Big Love
Monogamy and Promiscuity in the Animal Kingdom

Alexis Harrison: What is a mating system?
Emily Kay: How to play the mating game
Emily Jacobs-Palmer: Is mating the end?
What is a mating system?
Mating Systems

Number of mates (males) vs. Number of mates (females)

MONOGAMY

- Male (♂)
- Female (♀)
Monogamy: Clark’s Grebes
Monogamy: Clark's Grebes

Video: © BBC Natural History
Monogamy: Shinglebacks

Photo: © Alain Steffes (Left), D. Gordon E. Roberts (Right)
Mating Systems

MONOGAMY

Number of mates (males) vs. Number of mates (females)
Mating Systems

Number of mates (males)

POLYGYNY

MONOGAMY

Number of mates (females)
Polygyny: Elephant Seals
Polygyny: Stuart’s Antechinus

Photo: © Michael Slate
Polygyny: Stuart’s Antechinus

Photo: © Michael Slate (Left), Dale Buck Hales (Right)
Mating Systems

POLYGYNY

MONOGAMY

Number of mates (males)

Number of mates (females)
Mating Systems

- **Monogamy**
  - Number of mates: 1 male, 1 female

- **Polygyny**
  - Number of mates: 1 male, multiple females

- **Polyandry**
  - Number of mates: multiple males, 1 female
Polyandry: Sea Dragons
Polyandry: St. Andrew’s Cross Spider

Photo: © Amos T. Fairchild
Polyandry: Deep-sea Anglerfish

Video: © BBC Natural History
Polyandry: Deep-sea Anglerfish

Illustration: © Tony Ayling
Mating Systems

- Monogamy
- Polygyny
- Polyandry

Number of mates (males)

Number of mates (females)
Mating Systems

Number of mates (males)

POLYGYNY

PROMISCUITY

MONOGAMY

POLYANDRY

Number of mates (females)
Promiscuity: The Eastern Bluebird
Promiscuity: Banana Slugs

Photo: © Brooke Miller
Mating Systems Evolve by Natural Selection

Number of mates (males)

- POLYGYNY
- PROMISCUITY

Number of mates (females)

- MONOGAMY
- POLYANDRY
Natural Selection: Survival of the Fittest?
Survival of the fittest?

• It’s not really about survival.
Survival of the fittest?

- It’s not really about survival.
- It’s not really about (physical) fitness either.

Photo: © www.localfitness.com.au
Natural Selection is all about passing on your genes.

• Survival only matters if it helps you reproduce.
Natural Selection is all about passing on your genes.

- Survival only matters if it helps you reproduce.
- Fitness isn’t necessarily about strength or speed, it’s about leaving more offspring.
Natural Selection is all about passing on your genes.

- Survival only matters if it helps you reproduce.
- Fitness isn’t necessarily about strength or speed, it’s about leaving more offspring.
- Fitness: The number of descendants an individual contributes to future generations.
Natural Selection is all about passing on your genes.
Natural Selection is all about passing on your genes.

Illustration: © www.evolution.berkeley.edu
Natural Selection is all about passing on your genes.
What does the mating system have to do with fitness?

- Polygyny
- Monogamy
- Polyandry
- Promiscuity
What does the mating system have to do with fitness?

Number of mates (males)

Number of mates (females)

POLYGYNY
Do more mates = more babies?
Do more mates = more babies?

Mothers

Fathers

Illustration: modified from Madboy74
Do more mates = more babies?

Mothers

Babies

Illustration: modified from Madboy74
Do more mates = more babies?

Mothers → Babies

Illustration: modified from Madboy74
Do more mates = more babies?

Number of mates

Number of babies

Do more mates = more babies?

Do more mates = more babies?

Do more mates = more babies?

Do more mates = more babies?

Summary

- There are four common types of mating systems.
Summary

• There are four common types of mating systems

• **Mating systems affect the fitness of an organism.**
Summary

• There are four common types of mating systems
• Mating systems affect the fitness of an organism.
• The relationship between fitness and mating can be different for males and females.