Electronic Supplementary Material

Supplementary methods

The abundance of amphipods at each bait type was quantified using a custom macro in image J to assess the area of biological material (i.e. near white colour) compared to the area of the bait plate (i.e. near black colour). The macro automatically performed a number of identical actions for each image. It 1) cropped the images from each deployment so only the black bait plate was visible (the extent of the crop was determined separately for each deployment), 2) converted the image into a grey-scale image, 3) applied a threshold to the image (grey-scale 0 – 60 of 256 was found iteratively to best represent biological material), 4) converted this to a mask and then, 5) returned the percentage of the bait plate that met the threshold criteria for each image. This resulted in a single 'white area' number for each image.

The 'white area' ($\textit{White area}_{\text{total}}$) comprised the area of the fauna of interest ($\textit{white area}_{\textit{scavengers}}$), the bait ($\textit{white area}_{\textit{bait}}$) and any white marks on the bait plate (*see* figures 3*a* – *d*). For each deployment two 'standard' frames were identified for each deployment: S1) fully-baited bait plate with no organisms, taken just before the lander arrived at the seafloor, S2) bait plate after bait had been eaten and cleared of all organisms, taken just after the lander had started to ascend from the seabed. The 'white area' for each of these was determined. The difference in white area resulting from the bait was determined by subtraction ($\textit{white area}_{\textit{bait}}$ = S1-S2). The last time when the bait was visible ($\textit{time}_{\textit{bait gone}}$) was recorded from the photographs for each deployment. A linear bait consumption rate was assumed between the time of arrival at the seafloor and $\textit{time}_{\textit{bait gone}}$. The white area of everything excluding scavengers ($\textit{white area}_{\text{excluding scavengers}}$) was set as S1 at time 0. The $\textit{white area}_{\text{excluding scavengers}}$ then declined linearly from S1 to reach S2 at $\textit{time}_{\textit{bait gone}}$ and then remained at S2 until the end of the deployment. The $\textit{white area}_{\textit{excluding}\text{ scavengers}}$ was subtracted from $\textit{White area}_{\text{total}}$ to give *White area* $_{scavengers}$. At this stage, the *White area* $_{scavengers}$ was converted to an absolute area by multiplying the percentage area by the measured area of the bait plate visible in the analysed frames.

Biological material that contributed to the *White area* $_{scavengers}$ included all the scavenging organisms. To determine the white area from the amphipods (*white area* $_{amp}$), a simple model was developed to estimate the contribution of the 3 other major taxa (*M. glutinosa*, *M. tenuimana* and decapod shrimp):

$$\textit{White area}_{\text{scavengers}} = (N_{mg} * A_{mg}) + (N_{mt} * A_{mt}) + (N_{ds} * A_{ds}) + \textit{white area}_{\text{amp}}$$

Where N refers to the abundance, and A the average area for each taxon (measured manually in image J using 30 randomly selected individuals for each taxon). Subscripts relate to the taxon: *M. glutinosa* (mg), *M. tenuimana* (mt), decapod shrimp (ds) and amphipods (amp). This equation was rearranged to calculate white area $_{amp}$.

To calculate the number of amphipods present from *white area* $_{amp}$, manual amphipod counts were made from 3 randomly chosen frames for each deployment as well as the frame with the visually estimated maximal number of amphipods, the frame with the highest *white area* $_{amp}$ and frames with no amphipods. The *white area* $_{amp}$ was normalised (to between 0 and 1) and smoothed with a running average (span = 20) to remove outlying observations. In periods where no amphipods were observed the normalised *white area* $_{amp}$ was set to zero. A linear regression model (with 0 intercept) was applied to these data (separately for each deployment) to determine the coefficients that link the area of white for each image and the number of amphipods. The linear model coefficients were applied to the *white area* $_{amp}$ to provide an estimate of N_{amp}. The model coefficients are shown in table S1 (see electronic supplementary material). The linear regression models were a good fit to the data for all deployments (R^2 >

0.6). The mean number of amphipods at each bait over time was plotted in R with polygons representing 95% confidence limits of all estimated values (n = 4 for each bait type, except for the *C. capillata* bait where n = 2). The number of amphipods was adjusted prior to plotting by converting all the numbers prior to the frame where the first amphipod appeared (assessed manually; see electronic supplementary material, table S2) to zero.

