

Lab 9: Australian Ground Cricket Behavior

GOALS:

You should be able to.....

- ★ Distinguish the physical differences between male and female crickets.
- ★ Use appropriate vocabulary to explain how crickets create and sense sound.
- ★ Label two diagrams that show 1) file & scraper 2) tympanic membrane
- ★ Describe the differences between the three types of cricket songs.
- ★ Compare and contrast the behavior of your male cricket during isolation, introduction of a female, and introduction of another male.
- ★ Use your observations to identify cricket behaviors that show submission, aggression, and courtship.
- ★ Describe the simple experiment you conducted to determine the cricket's response to light; explain how you would adjust this experiment to make a more valid conclusion about cricket behavior.
- ★ Describe the experiment you designed and summarize your results.
- ★ Describe the aggressive behavior of a Betta fish.

Key Terms:

- | | | |
|---------------------|--------------------------|------------------------|
| ✓ cerci | ✓ antennation | ✓ fleeing |
| ✓ ovipositor | ✓ calling song | ✓ pecking order |
| ✓ stridulation | ✓ aggressive song | ✓ hypothesis |
| ✓ file | ✓ courtship song | ✓ experimental control |
| ✓ scraper | ✓ grooming | |
| ✓ tympanic membrane | ✓ normal (isolated male) | |
| ✓ mandibles | behaviors | |
| ✓ palps | ✓ submissive behaviors | |
| ✓ spermatophore | ✓ aggressive behaviors | |

Introduction

- ☐ p. C-55: Listen to introduction & read top of p. C55. Take notes on terminology.

Observations & Experiments

I. Normal Behavior:

- ☐ pp. C55-C56, C60: Read procedure, then conduct observations & record results on p. C60
- ☐ Answer questions I. (1)-(4) on p. C58

II. Courtship Behavior:

- ☐ pp. C56, C60: Read procedure, then conduct observations & record results on p. C60
- ☐ Answer questions II. (1)-(4) on p. C58

III. Aggressive Behavior:

- ☐ pp. C56, C60: Read procedure, then conduct observations & record results on p. C60
- ☐ Answer questions III. (1)-(7) on pp. C58-C59

IV. Phototaxis:

- ☐ pp. C56: Read procedure, then conduct observations.
- ☐ Write a hypothesis about the behavior you observed. Use an "If.....then," statement.
- ☐ What might be changed or added to this experiment to make it more scientifically valid?
- ☐ Answer questions IV. (1)-(2) on p. C59

V. Design Your Own Experiment:

- ☐ Design and conduct an experiment that will teach you something about cricket behavior. Check with me before conducting your experiment. Fill out the following before you begin:
- ☐ What is your question? _____
- ☐ What is your hypothesis? _____
- ☐ What is your control? _____
- ☐ Come up with a plan on how you will carry out your experiment and go for it! RECORD RESULTS on p. C60.
- ☐ Was your hypothesis supported? _____ Why or why not?

VI. STATIONS

- ☐ View cricket wing under the dissecting microscope. Make a sketch labeling the file and scraper.
- ☐ View the tympanic membrane of a cricket under the dissecting microscope. Make a sketch.
- ☐ p. C57: Answer questions V. (1)-(2).
- ☐ Observe Betta fish aggression. Lift the paper that is located between the two fish bowls. Record what you observe below.