

Introduction

- We were curious to know if female guppies are more interested in the quality or quantity of males.

Hypothesis & Predictions

- A female guppy is more likely to choose a quality male guppy than a large quantity of less desirable males
- If female choice is determined by quality, not quantity, when given a choice, the female guppy will choose a high quality male over a group of several lower quality male guppies.

Methods:

- On either end of a three compartment tank we added one male of differing colors and placed a female in the middle compartment
- We then added two more males to the side the female seemed less interested in
- Using two stopwatches, we timed which side of the tank the female spent the most time around during a 2 minute period.

Results

Figure 1: Test Averages

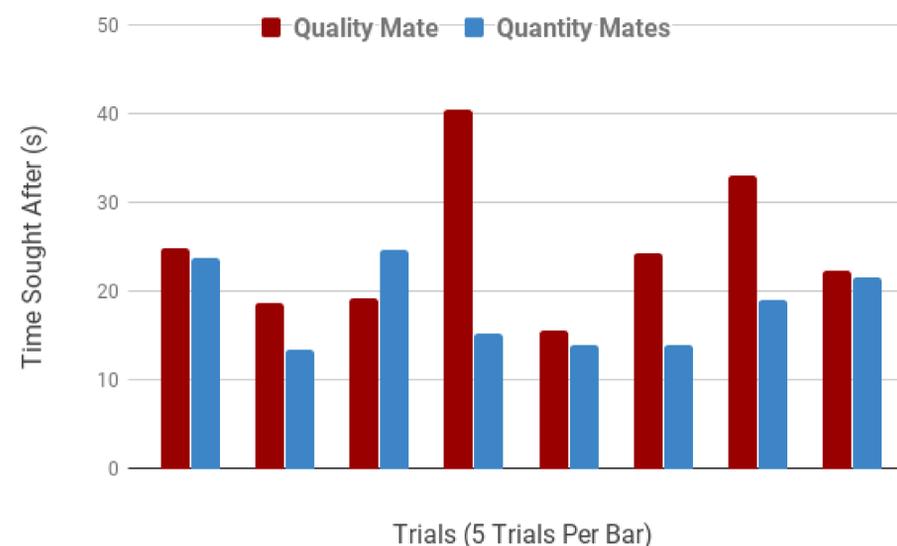


Figure 1 shows the amount of time female guppies spent “choosing” each test variable. Each bar is an average of 5 trials.

Figure 2: Experiment Setup

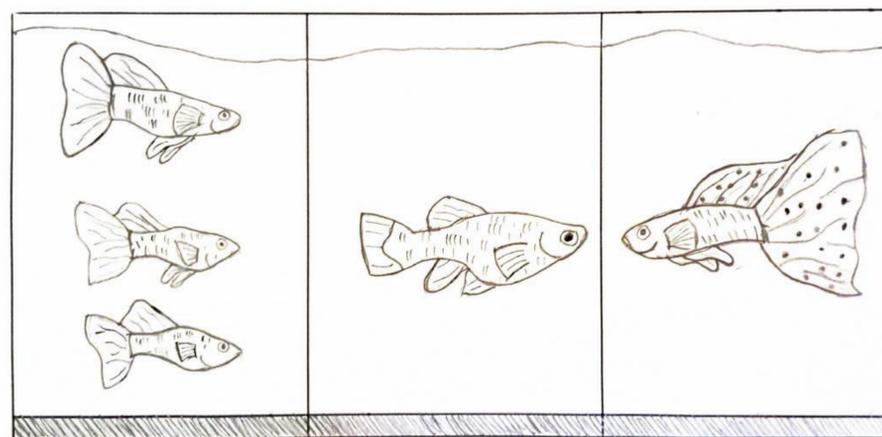


Figure 2 shows the experimental design used in this study. The female guppy (center) is “choosing” the lone attractive male (right) over the three unattractive males (left).

Conclusions

- A t-test determined that the data support our prediction: female guppies will choose quality over quantity. ($p = 0.01$)
- The effect size is medium ($D = 0.52$)
- With more time and resources, we could conduct revised testing to weed out possible confounding variables.



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