

Ecography

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Supplementary material

Appendix 1

Table A1: Options for propagating micro-landscapes as study organisms deplete nutrients or occupy the entire landscape.

Replenishment	Description	Example	Benefits	Drawbacks
<i>No replenishment of food or space</i>				
	Entire experiment occurs in same micro-landscape	Baym et al. (2016)	No disturbance Micro-landscape can be fully enclosed	Growth becomes limited by food and space, so larger landscapes generally needed
<i>Food replenished only</i>				
	New food added to existing landscape	De Roissart et al. (2015)	Longer experiments possible	Potential disturbance; avenue for contamination
<i>Food and space replenished</i>				
Treadmill	New patches of landscape added, organisms disperse into new habitat on their own	Fronhofer et al. (2017)	Can simulate a long expansion with minimal space	Dispersal limited to few patches at a time; only suitable for some questions (e.g. range expansions)
Transfer to fresh landscape	Individuals transferred manually to new micro-landscape	Friedenberg (2003a)	Nutrients and space are replenished	Disturbance; must decide whether to maintain population sizes or subsample

Table A2: Examples of stressors used to create variation in environmental quality in micro-landscape experiments. Stressors are of three types: limitation of resources, fitness gradient imposed by researchers, or an actual negative stressor. Plural organism names indicate multiple species were used.

Gradient type Organism	Stressor details	Example studies
Resource limitation		
Virus	Ratio of good habitat patches (infectable bacteria) vs. sink habitat (bacteria that virus could bind to but not infect)	Dennehy et al. (2007)
Beetle	Resource quality (ratio of wheat to corn flour)	Hufbauer et al. (2015)
Beetle	Resource availability (amount of flour / patch)	Govindan et al (2015)
Researcher-imposed fitness gradient		
Protist	Mortality (removal of individuals)	Fronhofer et al. (2017b)
Beetle	Patch turnover rate (removal of occupied patches and introduction of new patches)	Govindan et al (2015)
Negative stressor		
<i>E. coli</i>	Antibiotic	Baym et al. (2016)
Yeast	Salt	Bell & Gonzalez (2011)
Soil microbes	Herbicide	Low-Décarie et al. (2015)
Fruit flies	Temperature	Davis et al. (1998)