

Esposito et al., Table S4
SIMPER on functional traits

SIMPER 2016

SIMPER

Similarity Percentages - species contributions

One-Way Analysis

Data worksheet

Name: Data2

Data type: Abundance

Sample selection: 1-11

Variable selection: All

Parameters

Resemblance: S17 Bray-Curtis similarity

Cut off for low contributions: 70.00%

Factor Groups

Sample	pH
B1-16	Ambient
B1-16	Ambient
B1-16	Ambient
B116	Ambient
B2-16	Weak low
B2-16	Weak low
B2-16	Weak low
B2-16	Weak low
B3-16	Low
B3-16	Low
B3-16	Low

Group Ambient

Average similarity: 90.31

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	5.50	6.97	18.99	7.72	7.72
direct brooding	5.47	6.92	19.13	7.66	15.38
weak-calcifiers	5.28	6.68	18.81	7.39	22.77
crawler	4.95	6.20	18.41	6.87	29.64
burrower/tubicolous	4.50	5.82	16.42	6.45	36.09
omnivores	4.52	5.72	19.88	6.33	42.41
herbivores	4.49	5.67	16.69	6.28	48.70
non calcifiers	4.18	5.26	17.38	5.82	54.52
indirect planktic	3.66	4.63	16.39	5.12	59.64
medium size	3.68	4.55	15.91	5.03	64.68
swimmer	3.65	4.27	11.08	4.73	69.41
herbivore/detritivores	3.53	4.13	13.09	4.58	73.98

Group Weak low

Average similarity: 91.83

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.46	6.96	25.17	7.58	7.58
direct brooding	6.40	6.87	19.73	7.48	15.06
weak-calcifiers	5.90	6.35	41.37	6.92	21.98
burrower/tubicolous	5.97	6.25	11.58	6.80	28.78

crawler	5.34	5.88	56.85	6.40	35.18
non calcifiers	5.55	5.75	9.89	6.27	41.45
omnivores	5.48	5.74	14.45	6.25	47.70
herbivores	4.76	5.20	47.29	5.67	53.37
swimmer	4.20	4.56	15.89	4.96	58.33
indirect planktic	3.96	4.33	44.42	4.72	63.05
medium size	3.86	4.31	52.32	4.70	67.74
omnivore/suspension feeders	4.59	4.18	3.88	4.55	72.29

Group Low

Average similarity: 89.98

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
direct brooding	6.16	7.90	20.76	8.78	8.78
small size	6.16	7.89	20.83	8.77	17.55
burrower/tubicolous	5.83	7.36	20.75	8.17	25.73
weak-calcifiers	5.49	6.89	17.93	7.65	33.38
non calcifiers	5.37	6.57	9.45	7.31	40.69
omnivores	5.04	6.37	21.28	7.08	47.76
crawler	4.83	6.18	24.27	6.87	54.63
omnivore/suspension feeders	5.03	6.05	12.48	6.73	61.36
herbivores	3.78	4.48	22.93	4.98	66.34
herbivore/detritivores	3.82	4.30	3.57	4.77	71.12

Groups Ambient & Weak low

Average dissimilarity = 12.29

Species	Group Ambient	Group Weak low		Diss/SD	Contrib%	Cum.%
	Av.Abund	Av.Abund	Av.Diss			
omnivore/suspension feeders	3.17	4.59	0.93	1.27	7.55	7.55
burrower/tubicolous	4.50	5.97	0.89	2.14	7.28	14.83
non calcifiers	4.18	5.55	0.85	1.86	6.88	21.71
crawler/climber	2.32	1.12	0.74	2.06	6.01	27.72
indirect/benthic	2.10	3.23	0.71	1.58	5.77	33.49
deposit/suspension feeders	1.45	1.72	0.63	1.47	5.09	38.58
omnivores	4.52	5.48	0.62	1.75	5.03	43.61
small size	5.50	6.46	0.62	1.90	5.00	48.62
direct brooding	5.47	6.40	0.61	1.82	4.94	53.55
detritivores	2.00	2.38	0.54	1.32	4.42	57.97
sessile	1.72	1.02	0.52	1.61	4.27	62.24
carnivores	1.83	2.64	0.52	1.42	4.21	66.45
herbivore/detritivores	3.53	3.96	0.48	1.74	3.92	70.37

