Spatio-temporal variability in the winter diet of larval and juvenile Antarctic krill, *Euphausia superba,* in ice-covered waters

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Additional information on the sampled population of AC0 Antarctic krill (*Euphausia superba*), the krill used for various analyses and the fatty acid composition.

Table S1: Average length (mm) of different stages of *Euphausia superba* furcilia larvae (F) and age class 0 juveniles (JUV) per station. Additionally the proportion (%) of the developmental stages in the catch per station is presented. The remainder of the proportion per station consists of sub-adult and adult krill (not shown). Station numbers are shaded to indicate which stations belong to the same cohort.

	Stage							
	FIV		FV		FVI		JUV	
Station	mm	%	mm	%	mm	%	mm	%
555_47					13.64	24.3	16.35	75.7
557_2			11.23	0.9	12.10	68.7	16.36	29.8
560_2					11.14	88.0	17.85	8.7
562_5			8.69	3.0	10.13	88.0	18.19	2.8
565_5	5.79	19.3	6.76	38.9	8.23	41.8		
567_2	6.36	8.9	7.03	29.6	8.78	60.7	18.00	0.7
570_5	6.49	5.2	7.02	25.8	9.54	59.6	16.87	5.9
571_2	7.32	2.4	8.06	10.0	10.46	84.9	15.30	2.6
577_2					11.18	88.6	15.90	9.2
579_2	7.95	1.7	8.36	8.4	10.82	81.1	15.05	7.4

Table S2: Number of individuals (*n*), developmental stages and average length of AC0 *Euphausia superba* used for stomach content analysis. FVI indicate furcilia larvae in stage six, Juv are juveniles in their first winter. The standard deviation is given within brackets.

Station	*n*	Stages	Average length (mm)	Station	n	Stages	Average length (mm)
555	1	Juv	16	566	9	FVI	8.78 (1.0)
555_47	9	FVI, Juv	14.11 (1.9)	567_2	9	FVI	9.33 (0.8)
557_2	9	FVI, Juv	15 (1.7)	570_5	6	FVI, Juv	13.5 (1.8)
560_2	11	FVI, Juv	15.62 (4.8)	571_2	11	FVI, Juv	14 (2.3)
562_5	6	FVI	11.17 (0.90)	577_2	9	FVI, Juv	13 (2.3)
565_5	8	FVI	9.71 (1.0)	579_2	9	FVI	13.08 (1.1)

Table S3: number of measured replicates (*n*), total number of individuals used, developmental stages, average length and average dry weight of AC0 *Euphausia superba* used for carbon/nitrogen, fatty acid and bulk stable isotope analysis. FV and FVI indicate furcilia larvae in stage five and six, Juv are juveniles in their first winter. The standard deviations of length and dry weight are given within brackets.

Cohort	*n*	Total number of individuals	Stages	Average length mm	Average DW mg
Carbon and nitrogen content					
1	5	5	FVI, Juv	17.98 (2.39)	6.74 (2.96)
2a	11	26	FVI	13.09 (2.56)	3.13 (1.58)
2b	7	20	FVI	11.36 (1.14)	1.69 (0.50)
3	4	16	FV, FVI	8.91 (0.30)	1.29 (1.06)
Fatty acids and total fatty acid content					
2a	5	31	FVI, Juv	12.37 (3.69)	2.94 (2.0)
2b	9	75	FVI, Juv	10.16 (3.57)	1.78 (1.8)
3	7	50	FV, FVI, Juv	10.35 (3.49)	1.80 (1.5)
Bulk stable isotopes					
1	5	5	FVI, Juv	17.98 (2.4)	6.74 (3.0)
2a	14	51	FVI, Juv	13.09 (2.6)	3.13 (1.6)
2b	9	36	FVI, Juv	11.36 (1.1)	2.49 (1.6)
3	3	17	FVI	9.07 (0.03)	2.22 (1.1)

Table S4: Average fatty acid composition of age class 0 *Euphausia superba* per cohort, expressed as average % of total fatty acids. The standard deviation is given in brackets. *n* represents the number of replicates measured.

Fatty acid	Cohort			
	1	2a	2b	3
	n = 1	*n* = 5	*n* = 9	*n* = 7
14:0	5.86	4.38 (1.0)	5.08 (0.3)	2.13 (0.2)
i-15:0	0	0	0	0
a-15:0	0	0.04 (0.1)	0	0
15:0	0	0.11 (0.1)	0.06 (0.1)	0
16:0	19.16	17.21 (0.5)	16.54 (0.4)	17.84 (1.9)
16:1(n-7)	6.31	5.43 (1.1)	4.28 (0.4)	3.64 (1.1)
16:1(n-5)	0	0.08 (0.1)	0.17 (0.3)	0.06 (0.1)
16:2(n-4)	2.82	1.71 (1.1)	1.42 (0.4)	0.19 (0.3)
16:3(n-4)	0	0.16 (0.2)	0.29 (0.6)	0
16:4(n-1)	0.80	0.97 (0.6)	1.61 (0.6)	0.13 (0.3)
18:0	1.4	1.08 (0.1)	1.08 (0.3)	1.81 (0.5)
18:1(n-9)	8.42	6.46 (1.5)	5.83 (0.7)	6.78 (3.4)
18:1(n-7)	6.44	7.00 (0.6)	5.64 (0.1)	7.86 (0.8)
18:1(n-5)	0	0.06 (0.1)	0.02 (0.1)	1.17 (2.7)
18:2(n-6)	2.30	2.25 (0.1)	2.10 (0.2)	2.50 (0.4)
18:3(n-6)	0	0.166 (0.2)	0.35 (0.2)	0
18:3(n-3)	0.82	0.39 (0.3)	0.93 (0.1)	0.71 (0.3)
18:4(n-3)	2.10	2.13 (0.9)	3.91 (0.5)	1.20 (0.6)
20:0	0	0	0	0
20:1(n-9)	0.60	1.06 (0.2)	1.23 (0.5)	0.61 (0.4)
20:1(n-7)	0	0.10 (0.1)	0	0
20:2(n-6)	0	0.10 (0.1)	0.04 (0.1)	0
20:3(n-6)	0	0.10 (0.1)	0	0
20:4(n-6)	1.02	1.31 (0.3)	0.80 (0.0)	2.09 (0.2)
20:3(n-3)	0	0.06 (0.1)	0.07 (0.2)	0
20:4(n-3)	0	0.38 (0.3)	0.53 (0.2)	0.16 (0.3)
20:5(n-3)	24.90	27.95 (1.2)	30.02 (0.8)	24.13 (5.7)
22:1(n-11)	0	0.63 (0.7)	0.03 (0.1)	0.05 (0.1)
22:1(n-9)	0	0.38 (0.6)	0.03 (0.1)	0
22:5(n-3)	0	0.60 (0.5)	0.44 (0.2)	0.22 (0.3)
22:6(n-3)	17.04	17.70 (1.6)	17.49 (0.9)	26.72 (3.0)
24:1(n-9)	0	0	0	0