

KEY

AP Biology Quiz: Animal Behavior (Chapter 51):

The graphs below show data collected by a researcher who studied foraging birds called wagtails, which eat dung flies.

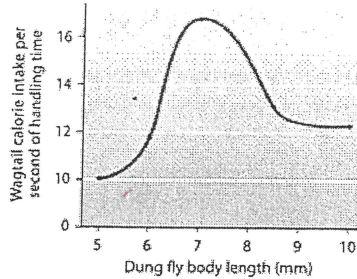


Figure A The relationship between the calories gained by the wagtail and the size of its prey (the dung fly)

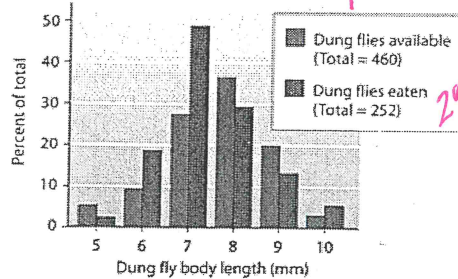


Figure B The prey sizes selected by wagtails compared with the prey sizes available.

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- In Figure A, dung flies of which length provide the greatest calorie intake per second of handling time?
 - 5 mm
 - 7 mm
 - 10 mm
 - 17 mm
- Which of the following statements is supported by the data shown in the graphs?
 - When preying on dung flies, wagtails tend to select prey which are longer in length, regardless of their caloric value per handling time.
 - When preying on dung flies, wagtails do not consider caloric value per second of handling time.
 - When preying on dung flies, wagtails tend to select prey that provides the most calories per second of handling time, regardless of which prey size is most abundant.
 - When preying on dung flies, wagtails will choose any size dung fly to consume, regardless of the caloric value per second handling time.

- Ants carry dead ants from an anthill and dump them onto a "trash" pile. If a chemical from a dead ant is applied to a live ant, the other ants will carry it, kicking and struggling, from the anthill, until the chemical wears off. How do you explain this behavior?
 - The ants are imprinting on the chemical.
 - The ants can only learn by operant conditioning.
 - The chemical triggers a negative taxis behavior.
 - The chemical is a sign stimulus for a fixed action pattern.
- A blackcap warbler from a captive migratory population is mated with another blackcap warbler from a captive nonmigratory population. The lab-reared offspring exhibit a modest amount of migratory restlessness. This behavior, which is intermediate between that of the two parents, could be interpreted as evidence that
 - Migratory behavior is determined exclusively by environmental factors.
 - The differences in migratory behavior between populations are influenced by genetic differences among the populations.
 - Migratory behavior does not evolve through natural selection.
 - The captive nonmigratory birds must learn to migrate or they will die.
- You are sitting on your patio enjoying the beautiful fall weather when you notice a couple of squirrels frolicking in your backyard. You begin to wonder why the squirrels are acting strangely when one squirrel bites the tail of another. Which one of the following is a question about the proximate cause of this behavior?
 - Is the biting behavior of squirrels a form of courtship?
 - Does the presence of a tail close by cause a squirrel to bite?
 - Does biting help keep other squirrels from stealing food?
 - Was the squirrel defending a mate from an intruder?