SUPPLEMENTARY MATERIAL

Table S1: Summary of potentially adaptive differences between sites within each region. Data are given as the difference of the means of the two populations, northern population minus southern in each pair. CT_{max} = critical thermal maximum; $f_{H,0}$ = heart rate at 0°C; p = p-value for comparison, after multiple test correction in the East Coast. Significant values ($p < 0.05$) are indicated in bold.

		CT_{max} (°C)						**$f_{H,0}$ (beats 30 s^{-1})**					
Acclimation:		**5°C**		**Field**		**25°C**		**5°C**		**Field**		**25°C**	
Coast	Sites	diff.	p	diff.	p	diff.	p	diff.	p	diff.	p	diff.	p
Europe	NO - PT	**-1.4**	**0.03**	**-3.5**	**<0.001**	**-1.3**	**0.03**	**8.1**	**<0.001**	**4.4**	**<0.001**	**2.8**	**0.002**
East	NL - NJ	-1.6	0.05	**-2.1**	**0.04**	0.2	0.5	**3.8**	**<0.001**	**8.2**	**0.002**	1.4	0.6
East	NL - ME	**-1.0**	**0.03**	-1.2	0.09	-0.5	0.1	1.0	0.2	**7.0**	**<0.001**	0.5	0.6
East	ME - NJ	-0.7	0.4	-0.9	0.3	0.7	0.5	**2.8**	**0.001**	1.2	0.4	0.9	0.6
West	BC - CA	**5.2**	**0.008**	1.2	0.3	-0.9	0.3	-2.0	0.07	-2.2	0.6	0.8	0.6

Table S2: Species used in crustacean CT_{max} comparison (Fig. 4), along with details on studies and experimental conditions. When a species has been tested at more than one acclimation temperature, acclimation temperatures resulting in the highest and lowest CT_{max} values have been listed. Accl. = acclimation temperature.

Species	Location	Tidal height	Accl. (°C)	CT_{max} (°C)	Reference
Homarus americanus	Not specified	Subtidal	4-5	21.2	Camacho et al. 2006
		Subtidal	20-22	24.2	Camacho et al. 2006
Homarus americanus	Maine, USA	Subtidal	12-15[1]	30	Jost el al. 2012
Cancer irroratus	Maine, USA	Subtidal	12-15[1]	28	Jost el al. 2012
Maja squinado	France (Atlantic)	Subtidal	10	31.5	Frederich and Pörtner 2000
Mimulus foliates	California, USA	Subtidal	Field	27.5	John Thiemer and GNS, unpublished observations
Pugettia richii	California, USA	Subtidal	Field	27.1	John Thiemer and GNS, unpublished observations
Scyra acutifrons	California, USA	Subtidal	Field	28.1	John Thiemer and GNS, unpublished observations
Carcinus maenas	Various	Low intertidal	5	34.5	This study
			25	36.5	This study
Petrolisthes eriomerus	Oregon, USA	Low intertidal	8	28.3	Stillman 2004
			18	30.4	Stillman 2004
Petrolisthes manimaculis	California, USA	Low intertidal	8	28.4	Stillman 2004
			18	31.9	Stillman 2004
Hemigrapsus nudus	California, USA	High intertidal	Field	33.8	John Thiemer and GNS, unpublished observations
Pachygrapsus crassipes	California, USA	High intertidal	Field	34.8	John Thiemer and GNS, unpublished observations
Petrolisthes cinctipes	Oregon, USA	High intertidal	8	32.6	Stillman 2004
			22	33.9	Stillman 2004
Petrolisthes cabrilloi	California, USA	High intertidal	8	32.5	Stillman 2004
			18	34.8	Stillman 2004

[1]Animals held in flow-through seawater system.

Figure S1: Representative traces of filtered heart rate data at different temperatures. Traces at 0°C, 5°C, 10°C, and 15°C are from a single individual tested for cold tolerance; traces at 20°C, 25°C, 30°C, and 35°C are from a single individual tested for heat tolerance. Both individuals were from the Maine population, and were acclimated to 5°C before thermal tolerance testing.

