

Common fear molecules induce defensive responses in marine prey across trophic levels

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Supplemental Information

All data will be made publicly available on the BCO-DMO (NSF Division of Ocean Sciences) data repository upon publication. For the benefit of reviewers at the time of submission, data files have been attached as Excel files with all other submission materials.

Table S1. The number of blue crab individuals making up urine treatment mixtures for blue crabs fed an oyster diet and mud crab diet. All blue crabs were between 11-19 cm size and were fed the appropriate diet for one week before urine extraction began.

Blue Crab Urine Replicate	# of Individuals in Mixture (Oyster Diet)	# of Individuals in Mixture (Mud Crab Diet)
1	5	6
2	6	6
3	12	6
4	3	4
5	3	3
6	4	3
7	4	3
8	5	5
9	5	4

Table S2. Concentrations of homarine and trigonelline for the dose response experiment and number of replicates for each dose. Replicates were excluded from analysis if they experienced high mortality of oyster spat (less than 6 spat alive). Concentrations of homarine and trigonelline

for the homarine + trigonelline dose response curve are the same as those used for the dose response curves of the individual cues. Single asterisks (*) indicate the natural concentration upper limits for homarine and trigonelline in blue crab urine (oyster diet). Double asterisks (**) indicate that these doses were excluded from additional statistical analyses because they exceeded the natural concentration range.

Homarine		Trigonelline		Homarine + Trigonelline
Concentration (μM)	Replicates	Concentration (μM)	Replicates	Replicates
0.85	3	0.24	3	3
2.7	1	0.74	4	4
8.5	4	2.4	3	2
27	3	7.4	3	4
85*	3	24*	3	4
270**	4	74 **	2	3
850 **	2	240 **	4	3

Table S3. Concentrations and corresponding volumes of blue crab urine doses used in the 2022 urine dose response experiment. Urine was collected and pooled from 22 crabs that ranged 13 – 18 cm in size and each crab produced 1.31 ± 0.18 mL on average. Cue concentration estimates are based on the assumption that in 1 mL of blue crab urine, the concentrations of homarine and trigonelline are 13 ± 21 μM and 3.6 ± 6.9 μM , respectively, as quantified from urine in the 2020 predator cue bioassay. Asterisks (*) indicate that urine was diluted to the appropriate concentration (based on trigonelline values) for 1 mL aliquot volume.

Homarine (μM)	Trigonelline (μM)	Dose Volume (mL)
65.00	23	5
16.25	5.75	1.25
4.06	1.44	1*
1.02	0.36	1*
0.25	0.09	1*
0.06	0.02	1*
0.02	0.01	1*
0.004	0.001	1*