

Anthro 101:
Human Biological Evolution

Lecture 10: Primate Behavior –
Reproductive Strategies

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Studying Primate Behavior

- An evolutionary approach to behavior
- Sexual Selection
- Male Reproductive Strategies



Behaviors are adaptations to particular social environments

- **Behavioral strategies**
 - Course of action under certain circumstances
 - **Does not imply conscious reasoning, deliberate planning, or intent**
- How does the behavior effect and individual's fitness
 - Costs vs. Benefits of an action



Mammalian females are committed to invest in offspring

- Internal gestation (pregnancy)
- Lactation (nursing)
- Maternal investment **obligatory**
- Paternal care **optional**



Selection shapes male reproductive strategies of males, too

- Females:
 - **Time & energy limits how often can have new infant**
 - Limit to reproductive success
- Males:
 - Reproductive success limited by:
 - Number of mating opportunities
 - Access to females
 - Range of strategies that will affect male reproductive success
 - More options



1. Males can increase RS by investing in offspring

Expect males to invest when:

1. Finding additional mates difficult

- Females spread out
- Females mate synchronously

2. Fitness of kids raised by just mom is low

- infants are very big
- litter size > 1
- high risk of predation/infanticide



Questions

- List the types of group living
- When do males invest in offspring?
- What does the resource defense model include?
- How can males increase their RS?

2. Males can increase RS by competing

- **Sexual Selection** favors traits that increase success in competition for mates
 - more pronounced in sex with limited access to mates
 - = MALES (in mammals... usually)
- Intra-sexual selection = male-male competition for access to mates
- Inter-sexual selection = female selection of males with the most attractive traits

Intra-sexual selection in primate males

- Male-male competition favors
 - Large body size
 - Large canines
 - **Mate guarding**



Inter-sexual selection in primate males

Inter-sexual selection =
Female choice favors

- Flashy colors
- Energetic displays
- Friendly behavior
- **Paternal care**



mandrill



tamarin

Ex: Male Investment

Pair-bonded species: Marmosets & Tamarins

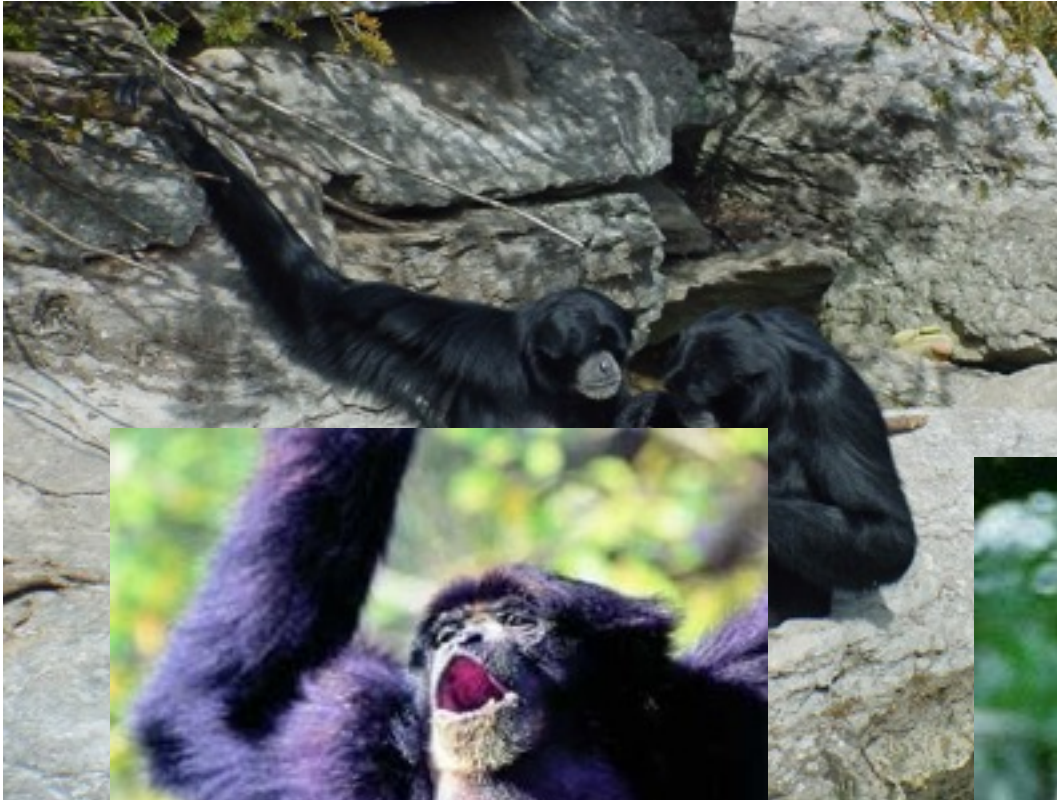
- Male RS tied to his mate's RS
- Males invest in offspring
 - Carry infants
 - Share food with infants
- Males guard females vs. rivals
- Closely bonded to mate



