

UNIT 5: Life history

Outline

Introduction

Tradeoffs

The r vs. K metaphor

Bet hedging

Sex ratios

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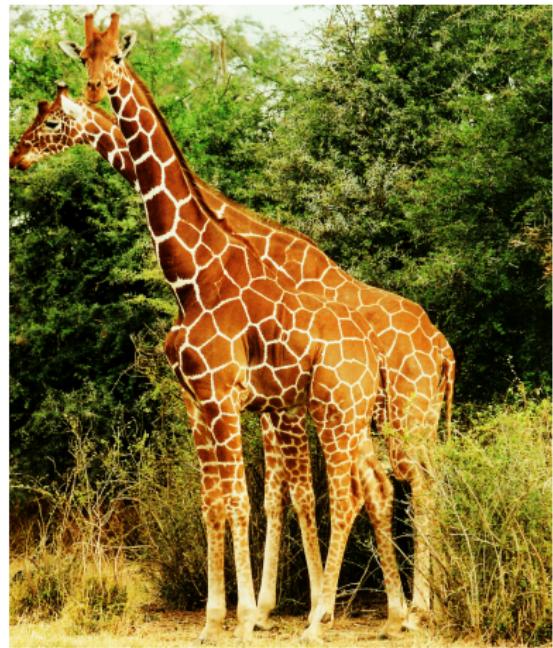
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Between populations



