Table S1. Output of initial logistic regression model, prior to removing non-significant terms based on likelihood ratio tests, predicting the proportion of mussels consumed by crabs (n = 113). Feeding crab species were invasive green crab or native graceful rock crab; competitor type was either hetero- or conspecific; initial mussel prey densities were 2, 4, 8, 16, 32, or 64 mussels; claw size difference refers to the difference in height of the largest claw.

Model parameter	Coefficient	SE	*t*	*P*
Intercept	1.41	0.18	7.59	**< 0.001**
Mussel prey density	-0.04	0.00	-10.83	**< 0.001**
Feeding crab species	-0.39	0.23	-1.66	0.10
Competitor type	-0.11	0.22	-0.51	0.61
Claw size difference	0.16	0.13	1.24	0.22
Water temperature	0.57	0.13	4.35	**< 0.001**
Mussel prey density * Feeding crab species	-0.00	0.00	-0.27	0.79
Mussel prey density * Competitor type	0.00	0.00	0.64	0.52
Mussel prey density * Claw size difference	0.00	0.00	0.65	0.51
Mussel prey density * Water temperature	-0.00	0.00	-2.19	**0.03**
Feeding crab species * Competitor type	-0.07	0.20	-0.34	0.73
Feeding crab species * Claw size difference	-0.08	0.12	-0.69	0.49
Feeding crab species * Water temperature	-0.51	0.10	-4.98	**< 0.001**
Competitor type * Claw size difference	-0.03	0.13	-0.24	0.81
Competitor type * Water temperature	0.23	0.11	2.11	**0.04**
Claw size difference * Water temperature	0.12	0.07	1.69	0.09

Table S2. Output of single term deletions to the initial logistic regression model (Table S1), to determine the importance of each two-way interaction to the model. Reduced models were compared to the original full model using a likelihood ratio test (LRT). Interaction terms that were significant were retained in both the reduced logistic regression model (Table S3) and the final mixed-effects logistic regression model (Table 1).

Dropped interaction term	Df	Deviance	*AIC*	*LRT*	*P*
Original (full) model	1	334.37	612.77		
Mussel prey density * Feeding crab species	1	334.44	610.84	0.07	0.79
Mussel prey density * Competitor type	1	334.78	611.18	0.41	0.52
Mussel prey density * Claw size difference	1	334.79	611.19	0.42	0.51
Mussel prey density * Water temperature	1	339.17	615.57	4.80	**0.03**
Feeding crab species * Competitor type	1	334.48	610.88	0.12	0.73
Feeding crab species * Claw size difference	1	334.84	611.24	0.48	0.49
Feeding crab species * Water temperature	1	359.59	635.99	25.2	**< 0.001**
Competitor type * Claw size difference	1	334.42	610.82	0.06	0.81
Competitor type * Water temperature	1	338.81	615.21	4.45	**0.03**
Claw size difference * Water temperature	1	337.20	613.60	2.84	0.09

Table S3. Output of reduced logistic regression model predicting the proportion of mussels consumed by crabs (n = 113). Feeding crab species were invasive green crab or native graceful rock crab; competitor type was either hetero- or conspecific; initial mussel prey densities were 2, 4, 8, 16, 32, or 64 mussels; claw size difference refers to the difference in height of the largest claw between the feeding and non-feeding crabs.

Model parameter	Coefficient	SE	*t*	*P*
Intercept	-140	0.11	11.86	**< 0.001**
Mussel prey density	-0.04	0.00	-18.70	**< 0.001**
Feeding crab species	-0.48	0.09	-5.08	**< 0.001**
Competitor type	-0.04	0.09	-0.40	0.69
Claw size difference	0.10	0.05	2.12	**0.03**
Water temperature	0.60	0.12	5.02	**< 0.001**
Water temperature * Mussel prey density	-0.00	0.00	-2.15	**0.03**
Water temperature * Feeding crab species	-0.52	0.10	-5.27	**< 0.001**
Water temperature * Competitor type	0.19	0.09	2.05	**0.04**

Table S4: Results from all pairwise difference tests between parameters of functional response curves obtained at different water temperatures (warm, cold), for different feeding crab species (*Cm* = green crab, *Mg* = graceful rock crab) and different non-feeding competitor types (*Con* = conspecific, *Het* = heterospecific). The estimated attack rate (*a*) and handling time (*h*) for each functional response curve are given, along with the difference coefficient (*D*), *z*-score, and *P* value for each difference test.

Feeding crab species + water temperature	***a***	***D*$_a$**	***z***	***P***	***h***	***D*$_h$**	***z***	***P***
Cm + cold	2.10				0.07			
		-28.6	-9653	**< 0.01**		0.05	2.19	**0.02**
Cm + warm	6.08				0.05			
Mg + cold	1.97				0.07			
		-1.49	-0.68	0.50		-0.03	-1.91	0.06
Mg + warm	4.35				0.09			
Mg + warm	4.35				0.09			
		-26.2	-7025	**< 0.01**		0.07	3.20	**< 0.01**
Cm + warm	6.08				0.05			
Mg + cold	1.97				0.07			
		-0.38	-0.32	0.75		0.00	0.09	0.93
Cm + cold	2.10				0.07			

Competition type + water temperature	***a***	D_a	***z***	***P***	***h***	D_h	***z***	***P***
Het + cold	2.25				0.06			
		-3.27	-1.10	0.27		0.02	0.65	0.52
Het + warm	3.03				0.06			
Con + cold	1.86				0.08			
		-29.9	-3825	**< 0.01**		0.04	0.95	0.34
Con + warm	6.66				0.07			
Het + warm	3.03				0.06			
		-28.9	-3582	**< 0.01**		0.02	0.63	0.53
Con + warm	6.66				0.07			
Het + cold	2.25				0.06			
		-2.30	-0.94	0.35		0.04	0.43	0.67
Con + cold	1.86				0.08			