Supplementary movies

The movie files are available at Dryad (http://datadryad.org/): doi:10.5061/dryad.90kt3.

The legends for the four MP4 files are below.

Movie S1. Compressed time-lapse movie of the scavenger response to *S. scombrus* bait at a water depth of 1250m in the Sognefjorden. All photographs were taken over 18 hours, and the time between each photograph is 2.5 minutes.

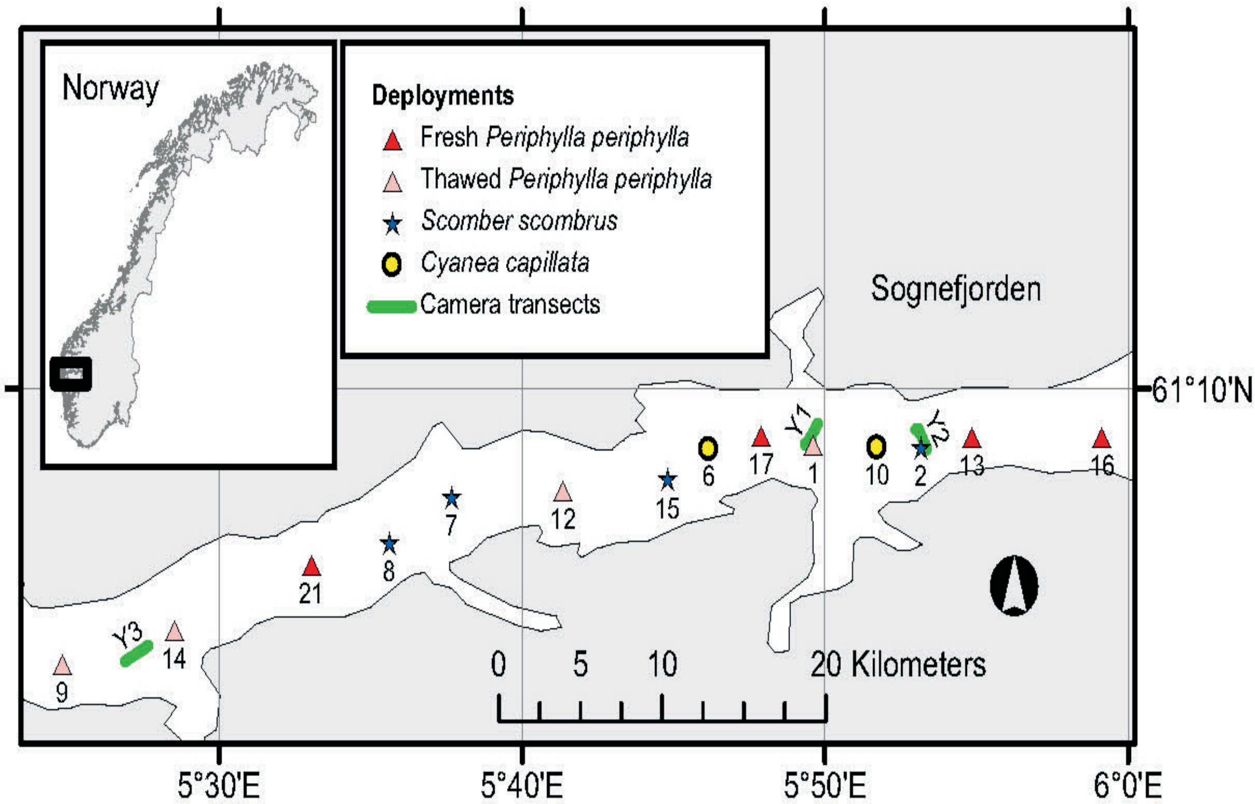
Movie S2. Compressed time-lapse movie of the scavenger response to *P. periphylla* (thawed) bait at a water depth of 1250m in the Sognefjorden. All photographs were taken over 18 hours, and the time between each photograph is 2.5 minutes.

Movie S3. Compressed time-lapse movie of the scavenger response to *P. periphylla* (fresh) bait at a water depth of 1250m in the Sognefjorden. All photographs were taken over 18 hours, and the time between each photograph is 2.5 minutes.

