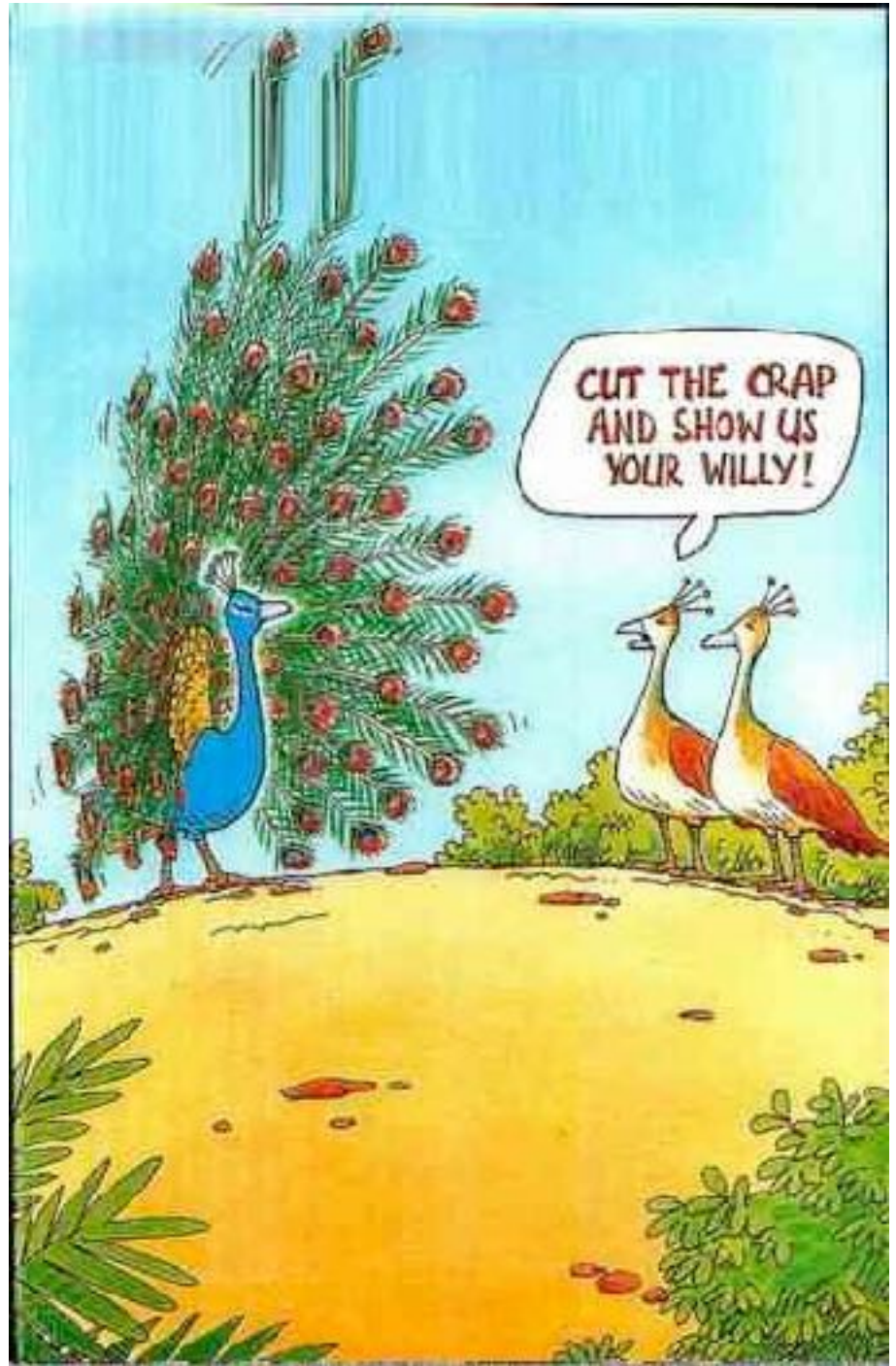


Sexual selection, part 2

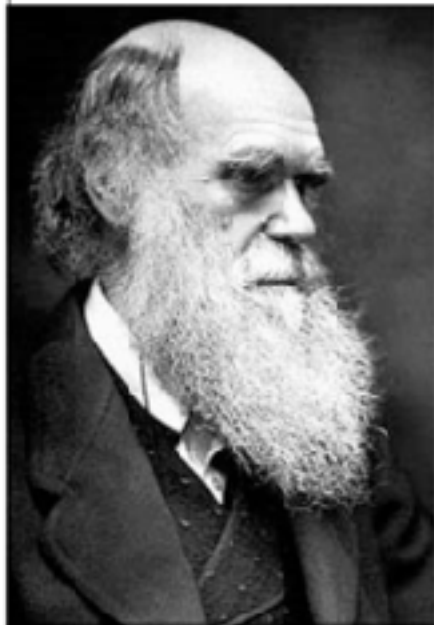
**THIS MATERIAL
WILL BE ON
EXAM 3**



Sexual selection

“The sight of a peacock’s tail, whenever I gaze at it, makes me feel sick!”

