

# Supplementary Information

Table S1: Model parameters and model variables.

Symbol	Description	Value(s)
Model parameters		
$f_{\max}$	Maximum fecundity	200
$c$	Strength of competition for resources	1/15
$N$	Initial population size	50
$q_f$	Dormancy probability, when dormancy is fixed	[0.1, 0.3, 0.50]
$\sigma_s$	Width of competitive effects	0.05
$\sigma_m$	Width of dispersal, when dispersal is fixed	[0.01, 0.05, 0.5]
$d$	Mortality probability	0.05
$\sigma_\mu$	Standard deviation of mutation effect	0.005
$n_p$	Number of "patches" on our simple landscapes	[1-16, 32]
$acl$	Spatial auto-correlation	[0.001, 0.0014, 0.0019, 0.0025, 0.0035, 0.005, 0.006, 0.0075, 0.0082, 0.0091, 0.010, 0.013, 0.016, 0.0200, 0.025, 0.035, 0.05, 0.075, 0.100]
Model variables		
$d_{ij}$	Spatial distance between individuals $i$ and $j$	
$\psi_{ij}$	Competitive effect of individual $j$ on individual $i$	
$\rho_i$	Amount of resource acquired by individual $i$	
$\tau_i$	Competitive fitness of individual $i$	
$f_i$	Fecundity of individual $i$	

Table S2: Summary of modelled features in relevant theoretical papers. For a more exhaustive list of papers that have considered both dormancy and dispersal (prior to 2014), see Tables A1 and A2 in Buoro and Carlson (2014).

Article	Kin competition / Density-dependence	Spatial heterogeneity in habitat quality	Temporal heterogeneity in habitat quality	Evolving dispersal	Evolving dormancy
Klinkhamer et al. (1987)	Y, but only briefly	Y	Y	Y	Y
Venable and Brown (1988)	N	Y	Y	Y	Y
McPeck and Kalisz (1998)	N	N	Y	Y	Y
Kobayashi and Yamamura (2000)	Y	N	N	N	Y
Mathias and Kisdi (2002)	Y	Y	Y	N	Y
Snyder (2006)	Y	Y	Y	Y	N
Rajon et al. (2009)	Y	Y	Y	N	Y
Vitalis et al. (2013)	Y	N	Y	Y	Y
Our model	Y	Y	N	Y	Y

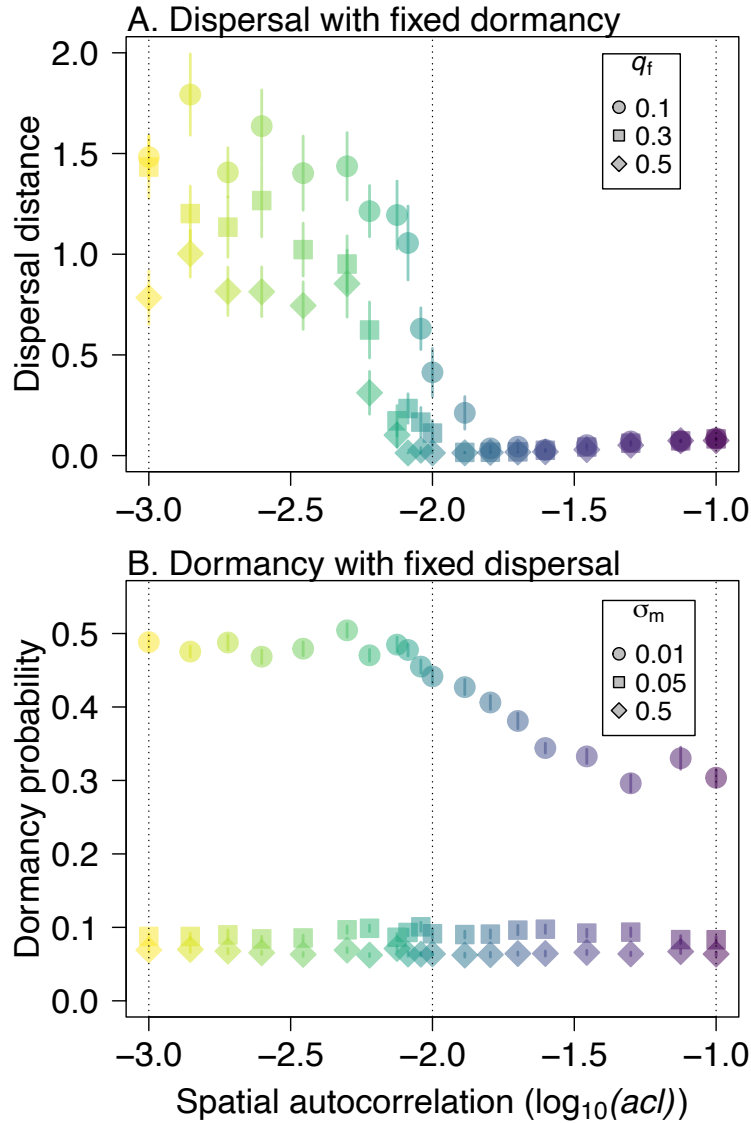


Figure S1: (A) Evolved dormancy probabilities on noisy landscapes when dispersal distance is fixed at low ( $\sigma_m = 0.01$ , circles), moderate-low ( $\sigma_m = 0.05$ , squares), and moderate-high ( $\sigma_m = 0.5$ , diamonds) values. (B) Evolved dispersal distances when dormancy rate is fixed at low ( $q_f = 0.1$ , circles), moderate ( $q_f = 0.3$ , squares), and high ( $q_f = 0.5$ , diamonds) values. Points and vertical bars are means and standard errors across 30 replicate model runs, each on a unique landscape. Dashed vertical lines correspond to  $acl = 0.1, 0.01$ , and  $0.001$ .