15	AntonDohrn	AD_DC_16	AD_DC_16_29	57.618361	-11.219623	1366	Gravelly Sand (Pebbles)
Deep	d15	AntonDohrn	AD_DC_16	AD_DC_16_30	57.618375	-11.219532	1368	Gravelly Sand (Pebbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_01	57.297287	-12.865353	1365	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_02	57.297521	-12.864956	1364	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_03	57.297679	-12.864659	1364	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_04	57.2978	-12.864406	1364	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_05	57.297842	-12.864262	1363	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_13	57.297021	-12.864261	1365	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_14	57.296944	-12.864332	1366	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_15	57.296892	-12.864354	1366	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_27	57.296043	-12.865533	1396	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_28	57.295949	-12.865693	1401	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_29	57.295895	-12.865785	1404	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_30	57.295799	-12.865869	1407	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_31	57.295715	-12.865972	1409	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_32	57.295634	-12.866127	1411	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_33	57.295568	-12.866215	1413	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_34	57.295419	-12.866362	1414	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_35	57.295344	-12.866498	1415	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_36	57.295271	-12.866552	1417	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_37	57.295229	-12.866585	1418	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_38	57.295164	-12.86673	1419	Gravel (Boulders & Cobbles)

Deep	d15	EastRockall	ER_C1_08	ER_C1_08_39	57.295053	-12.866772	1420	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_40	57.294995	-12.866887	1420	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_41	57.294921	-12.866985	1421	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_42	57.294829	-12.867063	1422	Gravelly Sand (Pebbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_43	57.294731	-12.867193	1423	Gravelly Sand (Pebbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_44	57.294666	-12.867273	1423	Gravelly Sand (Pebbles)
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_48	57.294214	-12.86774	1427	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_49	57.294123	-12.86788	1428	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_50	57.294074	-12.867921	1428	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_51	57.294005	-12.868029	1428	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_52	57.293942	-12.86804	1428	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_57	57.293591	-12.868507	1431	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_58	57.293475	-12.868559	1432	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_59	57.293433	-12.868703	1434	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_63	57.293078	-12.868997	1436	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_64	57.293013	-12.8691	1435	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_65	57.292951	-12.869161	1435	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_66	57.29286	-12.869258	1434	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_87	57.291239	-12.871037	1440	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_88	57.29117	-12.871076	1440	Sand
Deep	d15	EastRockall	ER_C1_08	ER_C1_08_89	57.29109	-12.871197	1440	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_05	57.520564	-12.845131	1197	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_06	57.52049	-12.845189	1200	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_07	57.520402	-12.845239	1202	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_33	57.518235	-12.846868	1237	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_34	57.518187	-12.846939	1239	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_35	57.518109	-12.847016	1241	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_36	57.518009	-12.847087	1243	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_38	57.517854	-12.847242	1246	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_39	57.517762	-12.847315	1248	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_40	57.517669	-12.847389	1249	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_41	57.517575	-12.847452	1251	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_42	57.517493	-12.847516	1253	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_43	57.517466	-12.847525	1255	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_44	57.517376	-12.847601	1256	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_45	57.51729	-12.847681	1258	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_46	57.517193	-12.847756	1259	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_47	57.517094	-12.847828	1261	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_48	57.517007	-12.847897	1262	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_49	57.516919	-12.847973	1264	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_50	57.516821	-12.848038	1265	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_51	57.516721	-12.848113	1266	Sand

Deep	d15	EastRockall	ER_C1_09	ER_C1_09_52	57.516691	-12.84815	1267	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_53	57.516623	-12.848213	1267	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_54	57.516526	-12.848287	1266	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_55	57.516435	-12.848363	1267	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_56	57.516283	-12.848488	1267	Gravel (Boulders & Cobbles)
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_57	57.516196	-12.848563	1266	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_58	57.515997	-12.848705	1266	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_59	57.515913	-12.848756	1266	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_60	57.515849	-12.848803	1265	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_61	57.515801	-12.848862	1265	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_62	57.515716	-12.848969	1262	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_63	57.515635	-12.849038	1261	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_64	57.51558	-12.849091	1259	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_65	57.515499	-12.849165	1257	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_66	57.515412	-12.849243	1255	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_67	57.515336	-12.849291	1254	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_81	57.514208	-12.850137	1225	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_82	57.514133	-12.850154	1223	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_85	57.51376	-12.850457	1209	Sand
Deep	d15	EastRockall	ER_C1_09	ER_C1_09_86	57.513665	-12.850538	1207	Sand