

Chan, J. Y., Bonser, S. P., Powell, J. R. and Cornwell, W. K.
2020. Environmental cues for dispersal in a filamentous fungus
in simulated islands. – Oikos doi: 10.1111/oik.07000

Appendix 1

Table A1. Comparison of substrates included at different malt extract agar media concentrations (g l^{-1} of water)

(g l^{-1})	1%	0.5%	0.1%	H ₂ O
Agar	10	10	10	10
D glucose	10	5	1	0
Malt extract	10	5	1	0
Peptone	0.5	0.25	0.05	0

Table A2. Analysis of variance (ANOVA) with nutrient concentration and petri dish size as treatment effects on colony growth rate. Overall, colony growth rate was significantly different between treatments.

ANOVA

	df	SS	Mean Sq	F	p
Nutrient	2	0.029	0.014	5228.2	<0.0001*
Size	1	0.003	0.003	914.8	<0.0001*
Nutrient : Size	2	0.001	0.001	109.1	<0.0001*
Residuals	29	0.000	0.000		

Table A3. Tukey's HSD test comparisons of treatment effects on colony growth rate. Colony growth rate was significantly different across all treatments.

Tukey HSD

	p
L0.5-L0.1	<0.0001*
L1-L0.1	<0.0001*
S0.1-L0.1	<0.0001*
S0.5-L0.1	<0.0001*
S1-L0.1	<0.0001*
L1-L0.5	<0.0001*
S0.1-L0.5	<0.0001*
S0.5-L0.5	<0.0001*
S1-L0.5	<0.0001*
S0.1-L1	<0.0001*
S0.5-L1	<0.0001*
S1-L1	<0.0001*
S0.5-S0.1	<0.0001*
S1-S0.1	<0.0001*
S1-S0.5	<0.0001*

Table A4. Analysis of variance (ANOVA) with nutrient concentration and petri dish size as treatment effects on coarse resource uptake between treatments at initiation of pycnidia production. Overall, coarse resource uptake was significantly different between colonies.

ANOVA

	df	SS	Mean Sq	F	p
Nutrient	1	0.008	0.014	74.21	<0.0001*
Size	1	0.042	0.003	383.21	<0.0001*
Nutrient : Size	1	0.001	0.000	1.531	0.23
Residuals	20	0.000	0.000		

Table A5. Tukey's HSD test comparisons of coarse resource uptake between nutrient concentration and petri dish size

Tukey HSD

	p
S0.5-L0.5	<0.0005*
L1-L0.5	<0.0001*
S1-L0.5	<0.0001*
L0.5-S0.5	<0.0001*
S1-S0.5	<0.0001*
S1-L1	<0.0001*

Table A6. Analysis of variance (ANOVA) with nutrient concentration and petri dish size as treatment effects on pycnidia density. Overall, pycnidial densities were significantly different between treatments.

ANOVA

	df	SS	Mean Sq	F	p
Nutrient	2	11.086	5.543	670.66	<0.0001*
Size	1	0.336	0.336	40.65	<0.0001*
Nutrient : Size	2	0.421	0.211	25.48	<0.0001*
Residuals	29	0.240	0.008		

Table A7. Generalised linear mixed-effects model with pycnidia production as the response variable. The model was fit with a Poisson distribution with petri dish replicate as a random effect, and treatment and relative growth rate as fixed effects. There is an overall negative correlation with significant interaction between relative growth rate (RGR) and treatment.

	Dependent variable:
	Pycnidia produced
L0.5	3.263*** (0.126)
L1	4.427*** (0.126)
S0.1	-1.171*** (0.128)
S0.5	2.526*** (0.126)
S1	2.298*** (0.126)
RGR	-106.321*** (1.810)
L0.5: RGR	-34.485*** (1.880)
L1: RGR	-36.337*** (1.837)
S0.1: RGR	-84.050*** (3.332)
S0.5: RGR	-476.980*** (9.705)
S1: RGR	-434.802*** (6.708)
Constant	4.562*** (0.094)
Observations	839
Log Likelihood	-272,706.400
Akaike inf. crit.	545,438.800
Bayesian inf. crit.	545,500.300
Note*	*p<0.1; **p<0.05; ***p<0.01

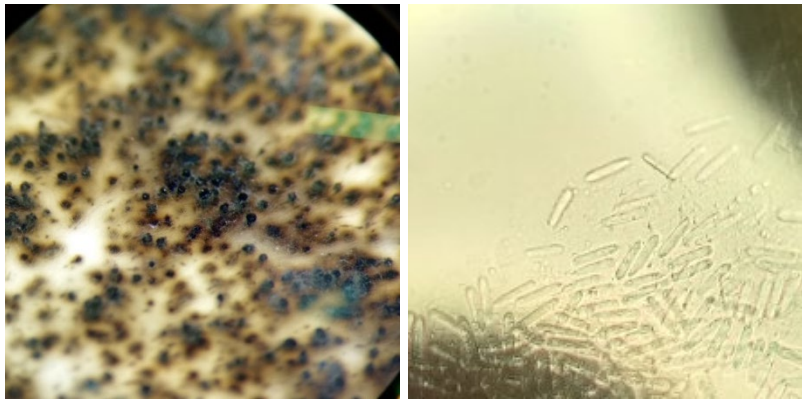


Figure A1. (A) *Phacidium lacerum* pycnidial conidiomata, (B) spores extracted from pycnidia. (With permission from Chan et al. 2019)

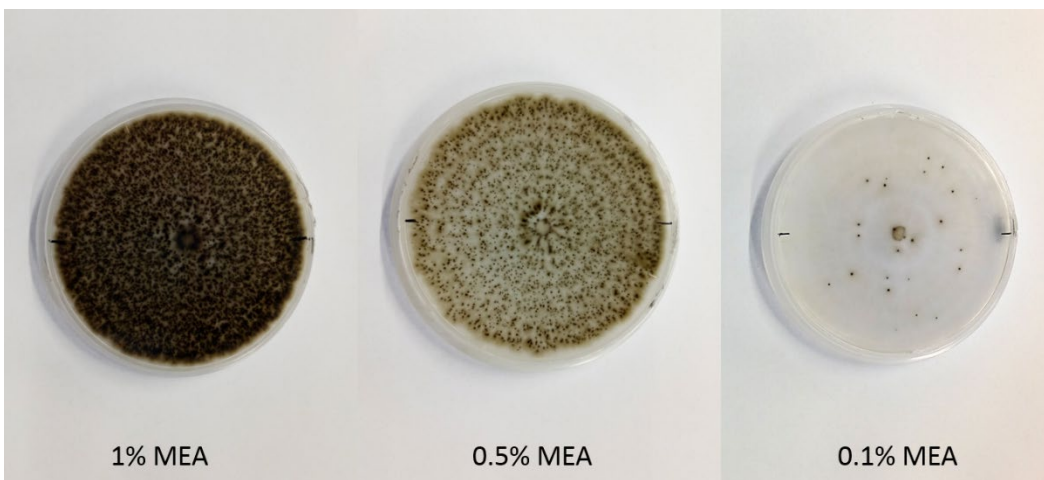


Figure A2. Visual comparison between pycnidial density between treatments at day 20 on small islands.