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Mate Selection in House Crickets

Pre-Lab:

Question 1. Do you anticipate the female will have a mate preference for the resident or intruder cricket? Why? (3 pts)

Question 2. Do you anticipate the female will have a mate preference for the larger or smaller cricket? Why? (3 pts)

Data Collection:

Treatment 1: Large Owner, Small Intruder. Sum the total number of interactions. (5pts)

Dominant Behaviors	Large Owner		Small Intruder		Female	
	# Directed at Female	# Directed at S Male	# Directed at Female	# Directed at L Male	# Directed at L Male	# Directed at S Male
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Shudder						

Sing						
Crawl-over						
Mount	N/A	N/A	N/A	N/A		
Total #s						
Summed						

Treatment 2: Small Owner, Large Intruder. Sum the total number of interactions. (5 pts)

Behavior	Small Owner		Large Intruder		Female	
	# Directed at Female	# Directed at L Male	# Directed at Female	# Directed at S Male	# Directed at S Male	# Directed at L Male
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Shudder						
Sing						
Crawl-over						
Mount	N/A	N/A	N/A	N/A		
Total #s						
Summed						

Question 3. Were there any cases where small cricket demonstrated a greater # of dominant behaviors over large crickets? Was this more common when an asymmetry of value existed? (3 pts)

Treatment 3: Large Intruder, small intruder. Sum the total number of interactions. (5pts)

Behavior	Large Intruder		Small Intruder		Female	
	# Directed at Female	# Directed at S Male	# Directed at Female	# Directed at L Male	# Directed at S Male	# Directed at L Male
Antenna Tap						
Body Raise						
Leg Kick						
Head Butt						
Chase						
Shudder						
Sing						
Crawl-over						
Mount	N/A	N/A	N/A	N/A		
Total #s						
Summed						

Data Analysis:

In prior years, we have been able to perform each of these tests in groups, resulting in a dataset with a greater number of total interactions. Using the data below from past years, answer the following questions:

		# Dominant Interactions by Female
Treatments 1 & 2	Owner	141
	Intruder	132
Treatment 3	Small Intruder	42
	Large Intruder	156

Question 4. Is a female cricket's mate preference (greater # of dominant interactions) influenced by the male's prior investment in a territory? 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 male cricket influence the mate preference (greater number of dominant interactions) of the female cricket? Show your work. (10pts)

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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