

Supplementary Tables

Table S1: Zooplankton abundance (ind. m⁻²) from Bongo samples (200 µm mesh, 0-200 m) taken in the Scotia Sea, Antarctica during research cruises JR304 and JR291. Species in bold are those used to estimate size distributions of egested faecal pellets.

Species and Stage	JR291				JR304		
	P3				P2		
	E072	E126	E131	E137	E38	E40	E44
<i>Rhincalanus gigas male</i>	27	0	0	0	7	0	0
<i>Rhincalanus gigas female</i>	712	383	356	329	445	7	465
<i>Rhincalanus gigas V</i>	219	164	164	246	198	0	383
<i>Rhincalanus gigas IV</i>	0	27	0	27	14	0	27
<i>Rhincalanus gigas III</i>	55	246	274	301	219	0	110
<i>Rhincalanus gigas II</i>	876	602	274	219	493	0	0
<i>Rhincalanus gigas I</i>	548	164	137	27	219	0	0
<i>Rhincalanus gigas nauplii</i>	110	876	1,314	438	684	5,256	25,405
<i>Calanoides acutus female</i>	82	137	164	192	144	301	82
<i>Calanoides acutus V</i>	1,615	2,436	2,135	2,190	2,094	0	274
<i>Calanoides acutus IV</i>	3,039	1,205	1,643	1,150	1,759	383	1,424
<i>Calanoides acutus III</i>	548	219	192	411	342	1,341	6,351
<i>Calanoides acutus II</i>	55	55	164	356	157	3,285	10,622
<i>Calanoides acutus I</i>	0	0	0	274	68	3,532	7,775
<i>Calanus simillimus male</i>	0	0	0	27	7	0	0
<i>Calanus simillimus female</i>	27	110	55	27	55	0	137
<i>Calanus simillimus V</i>	0	27	27	0	14	0	0
<i>Calanus simillimus IV</i>	0	27	82	82	48	0	0
<i>Calanus simillimus III</i>	0	27	0	27	14	0	110
<i>Calanus simillimus II</i>	0	27	82	246	89	0	0
<i>Calanus simillimus I</i>	0	55	164	274	123	0	0
<i>Calanus propinquus male</i>	0	0	0	27	7	0	0
<i>Calanus propinquus female</i>	27	0	27	0	14	0	27
<i>Calanus propinquus V</i>	110	55	55	27	62	0	0

Species and Stage	JR291				JR304			
	P3				P2			
	E072	E126	E131	E137	E38	E40	E44	
<i>Calanus propinquus IV</i>	27	55	82	0	41	164	0	
<i>Calanus propinquus III</i>	0	55	0	0	14	274	438	
<i>Calanus propinquus II</i>	0	0	0	0	0	383	1,424	
<i>Calanus propinquus I</i>	0	0	0	0	0	438	1,095	
<i>Euchaeta antarctica III</i>	55	55	110	110	82	164	219	
<i>Euchaeta antarctica II</i>	110	164	739	0	253	0	438	
<i>Euchaeta antarctica I</i>	0	82	274	438	198	0	0	
<i>Euchirella rostrata/rostramagna</i>	0	0	27	0	7	0	0	
<i>Haloptilus</i>	0	27	0	0	7	82	27	
<i>Heterorhabdus</i>	0	27	27	0	14	0	0	
<i>Eucalanus longiceps</i>	0	0	0	0	0	0	27	
<i>Metridia gerlachei adult</i>	164	356	1,013	465	500	110	192	
<i>Metridia lucens adult</i>	0	0	465	246	178	0	0	
<i>Metridia male</i>	110	27	55	0	48	0	0	
<i>Metridia I-III</i>	14,455	17,959	27,595	15,769	18,944	15,331	33,289	
<i>Metridia IV-V</i>	2,847	3,066	3,504	5,256	3,668	0	1,752	
<i>Pleuromamma rob.</i>	0	0	55	0	14	0	0	
<i>Oithona similis</i>	121,768	137,099	122,206	123,082	126,039	68,769	184,843	
<i>Oithona frigida</i>	876	3,504	3,066	438	1,971	2,628	0	
<i>Oncaea</i>	10,074	9,198	16,207	4,818	10,074	4,818	12,264	
<i>Scolecithricella minor</i>	903	712	1,040	1,314	992	137	0	
<i>Scaphocalanus farrani</i>	0	0	27	0	7	0	0	
<i>Scaphocalanus copepodites</i>	0	0	164	0	41	0	0	
<i>Microcalanus</i>	1,314	2,628	8,760	2,190	3,723	7,884	7,008	
<i>Ctenocalanus</i>	55,190	33,289	21,463	25,843	33,946	17,083	65,702	
<i>Cteno/Micro copepodites</i>	0	0	0	0	0	0	3,504	
<i>Clausocalanus laticeps</i>	630	164	438	438	417	110	0	
<i>Clausocalanus copepodites</i>	0	438	438	0	219	0	876	
<i>Drepanopus 1-3</i>	876	7,884	5,694	7,008	5,366	0	0	
<i>Drepanopus 4-6</i>	0	876	438	0	329	0	0	

