

Mate Selection via Female Preference of Male Guppies that Exhibit Brightly Colored Tails

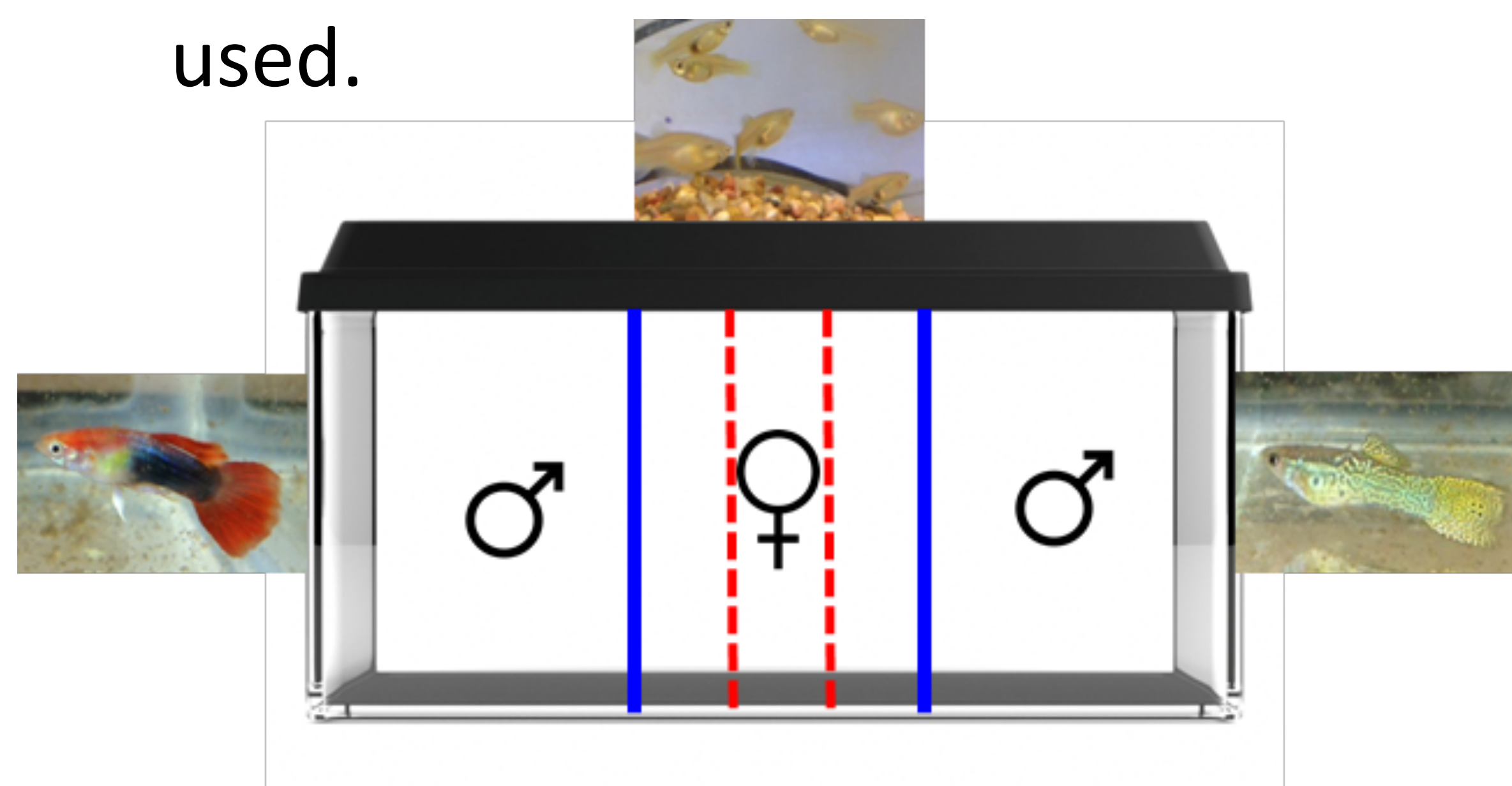
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Introduction

Intersexual selection in guppies is achieved through female choice. Females select mates based on certain traits; but what are those traits? We hypothesized that female guppies would prefer male guppies that lacked black spots on their tails. We predicted that female guppies would spend more time on the side of the tank that contains the male with no spots on his tail.

