



Breeding Systems July 6<sup>th</sup>, 2010

### Different Breeding Strategies

- Monogamy
  - 1 male, 1 female
- Polygamy
  - Multiple mates
- Polygyny
  - 1 male, > 1 female
- Polyandry
  - 1 female, > 1 male
- Polygynandry
  - >1 female, > 1 male

### Monogamy

- Benefits
  - Shared parental care
  - Increased vigilance by male
    - Decreases chance of extra copulations by female
- Disadvantages
  - Places all “eggs in one basket”

### Monogamy

- Extra-pair copulations
  - Only 14% of socially monogamous species are actually genetically monogamous
  - Only realized after “DNA fingerprinting” became available

### Polygamy

- Only practiced by 3% of bird species
  - Polygyny (most common)
  - Polyandry
  - Polygynandry (least common)


### Polygyny

- Resource-defense Polygyny
  - Male controls resources
  - Therefore indirectly controls multiple females
  - **Example:** Red Bishop males hold territories and therefore control access to limited nesting sites



**Polygyny**

- Female-defense Polygyny
  - Male controls females directly
  - Females usually gregarious
  - **Example:** elephant seals control harems



**Polygyny**

- Male-dominance Polygyny
  - Males compete for dominance or display directly to females
  - Usually results in a lek
  - **Example:** Cock-of-the-Rock

**Polygyny**


- **Benefits**
  - Increases male’s reproductive output
  - Female accesses good habitat/resources/male
- **Disadvantages**
  - Male less able to prevent extra-pair copulations
  - Female receives less/no assistance from male

**Polyandry**

- Rare, occurs in some Gruiformes and Charadriiformes
- Results in “reverse sexual dimorphism” in some species
- Females have higher testosterone levels, males higher prolactin levels

**Polyandry**

- **Example:** Wilson’s Phalarope




Bill Thompson III

- **Benefits to Polyandry**
  - Increases female’s reproductive output
  - Male gets to incubate and care for his offspring

**Polygynandry**

- Very rare
- Colonial Breeders
- **Example:** Dunnocks live in dense cover, where territories are difficult to defend
  - End up with overlapping territories



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**Brood Parasitism**

- Intraspecific
  - Briefly unattended nests receive eggs from neighbor(s)

**Brood Parasitism**

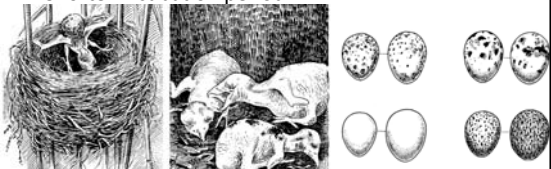
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**Brood Parasitism**

- Intraspecific
  - Briefly unattended nests receive eggs from neighbor(s)
  - Parasite may remove an egg before laying
  - Most common in waterfowl


**Brood Parasitism**

- **Obligate Brood Parasites** (interspecific)
  - Eggs mimic host eggs
  - Parasite eggs thick-shelled, may break host's eggs
  - Shorter incubation period



**Brood Parasitism**

- Brown-headed Cowbirds lay up to 40 eggs per season



**Brood Parasitism**

- Benefits
  - No parental care
- Disadvantages
  - No parental care
  - Host adaptation