



Sexual Selection

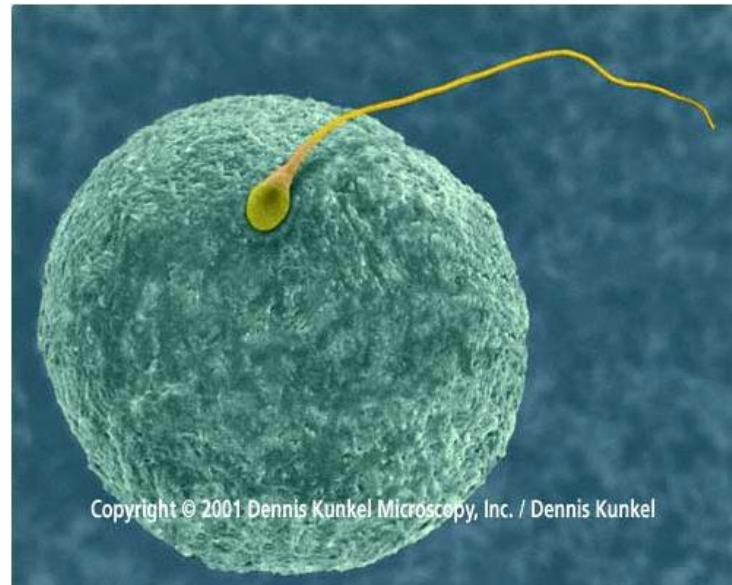
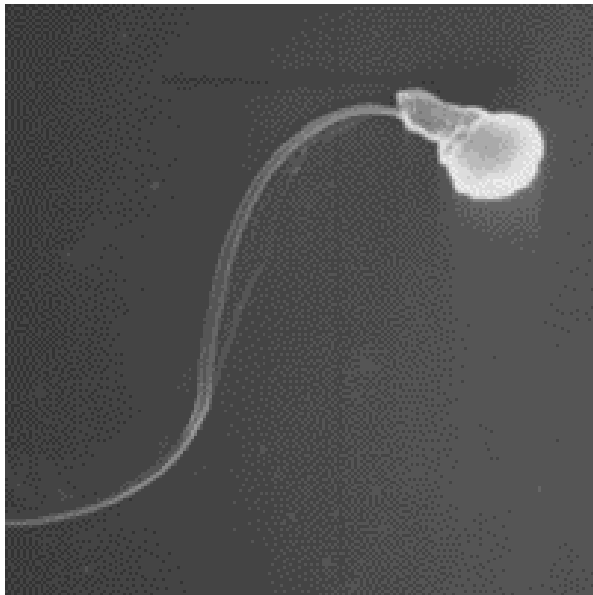
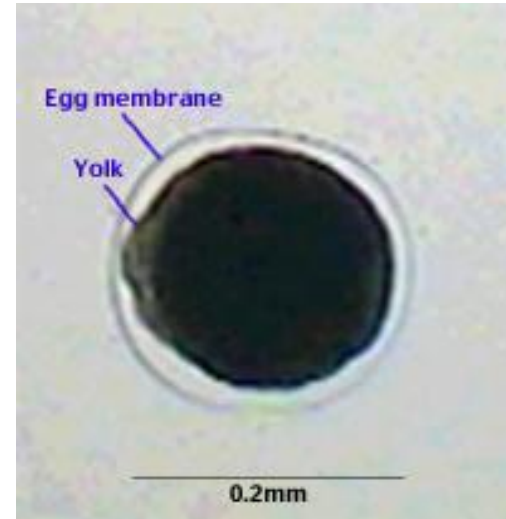
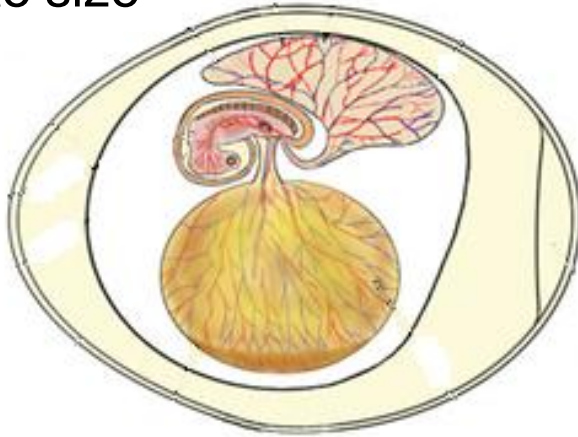
Subset of natural selection that is concerned only with traits dealing with reproduction.