Charles Darwin 1860



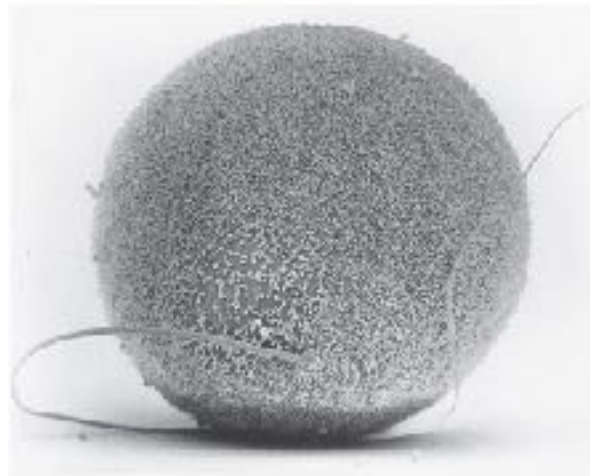
Sexual selection

- Sexual selection
 - Differential reproduction due to competition over access to mates (SS is a subset of natural selection)
 1. Intrasexual selection
 - Members of one sex compete for access to the other sex (contest competition)
 - » Usually male-male contests
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Intrasexual selection

- Pre-copulatory
 - Controlling/gaining access to females
- Mate guarding (pre and post-copulatory) and sperm competition
 - Increasing probability of paternity



Intrasexual selection

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Intrasexual selection: Pre-copulatory

- “King of the Hill” (usually male-male competition)
 - Intimidate or attack rivals so that only you get to mate with females

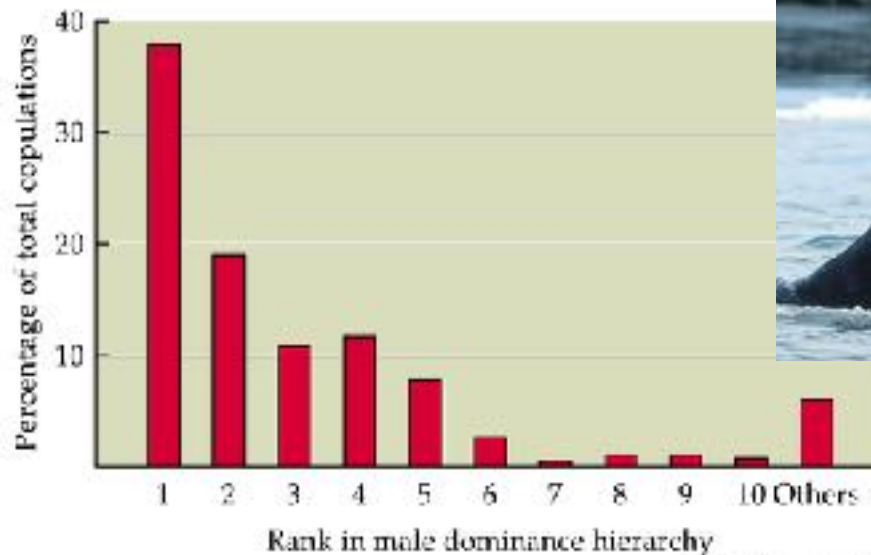




They dont show you this on the TV

Intrasexual selection: Pre-copulatory

- What they fight over: Females themselves, and/or resources that females want
- Why do they fight?
 - Dominants can enjoy huge RS advantage
 - Elephant Seals = great variation in male RS
 - A few winners, most are losers

