Table S1. Trophic AAs for zooplankton 'In' and 'Out' of *Opal*. Errors are standard deviation of 3 machine injections. Note that *Euchaeta rimana* in *Opal* 'Out' has no errors because of 2 machine injections. *For *Pleuromamma gracilis* 'Out' of *Opal*, two samples were assayed. *Eucalanus* spp cop. are copepodites. AA abbreviations: alanine (Ala), aspartic acid (Asp), glutamic acid (Glu), Isoleucine (IsoL), leucine (Leu), proline (Pro), valine (Val).

Opal 'In'	Ala	Asp	Glu	IsoL	Leu	Pro	Val
	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)
Eucalanus sp.	11.0 ± 0.5	10.7 ± 0.3	12.8 ± 0.2	7.7 ± 0.5	5.7 ± 0.5	9.1 ± 0.1	10.3 ± 0.7
Appendicularia	10.3 ± 0.5	9.7 ± 0.1	11.0 ± 0.3	10.1 ± 0.2	9.6 ± 0.7	7.6 ± 0.8	10.9 ± 1.4
Oithona spp.	13.1 ± 0.9	9.7 ± 0.7	11.6 ± 0.9	13.2 ± 0.9	10.5 ± 0.9	7.8 ± 0.8	11.5 ± 1.0
Eucalanus spp. cop.	14.8 ± 0.1	10.5 ± 0.2	12.8 ± 0.6	6.4 ± 0.4	6.0 ± 0.3	8.4 ± 0.2	12.3 ± 0.5
Mecynocera clausii	12.6 ± 0.3	8.1 ± 0.5	10.4 ± 0.5	7.3 ± 0.2	6.5 ± 0.3	4.9 ± 0.3	9.5 ± 0.7
Oncaea spp.	12.6 ± 0.2	8.1 ± 0.5	10.4 ± 0.7	9.1 ± 0.0	8.5 ± 0.4	6.3 ± 0.2	9.2 ± 0.8
Pleuromamma abdominalis	13.8 ± 0.5	11.5 ± 0.2	14.1 ± 0.4	10.5 ± 0.2	9.6 ± 0.1	8.3 ± 0.6	11.9 ± 1.0
Lucicutia flavicornis	12.4 ± 0.1	8.5 ± 0.4	11.6 ± 0.2	5.1 ± 0.5	6.1 ± 0.6	6.8 ± 0.1	9.8 ± 0.6
Stylocheiron carinatum	18.1 ± 0.2	12.9 ± 0.7	15.3 ± 0.4	13.5 ± 1.3	13.5 ± 0.4	13.7 ± 1.2	15.3 ± 0.6
Pleuromamma gracilis	17.0 ± 0.6	11.9 ± 0.7	15.4 ± 0.3	10.0 ± 0.8	9.5 ± 0.3	7.9 ± 0.3	12.9 ± 0.2
Euchaeta rimana	18.9 ± 0.6	14.1 ± 0.6	15.1 ± 0.6	10.3 ± 0.3	8.6 ± 0.5	9.8 ± 0.3	12.6 ± 0.7

Opal 'Out'	Ala	Asp	Glu	IsoL	Leu	Pro	Val
	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)
Appendicularia	7.4 ± 0.3	9.4 ± 0.3	8.8 ± 0.3	8.0 ± 0.6	7.9 ± 0.6	5.5 ± 0.7	8.8 ± 0.7
Mecynocera clausii	9.8 ± 1.5	6.7 ± 1.4	10.2 ± 1.1	7.1 ± 0.5	7.5 ± 0.5	2.4 ± 0.2	8.3 ± 0.8
Oncaea spp.	8.5 ± 1.2	7.6 ± 0.4	8.5 ± 2.4	8.0 ± 0.6	7.5 ± 0.7	7.3 ± 0.4	8.9 ± 0.6
Pleuromamma abdominalis	14.6 ± 0.3	11.8 ± 0.7	14.6 ± 0.9	12.3 ± 0.8	10.5 ± 1.0	9.6 ± 0.5	11.3 ± 0.4
Lucicutia flavicornis	13.9 ± 0.3	9.3 ± 0.4	11.9 ± 0.1	8.1 ± 0.9	7.1 ± 0.2	8.2 ± 0.8	10.4 ± 0.3
Pleuromamma xiphias	13.4 ± 1.6	10.4 ± 0.4	14.5 ± 0.2	11.5 ± 0.5	9.3 ± 0.4	6.1 ± 0.3	11.6 ± 1.5
Pleuromamma piseki	14.8 ± 0.5	9.3 ± 0.5	11.8 ± 0.7	9.1 ± 0.4	7.1 ± 1.2	6.0 ± 1.2	10.9 ± 1.1
Stylocheiron carinatum	15.2 ± 0.9	12.6 ± 0.7	13.7 ± 0.9	14.2 ± 0.4	11.8 ± 0.2	10.2 ± 0.7	12.7 ± 1.0
*Pleuromamma gracilis**	18.3 ± 0.4	11.5 ± 0.4	15.7 ± 0.7	10.9 ± 0.6	10.1 ± 0.3	7.8 ± 0.5	13.6 ± 0.3
*Pleuromamma gracilis**	17.5 ± 0.2	11.9 ± 0.2	15.6 ± 0.5	10.7 ± 0.6	10.0 ± 0.5	8.5 ± 0.4	12.9 ± 0.2
Euchaeta rimana	18.86	13.57	15.99	11.16	9.22	9.43	12.3

Table S2. Source AAs and trophic positions for zooplankton 'In' and 'Out' of *Opal*. Errors are standard deviation of 3 machine injections. Note that *Euchaeta rimana* in *Opal* 'Out' has no errors because of 2 machine injections. *For *Pleuromamma gracilis* 'Out' of *Opal*, two samples were assayed.

