

Supplementary material

Table S1. Tukey's Honest Significant Difference (Tukey HSD) test for those biological and environmental response variables that exhibited significant main effects of the mud crab *Rhithropanopeus harrisi* or interactive effects of the invader and temperature in the analysis of variance (ANOVA). The contrast between different treatments (CW: control, winter; CS: control, summer; RhW: crab, winter; RhS: crab, summer), mean estimates (estimates), standard errors (SE), degrees of freedom (DF), the statistic (t-value) and associated significance (p-value) are presented. Logarithmically transformed variables are indicated with log

Response variable	Contrast	Estimate	SE	DF	t-value	p-value
log(abundance of bivalves)	CW - RhW	0.01	0.72	16	0.01	1.0000
	CW - CS	0.02	0.72	16	0.03	1.0000
	CW - RhS	3.08	0.72	16	4.26	0.0030
	RhW - CS	0.01	0.72	16	0.02	1.0000
	RhW - RhS	3.07	0.72	16	4.24	0.0003
	CS - RhS	3.06	0.72	16	4.23	0.0003
log(abundance of gastropods)	CW - RhW	0.19	0.30	16	0.64	0.9173
	CW - CS	-1.50	0.30	16	-5.04	0.0006
	CW - RhS	-0.31	0.30	16	-1.05	0.7256
	RhW - CS	-1.69	0.30	16	-5.68	0.0002
	RhW - RhS	-0.50	0.30	16	-1.69	0.3621
	CS - RhS	1.19	0.30	16	4.00	0.0052
log(dry weight of bivalve)	CW - RhW	-0.07	0.47	16	-0.15	0.9988
	CW - CS	-0.06	0.47	16	-0.13	0.9992
	CW - RhS	2.26	0.47	16	4.80	0.0010
	RhW - CS	0.01	0.47	16	0.02	1.0000
	RhW - RhS	2.33	0.47	16	4.94	0.0008
	CS - RhS	2.33	0.47	16	4.93	0.0008
dry weight of gastropods	CW - RhW	-0.04	0.09	16	-0.45	0.9693
	CW - CS	-0.21	0.09	16	-2.48	0.1017
	CW - RhS	0.37	0.09	16	4.28	0.0029
	RhW - CS	-0.17	0.09	16	-2.03	0.2173
	RhW - RhS	0.41	0.09	16	4.73	0.0012
	CS - RhS	0.58	0.09	16	6.76	< 0.0001
dry weight of Fucus	CW - RhW	-4.11	5.20	16	-0.79	0.8578
	CW - CS	-26.71	5.20	16	-5.13	0.0005
	CW - RhS	-12.71	5.20	16	-2.44	0.1085
	RhW - CS	-22.60	5.20	16	-4.34	0.0025
	RhW - RhS	-8.60	5.20	16	-1.65	0.3788
	CS - RhS	14.00	5.20	16	2.69	0.0690
log(NO ₂)	CW - RhW	-0.14	0.35	16	-0.41	0.9761

CW - CS	-3.25	0.35	16	-9.34	< 0.0001
CW - RhS	-4.16	0.35	16	-11.97	< 0.0001
RhW - CS	-3.11	0.35	16	-8.93	< 0.0001
RhW - RhS	-4.02	0.35	16	-11.56	< 0.0001
CS - RhS	-0.91	0.35	16	-2.63	0.0777