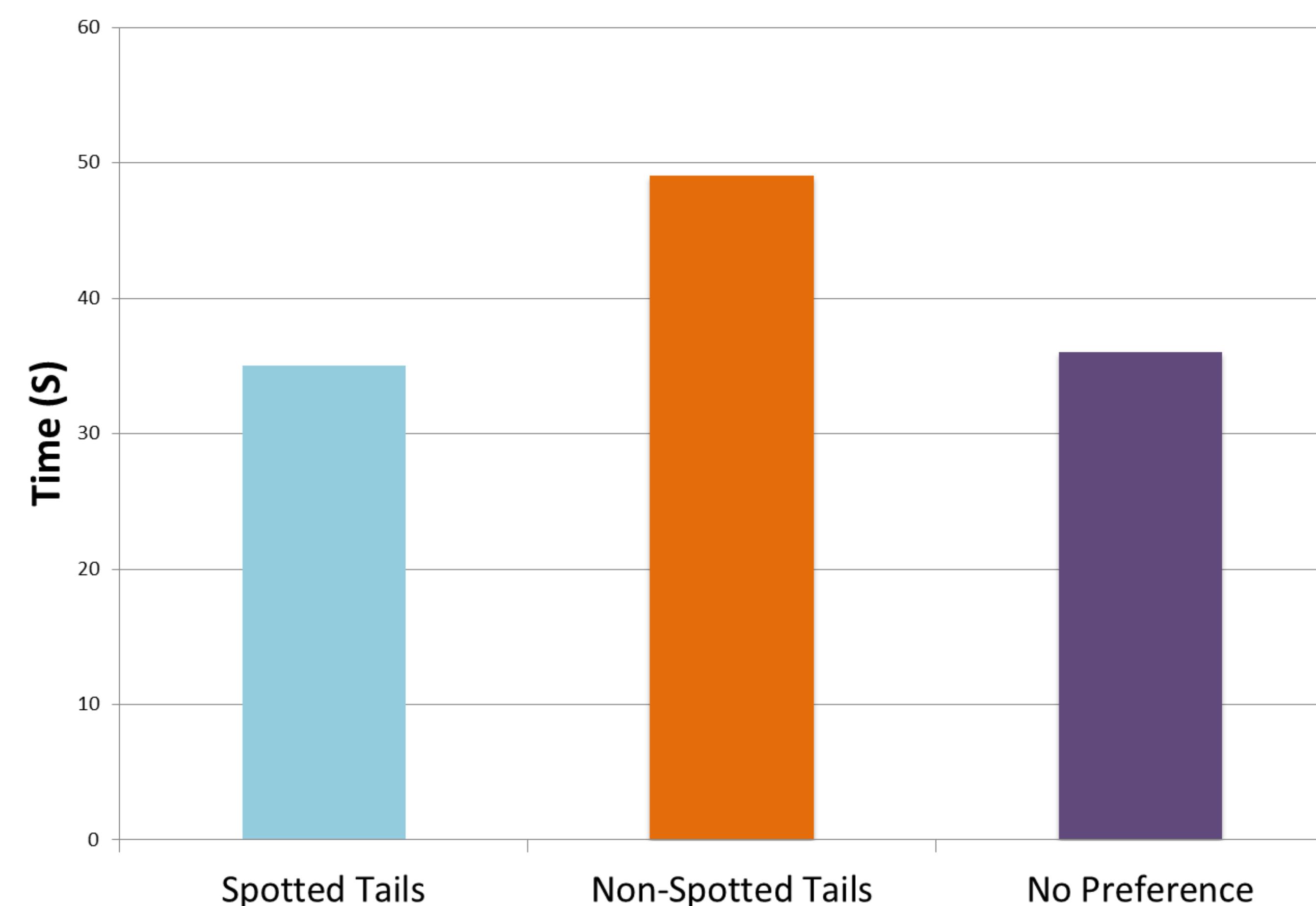
Methods

- The tank was separated into thirds with the middle portion partitioned into thirds again (see figure below).
- One male without spots was placed on the left, one male with spots was placed on the right, and one female was placed in the center (see figure below).
- The amount of time the female spent in each third of her section over a two minute period was recorded.
- Females and males were replaced every trial or every third trial, respectively.
- 42 females were used. 28 males were used.