Dusky titi monkeys

Ex: Male Investment

Pair-bonded species: Gibbons and siamangs



priority of access

Sing duets in territorial displays

Males help care for infants

Ex: Male Competition

Fights & distant fathers: multi-male groups

- Male RS tied to number of different females he can mate with
- Males compete for dominance rank
 - size & strength
- Rank orders change frequently
- Male rank is correlated with reproductive success

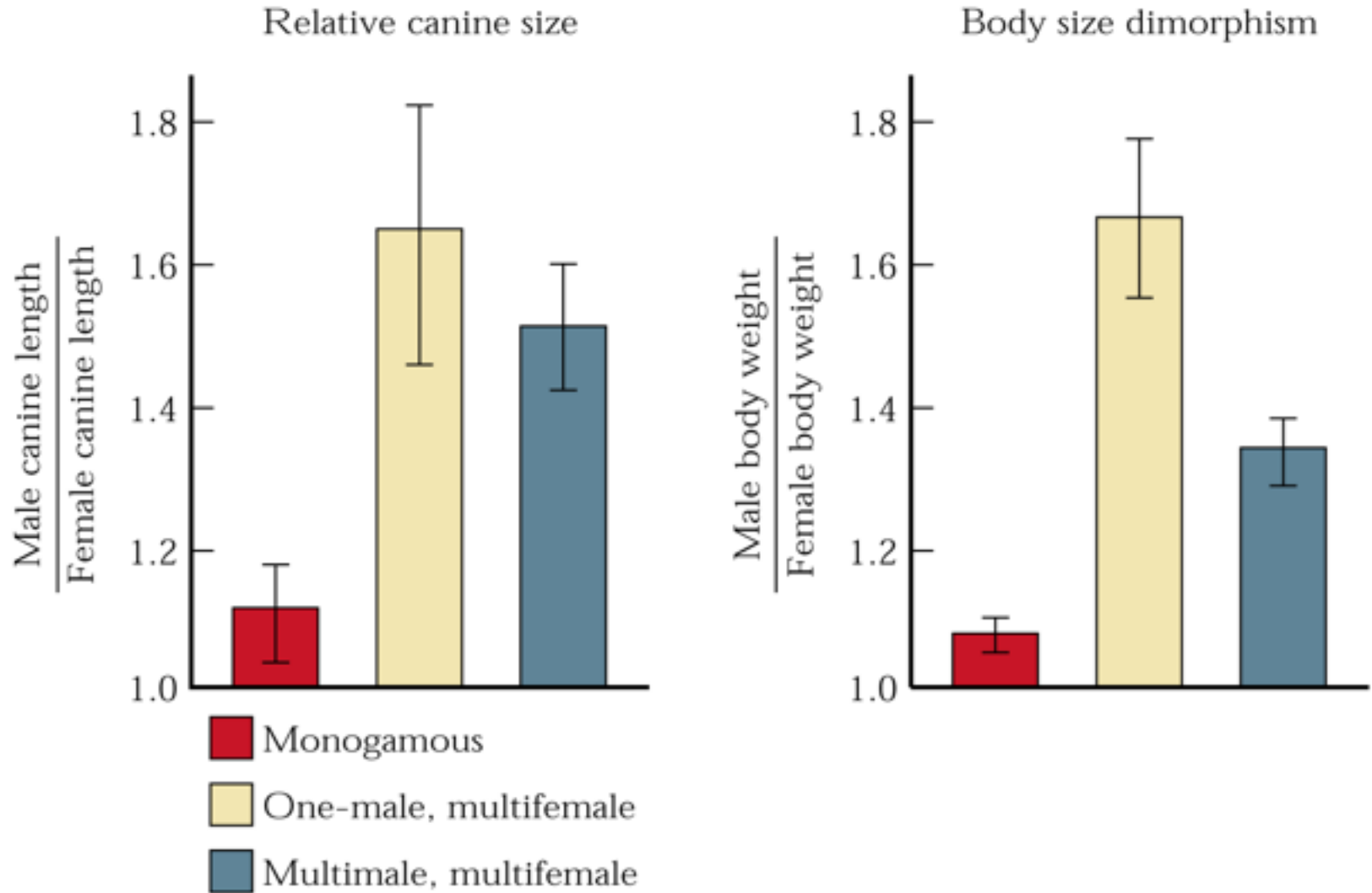


Multi-male groups

- Baboons
- Langurs
- Chimpanzees



More intense male-male competition leads to greater sexual dimorphism



Baboon males are twice as big as females



Males have large canines for fighting other males
(NOT for eating meat!)



Males fight over access to receptive females



These fights can be very costly to males

