

# Supporting Information

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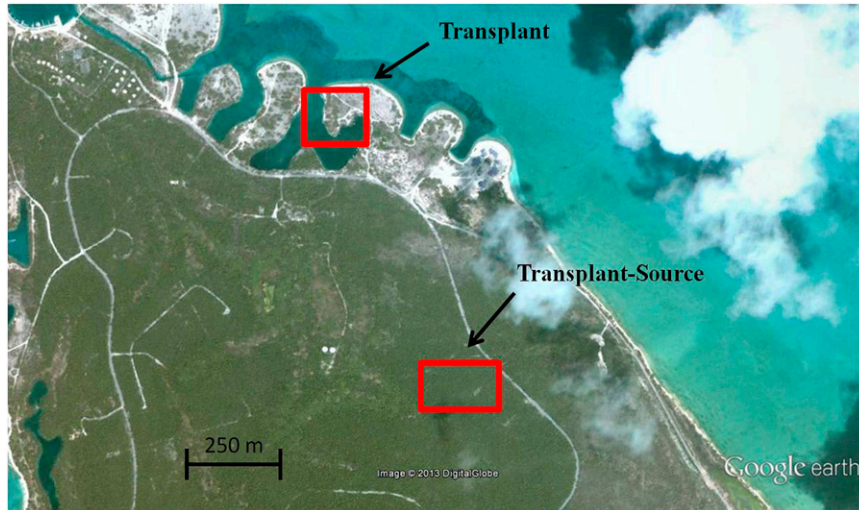


Fig. S1. Transplant-source and transplant sites on the island of Eleuthera, The Bahamas. Both sites are on the western end of Cape Eleuthera.

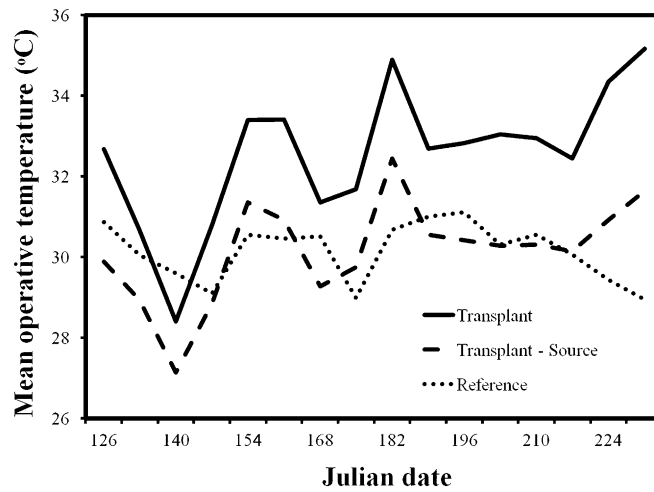
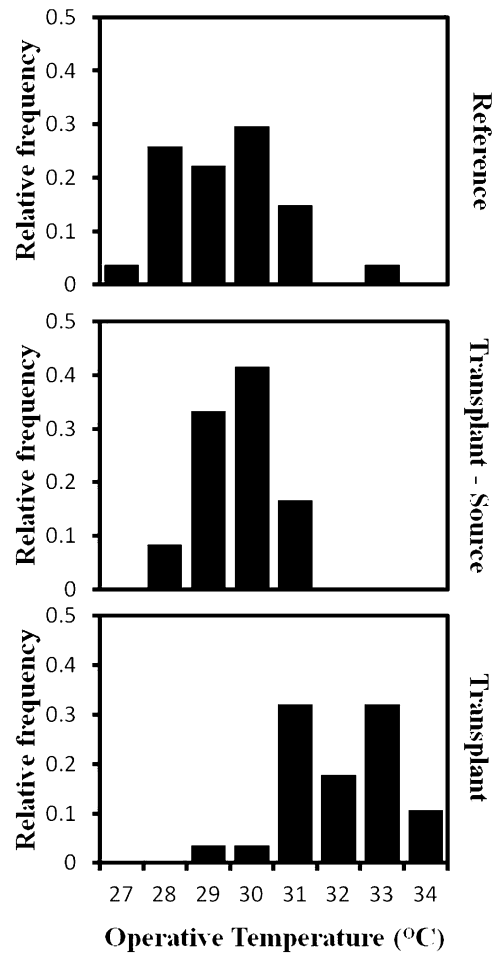
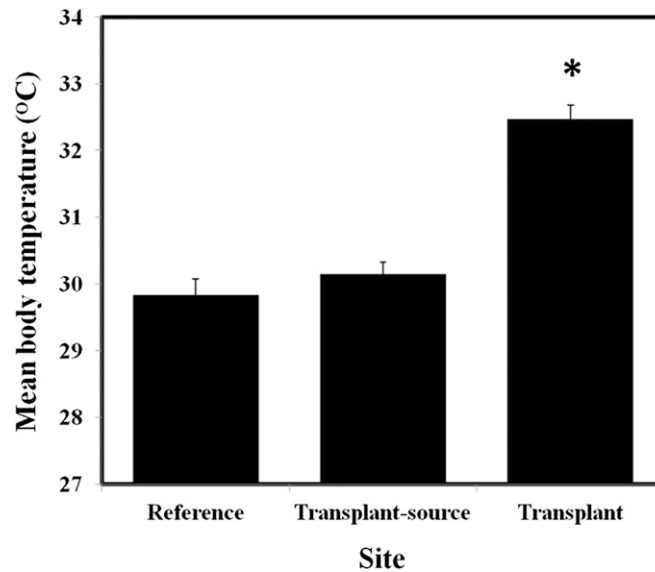


Fig. S2. Mean environmental temperature over the course of the study period for each site. The transplant site was significantly warmer and more thermally variable than both the transplant-source site and the reference site.