Groups Ambient & Low

Average dissimilarity = 14.63

Species	Group Ambient	Group Low	Av.Diss	Diss/SD	Contrib%	Cum.%
	Av.Abund	Av.Abund				
crawler/climber	2.32	0.23	1.37	3.32	9.33	9.33
parasites	3.25	1.39	1.24	2.41	8.45	17.78
omnivore/suspension feeders	3.17	5.03	1.23	2.92	8.44	26.21
deposit/suspension feeders	1.45	2.79	1.11	1.47	7.57	33.78
sessile	1.72	0.23	0.98	1.98	6.73	40.52
burrower/tubicolous	4.50	5.83	0.88	3.72	6.03	46.55
non calcifiers	4.18	5.37	0.80	1.94	5.44	51.99
detritivores	2.00	2.37	0.66	1.41	4.51	56.50
herbivore/detritivores	3.53	3.82	0.58	1.62	3.98	60.48
burrower	0.00	0.92	0.58	0.68	3.94	64.42
herbivores	4.49	3.78	0.51	1.61	3.52	67.94
indirect/benthic	2.10	1.43	0.49	1.57	3.37	71.31

Groups Weak low & Low
Average dissimilarity = 12.34

Species	Group Weak low Av.Abund	Group Low Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
parasites	3.81	1.39	1.49	2.83	12.04	12.04
indirect/benthic	3.23	1.43	1.10	2.65	8.95	20.99
omnivore/suspension feeders	4.59	5.03	0.75	1.58	6.08	27.07
burrower	0.79	0.92	0.71	1.35	5.73	32.80
deposit/suspension feeders	1.72	2.79	0.63	0.97	5.09	37.89
heavy calcifiers	3.86	2.87	0.61	1.90	4.96	42.85
herbivores	4.76	3.78	0.61	1.86	4.93	47.78
swimmer	4.20	3.23	0.59	2.16	4.75	52.53
indirect planktic	3.96	3.09	0.55	1.53	4.48	57.01
crawler/climber	1.12	0.23	0.54	1.89	4.38	61.39
sessile	1.02	0.23	0.49	1.52	3.96	65.35
non calcifiers	5.55	5.37	0.42	1.31	3.39	68.74
detritivores	2.38	2.37	0.42	1.54	3.37	72.10

SIMPER 2018

SIMPER
 Similarity Percentages - species contributions

One-Way Analysis

Data worksheet

Name: Data2

Data type: Abundance

Sample selection: 12-23

Variable selection: All

Parameters

Resemblance: S17 Bray-Curtis similarity

Cut off for low contributions: 70.00%

Factor Groups

Sample	pH
B1-18	Ambient
B1-18	Ambient
B1-18	Ambient
B1-18	Ambient
B2-18	Weak low
B2-18	Weak low
B2-18	Weak low
B2-18	Weak low
B3-18	Low
B3-18	Low
B3-18	Low
B3-18	Low

Group Ambient

Average similarity: 91.23

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.63	6.15	23.67	6.75	6.75
direct brooding	6.63	6.13	23.56	6.72	13.46
crawler	6.25	5.70	20.77	6.25	19.71
weak-calcifiers	6.14	5.63	20.62	6.17	25.88
non calcifiers	5.66	5.29	19.83	5.80	31.68

burrower/tubicolous	5.45	5.06	22.98	5.54	37.23
herbivore/detritivores	5.39	4.89	15.10	5.36	42.58
omnivores	5.29	4.74	23.67	5.20	47.78
herbivores	5.00	4.62	20.64	5.06	52.85
omnivore/suspension feeders	5.10	4.59	7.22	5.03	57.88
heavy calcifiers	5.02	4.42	17.41	4.84	62.72
medium size	5.00	4.38	17.82	4.80	67.52
indirect planktic	4.83	4.34	21.23	4.76	72.28

