

Intrasexual Selection – Male-male competition

Explains why males:

- larger than females
- have fighting structures
- are sometimes sneaky, guard their mates, create genital plugs.
- commit infanticide

Intersexual Selection – Female Choice

Explains why:

- males bring gifts to females
- males hold territories
- males have elaborate, exaggerated ornaments or displays

Reproductive strategies = ways to go about reproducing

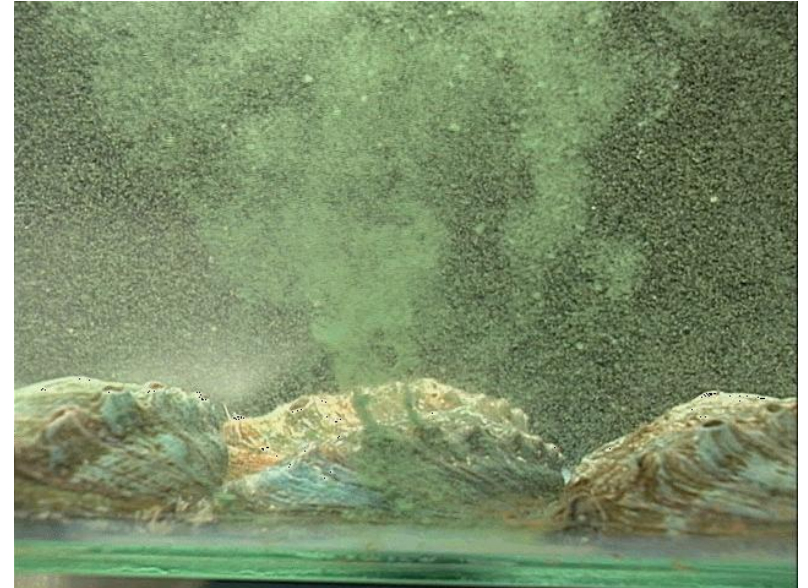
Quality vs quantity:

Lifetime pair bond, 1 egg per year



Albatross

Broadcast Spawning



Abalone

Reproductive strategies = ways to go about reproducing

Quality vs quantity:

Semelparous = reproduce only once during lifetime



Salmon

Iteroparous = multiple reproductive events



African elephants

Reproductive strategies = ways to go about reproducing

Sexual types:

Monoecious = hermaphrodite; both types of reproductive tissue in the same individual

Simultaneous hermaphrodites = both tissues active at the same time



Banana slugs



Barnacles

Reproductive strategies = ways to go about reproducing

Sexual types:

Monoecious = hermaphrodite; both types of reproductive tissue in the same individual

Sequential hermaphrodites = “sex changers”; only one tissue active at a time



Blue-headed Wrasse



Slipper Snail

Reproductive strategies = ways to go about reproducing

Sexual types:

Dioecious = separate sexes



All mammals, birds, reptiles and many others

Mating systems = ways in which animal societies are structured in relation to sexual behavior.

Polygyny – one male mates with multiple females per breeding season

Monogamy – one male mates with one female per breeding season

Polyandry – one female mates with multiple males per breeding season

Promiscuity – males and females have multiple partners

Why so much variation?

1. Sexual selection
2. Life history
3. Social conditions
4. Ecology

Polygyny – one male mates with multiple females per breeding season

Results:

- some males have many mates while others have few to none; most all females get mates
- unequal reproductive success between males and females

Polygyny

1. Female Defense Polygyny = “harem defense”

- Male defends and gets sole access to a group of females



Elk



Elephant Seals

Polygyny

2. Resource Defense Polygyny

- Male defends a resource females need



Mexican Fruit Bat



Black-winged Damselfly

Polygyny

3. Scramble Competition Polygyny

- males “scramble” to beat other males to receptive females
 - a. Females widely dispersed



Thirteen-lined Ground Squirrel

Polygyny

3. Scramble Competition Polygyny

- males “scramble” to beat other males to receptive females
 - a. Females widely dispersed
 - b. Explosive breeding assemblage = breeding period highly compressed



