

S1: Average abundance of diatoms associated with *Phyllophora antarctica* from Adélie Cove (AC) and Faraglione (F), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	AC	F			
<i>Navicula perminuta</i>	42.79	29.06	4.98	12.33	12.33
<i>Achnanthes vicentii</i>	20.09	9.89	3.47	8.6	20.93
<i>Cocconeis fasciolata</i>	14.6	23	2.96	7.34	28.27
<i>Navicula cf. jejunoides</i>	1.51	7.11	1.9	4.7	32.97
<i>Fragilariopsis nana</i>	9.9	11.68	1.65	4.08	37.05
<i>Achnanthes brevipes</i>	6.66	2.32	1.37	3.4	40.46
<i>Tabularia tabulata</i>	8.98	4.9	1.36	3.38	43.84
<i>Pseudogomphonema kamtschaticum</i>	8.29	5.28	1.3	3.21	47.05

S2: Average abundance of diatoms associated with *Phyllophora antarctica* from Adélie Cove (AC) and Tethys Bay (TB), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	AC	TB			
<i>Navicula perminuta</i>	42.79	12.16	9.93	17.76	17.76
<i>Achnanthes vicentii</i>	20.09	9.24	3.85	6.89	24.65
<i>Cocconeis cf. stauroneiformis</i>	1.34	10.83	3.03	5.42	30.07
<i>Amphora</i> sp. 1	3.84	11.26	2.37	4.24	34.32
<i>Cocconeis</i> sp. 2	3.26	8.95	2.28	4.07	38.39
<i>Achnanthes</i> sp. 1	0.73	7.48	1.96	3.5	41.89
<i>Tabularia tabulata</i>	8.98	3.37	1.95	3.49	45.38
<i>Pseudogomphonema kamtschaticum</i>	8.29	4.88	1.81	3.24	48.63

S3: Average abundance of diatoms associated with *Phyllophora antarctica* from Faraglione (F) and Tethys Bay (TB), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	F	TB			
<i>Navicula perminuta</i>	29.06	12.16	6.71	13.01	13.01
<i>Cocconeis fasciolata</i>	23	12.77	4.21	8.16	21.17
<i>Cocconeis cf. stauroneiformis</i>	0.9	10.83	3.62	7.03	28.2
<i>Amphora</i> sp. 1	2.02	11.26	3.13	6.07	34.27
<i>Cocconeis</i> sp. 2	1.88	8.95	2.63	5.11	39.38
<i>Achnanthes</i> sp. 1	0	7.48	2.41	4.67	44.04
<i>Fragilariopsis nana</i>	11.68	9.89	2.25	4.36	48.4
<i>Navicula cf. jejunoides</i>	7.11	2.4	2.1	4.07	52.47

S4: Average abundance of diatoms associated with *Phyllophora antarctica* from Adélie Cove (AC) and Cape Evans (CE), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	AC	CE			
<i>Navicula perminuta</i>	42.79	9.9	9.94	15.72	15.72
<i>Achnanthes</i> sp. 1	0.73	15.24	4.4	6.95	22.67
<i>Cocconeis</i> sp. 2	3.26	14.47	3.5	5.54	28.21
<i>Achnanthes vicentii</i>	20.09	10.04	3.42	5.41	33.62
<i>Fragilariopsis nana</i>	9.9	0.43	2.9	4.58	38.2
<i>Melosira adeliae</i>	0.59	9.11	2.56	4.04	42.25
<i>Cocconeis fasciolata</i>	14.6	21.71	2.4	3.79	46.04
<i>Tabularia tabulata</i>	8.98	2.48	2.05	3.24	49.28

S5: Average abundance of diatoms associated with *Phyllophora antarctica* from Faraglione (F) and Cape Evans (CE), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	F	CE			
<i>Navicula perminuta</i>	29.06	9.9	6.81	11.19	11.19
<i>Achnanthes</i> sp. 1	0	15.24	5.33	8.75	19.95
<i>Cocconeis</i> sp. 2	1.88	14.47	4.38	7.19	27.14
<i>Fragilariopsis nana</i>	11.68	0.43	3.92	6.45	33.58
<i>Amphora</i> sp. 1	2.02	9.92	2.77	4.56	38.14
<i>Melosira adeliae</i>	1.64	9.11	2.59	4.26	42.4
<i>Achnanthes brevipes</i>	2.32	8.87	2.43	3.99	46.38
<i>Navicula</i> cf. <i>jejunoides</i>	7.11	0.82	2.32	3.81	50.19

S6: Average abundance of diatoms associated with *Phyllophora antarctica* from Tethys Bay (TB) and Cape Evans (CE), and their contribution to the dissimilarity found between the groups.

Taxa	Average abundance		Average dissimilarity	Contribution (%)	Cumulated (%)
	TBF	CE			
<i>Achnanthes</i> sp. 1	7.48	15.24	3.67	7.21	7.21
<i>Cocconeis fasciolata</i>	12.77	21.71	3.64	7.14	14.35
<i>Cocconeis</i> sp. 2	8.95	14.47	3.58	7.04	21.39
<i>Fragilariopsis nana</i>	9.89	0.43	3.19	6.27	27.66
<i>Melosira adeliae</i>	2.56	9.11	2.62	5.15	32.81
<i>Achnanthes brevipes</i>	3.64	8.87	2.53	4.97	37.78
<i>Cocconeis</i> cf. <i>stauroneiformis</i>	10.83	4.65	2.49	4.9	42.68
<i>Amphora</i> sp. 3	1.04	5.87	1.97	3.87	46.55