Group Weak low

Average similarity: 92.84

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.69	6.63	36.49	7.14	7.14
direct brooding	6.66	6.60	36.02	7.11	14.25
weak-calcifiers	6.21	6.12	35.86	6.59	20.84
crawler	6.06	6.04	33.89	6.50	27.35
burrower/tubicolous	5.99	5.85	25.97	6.30	33.65
omnivores	5.87	5.75	29.16	6.19	39.84
non calcifiers	5.77	5.74	32.80	6.18	46.02
herbivore/detritivores	5.29	5.21	27.57	5.61	51.63
omnivore/suspension feeders	4.82	4.74	8.41	5.10	56.73
herbivores	4.70	4.68	24.65	5.04	61.77
indirect planktic	4.54	4.58	26.69	4.93	66.70
medium size	4.40	4.39	32.94	4.73	71.43

Group Low

Average similarity: 92.40

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	7.31	7.24	35.50	7.83	7.83
direct brooding	7.29	7.20	36.56	7.80	15.63
burrower/tubicolous	7.04	6.98	34.10	7.56	23.19
weak-calcifiers	6.87	6.83	30.08	7.39	30.58
omnivores	6.83	6.79	31.40	7.35	37.93
non calcifiers	6.23	5.98	29.07	6.48	44.40
crawler	6.00	5.75	35.59	6.23	50.63
omnivore/suspension feeders	5.38	4.89	4.97	5.30	55.93
heavy calcifiers	4.58	4.55	38.91	4.92	60.85
herbivores	4.57	4.54	32.47	4.92	65.77
herbivore/detritivores	4.86	4.44	38.37	4.81	70.57

Groups Ambient & Weak low

Average dissimilarity = 9.14

Species	Group Ambient		Group Weak low		Contrib%	Cum.%
	Av.Abund	Av.Abund	Av.Diss	Diss/SD		
detritivores	4.75	2.87	0.98	1.98	10.71	10.71
deposit/supension feeders	1.97	3.58	0.82	1.27	9.00	19.71
crawler/climber	2.14	0.75	0.74	1.54	8.15	27.86
swimmer	4.61	3.53	0.54	2.21	5.94	33.80
indirect/benthic	3.43	2.55	0.51	1.49	5.61	39.41
heavy calcifiers	5.02	4.22	0.46	1.35	5.00	44.41
sessile	3.73	3.14	0.42	1.03	4.54	48.95
omnivores	5.29	5.87	0.41	1.56	4.50	53.45
burrower	0.35	0.79	0.37	1.35	4.10	57.55
medium size	5.00	4.40	0.35	1.06	3.82	61.37
large size	1.98	1.47	0.35	1.70	3.81	65.18
burrower/tubicolous	5.45	5.99	0.34	1.48	3.75	68.94
parasites	3.99	3.34	0.34	1.82	3.74	72.68

Groups Ambient & Low
Average dissimilarity = 12.38

	Group Ambient	Group Low				
Species	Av.Abund	Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
sessile	3.73	1.12	1.30	2.20	10.47	10.47
crawler/climber	2.14	0.00	1.06	2.39	8.60	19.07
swimmer	4.61	2.57	1.02	5.92	8.21	27.27
burrower/tubicolous	5.45	7.04	0.80	2.85	6.49	33.76
omnivores	5.29	6.83	0.78	2.09	6.33	40.10
parasites	3.99	2.70	0.65	2.11	5.25	45.35
detritivores	4.75	3.64	0.62	1.51	4.98	50.33
burrower	0.35	1.39	0.62	1.63	4.97	55.30
deposit/suspension feeders	1.97	2.14	0.49	1.21	3.95	59.25
herbivore/detritivores	5.39	4.86	0.47	1.63	3.83	63.08
omnivore/suspension feeders	5.10	5.38	0.47	1.60	3.76	66.84
medium size	5.00	4.31	0.43	1.25	3.46	70.30

