

Online Resource 3 SIMPER results indicating the main taxa contributing to dissimilarities between pairs of ecoregions, based on Bray–Curtis distances. Each subheading shows the average dissimilarity value. Av. Abund is the average abundance, Av. Diss the average dissimilarity, Diss/SD the ratio of dissimilarity to its standard deviation, Contrib(%) the percent contribution to dissimilarity, and Cum.(%) the cumulative contribution.

Ecoregion Comparison	Species	Av. Ab.	Av. Ab.	Av. Diss	Diss/SD	Cont.	Cumul.
Regions A vs B		(Region A)	(Region B)				
Oates vs. Central Indian-Prydz Bay Average dissimilarity = 57.45	Ascidacea	2.52	0.37	10.4	2.43	18.1	18.1
	Bryozoa	2.48	0.76	8.76	1.89	15.24	33.34
	Ophiuroidea	2.26	2.21	7.22	1.6	12.57	45.91
	Cnidaria	1.99	0.7	6.63	1.71	11.54	57.45
	Other	0.92	0.42	3.93	1.21	6.84	64.29
	Unknown	1.5	0.76	3.89	1.31	6.76	71.06
	Porifera	0.93	0.7	3.86	1.44	6.72	77.78
	Pycnogonida	0.2	0.6	3.1	0.83	5.39	83.17
	Holothuroidea	0.42	0.51	2.99	0.96	5.2	88.38
Oates vs. Central Indian-East Kerguelen Average dissimilarity = 56.00	Ascidacea	2.52	0.18	11.53	3.37	20.59	20.59
	Bryozoa	2.48	0.7	9.73	1.99	17.37	37.96
	Ophiuroidea	2.26	1.64	6.08	1.29	10.87	48.83
	Cnidaria	1.99	1.04	5.3	1.41	9.47	58.3
	Other	0.92	0.33	4.17	1.25	7.44	65.73
	Unknown	1.5	0.84	3.89	1.28	6.94	72.68
	Porifera	0.93	0.3	3.88	1.53	6.92	79.6
	Holothuroidea	0.42	0.55	3.13	0.98	5.59	85.19
Central Indian-Prydz Bay vs. Central Indian-East Kerguelen Average dissimilarity = 59.50	Ophiuroidea	2.21	1.64	10.89	1.34	18.31	18.31
	Bryozoa	0.76	0.7	6.28	1.03	10.55	28.86
	Cnidaria	0.7	1.04	5.79	1.24	9.74	38.6
	Holothuroidea	0.51	0.55	5.19	0.93	8.73	47.33
	Pycnogonida	0.6	0.42	5.13	0.95	8.63	55.95
	Porifera	0.7	0.3	4.6	0.97	7.73	63.68
	Unknown	0.76	0.84	4.52	1.08	7.6	71.29
	Echinoidea	0.53	0.34	4.38	0.93	7.35	78.64

	Other	0.42	0.33	3.51	0.88	5.91	84.55
	Asteroidea	0.33	0.3	2.84	0.91	4.78	89.32
Oates vs. Central Indian-Wilkes Average dissimilarity = 60.56	Holothuroidea	0.42	2.75	11.49	2.39	18.98	18.98
	Ascidacea	2.52	0.29	10.95	3.42	18.07	37.05
	Bryozoa	2.48	0.4	10.08	2.38	16.65	53.7
	Cnidaria	1.99	0.51	7.25	2.03	11.96	65.66
	Unknown	1.5	0.65	4.57	1.51	7.55	73.22
	Other	0.92	0.34	4.06	1.24	6.7	79.91
	Ophiuroidea	2.26	1.95	4.02	1.34	6.63	86.55
Central Indian-Prydz Bay vs. Central Indian-Wilkes Average dissimilarity = 62.54	Holothuroidea	0.51	2.75	15.49	1.97	24.77	24.77
	Ophiuroidea	2.21	1.95	9.53	1.55	15.23	40
	Bryozoa	0.76	0.4	5.23	0.99	8.36	48.36
	Cnidaria	0.7	0.51	4.32	1.19	6.9	55.26
	Unknown	0.76	0.65	4.28	1.12	6.85	62.1
	Porifera	0.7	0.16	4.19	0.92	6.7	68.8
	Pycnogonida	0.6	0.07	4.15	0.74	6.63	75.43
	Echinoidea	0.53	0	3.88	0.76	6.2	81.64
	Other	0.42	0.34	3.44	0.88	5.49	87.13