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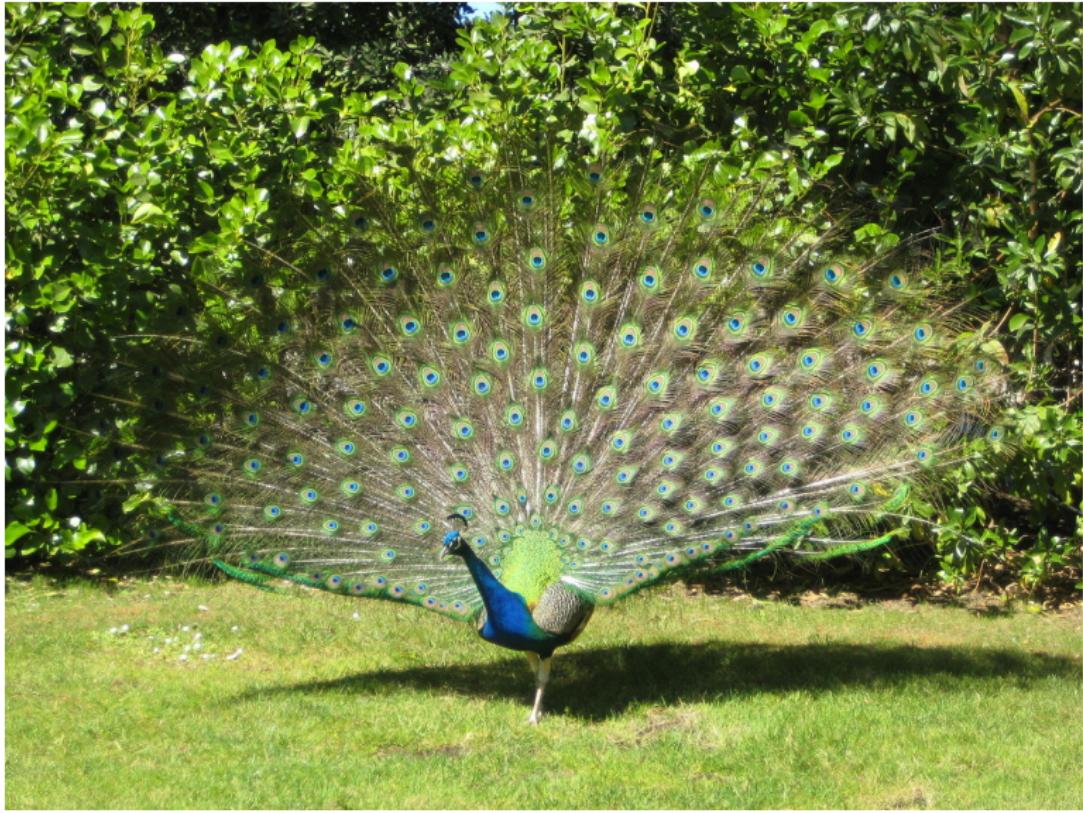
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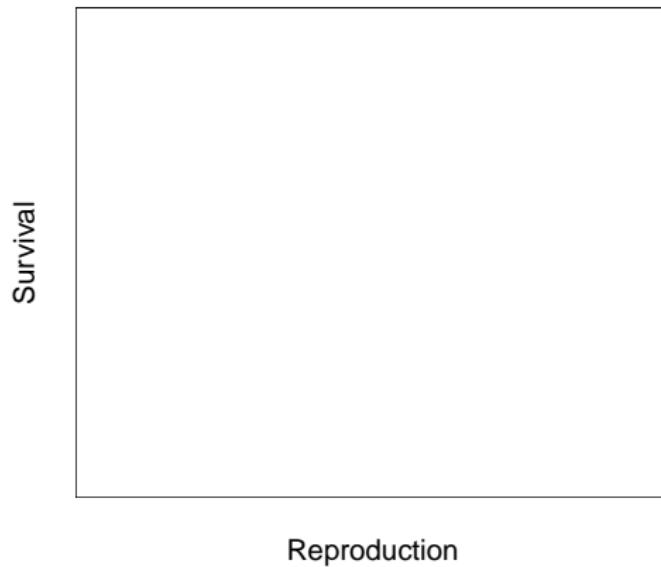
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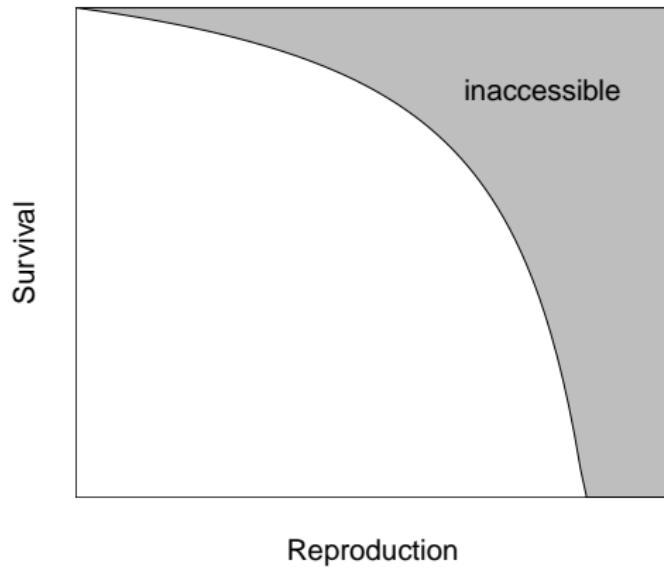
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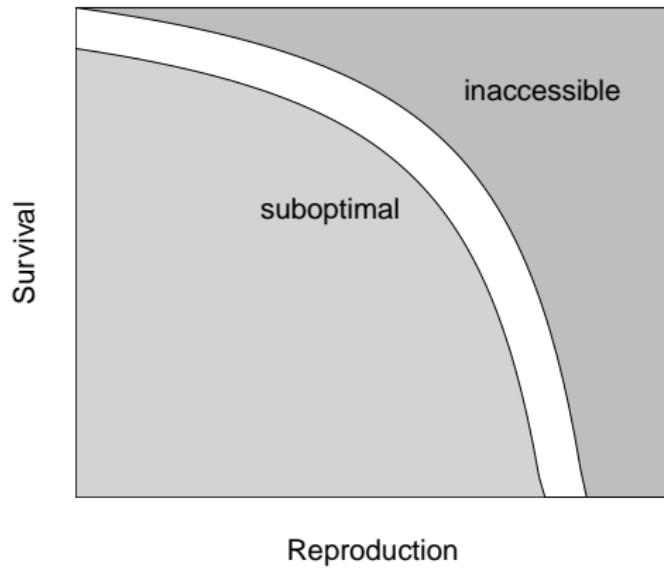
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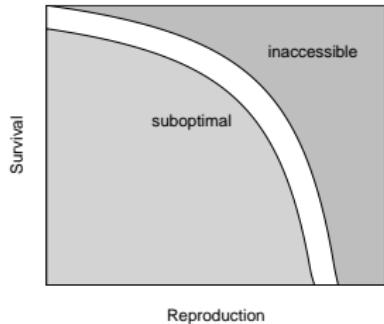