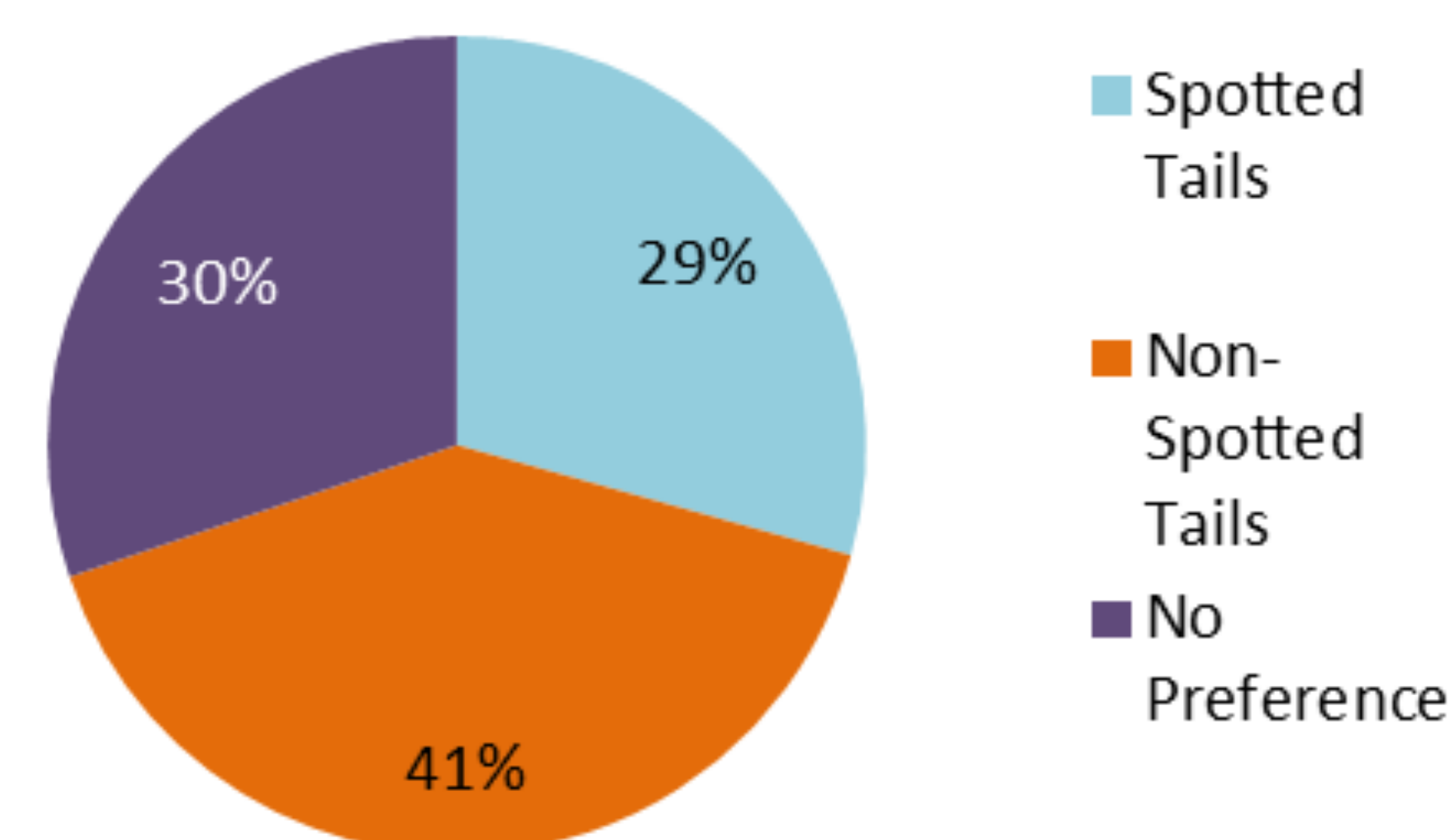
Results

Average Time Spent with Males



The graph above shows the average amount of time in seconds spent by female guppies on the side of the tank containing either a spotted or non spotted male.

Time Allocation of Females



The chart above illustrates the proportion of time spent by female guppies in reference to the side of the tank containing either a spotted or non spotted male.

Conclusion

Females spent more time on average in the third of their partition closest to the male without spots on his tail; However, the time difference was small (14 seconds). Because the time difference was small, our hypothesis was not clearly supported. Furthermore, females spent an almost equivalent amount of time in the middle third of their partition (no preference) as they did in the third of their partition closest to the male with the spotted tail. It may be possible that female guppies prefer males without spots, but it is likely that the presence or absence of spots on the male's tail is not the primary trait females use when choosing a mate. Other traits of male guppies (body size, tail color, tail morphology, etc.) most likely have a heavier influence on mate choice.

Acknowledgements

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