

Table S1. Pearson product-moment ( $r$ ) correlation matrix of the six original explanatory variables. (-) indicates negative correlation. Body size refers to mole crab host size. Crab density was estimated as the number of individuals per  $0.48 \text{ m}^2$ . Seagulls were calculated as densities (total count divided by linear km). Abbreviation variable: (Port dist.) = distance to port; (Freshwater dist.) = distance to freshwater discharge.

	Body size	Crab density	Port dist.	Beach size	Freshwater dist.	Seagulls
Body size	1.000	-0.126	-0.011	-0.172	-0.017	0.060
Crab density		1.000	-0.304	0.329	0.008	0.021
Port dist.			1.000	-0.389	-0.505	0.356
Beach size				1.000	0.188	-0.686
Freshwater dist.					1.000	-0.276
Seagulls						1.000

Table S2. Percentiles (5%, 50%, 95%) and the coefficient of variation (CV) of each site-level explanatory variable. Abbreviation variable: (Port dist.) = distance to port (km); (Freshwater dist.) = distance to freshwater discharge (km).

	5%	50%	95%	CV
Density of crabs	11.000	36.000	92.000	0.58
Port dist.	3.700	6.000	26.000	0.68
Beach size	0.001	0.001	0.002	0.30
Freshwater dist.	0.005	0.014	0.037	0.56
Seagulls	7.777	144.285	942.222	1.18