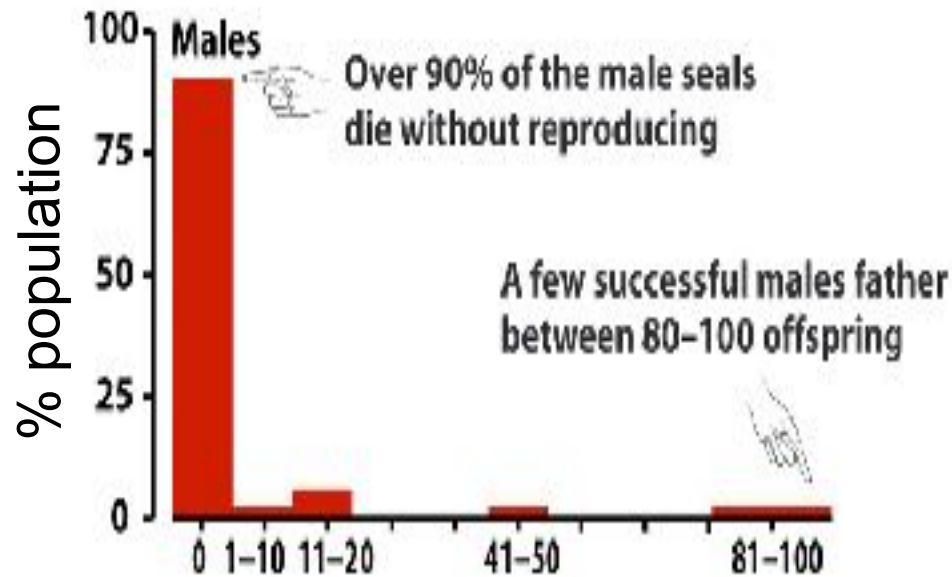


<http://www.youtube.com/watch?v=fQI5KUfM2xc>
watch up to 2:00



Intrasexual selection: Pre-copulatory

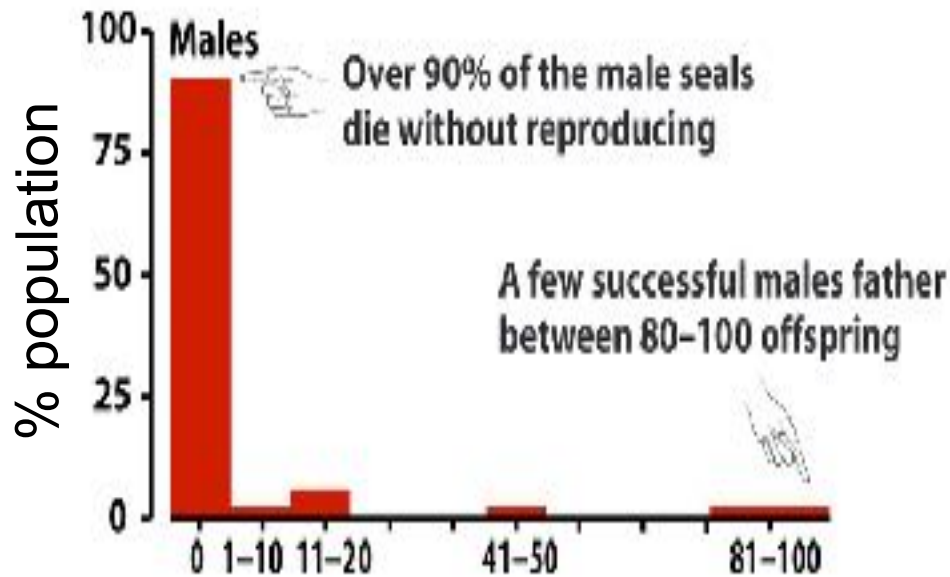
--Male reproductive success is more variable than female reproductive success



