

Supplementary Material

Table S1: Table showing the details of net deployments on cruises from which abundances were determined: JR177 (2008) and JR200 (2009). D and N refer to daytime and night-time nets respectively (before and after apparent sunset).

| Cruise | Station | Lat | Long | D/N | Date | Start time (GMT) | End time (GMT) | Haul duration (hrs) |
|---------------|----------------|------------|-------------|------------|-------------|-------------------------|-----------------------|----------------------------|
| JR177 (2008) | R1 | -60.48 | -48.24 | D | 04/01/2008 | 18:42 | 21:29 | 2.8 |
| JR177 (2008) | R1 | -60.48 | -48.24 | N | 05/01/2008 | 00:14 | 02:31 | 2.3 |
| JR177 (2008) | C3 | -59.68 | -44.07 | D | 14/01/2008 | 17:02 | 19:28 | 2.4 |
| JR177 (2008) | C3 | -59.68 | -44.07 | N | 15/01/2008 | 00:08 | 02:30 | 2.4 |
| JR177 (2008) | P2 | -55.24 | -41.29 | D | 27/01/2008 | 12:08 | 14:21 | 2.2 |
| JR177 (2008) | P2 | -55.24 | -41.29 | N | 29/01/2008 | 00:38 | 02:53 | 2.3 |
| JR177 (2008) | P3 | -52.86 | -40.1 | D | 01/02/2008 | 18:39 | 21:28 | 2.8 |
| JR177 (2008) | P3 | -52.86 | -40.1 | N | 01/02/2008 | 00:13 | 02:32 | 2.3 |
| JR200 (2009) | R1 | -60.49 | -48.2 | D | 16/03/2009 | 17:52 | 20:34 | 2.7 |
| JR200 (2009) | R1 | -60.49 | -48.2 | N | 14/03/2009 | 22:32 | 01:24 | 2.9 |
| JR200 (2009) | C3 | -59.69 | -44.08 | D | 21/03/2009 | 17:44 | 20:34 | 2.8 |
| JR200 (2009) | C3 | -59.69 | -44.08 | N | 22/03/2009 | 00:25 | 03:25 | 3 |
| JR200 (2009) | P2 | -55.27 | -41.35 | D | 31/03/2009 | 13:03 | 15:43 | 2.7 |
| JR200 (2009) | P2 | -55.27 | -41.35 | N | 31/03/2009 | 00:50 | 03:49 | 3 |
| JR200 (2009) | P3 | -52.83 | -40.05 | D | 02/04/2009 | 17:06 | 19:38 | 2.5 |
| JR200 (2009) | P3 | -52.83 | -40.05 | N | 03/04/2009 | 23:21 | 02:10 | 2.8 |

Table S2: Table showing the details of net deployments from which experimental animals were caught on JR304 (2014) and JR15002 (2015), the depths that animals were obtained from, and the start times of experiments.

| Cruise | Exp. # | Net type | Net date | Net time (GMT) | Depth obtained (m) | Exp. start date | Exp. start time (GMT) |
|----------------|--------|----------|----------|----------------|--------------------|-----------------|-----------------------|
| JR304 (2014) | INC3 | Mocness | 29/11/14 | 04:36 | 125-500 | 29/11/14 | 10:00 |
| JR304 (2014) | INC4 | RMT8 | 08/12/14 | 21:12 | 15-200 | 08/12/14 | 23:40 |
| JR304 (2014) | INC5 | RMT8 | 10/12/14 | 20:13 | 20-200 | 10/12/14 | 23:00 |
| JR304 (2014) | INC6 | RMT8 | 12/12/14 | 02:00 | 15-200 | 12/12/14 | 04:00 |
| JR304 (2014) | INC7 | Mocness | 13/12/14 | 16:25 | 250-375 | 13/12/14 | 20:00 |
| JR304 (2014) | INC8 | Mocness | 13/12/14 | 23:46 | 125-375 | 14/12/14 | 05:25 |
| JR15002 (2015) | EXP1 | RMT8 | 03/12/15 | 21:11 | 10-200 | 04/12/15 | 01:15 |
| JR15002 (2015) | EXP2 | RMT8 | 07/12/15 | 16:30 | 10-200 | 07/12/15 | 20:15 |

Table S3: Regression coefficients for *Euphausia triacantha* log wet, dry, carbon and nitrogen weight (WW, DW, C and N, mg) against log length (mm). n = 159 for WW and DW; n = 90 for C and N.

| Log weight (mg) | logY = a + b*logX | | R ² |
|-----------------|-------------------|-----------|----------------|
| | A | B | |
| WW | -2.062 *** | 2.943 *** | 0.963 |
| DW | -3.066 *** | 3.172 *** | 0.949 |
| C | -3.332 *** | 3.100 *** | 0.820 |
| N | -3.697 *** | 2.907 *** | 0.832 |

*** P < 0.001

Table S4: Regression statistics for C and N content of *Euphausia triacantha* as a function of WW and DW, and the %C, %N and C:N ratio as a function of DW (mg).

| Log weight (mg) | Log elemental weight (mg) | logY = a + b*logX | | R ² |
|-----------------|---------------------------|-------------------|----------|----------------|
| | | a | B | |
| WW | C | -1.273*** | 1.104*** | 0.901 |
| WW | N | -1.767*** | 1.036*** | 0.915 |
| DW | C | -0.442*** | 1.042*** | 0.992 |
| DW | N | -0.976*** | 0.970*** | 0.992 |

| Log weight (mg) | Elemental composition | Y = a + b*logX | | R ² |
|-----------------|-----------------------|----------------|----------|----------------|
| | | a | B | |
| DW | C (%DW) | 35.783*** | 4.080*** | 0.166 |
| DW | N (%DW) | 10.502*** | -0.646** | 0.097 |
| DW | C:N | 3.296*** | 0.736*** | 0.224 |

*** P < 0.001; ** P < 0.01