BIOMEDICAL SCIENCE JOURNAL FOR TEENS

What does hummingbird coloration tell us about competition?

TEACHER'S KEY

UPPER READING LEVEL

Check your understanding

1 What is polymorphism? What are some examples of polymorphism that you can think of?

Answer

Polymorphism is when there are two or more different forms within a species. This could include different coloration patterns, different shapes, or different behaviors. A familiar example is that males and females of a species often look different (sexual dimorphism). Other examples could include ABO blood types, the occurrence of sickle cell trait in Africa, or the different castes in an ant colony (queen, worker, soldier).

2 What three broad categories of things did we collect data about? What did we compare using this data?

Answer

- Morphology, flying ability, and feeding strategies.
- We compared drab and fancy females as well as females and males.

3 What are the two hypotheses that we tried to test with our data? Which hypothesis was supported? How would our data have looked different if the alternative hypothesis was supported?

Answer

- Hypothesis 1: Females look like males and have the same morphology and behaviors as males.
- Hypothesis 2: Females look like males but do NOT have the same morphology and behaviors as males.
- Hypothesis 2 was supported by the researcher's data. Drab and fancy females are more similar to each other than to males.
- If Hypothesis 1 had been supported, the researchers would have found that fancy females are more similar to males than they are to drab females.

4 We found that male hummingbirds exhibited both non-territorial and territorial feeding strategies. What would a non-territorial feeding strategy look like? What about a territorial feeding strategy? Describe these strategies based on the number of feeders that hummingbirds visited and how often they visited those feeders.

Answer

- Non-territorial feeding strategies would indicate that hummingbirds visited a large number of feeders but did not return to individual feeders very often.
- Territorial feeding strategies would indicate that hummingbirds visited a small number of feeders and they visited each feeder often. They are likely defending a small number of feeders.

Which hummingbirds were more similar in their lifting ability?

Answer

Drab females and fancy females were more similar.