11.2 Natural Selection in Populations

KEY CONCEPT
Populations, not individuals, evolve.
11.2 Natural Selection in Populations

- Natural selection acts on distributions of traits.
  - A normal distribution graphs as a bell-shaped curve.
    - highest frequency near mean value
    - frequencies decrease toward each extreme value
  - Traits not undergoing natural selection have a normal distribution.
Natural selection can change the distribution of a trait in one of three ways.

- Microevolution is evolution within a population.
  - observable change in the allele frequencies
  - can result from natural selection
• Natural selection can take one of three paths.
  – Directional selection favors phenotypes at one extreme.

**Diagram:**
- Antibiotic drugs put pressure on bacteria populations.
- Normal distribution
- Distribution after directional selection

**Graph:**
- Frequency axis
- Mean
- Low drug resistance
- High drug resistance
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- Natural selection can take one of three paths.
  - Stabilizing selection favors the intermediate phenotype.
Natural selection can take one of three paths.
- Disruptive selection favors both extreme phenotypes.