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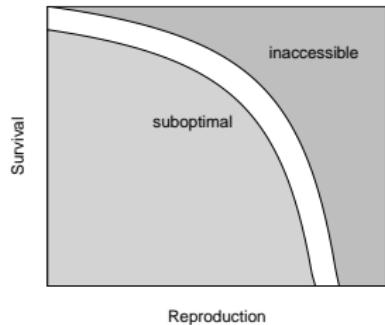
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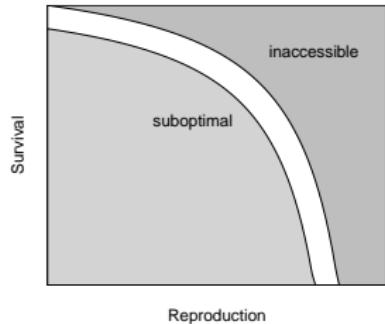
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Responses to Cole

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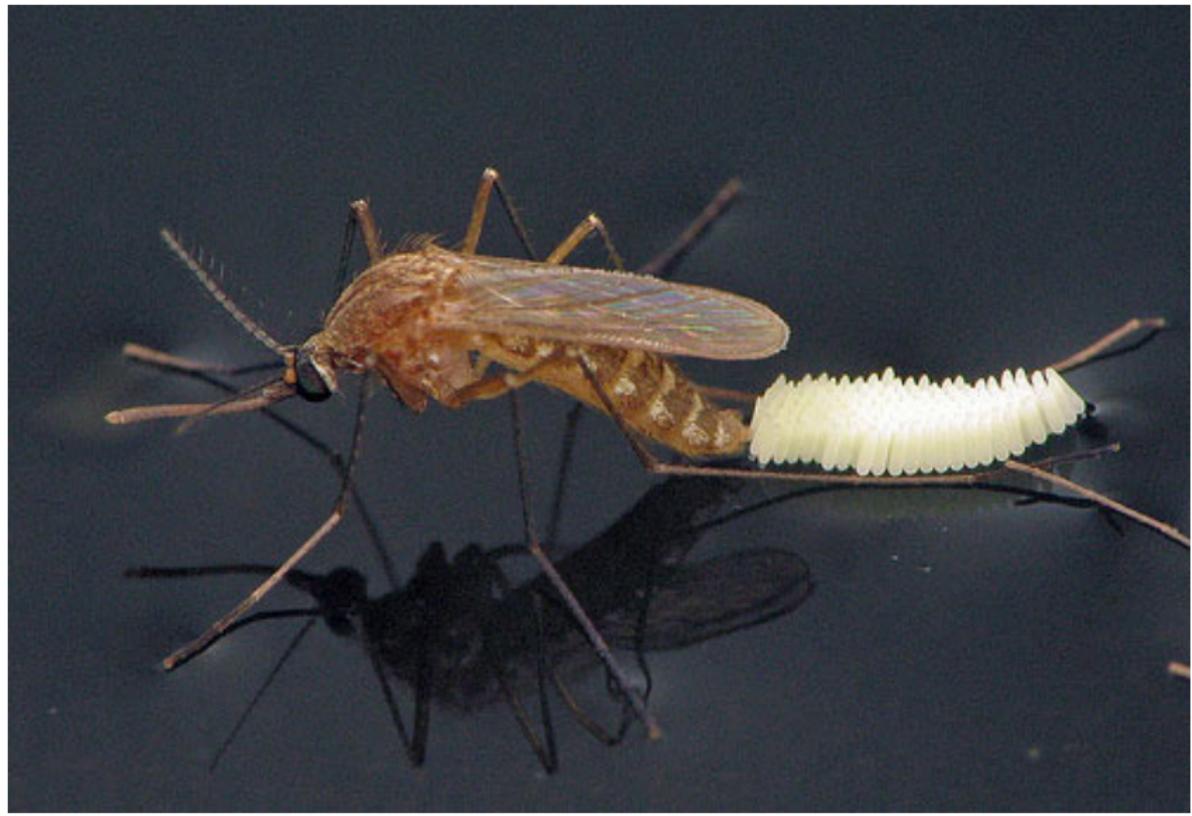
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Dispersal investment



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Outline

Introduction

Tradeoffs

The r vs. K metaphor

Bet hedging

Sex ratios

The r vs. K metaphor

- Regulated growth provides a powerful metaphor for life-history tradeoffs involving growth vs. competitive ability

