

11.2 Natural Selection in Populations

KEY CONCEPT

Populations, not individuals, evolve.

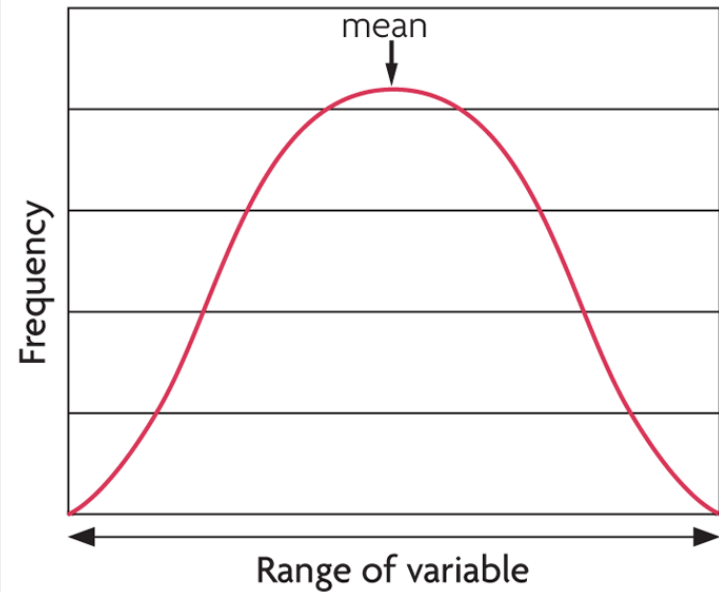


11.2 Natural Selection in Populations

▶ 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.