Wood Frogs



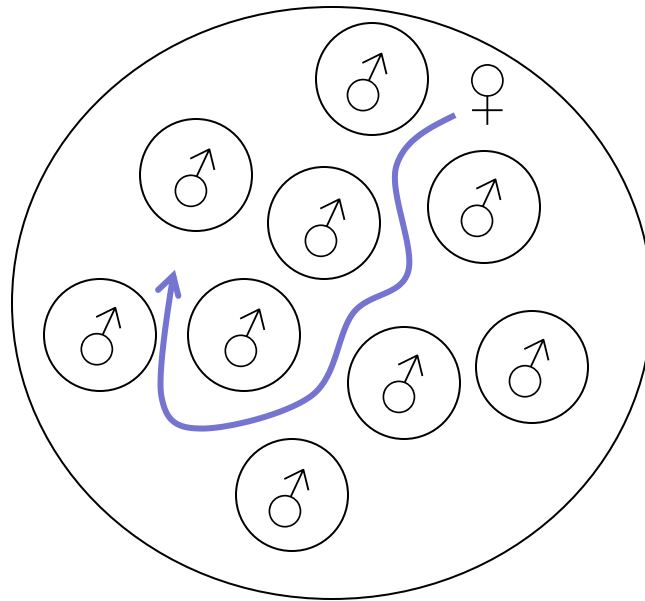
Horseshoe Crabs

Polygyny

4. Lek Polygyny

- males congregated in a mating arena = lek

Why form leks?



Polygyny

4. Lek Polygyny

- males congregated in a mating arena = lek

Why form leks?

- a. Hotspot hypothesis – females frequently pass through the area



Glass-winged butterfly

Polygyny

4. Lek Polygyny

- males congregate in a mating arena = lek

Why form leks?

- b. Hotshot hypothesis – subordinate males gather near dominant males



Black Grouse

Polygyny

4. Lek Polygyny

- males congregate in a mating arena = lek

Why form leks?

- c. Female preference hypothesis – females prefer groups because it allows easier comparisons and requires less search time



Ruff

Monogamy – one male mates with one female per breeding season

Results:

- Same number of males and females get mates
- equal reproductive success between males and females

Monogamy

1. Mate Assistance Monogamy

- male helps by providing a service, usually parental care



Albatross



Songbirds



Penguins

Monogamy

2. Female Enforced Monogamy

- female prevents male from having multiple mates
- not adaptive for males



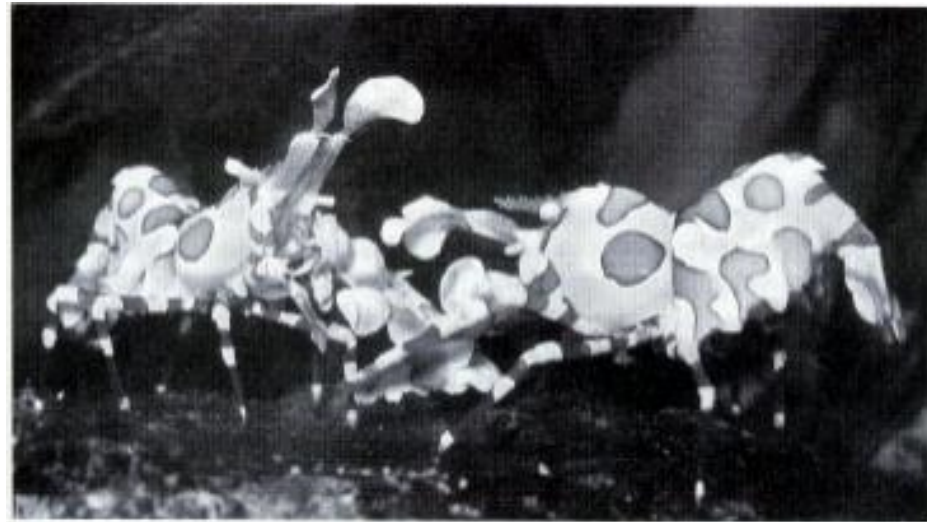
Burying Beetle



Monogamy

3. Mate Guarding Monogamy

- male defends female from other males
- a. Females limited or widely dispersed



Clown Shrimp

Monogamy

3. Mate Guarding Monogamy

- male defends female from other males
- b. Females actively solicit EPC's (extra-pair copulations)



Dunnocks



Reed buntings

Why cheat?