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Maples and marigolds



Measuring K

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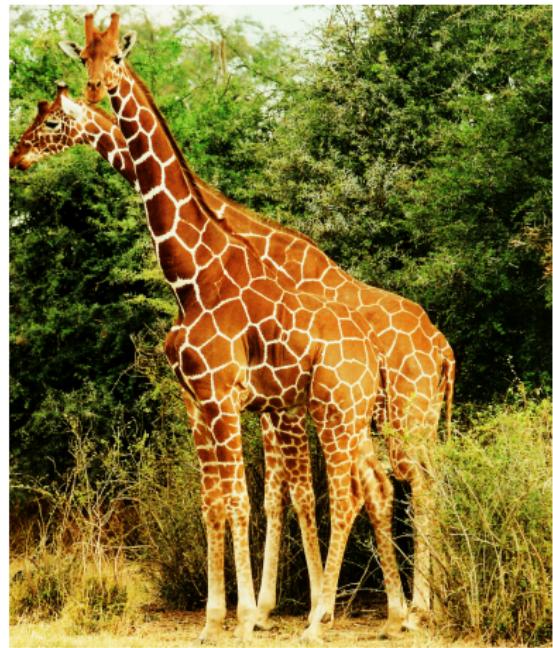
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Open environment



Stable environment



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Life-history characteristics

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 - ▶ Have relatively fast life cycles
 - ▶ Reach maturity earlier
 - ▶ Allocate more resources to reproduction (and thus reproduce more and survive less)
 - ▶ Produce more offspring, with less resources for each
 - ▶ This allows high growth rates in the absence of competition
 - ▶ In crowded conditions, these “quick” offspring may be out-competed by offspring with more resources
 - ▶ Be more aggressive about dispersal.
 - ▶ * They need to find the next empty, suitable habitat before this one gets too crowded

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Outline

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Tradeoffs

The r vs. K metaphor

Bet hedging

Sex ratios

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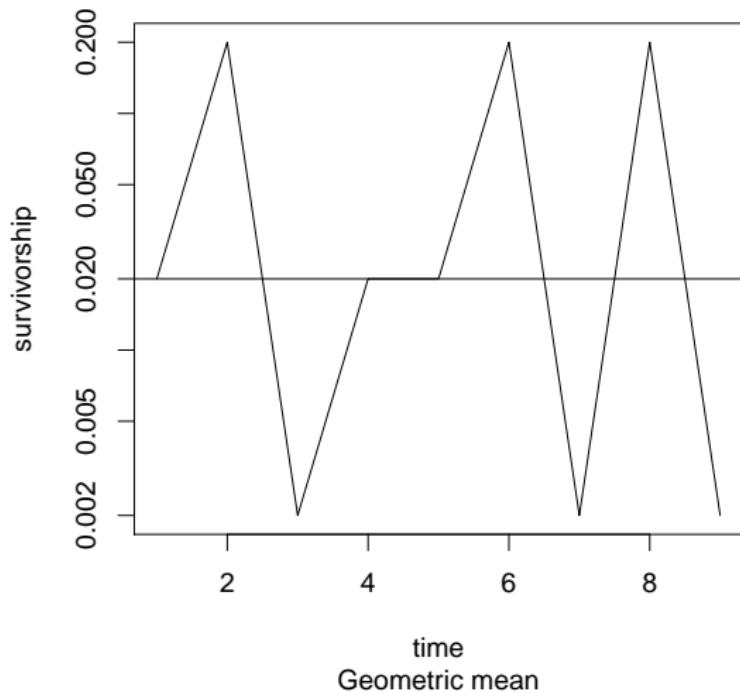
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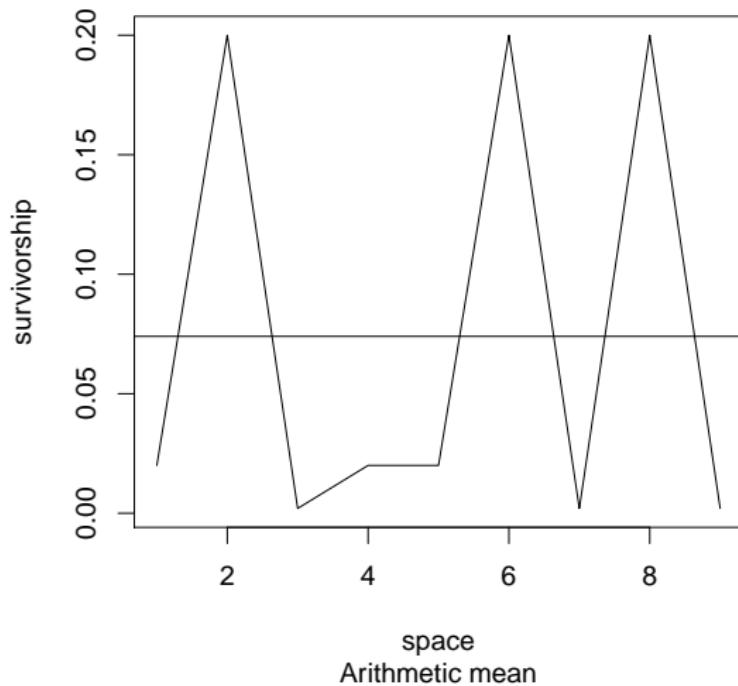
Comparing averages