FIGURE 11.2 NORMAL DISTRIBUTION

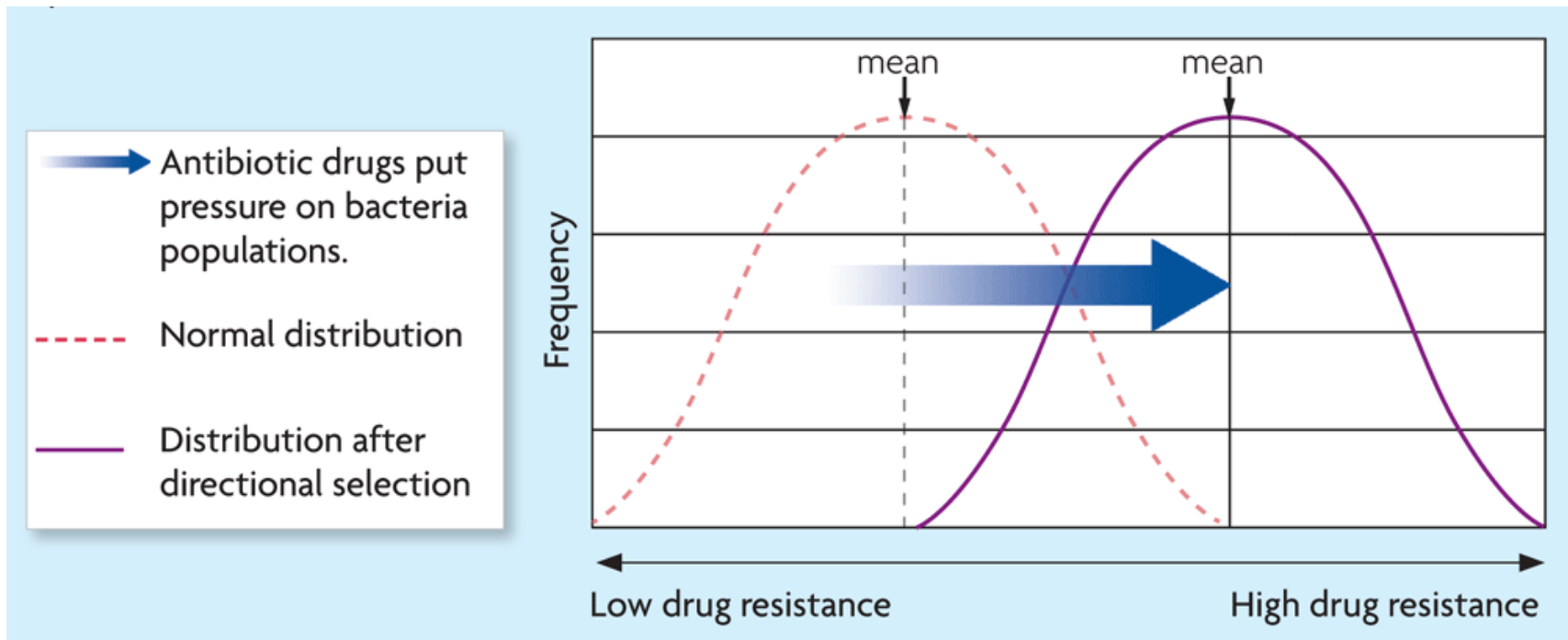


11.2 Natural Selection in Populations

- ▶ **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

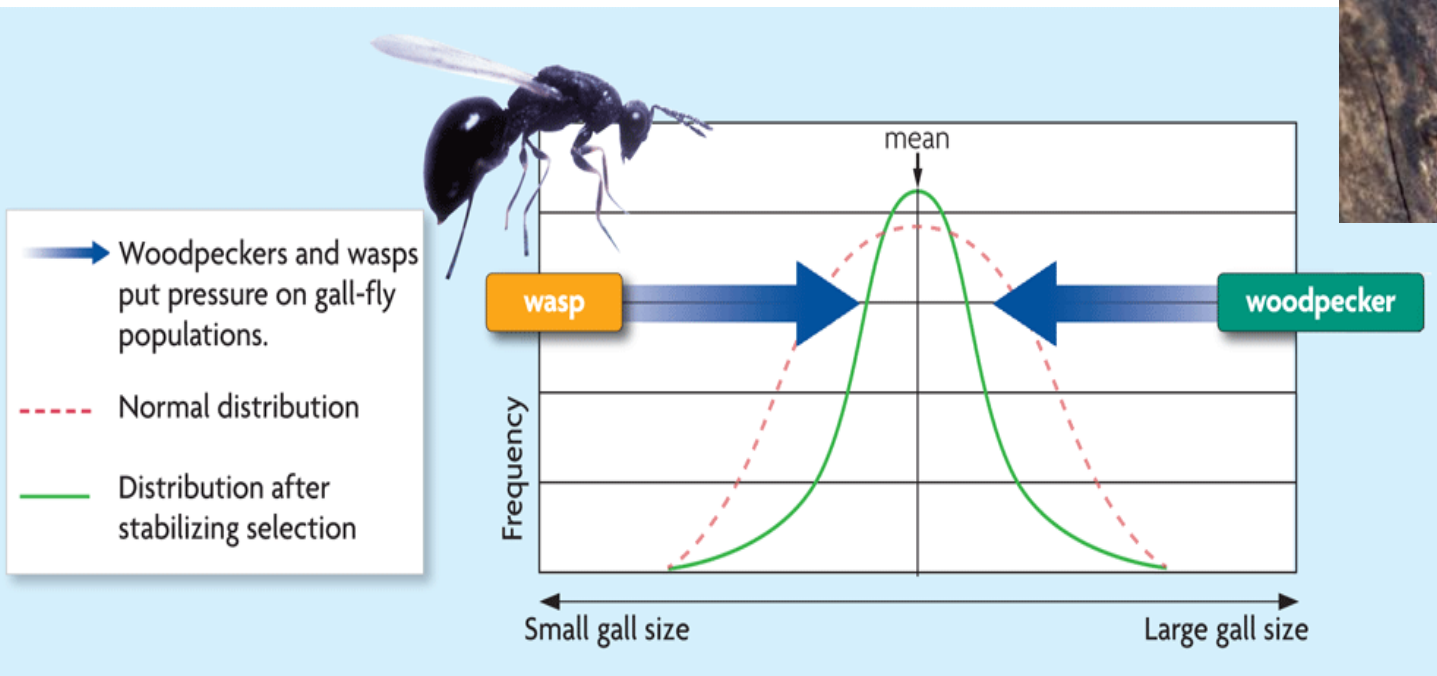
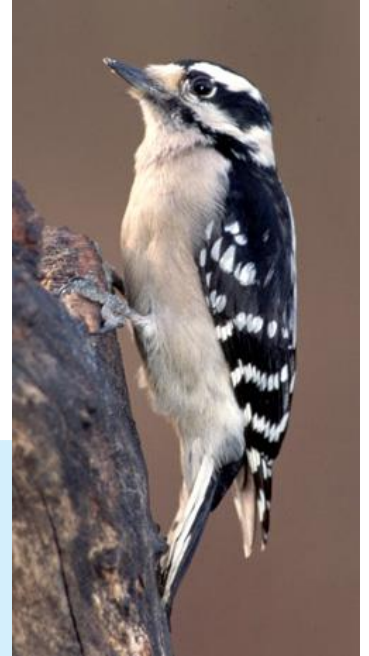
11.2 Natural Selection in Populations

