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Fighting and Assessment of Dominance in House Crickets

Pre-Lab:

Question 1. Do you anticipate the resident or intruder cricket will be the “winner” of more interactions? Discuss in regard to the AVH versus the PHP hypothesis. Why? (3 pts)

Question 2. Do you anticipate the larger or smaller cricket will be the “winner” of more interactions? Discuss in regard to the AVH versus the PHP hypothesis. Why? (3 pts)

Data Collection:

Treatment 1: Large Owner, Small Intruder (3pts)

Behavior	Large Owner			Small Intruder		
	Total Time	# Dominant	# Submissive	Total Time	# Dominant	# Submissive
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Fleeing						
Shudder						
Sing						
Crawl-over						
Go-around						
Jump						

Treatment 1: Sum the number of interactions from the table above (2pts)

	# Interactions Dominant	# Interactions Submissive
Owner		
Intruder		

Treatment 2: Small Owner, Large Intruder (3 pts)

Behavior	Small Owner			Large Intruder		
	Total Time	# Dominant	# Submissive	Total Time	# Dominant	# Submissive
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Fleeing						
Shudder						
Sing						
Crawl-over						
Go-around						
Jump						

Treatment 2: Sum the number of interactions from the table above (2 pts)

	# Interactions Dominant	# Interactions Submissive
Owner		
Intruder		

Question 3. Were there any cases where small crickets dominated over large crickets? Was this more common when an asymmetry of value existed? (3 pts)

Treatment 3: Small Intruder, Large Intruder (3pts)

Behavior	Large Intruder			Small Intruder		
	Total Time	# Dominant	# Submissive	Total Time	# Dominant	# Submissive
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Fleeing						
Shudder						
Sing						
Crawl-over						
Go-around						

Treatment 3: Sum the number of interactions from the table above (2 pts)

	# Interactions Dominant	# Interactions Submissive
Small		
Large		

Data Analysis:

Using the data below from past years, answer the following questions:

		# Interactions Dominant
Treatments 1 & 2	Owner	106
	Intruder	61
Treatment 3	Small Intruder	57
	Large Intruder	135

Question 4. Does prior investment in the territory resource result in more dominant behaviors exhibited by house crickets? Show your work. (10pts)

Statistical test:

One or two-tailed? Why?

H0:

HA:

Work:

Conclusion:

Question 5. Was this the result you expected? Why or why not? (3 pts)

Question 6. In a neutral territory, does the size of the cricket influence the dominance behaviors exhibited by the individuals, i.e., will larger individuals be more dominant? Show your work. (10 pts)

Statistical test:

One or two-tailed? Why?

H0:

HA:

Work:

Conclusion:

Question 7. Was this the result you expected? Why or why not? (3 pts)



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