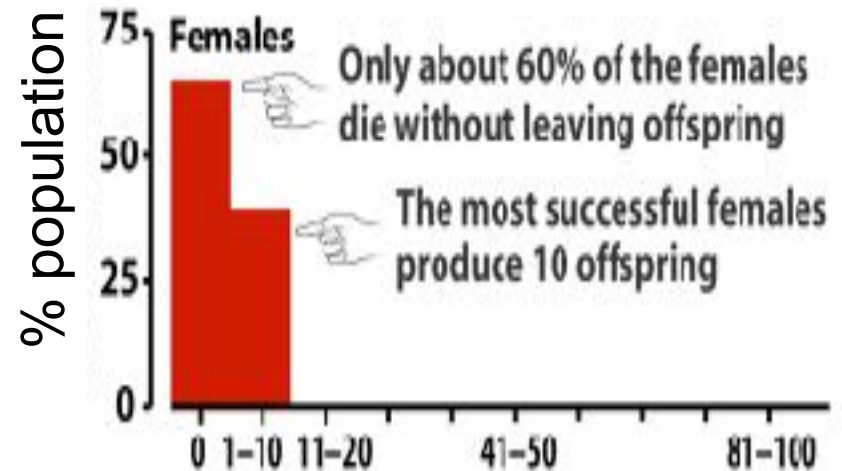
Lifetime reproductive success

Intrasexual selection: Pre-copulatory

--Male reproductive success is more variable than female reproductive success



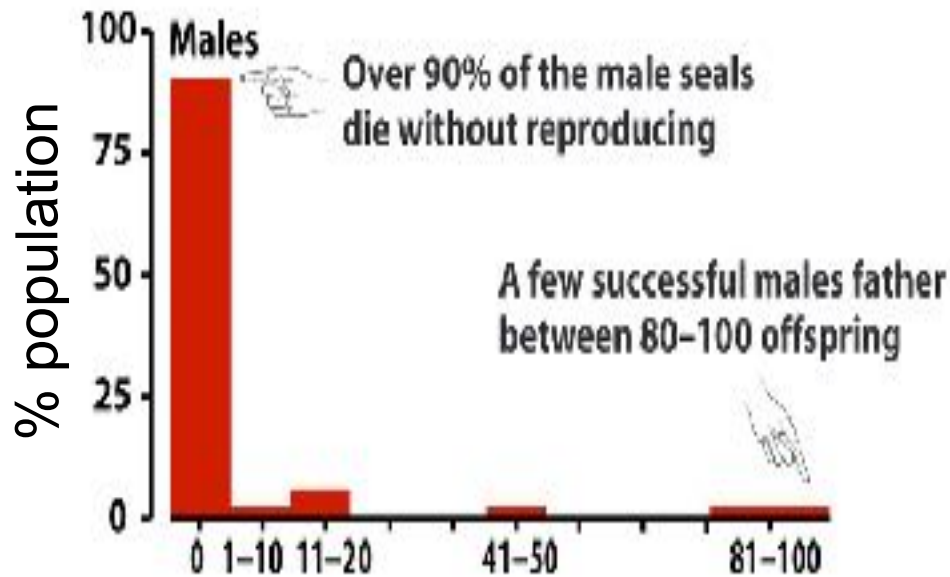
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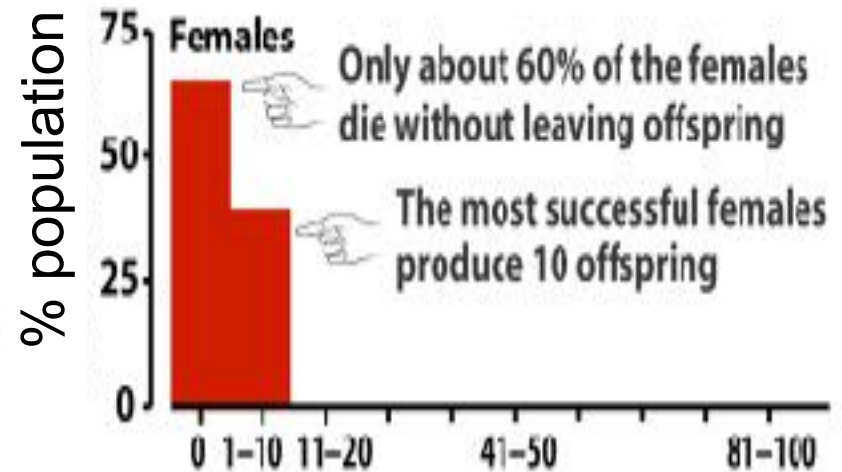
Lifetime reproductive success

Intrasexual selection: Pre-copulatory

- Male reproductive success is more variable than female reproductive success
 - Result: differential reproduction is far greater in males!! (i.e., stronger selection on males)