Groups Weak low & Low
Average dissimilarity = 9.54

	Group Weak low	Group Low				
Species	Av.Abund	Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
sessile	3.14	1.12	1.05	2.32	11.04	11.04
deposit/suspension feeders	3.58	2.14	0.74	1.93	7.77	18.81
burrower/tubicolous	5.99	7.04	0.55	1.72	5.76	24.56
detritivores	2.87	3.64	0.55	1.48	5.75	30.31
omnivores	5.87	6.83	0.50	1.65	5.21	35.52
omnivore/suspension feeders	4.82	5.38	0.49	1.64	5.18	40.70
swimmer	3.53	2.57	0.49	2.19	5.14	45.84
herbivore/detritivores	5.29	4.86	0.46	2.12	4.85	50.69
indirect/benthic	2.55	3.20	0.46	1.43	4.79	55.48
burrower	0.79	1.39	0.45	1.31	4.75	60.23
crawler/climber	0.75	0.00	0.38	1.29	3.98	64.21
weak-calcifiers	6.21	6.87	0.37	1.44	3.87	68.09
direct brooding	6.66	7.29	0.35	1.30	3.72	71.80

SIMPER 2016 and 2018 pooled data

SIMPER

Similarity Percentages - species contributions

One-Way Analysis

Data worksheet

Name: Data2

Data type: Abundance

Sample selection: All

Variable selection: All

Parameters

Resemblance: S17 Bray-Curtis similarity

Cut off for low contributions: 70.00%

Factor Groups

Sample	pH
B1-16	Ambient
B1-16	Ambient
B1-16	Ambient
B116	Ambient

B1-18 Ambient
 B1-18 Ambient
 B1-18 Ambient
 B1-18 Ambient
 B2-16 Weak low
 B2-16 Weak low
 B2-16 Weak low
 B2-16 Weak low
 B2-18 Weak low
 B2-18 Weak low
 B2-18 Weak low
 B2-18 Weak low
 B2-18 Weak low
 B3-16 Low
 B3-16 Low
 B3-16 Low
 B3-18 Low
 B3-18 Low
 B3-18 Low
 B3-18 Low

Group Ambient

Average similarity: 86.61

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.06	6.36	13.28	7.34	7.34
direct brooding	6.05	6.32	13.36	7.30	14.64
weak-calcifiers	5.71	6.02	12.26	6.95	21.59
crawler	5.60	5.74	13.36	6.62	28.21
burrower/tubicolous	4.98	5.23	12.42	6.04	34.25
omnivores	4.90	5.13	12.24	5.93	40.18
herbivores	4.75	5.09	10.58	5.87	46.05
non calcifiers	4.92	4.95	11.97	5.72	51.76
indirect planktic	4.25	4.28	12.85	4.94	56.71
medium size	4.34	4.28	12.44	4.94	61.65
herbivore/detritivores	4.46	4.20	6.52	4.84	66.49
swimmer	4.13	4.17	9.13	4.81	71.30

Group Weak low

Average similarity: 91.10

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.58	6.82	25.75	7.48	7.48
direct brooding	6.53	6.75	23.03	7.41	14.90
weak-calcifiers	6.06	6.26	28.22	6.87	21.77
burrower/tubicolous	5.98	6.09	14.90	6.68	28.45
crawler	5.70	5.86	24.92	6.44	34.89
non calcifiers	5.66	5.78	13.19	6.34	41.23
omnivores	5.67	5.77	16.37	6.33	47.57
herbivores	4.73	4.96	20.80	5.44	53.01
herbivore/detritivores	4.62	4.46	7.40	4.89	57.90
omnivore/suspension feeders	4.71	4.45	5.03	4.88	62.78
indirect planktic	4.25	4.37	17.90	4.79	67.57
medium size	4.13	4.26	24.45	4.68	72.25

Group Low

Average similarity: 87.74

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
small size	6.82	7.25	18.71	8.27	8.27
direct brooding	6.81	7.25	18.60	8.26	16.53
burrower/tubicolous	6.52	6.89	18.83	7.85	24.37
weak-calcifiers	6.28	6.55	15.46	7.47	31.84

omnivores	6.06	6.17	11.59	7.03	38.87
non calcifiers	5.86	6.16	11.93	7.03	45.90
crawler	5.50	5.71	18.37	6.50	52.40
omnivore/suspension feeders	5.23	5.40	6.22	6.15	58.55
herbivores	4.23	4.42	13.63	5.03	63.59
herbivore/detritivores	4.41	4.39	5.41	5.00	68.58
medium size	3.86	3.84	11.40	4.38	72.96