- Sexual reproduction creates different selection pressures for male and females
- Differences stem primarily from differences in parental investment

Parental investment = anything a parent does to increase the probability that its offspring will survive to reproduce.

Parental Investment

1. Gamete size



Parental Investment

2. Post fertilization investment



Parental Investment

3. Parental care



Females typically have larger PI than males

Female reproductive success tends to be limited by:

Ability/opportunity to produce eggs/become pregnant

Selects for choosiness → females choosy about who she mates with

Male reproductive success tends to be limited by:

Access to females and being allowed to mate

Selects for competitiveness → males compete with each other for access to females

2 types of Sexual Selection:

1. Intrasexual selection = male-male competition
2. Intersexual selection = female choice

Intrasexual Selection

- Competition among members of the same sex for access to mates
- Male-male competition



Favors evolution of traits that will enhance a male's:

1. Competitive ability with other males
2. Attractiveness to females

Intrasexual Selection

1. **Pre-mating Competition** – deal with a male's ability to get to a female and be allowed to mate.

a. **Direct competition for dominance**

- typically involves combat, combative display



Direct access



Indirect access



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Selection favors traits that enhance combat ability.



i. Large body size

→ Sexual dimorphism



ii. Weaponry, related structures



Selection favors ability to assess opponent's fighting ability.

iii. ritualized combative displays.



Male elephants and Musth



Musth = physiological state in which a male has a heightened willingness to escalate fights

Being in musth is an **honest signal of dominance.**



Elk

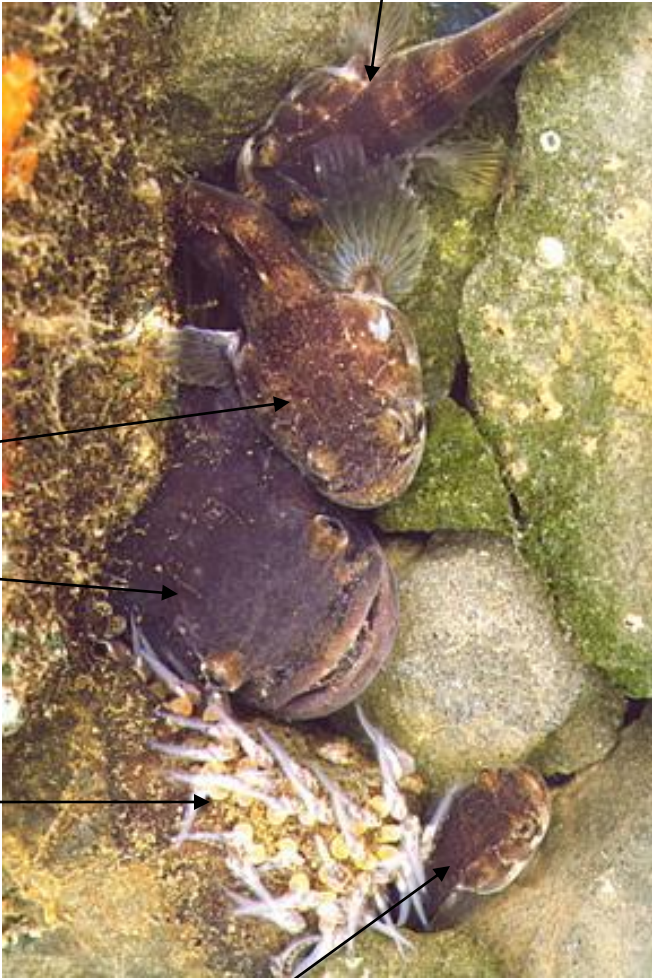


Turkeys

Intrasexual Selection

1. **Pre-mating Competition** – deal with a male's ability to get to a female and be allowed to mate.
 - a. Direct competition for dominance
 - i. Sexual dimorphism (larger body size in males)
 - ii. Weaponry (fighting related structures)
 - iii. Combative displays
 - b. **Alternative Mating Strategies**
 - i. Satellite and sneaker males