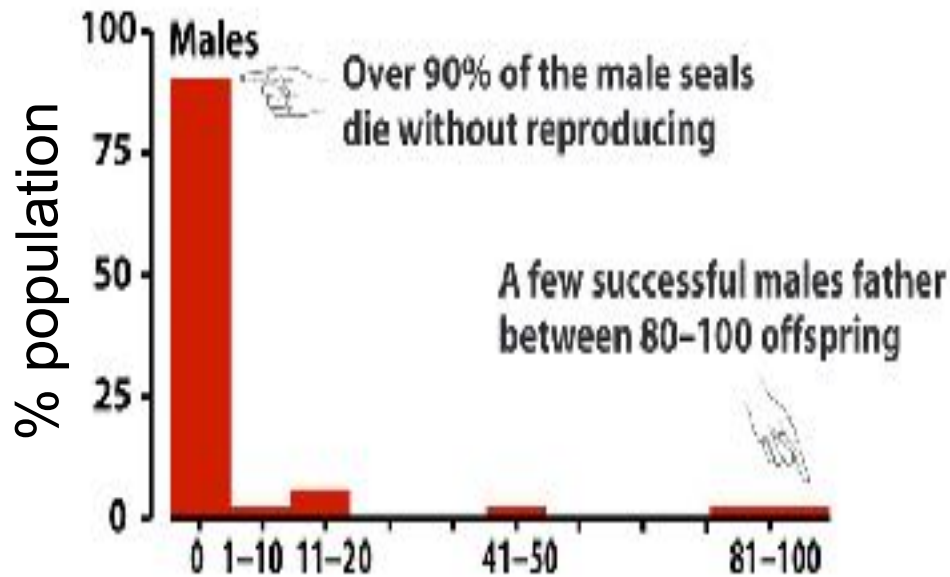
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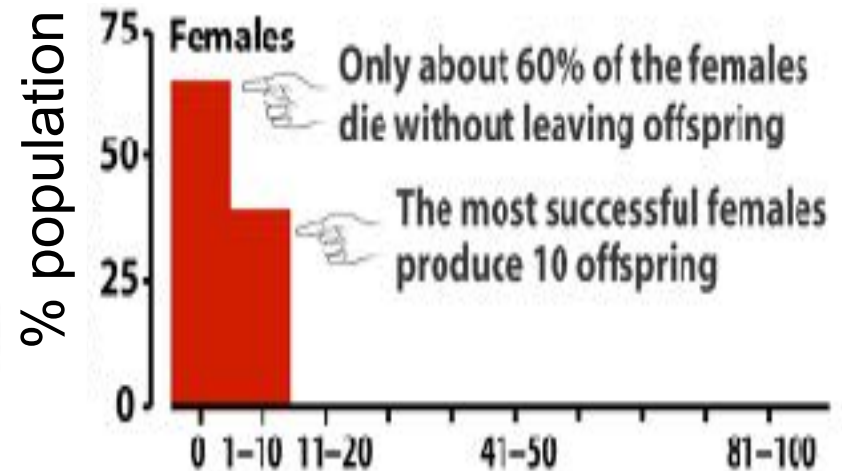
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Lifetime reproductive success