Movie S4. Compressed time-lapse movie of the scavenger response to *C. capillata* bait at a water depth of 1250m in the Sognefjorden. All photographs were taken over 18 hours, and the time between each photograph is 2.5 minutes.

Supplementary figure

Figure S1. Lander deployment stations (numbered) in the Sognefjorden, Norway. The different symbols situated along the fjord refer to the different lander treatments in the deployments inset.



Supplementary tables

Table S1: Model coefficients for the relationship between white area and manual counts of amphipod abundances for analysed deployments.

deployment	bait	slope	r^2	*p*-value
3	*P. periphylla* (thawed)	1373.193	0.90	0.049
4	*S. scombrus*	2148.104	0.95	0.024
5	*S. scombrus*	1598.343	0.96	0.019
6	*P. periphylla* (thawed)	4428.231	0.98	0.011
7	*P. periphylla* (thawed)	1204.292	0.96	0.004
8	*S. scombrus*	861.7134	0.63	0.060
9	*S. scombrus*	1829.819	0.77	0.021
10	*P. periphylla* (thawed)	1093.272	0.87	0.068
11	*C. capillata*	2114.481	0.99	0.003
12	*C. capillata*	1136.464	0.90	0.051
13	*P. periphylla* (fresh)	328.6126	0.70	0.018
14	*P. periphylla* (fresh)	1874.58	0.99	0.001
15	*P. periphylla* (fresh)	745.0737	0.89	0.005
16	*P. periphylla* (fresh)	1598.59	0.84	0.003

Table S2: Manual measurement of the time when the first amphipod appeared at the bait plate

deployment	bait	frame with first arrival	time of first amphipod arrival (mins.)
3	*P. periphylla* (thawed)	DSC_0878.JPG	52.5
6	*P. periphylla* (thawed)	DSC_0843.JPG	27.5
7	*P. periphylla* (thawed)	DSC_0035.JPG	27.5
10	*P. periphylla* (thawed)	DSC_0833.JPG	42.5
4	*S. scombrus*	DSC_0318.JPG	37.5
5	*S. scombrus*	DSC_0032.JPG	25
8	*S. scombrus*	DSC_0356.JPG	37.5
9	*S. scombrus*	DSC_0034.JPG	12.5
13	*P. periphylla* (fresh)	DSC_0895.JPG	30
14	*P. periphylla* (fresh)	DSC_0025.JPG	15
15	*P. periphylla* (fresh)	DSC_0474.JPG	47.5
16	*P. periphylla* (fresh)	DSC_0030.JPG	30
11	*C. capillata*	DSC_0316.JPG	17.5
12	*C. capillata*	DSC_0032.JPG	25

Table S3. Statistical results for tests assessing differences in the maximum number of scavengers and the time of maximum abundance at the different baits. NS denotes non-significance ($p > 0.05$).

		maximum number			*p*-values from multiple comparison tests			
scavenger	test	LR Chi-squared	df	*p*-value	scavenger	bait	*P. periphylla* (fresh)	*P. periphylla* (thawed)
M. glutinosa	GLM (quasi-Poisson)	48.467	2	<0.0001	*M. glutinosa*	*P. periphylla* (thawed)	<0.01	
						S. scombrus (thawed)	<0.0001	<0.001
M. tenuimana	GLM (Poisson)	8.845	2	0.012	*M. Tenuimana*	*P. periphylla* (thawed)	NS	
						S. scombrus (thawed)	<0.01	NS
Unidentified decapod shrimp	GLM (quasi-Poisson)	9.509	2	0.009	Unidentified decapod shrimp	*P. periphylla* (thawed)	NS	
						S. scombrus (thawed)	<0.05	<0.01
		f-value						
O. obtusa	ANOVA	0.538	2, 9	0.602				

		time of maximum number (hrs)		
		f-value	df	*p*-value
M. glutinosa	ANOVA	0.95	2, 9	0.422
		Chi-squared		
M. tenuimana	Kruskal-Wallis	0.154	2	0.926
O. obtusa	Kruskal-Wallis	2.731	2	0.255
Unidentified decapod shrimp	Kruskal-Wallis	4.468	2	0.107