

Lab-wide Learning Outcomes for How The Guppy Got Its Spots (WB)

Upon completion of *How The Guppy Got Its Spots (WB)*, students should be able to:

1. Construct a histogram of the distribution of values for a quantitative trait in a population.
2. Interpret a histogram of trait values in a population, in terms of the relative likelihood of encountering an individual with a trait value within a particular range.
3. Use natural history and ecological information to construct a reasonable hypothesis explaining observed differences in trait values among related populations.
4. Design and carry out an experiment to test a hypothesis for differences in trait values using techniques such as transplants and removals.
5. Interpret experimental data to make a claim about whether or not a hypothesis is supported by the data.
6. Describe how predator-mediated natural selection can affect trait distributions in a population over time.
7. Explain how the strength of selection relates to the rate of evolution of a trait in a population.
8. Given the relative strengths of two different selective pressures on a trait in a population, predict qualitatively what will happen to the distribution of trait values over time.