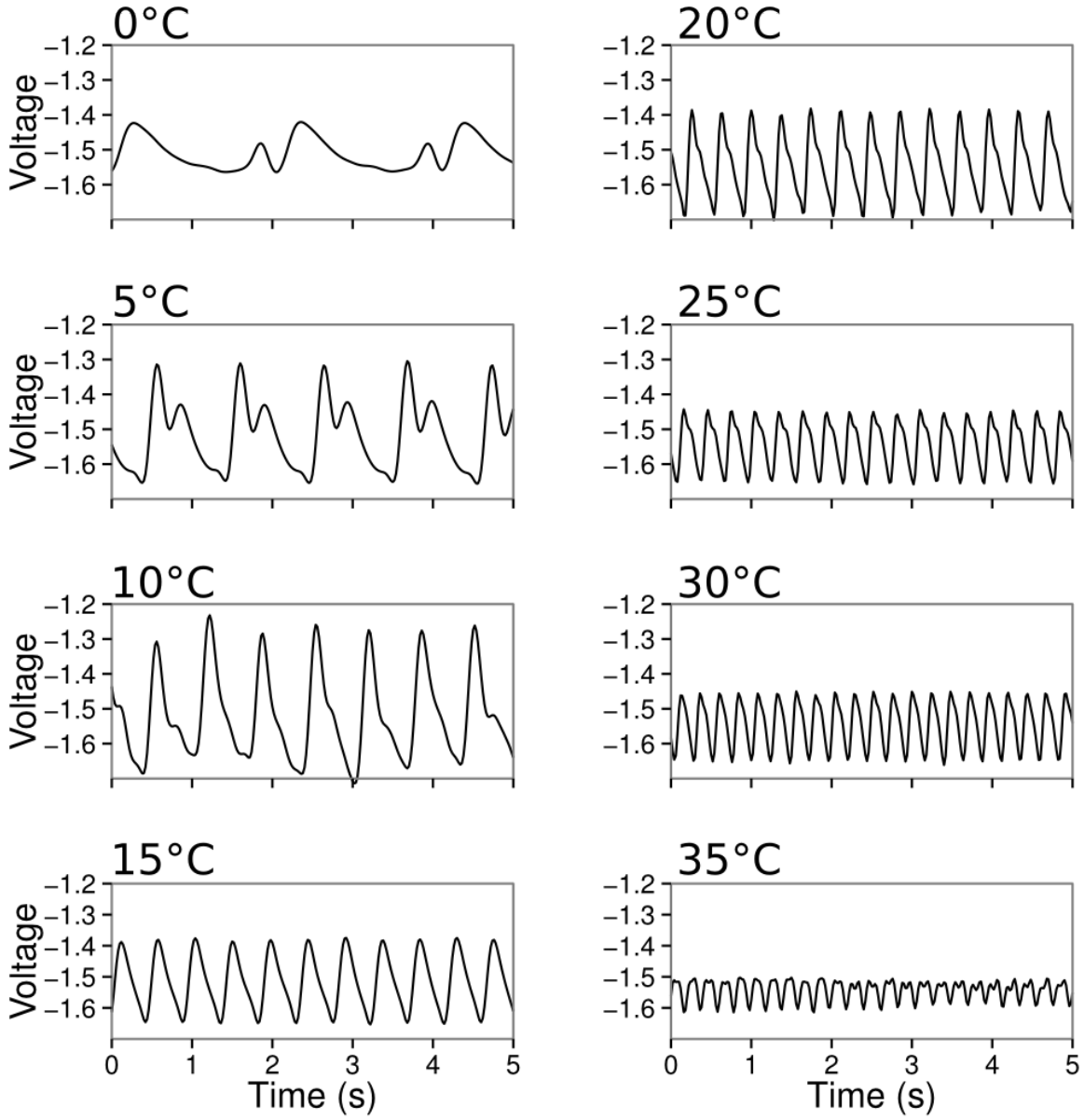

Figure S2: Representative traces of heart rate versus temperature for individual green crabs. A: High-temperature test showing CT_{max}. B: Low-temperature test showing relationship between heart rate and temperature.

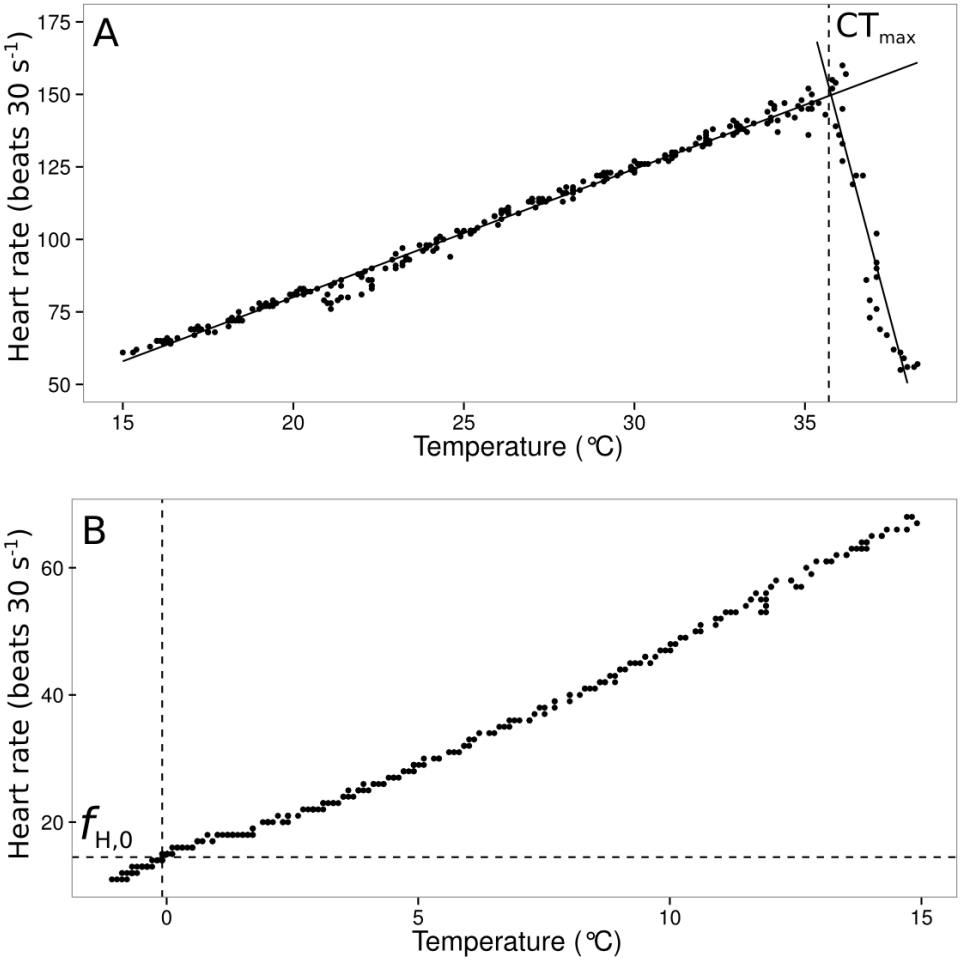

Figure S3: High and low temperature tolerance at site CA at two different times: April 2011 (full data set used in this study) and October 2010 (preliminary data set; N = 4 for each sample group). There were no significant differences between crabs sampled at different times after acclimation. ns = not significant.