- Natural selection can take one of three paths.
 - Directional selection favors phenotypes at one extreme.



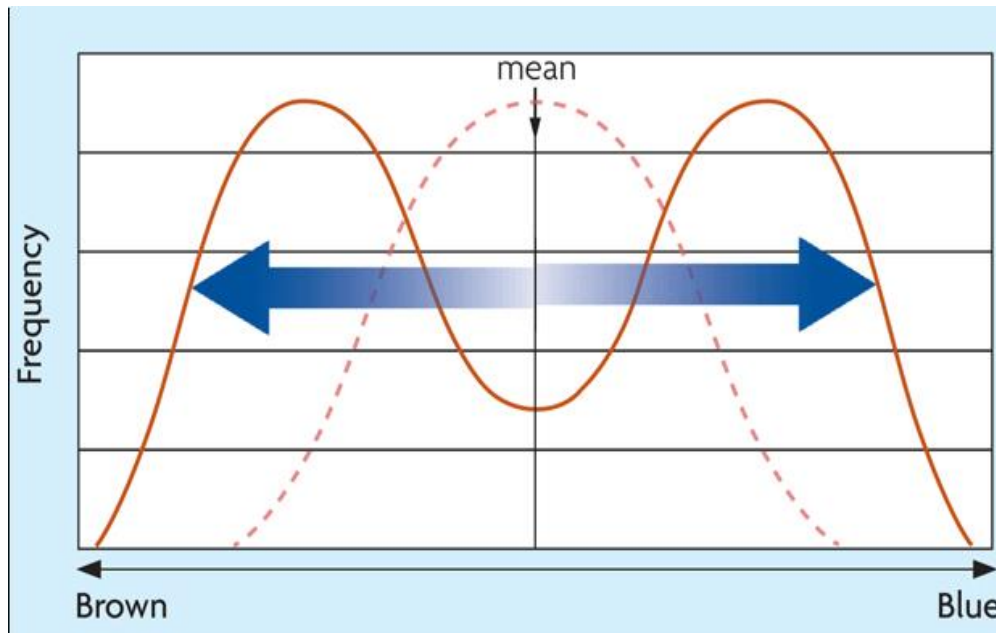
11.2 Natural Selection in Populations

- Natural selection can take one of three paths.
 - Stabilizing selection favors the intermediate phenotype.



11.2 Natural Selection in Populations

- Natural selection can take one of three paths.
 - Disruptive selection favors both extreme phenotypes.



→ Dominant adult males put pressure on young males in the bunting population.

--- Normal distribution

— Distribution after disruptive selection