

Spatial patterns of spring meroplankton along environmental gradients in a sub-Arctic fjord

Helena Kling Michelsen*, Einar Magnus Nilssen, Torstein Pedersen, Marit Reigstad, Camilla Svensen

*Corresponding author: Helena.k.michelsen@uit.no

Aquatic Biology 26: 185–197 (2017)

Table S1. Summary of the sampling regime in Porsangerfjord April 2013. Depth at station is provided as meters and volume of water filtered as m³.

Station	Date	Time (UTC)	Latitude	Longitude	Depth (volume filtered)	Equipment
1a	Apr. 11 2013	11:21	70°52.4'	26°01.1'	208 (149)	WP2, CTD
1b	Apr. 11 2013	14:16	70°52.5'	26°08.6'	240 (176)	WP2, CTD
1c	Apr. 11 2013	14:43	70°52.5'	26°17.0'	220 (161)	WP2, CTD
2a	Apr. 11 2013	20:29	70°43.1'	25°44.6'	216 (157)	WP2, CTD
2b	Apr. 11 2013	16:55	70°45.1'	25°57.4'	289 (214)	WP2, CTD
2c	Apr. 11 2013	18:27	70°42.8'	25.58.7'	262 (195)	WP2, CTD
3a	Apr. 12 2013	14:17	70°29.5'	25°25.2'	120 (88)	WP2, CTD
3b	Apr. 12 2013	16:15	70°33.7'	25°42.7'	205 (153)	WP2, CTD
3c	Apr. 12 2013	14:47	70°30.6'	25°35.0'	201 (146)	WP2, CTD
4a	Apr. 12 2013	09:55	70°21.0'	25°14.9'	177 (126)	WP2, CTD
4b	Apr. 12 2013	12:34	70°21.0'	25°22.0'	140 (91)	WP2, CTD
5a	Apr. 15 2013	08:02	70°12.0'	25°16.0'	115 (29)	WP2, CTD
5b	Apr. 15 2013	08:54	70°07.2'	25°11.1'	111 (77)	WP2, CTD
B1	Apr. 17 2013	05:54	70°46.1'	25°40.2'	123 (77)	WP2, CTD, water sample
B2	Apr. 15 2013	13:24	70°31.7'	25°09.8'	61 (38)	WP2, CTD, water sample
B3	Apr. 14 2013	07:09	70°29.1'	25°08.2'	73 (31)	WP2, CTD, water sample
B4	Apr. 13 2013	06:12	70°22.9'	25°08.3'	72 (45)	WP2, CTD, water sample

Table S2. Forward selection (CCA) based on 9999 permutations. Significant environmental variables used in the forward selection model indicated in italic font. Selected variables used in the final CCA ordination indicated in italics and bold font.

Selection round		Surface temperature	Seafloor temperature	Surface salinity	Seafloor salinity	Depth	Chlorophyll <i>a</i>
1	F-value	1.73	2.17	0.2942	2.29	1.47	1.61
	p-value	<i>0.01</i>	<i>0.005</i>	0.9	<i>0.005</i>	0.025	0.025
2	F-value	1.34	1.08	0.53		0.91	1.54
	p-value	0.2	0.3	0.9		0.5	<i>0.025</i>
3	F-value	1.23	1.09	0.42		0.83	
	p-value	0.2	0.3	0.9		0.6	

Table S3. The abundance (ind. m⁻³) of meroplankton and holoplankton at all stations sampled in Porsangerfjord, Norway in April 2013.

Species meroplankton	Station																
	1a	1b	1c	2a	2b	2c	3a	3b	3c	4a	4b	5a	5b	B1	B2	B3	B4
<i>Paralithodes camtschaticus</i>					0.02	0.04	0.06	0.05	0.04	0.08				0.48	0.46	10.20	1.76
<i>Hyas</i> sp.				0.01		0.03	0.06		0.04	0.04	0.06			0.16	0.05	0.29	0.19
<i>Pagurus pubescence</i>				0.13	0.02	0.08	0.22		0.13	0.18		0.06		1.47	1.28	1.09	
<i>Pagurus bernhardus</i>											0.19			0.02	0.05		
Cirripedia unknown early stage	0.15				0.31	8.99	26.51	13.00	16.06		15.46		0.04	41.27	2.68	128.4	0.01
Cirripedia unknown late stage																	0.01
<i>Balanus crenatus</i>		0.22	2.21	17.90	0.20	15.29	15.90	18.91	35.34	29.12	42.51	1.66	0.26	100.89	3.58	348.5	247.3
<i>Balanus</i> spp.	5.27	1.53	9.14	316.16	23.03	103.41	185.55	87.46	128.50	7.94	150.71	2.87	2.46	683.28	76.06	2155	1010
Cypris			0.06														
Polychaete indet.									0.69				0.04				
Throchophore polychaete	0.15								0.46								2.58
Metatrochophore indet.				0.84										30.95			
<i>Laonice cirrata</i>	7.50	1.11	3.64	69.35	5.94	29.32	19.28	29.43	25.33	7.56	12.71	32.12	2.85	232.73	98.43	259.86	114.22
<i>Dipolydora</i> sp.	0.22		0.19	3.91	0.10	2.57	0.40	0.31	1.27	0.50	0.98		0.04	36.69			59.25
<i>Scolecopsis</i> sp.	0.22					0.13	0.50	0.31		0.14	0.26	0.15		1.15			1.72
<i>Owenia</i> sp.								0.15									
<i>Pectinaria</i> sp.							0.10		1.16	0.46	0.20			5.73		96.81	28.34
Ophiuroidea pluteus	333.8	0.0	259.1	0.0	0.0	98.4	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ophiothrix pluteus		0.03	2.16	0.28	0.51	3.09								1.15	5.37	2.55	
Pluteus unidentified	10.18	0.51				3.09	1.59		2.66	0.41	0.92						1.72
Bipinnaria asteriodes	1.71		1.23			0.39				0.05							
Echinoidea		0.19	0.06		0.20	0.90	10.24	9.91	0.58								
Asteriodes juvenile	0.07																
Gastropod veliger	0.52	0.32	0.12	3.91	0.10	1.29	1.89	2.59	2.78	2.41	2.62	1.81	5.82	4.59	8.95	14.01	11.16
Nudibranch veliger	1.26	1.06	0.80	3.91	0.10	1.41	1.59	2.44	1.04	2.05	1.83	4.07	1.08	9.17	11.63	20.38	13.74
<i>Velutina</i> sp.	0.15	0.02	0.01	0.01	0.01	0.01	0.10		0.12	0.23	0.20		0.04	1.15			
Trochophore	0.03				0.39		1.22		0.18	0.20	1.96	0.17	29.81	42.06		37.79	
Asciacea	0.02							0.23									
Sipuncula													0.04				
Pilidium		0.03															
<i>Cerianthus</i> sp.							0.10						0.04				