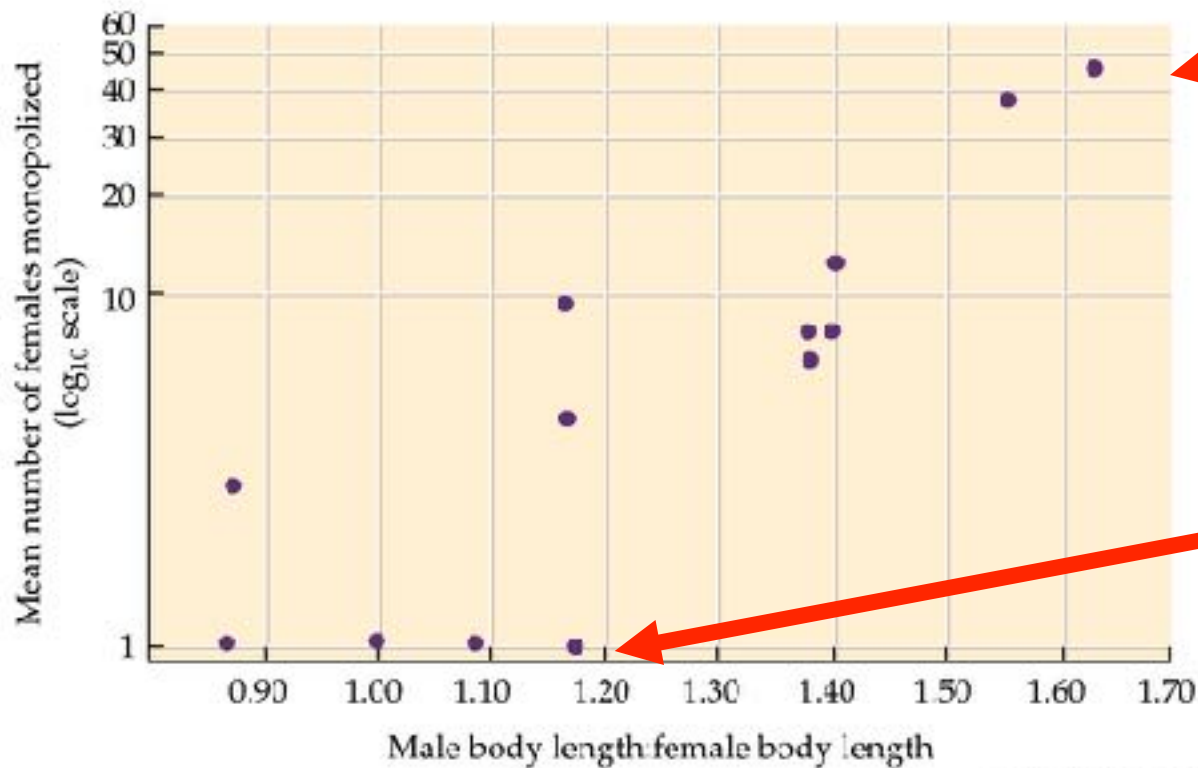
Lifetime reproductive success

Intrasexual selection: Pre-copulatory

- Sexual size dimorphism
 - Magnitude indicates intensity of male-male competition and sexual selection



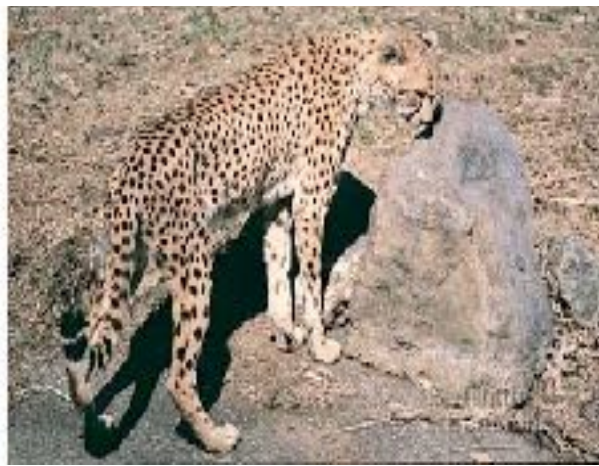
Harem polygyny



monogamy

Intrasexual selection: Pre-copulatory

- Intrasexual interactions: Competition over mates
 - Agonistic behavior: contests involving threats
 - Dominance hierarchies: rankings within a group
 - Territoriality: defense of particular area
 - Aggression (elephant seals, etc)
 - Scent-marking (cheetahs)
 - Visual/Vocal displays (songbirds)



Intrasexual selection: Pre-copulatory

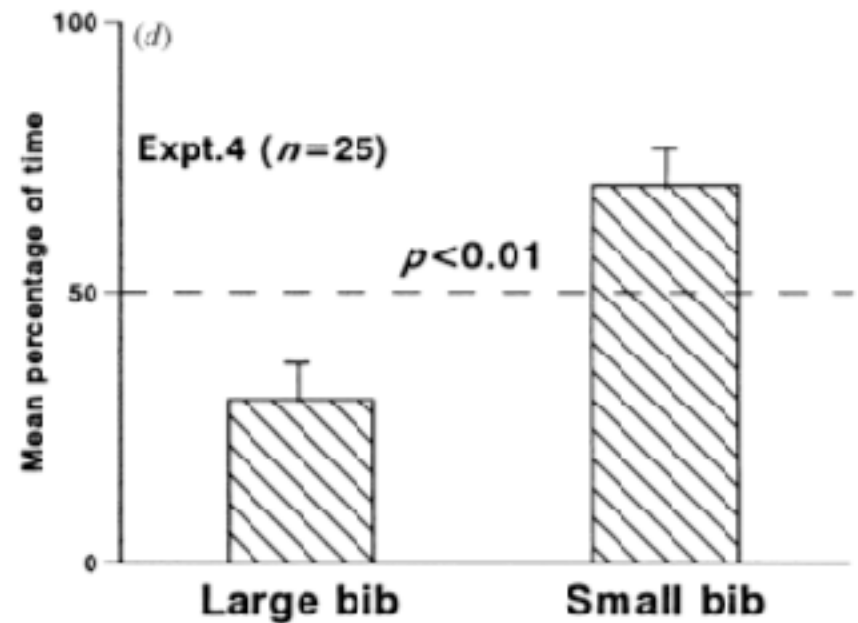
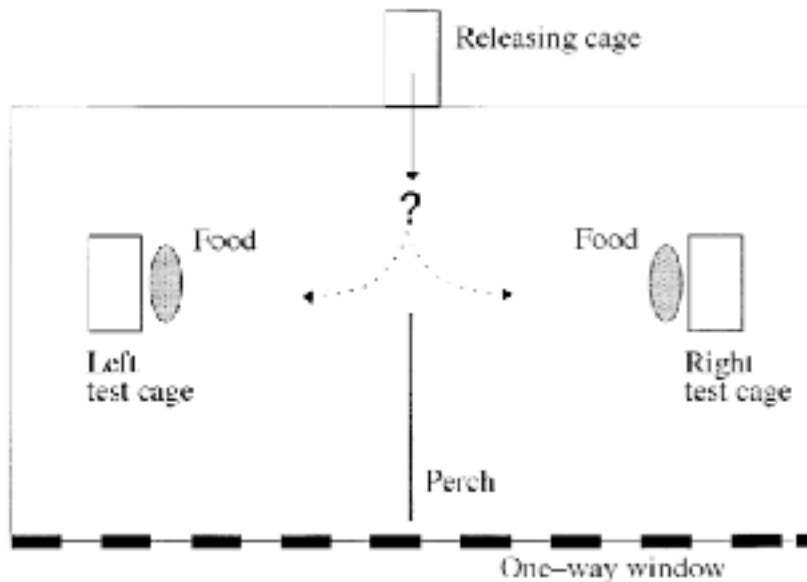
- Badge of status
 - Signal dominance between competitors
 - Cost of fighting can be experienced by both individuals (not just by loser)
 - Thus, if one individual is likely to win, then it is beneficial to signal and avoid a fight





