

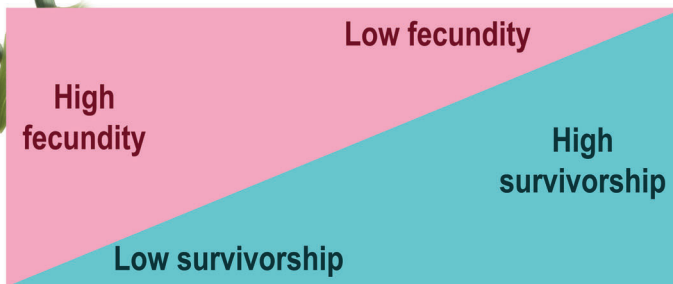
TOPIC: R/K SELECTION

- ◆ Recall: species _____ in how they allocate time/energy to survival, growth, & reproduction (life history).
 - Natural selection has shaped _____ life history outcomes on opposite ends of a spectrum (r/k selection).

What is r/K Selection?

- ◆ **K-Selection:** optimizes fitness at _____ population densities near carrying capacity (____).
 - Adapted to _____ environments, intense competition, & tend to have stable populations near K.
- ◆ **r-Selection:** optimizes fitness at _____ population densities, maximizing per capita population growth rate (____).
 - Adapted to _____ environments and often experience rapid population growth & crashes.

Monarch butterfly
(*Danaus plexippus*)



Orca
(*Orcinus orca*)



____-selection

- ◆ Produce _____ offspring, low investment into each.
- ◆ Exhibits type ____ survivorship curve.

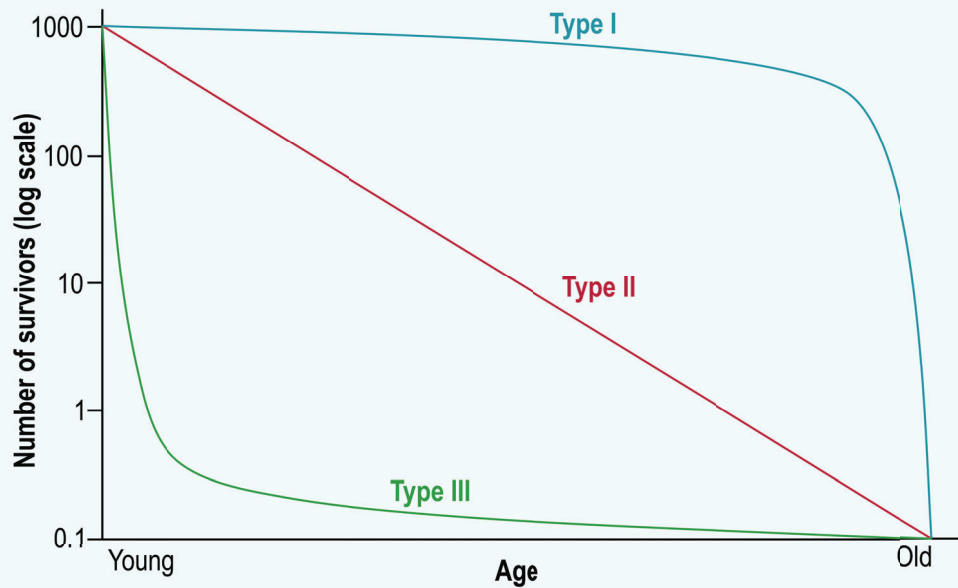
____-selection

- ◆ Produce _____ offspring, high investment into each.
- ◆ Exhibits Type ____ survivorship curve.

TOPIC: R/K SELECTION

EXAMPLE

Appropriately label the survivorship curves based on which survivorship curve r-selected & K-selected organisms would typically exhibit.



PRACTICE

Which of the following statements about r & K selection is true?

- a) K-selected organisms tend to exhibit iteroparity so they can better care for their offspring.
- b) r-selected organisms tend to exhibit iteroparity so they can care for their offspring.
- c) K-selected organisms often exhibit semelparity as they invest all their resources towards producing offspring.
- d) r-selected organisms usually exhibit semelparity as they can't continuously reproduce throughout life.

PRACTICE

Which type of survivorship curve would you expect K-selected organisms to follow & why?

- a) Type I, because many resources are allocated to the survival of few offspring.
- b) Type II, because the probability of death remains constant even if offspring are well cared for.
- c) Type III, because many offspring are produced in K-selection.
- d) Could be anywhere on the spectrum of survivorship curves, as it's too difficult to predict.