	Males	Females
Costs	<ul style="list-style-type: none">• leaving mate unguarded increases risk of her cheating• time spent looking for new mates = time NOT spent taking care of existing offspring	<ul style="list-style-type: none">• loss of parental care• abandonment
Benefits	<ul style="list-style-type: none">• increased reproductive success, often at another males expense	<ul style="list-style-type: none">• material benefits such as more resources or parental care• egg fertilization insurance• increased genetic variety

Polyandry – one female mates with multiple males per breeding season

- males usually monogamous

Results:

- unequal reproductive success between males and females

Polyandry

1. Group defense of territories by males



Purple Swamphens

Polyandry

2. Female mates serially with multiple males



Red Phalarope
Female



Male



Jacana

Promiscuity – males and females have multiple mating partners

Results:

- equal reproductive success between males and females

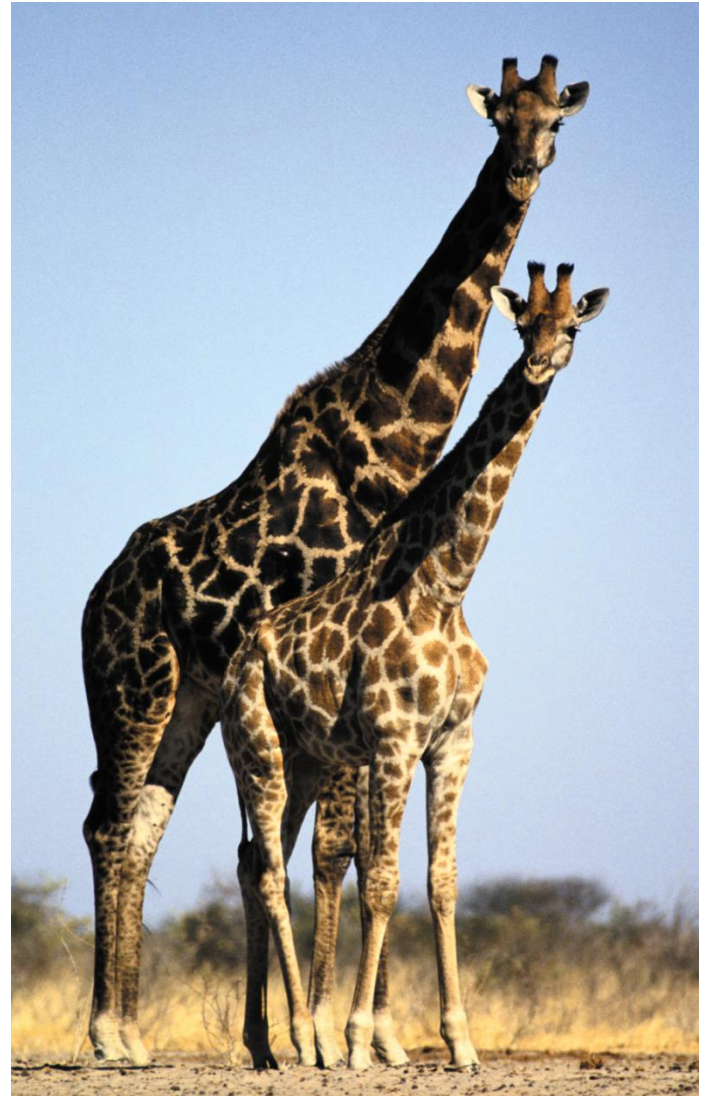
Promiscuity

1. Overlap promiscuity – no pair bonds

a. Overlapping home ranges



Dolphins



Giraffes

Promiscuity

1. Overlap promiscuity
 - b. Male feeding territory



Anna's hummingbird

Promiscuity

2. Polygynandry – pair bonds



Red Foxes



Acorn Woodpeckers



African lions