Intrasexual selection: Pre-copulatory

- Badge of status
 - Receivers respond by avoiding signalers with large badges



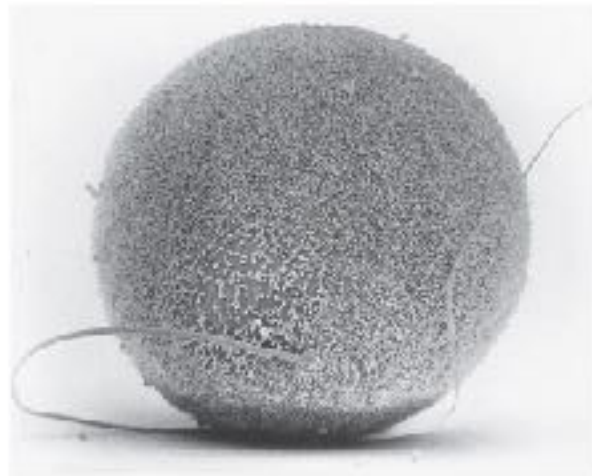
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Intrasexual selection: Mate guarding

What can males do to assure fertilization?



HomeDNA Home Paternity Testing System

Intrasexual selection: Mate guarding

What can males do to assure fertilization?



HomeDNA Home Paternity Testing System

Mate Guarding = prevent other males
from gaining access to female

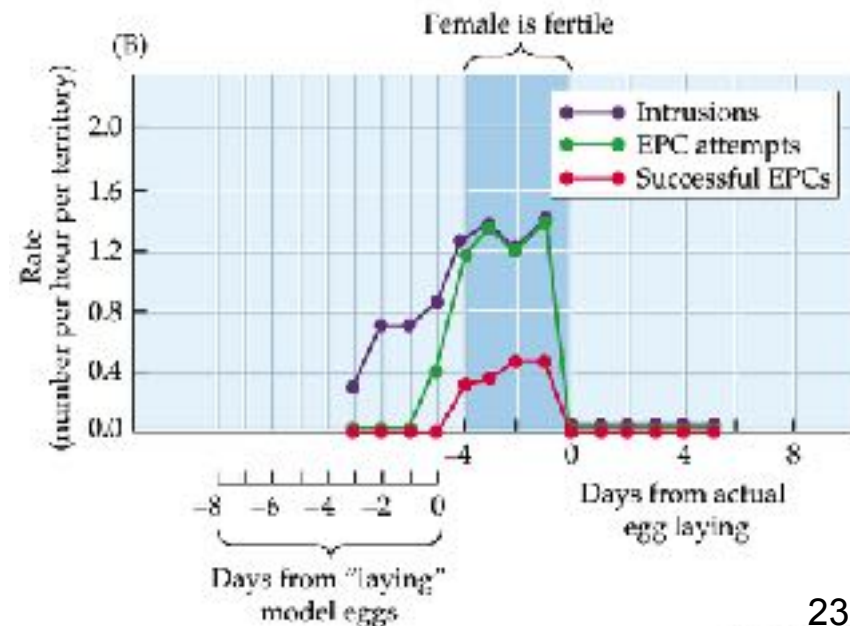
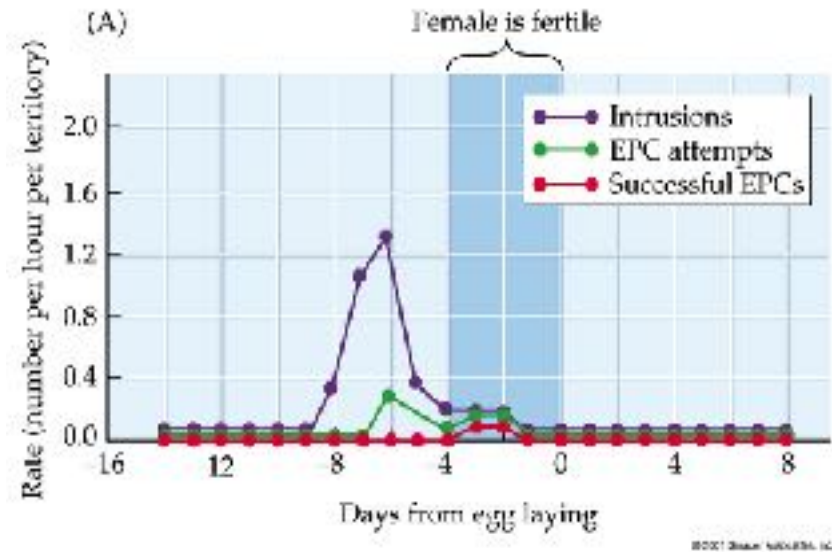