**Fig. S3.** Frequency distributions for the environmental temperature among sites. The transplant site was significantly warmer than both the transplant-source site and the reference site.



**Fig. S4.** Differences in field-active body temperature ( $T_b$ ) among sites. Mean  $T_b$  was significantly higher at the transplant site than at either the reference site or the transplant-source site. The asterisk denotes a statistically significant difference.



**Table S1. Mean, range, minimum, and maximum estimates of operative environmental temperature ( $T_e$ ) compared among study sites**

Population	Daily mean $T_e$ , °C	Daily $T_e$ variance	Seasonal $T_e$ variance	Weekly $T_e$ range, °C	Daily minimum $T_e$ , °C	Daily maximum $T_e$ , °C
Reference	29.8	1.5	0.5	28.9–31.1	27.1	32.1
Transplant-source	30.1	0.8	1.6	27.1–32.4	23.7	33.6
Transplant	32.5	1.3	2.9	28.4–35.2	24.8	36.2

"Daily  $T_e$  variance" is the variance of operative temperature model (OTM) means (averaged for each hour between 0600 and 1800 hours, and then averaged across hours), and is therefore a proxy for spatial variance in  $T_e$  at each site (although it also includes some temporal variation throughout the day; thus, not all of this variance is available to lizards at all times). "Seasonal  $T_e$  variance" is the variance in weekly mean  $T_e$  (averaged across all OTMs at all times of the day), and therefore represents the temporal variance in  $T_e$  at each site. "Daily minimum  $T_e$ " is the lowest mean  $T_e$  (averaged across all OTMs) for any hour period at each site (we only report it for the diel activity period of *A. sagrei*: 0600–1800 hours).

**Table S2. Mean selection gradients generated from resampling of the trait distributions (1,000 bootstrap iterations with replacement) were similar to observed selection gradients for each population**

Trait	Reference population			Transplant population		
	Actual coefficient	Mean of bootstrap coefficients	SE of bootstrap coefficients	Actual coefficient	Mean of bootstrap coefficients	SE of bootstrap coefficients
$T_{opt}$	0.020	0.023	0.004	0.494	0.501	0.006
$P_{max}$	0.226	0.231	0.004	0.194	0.207	0.006
$T_{br}$	0.130	0.131	0.004	0.56	0.557	0.007

$P_{max}$ , maximal performance;  $T_{br}$ , thermal performance breadth;  $T_{opt}$ , thermal optimum.

**Table S3. Selection gradients, associated SEs, and significance values for individual and pooled populations**

Trait	Reference			Transplant			Tests for site differences		
	$\beta/\gamma$	SE	<i>P</i>	$\beta/\gamma$	SE	<i>P</i>	Interaction	$\chi^2$	<i>P</i>
$T_{opt}$	0.16	0.15	0.29	<b>0.63</b>	<b>0.25</b>	<b>0.01</b>	$T_{opt} \times \text{Site}$	2.29	0.130
$P_{max}$	0.17	0.15	0.23	0.17	0.29	0.54	$P_{max} \times \text{Site}$	0.06	0.805
$T_{br}$	<b>0.32</b>	<b>0.15</b>	<b>0.03</b>	<b>0.68</b>	<b>0.29</b>	<b>0.01</b>	$T_{br} \times \text{Site}$	1.11	0.292
$T_{opt}^2$	0.11	0.19	0.54	0.18	0.30	0.35	$T_{opt}^2 \times \text{Site}$	1.21	0.271
$P_{max}^2$	-0.09	0.21	0.52	-0.14	0.38	0.86	$P_{max}^2 \times \text{Site}$	0.10	0.756
$T_{br}^2$	-0.31	0.23	0.10	-0.56	0.37	0.10	$T_{br}^2 \times \text{Site}$	0.92	0.338
							Site	0.02	0.876

Trait values were generated using an alternative curve-fitting procedure whereby thermal performance curves for all individuals were estimated using a four-parameter log-normal function (*Materials and Methods*). Significant selection gradients are shown in boldface. Linear gradients are partial regression coefficients from a multiple regression including only linear terms for all three traits. Quadratic gradients were calculated by doubling quadratic regression coefficients (and their associated SEs) from a separate model that included both linear and quadratic (but not cross-product) terms. With this extremely conservative method, we recovered most of the same selection gradients from our primary analysis, with two exceptions: (i) the trait by site interactions are no longer significant (probably due to a severe reduction in sample size), and (ii) we detected directional selection on  $T_{br}$  at the reference site, although the magnitude of this selection was much lower than at the transplant site.

**Table S4. Correlation coefficients (matrix) and variance inflation factors (VIFs) for the three traits used in analysis of thermal performance curves indicate no significant multicollinearity among traits**

	$T_{opt}$	$P_{max}$	$T_{br}$	VIF
$T_{opt}$	—	—	—	1.05
$P_{max}$	0.04	—	—	1.27
$T_{br}$	0.03	0.20	—	1.26