Species and Stage	JR291				JR304		
	P3				P2		
	E072	E126	E131	E137	E38	E40	E44
<i>Racovitzanus</i>	0	27	0	0	7	0	0
<i>Calanus nauplii</i>	8,322	7,446	26,719	18,835	15,331	12,264	28,909
<i>Cyclopoi nauplii</i>	0	0	2,190	4,380	1,643	0	0
<i>Thysanoessa calyptopes</i>	1,205	0	1,752	0	739	1,424	1,697
<i>Thysanoessa spp.</i>	277	137	82	274	192	5,858	1,451
<i>Euphausia frigida</i>	86	27	0	0	28	0	0
<i>Euphausia frigida calyptopis</i>	110	0	0	438	137	411	770
<i>Euphausia frigida furcilia</i>	55	0	82	192	82	110	55
<i>Euphausia triacantha calyptopis</i>	0	0	0	0	0	0	27
<i>Chaetognatha</i>	1,314	958	1,040	931	1,061	356	1,560
<i>Tomopteris</i>	0	0	82	438	130	110	0
<i>Pelagobia</i>	1,752	438	1,314	3,504	1,752	6,570	5,256
<i>Rhynchonerella bongraini</i>	0	0	0	0	0	27	0
<i>Themisto gaudichaudi</i>	21	0	0	0	5	0	55
<i>Ostracoda</i>	14	164	548	356	270	356	301
<i>Pteropoda</i>	0	0	0	876	219	1,752	876
<i>Limacina (large)</i>	0	0	0	0	0	110	0
<i>Spongiobranchea</i>	0	27	0	0	7	0	0
<i>Appendicularians</i>	6,570	10,074	20,149	35,479	18,068	15,331	33,289
<i>Siphonophora</i>	0	55	329	110	123	0	0
<i>Fish larvae</i>	0	0	0	0	0	27	0
<i>Medusae</i>	0	55	0	0	14	0	0
<i>Primno macropa</i>	0	27	0	0	7	0	0