Groups Ambient & Weak low
Average dissimilarity = 12.04

Species	Group Ambient	Group Weak low				
	Av.Abund	Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
detritivores	3.38	2.62	0.86	1.61	7.16	7.16
deposit/suspension feeders	1.71	2.65	0.83	1.36	6.90	14.06
sessile	2.72	2.08	0.79	1.41	6.60	20.66
crawler/climber	2.23	0.94	0.75	1.67	6.21	26.87
omnivore/suspension feeders	4.14	4.71	0.72	1.35	5.99	32.85
herbivore/detritivores	4.46	4.62	0.63	1.45	5.27	38.13
burrower/tubicolous	4.98	5.98	0.63	1.60	5.22	43.35
non calcifiers	4.92	5.66	0.58	1.32	4.78	48.14
omnivores	4.90	5.67	0.55	1.63	4.56	52.70
heavy calcifiers	4.14	4.04	0.50	1.52	4.16	56.86
indirect/benthic	2.77	2.89	0.49	1.30	4.05	60.90
direct brooding	6.05	6.53	0.47	1.42	3.89	64.79
small size	6.06	6.58	0.46	1.40	3.81	68.61
carnivores	2.47	2.90	0.44	1.19	3.62	72.22

Groups Ambient & Low
Average dissimilarity = 15.91

Species	Group Ambient	Group Low				
	Av.Abund	Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
crawler/climber	2.23	0.10	1.21	2.75	7.57	7.57
sessile	2.72	0.74	1.15	1.62	7.22	14.79
burrower/tubicolous	4.98	6.52	0.90	1.87	5.68	20.47
parasites	3.62	2.14	0.88	1.56	5.55	26.03
detritivores	3.38	3.09	0.88	1.50	5.54	31.57
omnivore/suspension feeders	4.14	5.23	0.85	1.41	5.31	36.89
omnivores	4.90	6.06	0.75	1.46	4.72	41.61
deposit/suspension feeders	1.71	2.42	0.73	1.27	4.61	46.22
swimmer	4.13	2.85	0.72	2.01	4.51	50.73
herbivore/detritivores	4.46	4.41	0.68	1.54	4.28	55.01
non calcifiers	4.92	5.86	0.68	1.39	4.26	59.26
burrower	0.17	1.19	0.65	1.13	4.08	63.34
heavy calcifiers	4.14	3.85	0.64	1.43	4.04	67.37
indirect/benthic	2.77	2.44	0.60	1.40	3.76	71.13

Groups Weak low & Low
Average dissimilarity = 11.47

Species	Group Weak low	Group Low				
	Av.Abund	Av.Abund	Av.Diss	Diss/SD	Contrib%	Cum.%
sessile	2.08	0.74	0.87	1.42	7.62	7.62
parasites	3.57	2.14	0.84	1.38	7.29	14.91
indirect/benthic	2.89	2.44	0.59	1.34	5.19	20.10
omnivore/suspension feeders	4.71	5.23	0.59	1.29	5.13	25.22
deposit/suspension feeders	2.65	2.42	0.59	1.29	5.12	30.34
swimmer	3.87	2.85	0.58	1.90	5.05	35.39
burrower	0.79	1.19	0.56	1.29	4.89	40.28
detritivores	2.62	3.09	0.56	1.55	4.89	45.17
herbivore/detritivores	4.62	4.41	0.54	1.37	4.70	49.87

omnivores	5.67	6.06	0.54	1.64	4.68	54.55
heavy calcifiers	4.04	3.85	0.48	1.49	4.22	58.77
crawler/climber	0.94	0.10	0.47	1.67	4.14	62.91
burrower/tubicolous	5.98	6.52	0.46	1.42	4.04	66.95
indirect planktic	4.25	3.83	0.43	1.17	3.71	70.65