Sneaker male



female

Parental male

babies

Sneaker male

Intrasexual Selection

1. **Pre-mating Competition** – deal with a male's ability to get to a female and be allowed to mate.
 - a. Direct competition for dominance
 - i. Sexual dimorphism (larger body size in males)
 - ii. Weaponry (fighting related structures)
 - iii. Combative displays
 - b. **Alternative Mating Strategies**
 - i. Satellite and sneaker males
 - ii. Disrupt copulations
 - iii. Force copulations

<http://www.sundancechannel.com/greenporno/>

Intrasexual Selection

1. Pre-mating Competition

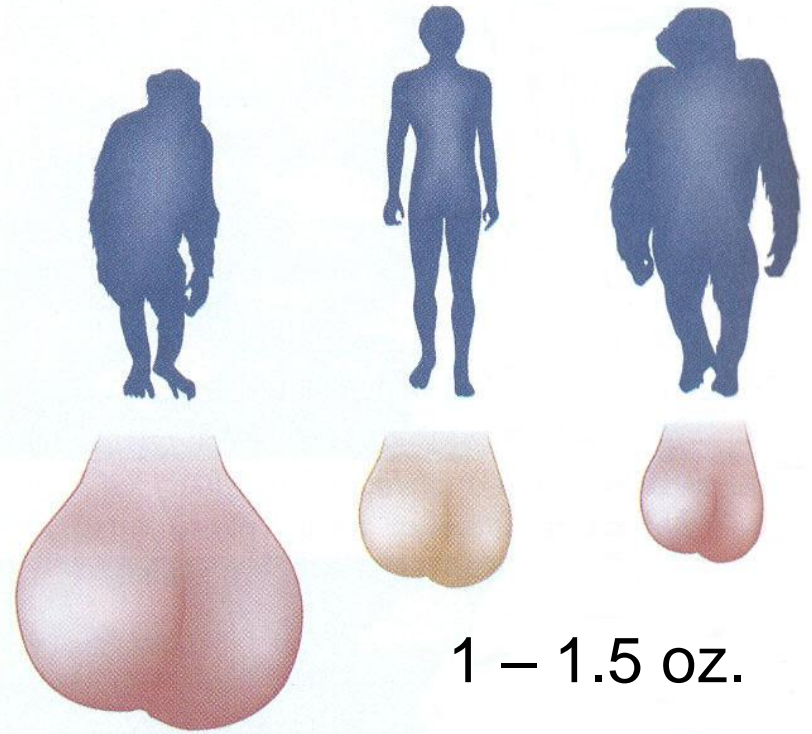
- a. Direct competition for dominance
- b. Alternative Mating Strategies

2. **Post-mating – Pre-zygotic Competition** – after mating but before fertilization

Primarily involves:

Sperm competition – competition among sperm of different males to fertilize the same female's eggs

- faster swimmers
- longer lived
- produce larger quantities



4 oz.

1 - 1.5 oz.

Sperm competition selects for:

a. Mate guarding



Sperm competition selects for:

- a. Mate guarding
- b. Cleansing behaviors

Calopteryx maculata



Sperm competition selects for:

- a. Mate guarding
- b. Cleansing behaviors
- c. Genital plugs



Intrasexual Selection

1. Pre-mating Competition

- a. Direct competition for dominance
- b. Alternative mating strategies

2. Post-mating – Pre-zygotic Competition

Sperm competition:

- a. Mate guarding
- b. Cleansing behaviors
- c. Genital Plugs

3. **Post-zygotic Competition** – events that occur after young are produced

Infanticide – killing young that are not your own