Supplementary Figures

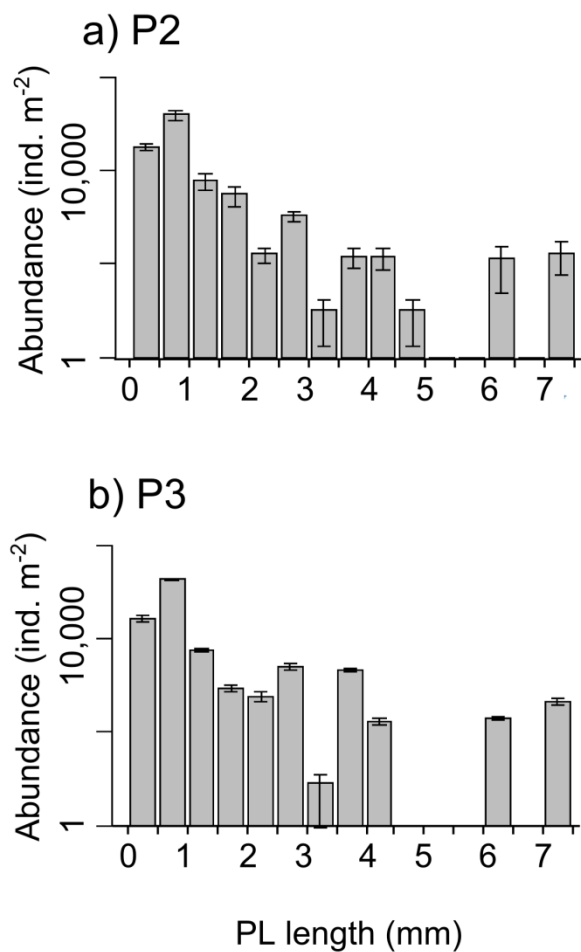


Figure S1: Mesozooplankton abundances in the Scotia Sea. Average (\pm SE) abundance (ind. m⁻²) from Bongo net tows (0-200 m, 200 μ m mesh) taken during cruises JR291 and JR304 for a) P2 and b) P3. Note the log scale on the y axis.

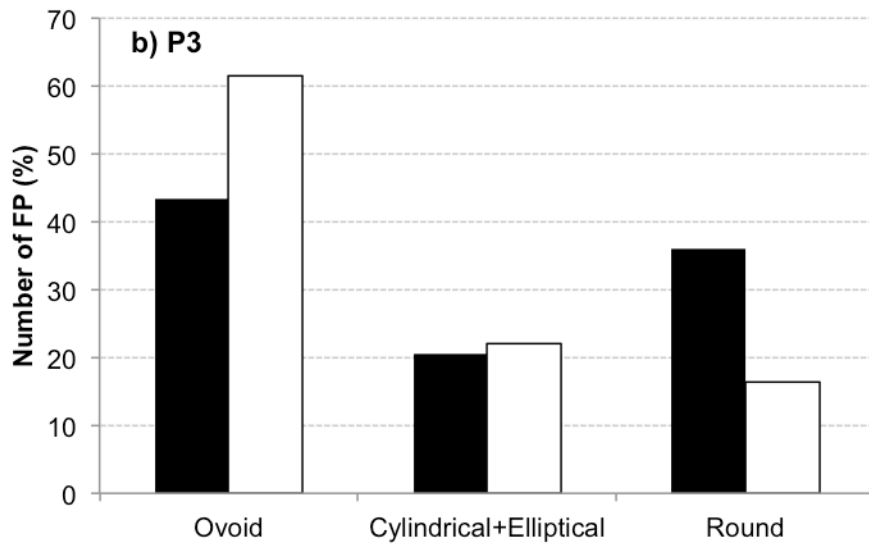
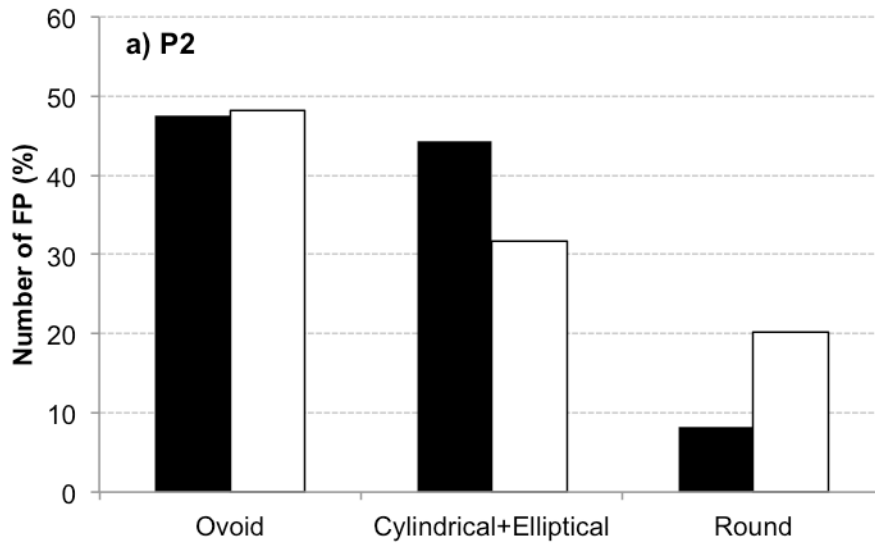


Figure S2: Comparison of sediment trap faecal pellet (FP) morphologies measured in this study (2013 and 2014, black) with those measured historically (2009 and 2010, white) at a) P2 and b) P3. Both studies are means of November and December data. The percent (%) of FP in each category is broadly consistent between study years (paired t-test $p > 0.5$) providing support for our use of historical data for size comparisons with marine snow catcher data collected in 2013 and 2014.