Intrasexual selection: Mate guarding

- Mate guarding at key times
 - Guarding when female fertile usually works (few EPFs)
 - Don't pay cost of guarding when would not be effective
 - If male fooled into thinking female not fertile (with model eggs placed in nest), other males gain EPFs

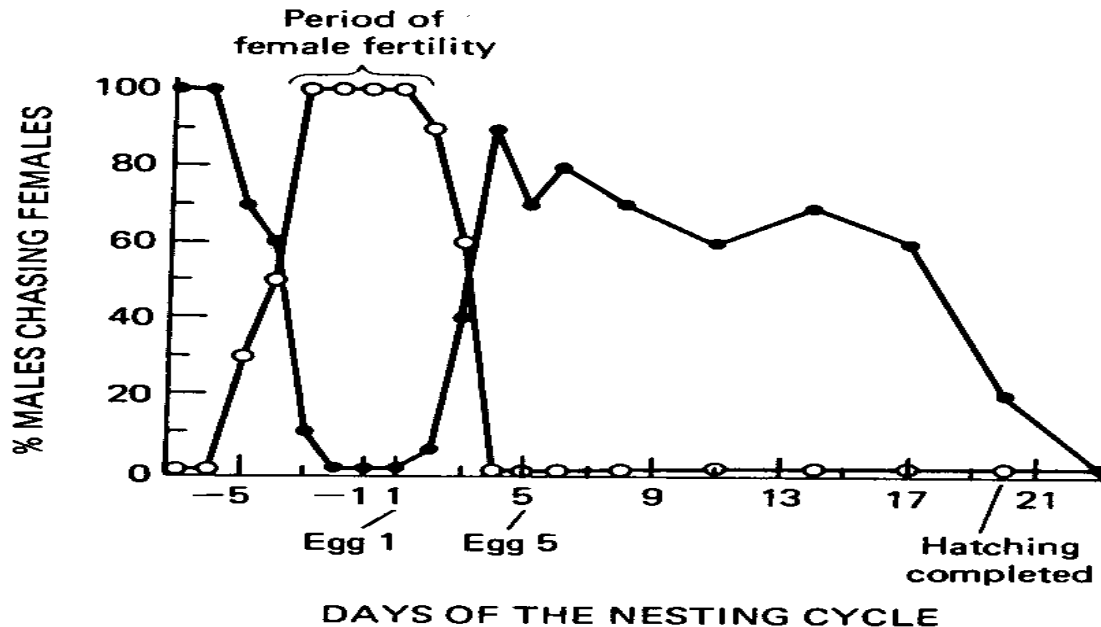


Seychelles warbler



Intrasexual selection: Mate guarding

- Mate guarding at key times
 - Chase other females when your mate is not fertile (closed circles)
 - Chase your mate when mate is fertile (open circles)



Bank Swallow



<http://www.youtube.com/watch?v=uOGDBONyTDY>

