



Breeding Systems

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)
 - 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



The image contains three illustrations. On the left, a bird is shown sitting in a cup-shaped nest. In the middle, a cowbird is shown sitting in a nest, with a host bird's egg visible. On the right, there are two rows of eggs. The top row shows several eggs with different patterns of spots and blotches, representing mimetic parasite eggs. The bottom row shows two plain, unspotted eggs, representing host eggs.

Brood Parasitism

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



The image contains two photographs. On the left, a bright yellow bird is perched on a branch next to a brown-headed cowbird. On the right, a brown-headed cowbird is shown sitting in a cup-shaped nest with several eggs.

Brood Parasitism

- Benefits
 - No parental care

- Disadvantages
 - No parental care
 - Host adaptation