The following appendix accompanies the article

Reef structure regulates small-scale spatial variation in coral bleaching

Hunter S. Lenihan[1,*], Mehdi Adjeroud[2,3], Matthew J. Kotchen[1], James L. Hench[4], Takashi Nakamura[5]

[1]Bren School of Environmental Science and Management, University of California, Santa Barbara, California 93106-5131, USA

[2]Centre de Biologie et d'Ecologie Tropicale et Mediterranéenne, Ecole Pratique des Hautes Etudes, UMR 5244 CNRS-EPHE-UPVD, Université de Perpignan, 66860 Perpignan Cedex, France

[3]Centre de Recherches Insulaires et Observatoire de l'Environnement, UMS 2978 CNRS-EPHE, Papetoai, BP 1013 Moorea, French Polynesia

[4]Environmental Fluid Mechanics Laboratory, Stanford University, Yang & Yamazaki Building, 473 Via Ortega, Stanford, California 94305-4020, USA

[5]AMBL, Kyushu University, Kumamoto 863-2507, Japan

Email: lenihan@bren.ucsb.edu

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Appendix 1. A total of 36 transplants would have been performed for each species in a fully reciprocal experiment, and, under this scenario, 12 of those transplants would have resulted in significant increases in bleaching if corals responded to the observed treatment effect only. Instead, we conducted 20 experimental transplants (Fig. 3; see also Table A1a below), 8 of which led to higher mean levels of bleaching (Table A1b). Results of all 8 of those transplants were consistent with the predicted treatment effect.

An additional 7 transplant combinations were performed in the transplant control (Fig. 2, Table A2a), and the only corals that bleached were, once again, those predicted by the reef treatment effect (Table A2b). The close similarity in results between the experimental transplant and the transplant control (e.g. compare Tables A1b & A2b) also indicate that the corals showed no differences in bleaching before, during, or after the bleaching event because they were exposed at Gump Station for different periods of time (i.e. 28 to 195 d) prior to the warming event.

Table A1. Transplant process, and predictions and results of tests to estimate the degree of acclimation in coral in the main transplant experiment (Letters A to H in Fig. 2). * = signficant difference at $p \leq 0.05$

Pocillopora verrucosa		*Acropora elseyi*	
a. Transplants			
Corals at donor site	Corals at recipient site	Corals at donor site	Corals at recipient site
A	C, D, E	B	F, G, H
b. Predictions consistent with *non-acclimation*			
Prediction	Result	Prediction	Result
i. Transplanting effect			
A ≠ E	A = E *falsified*	B ≠ D	B = D *falsified*
Implication: *No effect of transplanting*		Implication: *No effect of transplanting*	
ii. Location effect			
A ≠ H	A = H *falsified*	B ≠ G	B = G *falsified*
Implication: *No effect of transplanting between locations*		Implication: *No effect of transplanting between locations*	
iii. Habitat effect			
A ≤ C	A > C *falsified*	B ≠ C	B = C *falsified*
A ≤ D	A > D *falsified*	B ≥ E	B < E *falsified*
Implication: *Significant effect of transplanting from seafloor to short and tall bommies (reduced bleaching)*		Implication: *Significant effect of transplanting from short bommies to seafloor (increased bleaching)*	
iv. Location × Habitat effect			
A ≤ F	A > F *falsified*	B ≠ F	B = F *falsified*
A ≤ G	A > G *falsified*	B ≥ H	B < H *falsified*
Implication: *Significant effect of transplanting from seafloor to tall bommies at other site (reduced bleaching)*		Implication: *Significant effect of transplanting from short bommies to seafloor at other site (increased bleaching)*	

c. Summary

1. No significant differences between corals for either species in (i) indicates that transplanting process had little effect on bleaching response 28 d after transplantation
2. No significant differences between corals for either species in (ii) indicates that location had no effect on bleaching response 28 d after transplantation
3. Results for both species in (iii) and (iv) indicate: consistent effect of habitat type on bleaching; that moving corals from seafloor to tall, short bommies decreases bleaching, that moving corals from bommies to seafloor increases bleaching; and that it did not matter from which location or habitat the coral originated
4. Results of treatment effects in experiment support results described in this table: (C = D = F = G) ≠ (E = H)*

Table A2. Transplant process, and predictions and results of tests to estimate the degree of acclimation in coral in the transplant control experiment (Letters I to N in Fig. 2). * = signficant difference at $p \leq 0.05$

Pocillopora verrucosa			*Acropora elseyi*		
a. Transplants (see Fig. 2)					
Corals at donor site (Cooks Crest)	Corals at Recipient Site 1 (Gump Reef)	Corals at Recipient Site 2 (Cooks Crest)	Corals at donor site (Cooks Crest)	Corals at Recipient Site 1 (Gump Reef)	Corals at Recipient Site 2 (Cooks Crest)
I	M,N	K,L K,L	J	M,N	K,L K,L
b. Predictions consistent with *lack of acclimation*					
Prediction	Result		Prediction	Result	
i. Transplanting effect					
$I \neq L$	$I = L$ *falsified*		$J \neq K$	$J = K$ *falsified*	
Implication: *No effect of transplanting*			Implication: *No effect of transplanting*		
ii. Location effect					
$I \neq N$	$I = N$ *falsified*		$J \neq M$	$J = M$ *falsified*	
	$M \neq K_{M,N}$	$M = K_{M,N}$ *falsified*		$M \neq K_{M,N}$	$M = K_{M,N}$ *falsified*
	$N \neq L_{M,N}$	$N = LL_{M,N}$ *falsified*		$N \neq L_{M,N}$	$N = L_{M,N}$ *falsified*
Implication: *No effect of transplanting between locations through time*			Implication: *No effect of transplanting between locations through time*		
iii. Habitat effect					
$I \leq K_{M,N}$	$I > K_{M,N}$ *falsified*		$J \neq L_{M,N}$	$J = L_{M,N}$ *falsified*	
Implication: *Significant effect of transplanting from seafloor to short and tall bommies (reduced bleaching)*			Implication: *Significant effect of transplanting from short bommies to seafloor (increased bleaching)*		
iv. Location × Habitat effect					
$I \geq M$	$I < M$ *falsified*		$J \geq N$	$J < N$ *falsified*	
	$M \geq L_{M,N}$	$M < L_{M,N}$ *falsified*		$N \leq K_{M,N}$	$N > K_{M,N}$ *falsified*
	$N \geq K_{M,N}$	$N < K_{M,N}$ *falsified*			
Implication: *Significant effect of transplanting from seafloor to tall bommies at other site (reduced bleaching); transplanting from tall bommies to seafloor (increased bleaching)*			Implication: *Significant effect of transplanting from short bommies to seafloor at other site (increased bleaching); transplanting from seafloor to tall bommies (reduced bleaching)*		

c. Summary

1. No significant differences between corals for either species in (i) indicates that transplanting process had little effect on bleaching response 195 d and 49 d after 2nd transplant
2. No significant differences between corals for either species in (ii) indicates that location had no effect on bleaching response 195 d after 1st transplantation and 49 d after 2nd transplant
3. Results for both species in (iii) and (iv) indicate consistent effect of habitat type on bleaching; moving corals from seafloor to tall, short bommies decreases bleaching, and moving corals from bommies to seafloor increases bleaching, no matter which location or habitat origin of coral