Opal 'In'	Gly	Lys	Phe	Ser	Thr	TP_{glu}	TP_{ala}
	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)		
Eucalanus sp.	5.6 ± 0.1	4.4 ± 0.9	3.3 ± 0.6	1.0 ± 0.5	-4.1 ± 0.4	2.0 ± 0.1	2.0 ± 0.2
Appendicularia	-0.4 ± 0.3	-0.7 ± 0.6	-0.7 ± 0.9	-0.1 ± 0.4	-4.1 ± 0.5	2.4 ± 0.2	2.7 ± 0.3
Oithona spp.	3.8 ± 0.3	-0.9 ± 0.7	0.4 ± 1.2	1.0 ± 0.4	-9.6 ± 1.0	2.3 ± 0.3	3.1 ± 0.5
Eucalanus spp. cop.	8.3 ± 0.5	3.7 ± 0.7	2.0 ± 0.5	2.5 ± 0.3	0.0 ± 0.2	2.2 ± 0.2	3.1 ± 0.1
Mecynocera clausii	6.5 ± 0.6	1.8 ± 0.8	-1.2 ± 0.7	3.3 ± 1.0	-5.2 ± 0.8	2.3 ± 0.2	3.3 ± 0.2
Oncaea spp.	6.1 ± 0.6	0.0 ± 0.2	-4.9 ± 0.6	0.9 ± 0.4	-8.6 ± 0.8	3.0 ± 0.2	4.2 ± 0.2
Pleuromamma abdominalis	0.3 ± 0.4	1.4 ± 0.3	0.1 ± 0.3	2.4 ± 0.6	-11.8 ± 0.4	2.7 ± 0.1	3.3 ± 0.2
Lucicutia flavicornis	7.8 ± 0.6	1.7 ± 0.6	-3.3 ± 0.5	5.7 ± 0.2	-9.1 ± 0.8	2.9 ± 0.1	3.8 ± 0.1
Stylocheiron carinatum	0.1 ± 0.8	1.4 ± 0.5	0.4 ± 0.6	4.4 ± 0.7	-12.2 ± 0.6	2.9 ± 0.2	4.2 ± 0.2
Pleuromamma gracilis	4.3 ± 0.4	-0.2 ± 0.4	-2.0 ± 0.2	3.7 ± 0.3	-11.2 ± 0.7	3.3 ± 0.1	4.5 ± 0.2
Euchaeta rimana	3.8 ± 0.7	0.0 ± 0.5	-1.8 ± 0.6	2.7 ± 0.5	-12.1 ± 0.9	3.2 ± 0.2	4.9 ± 0.3

Opal 'Out'	Gly	Lys	Phe	Ser	Thr	TP_{glu}	TP_{ala}
	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)	$\delta^{15}N$ (‰)		
Appendicularia	-0.4 ± 0.4	0.6 ± 0.3	-1.5 ± 1.2	-1.9 ± 0.4	-5.1 ± 0.5	2.1 ± 0.3	2.3 ± 0.3
Mecynocera clausii	3.3 ± 1.6	-3.8 ± 1.6	0.7 ± 0.9	4.3 ± 0.8	-9.6 ± 0.9	2.0 ± 0.3	2.3 ± 0.5
Oncaea spp.	1.8 ± 0.8	0.4 ± 0.6	-2.1 ± 0.0	-1.1 ± 0.6	-10.6 ± 0.7	2.2 ± 0.4	2.7 ± 0.3
Pleuromamma abdominalis	0.7 ± 0.7	0.9 ± 0.4	1.7 ± 0.7	3.4 ± 0.6	-10.0 ± 1.5	2.6 ± 0.3	3.2 ± 0.2
Lucicutia flavicornis	6.7 ± 0.6	0.7 ± 0.8	-0.5 ± 0.3	7.3 ± 0.8	-9.9 ± 0.9	2.5 ± 0.1	3.5 ± 0.1
Pleuromamma xiphias	1.7 ± 1.4	1.2 ± 0.2	-1.9 ± 0.1	2.3 ± 0.8	-11.1 ± 0.9	3.1 ± 0.0	3.7 ± 0.4
Pleuromamma piseki	1.3 ± 0.8	-0.6 ± 0.4	-2.8 ± 0.3	2.4 ± 0.5	-11.9 ± 0.7	2.8 ± 0.2	4.2 ± 0.2
Stylocheiron carinatum	-1.7 ± 1.1	0.3 ± 0.3	-0.4 ± 0.7	0.2 ± 0.7	-15.6 ± 0.6	2.8 ± 0.3	3.8 ± 0.4
*Pleuromamma gracilis**	4.4 ± 0.7	0.6 ± 0.3	0.1 ± 0.6	3.6 ± 0.1	-11.7 ± 0.3	3.0 ± 0.2	4.3 ± 0.2
*Pleuromamma gracilis**	4.1 ± 0.2	0.4 ± 0.4	-0.9 ± 0.6	3.4 ± 0.6	-11.7 ± 0.3	3.1 ± 0.2	4.4 ± 0.2
Euchaeta rimana	3.0	1.4	-1.1	6.41	-12.7	3.2	4.7