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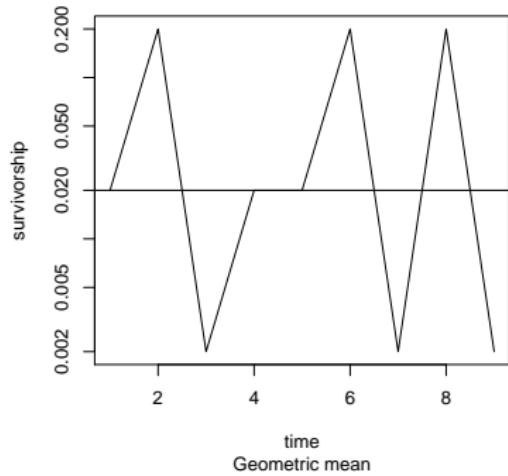
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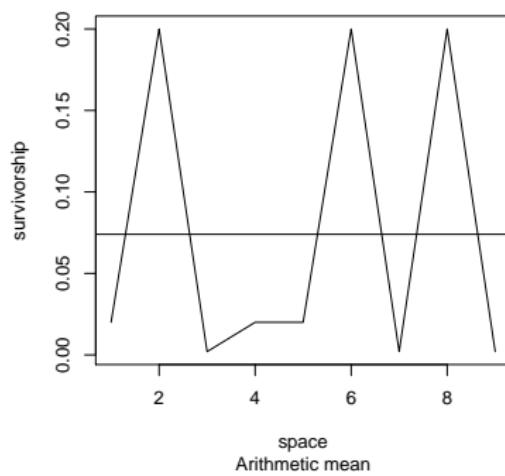


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Dispersal, spreading risk over space

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Outline

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Tradeoffs

The r vs. K metaphor

Bet hedging

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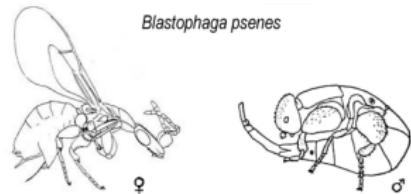
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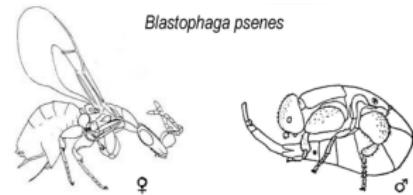
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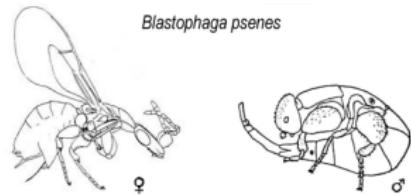
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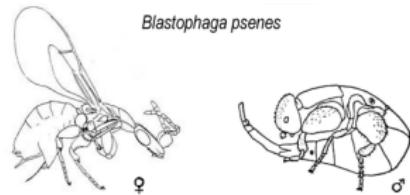
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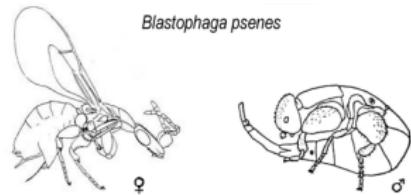
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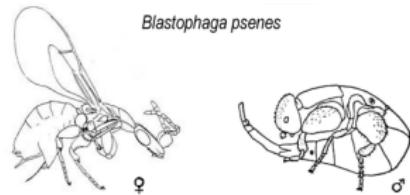


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Pregnant seahorse



Midshipman nest



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