11.3 Other Mechanisms of Evolution

KEY CONCEPT

Natural selection is not the only mechanism through which populations evolve.
Gene flow is the movement of alleles between populations.

- Gene flow occurs when individuals join new populations and reproduce.
- Gene flow keeps neighboring populations similar.
- Low gene flow increases the chance that two populations will evolve into different species.
Genetic drift is a change in allele frequencies due to chance.

- Genetic drift causes a loss of genetic diversity.
- It is most common in small populations.
- A population bottleneck can lead to genetic drift.
  - It occurs when an event drastically reduces population size.
  - The bottleneck effect is genetic drift that occurs after a bottleneck event.
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- The founding of a small population can lead to genetic drift.
  - It occurs when a few individuals start a new population.
  - The founder effect is genetic drift that occurs after start of new population.
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• Genetic drift has negative effects on a population.
  – less likely to have some individuals that can adapt
  – harmful alleles can become more common due to chance
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Sexual selection occurs when certain traits increase mating success.

- Sexual selection occurs due to higher cost of reproduction for females.
  - males produce many sperm continuously
  - females are more limited in potential offspring each cycle
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• There are two types of sexual selection.
  – intrasexual selection: competition among males
  – intersexual selection: males display certain traits to females