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# Familiarity and its impacts on male mate preference the Sailfin Molly, *Poecilia latipinna*

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## Introduction

- Preferences for unfamiliar mates<sup>1</sup> and novel traits<sup>2</sup> have been found in females of other Poeciliid fishes
- There has been less research into Poeciliid males, although a preference for unfamiliar females was found in *Brachyrhaphis episcopi*<sup>3</sup> and male *P. latipinna* prefer larger females<sup>4</sup>
- We hypothesized that males would prefer unfamiliar females due to the potential for increased mating opportunities

## Methods

- Tested male with two females of similar size (<3.0 mm different; Fig. 1)
- Recorded association time (the time the male was on the left/right sides of the tank) and visits to each side
- Paired the male randomly with one of the females for 7-10 days (lived in the same tank)
- Retested male with the familiar female and a new female of similar size
- The results were analyzed using R/RStudio

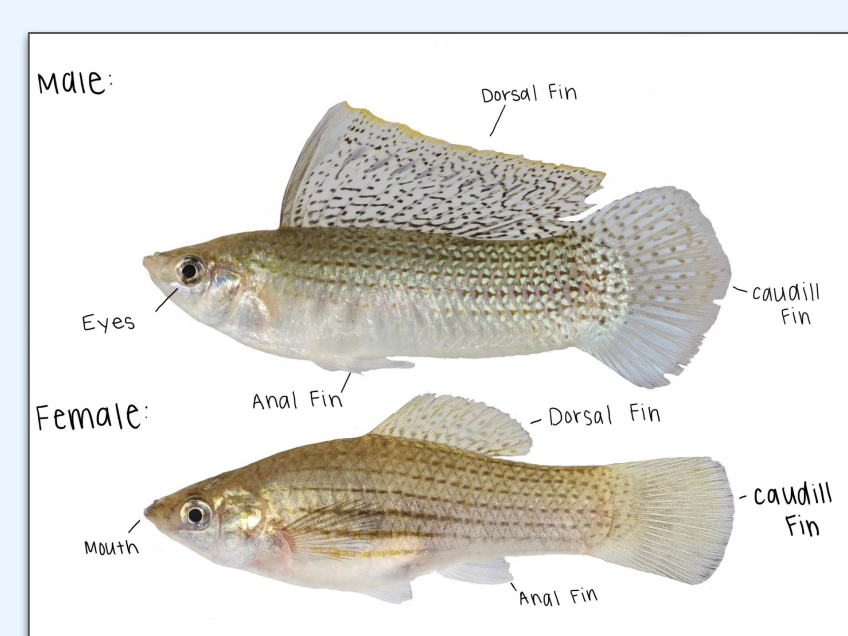


Figure 1. Male (top) and female (bottom) *Poecilia latipinna*

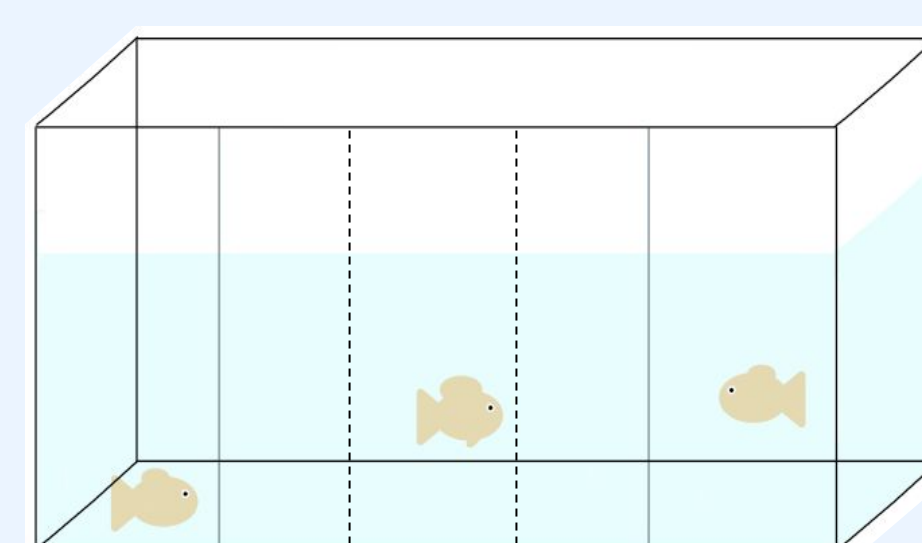


Figure 2. Preference test tank (male in middle)

## Results

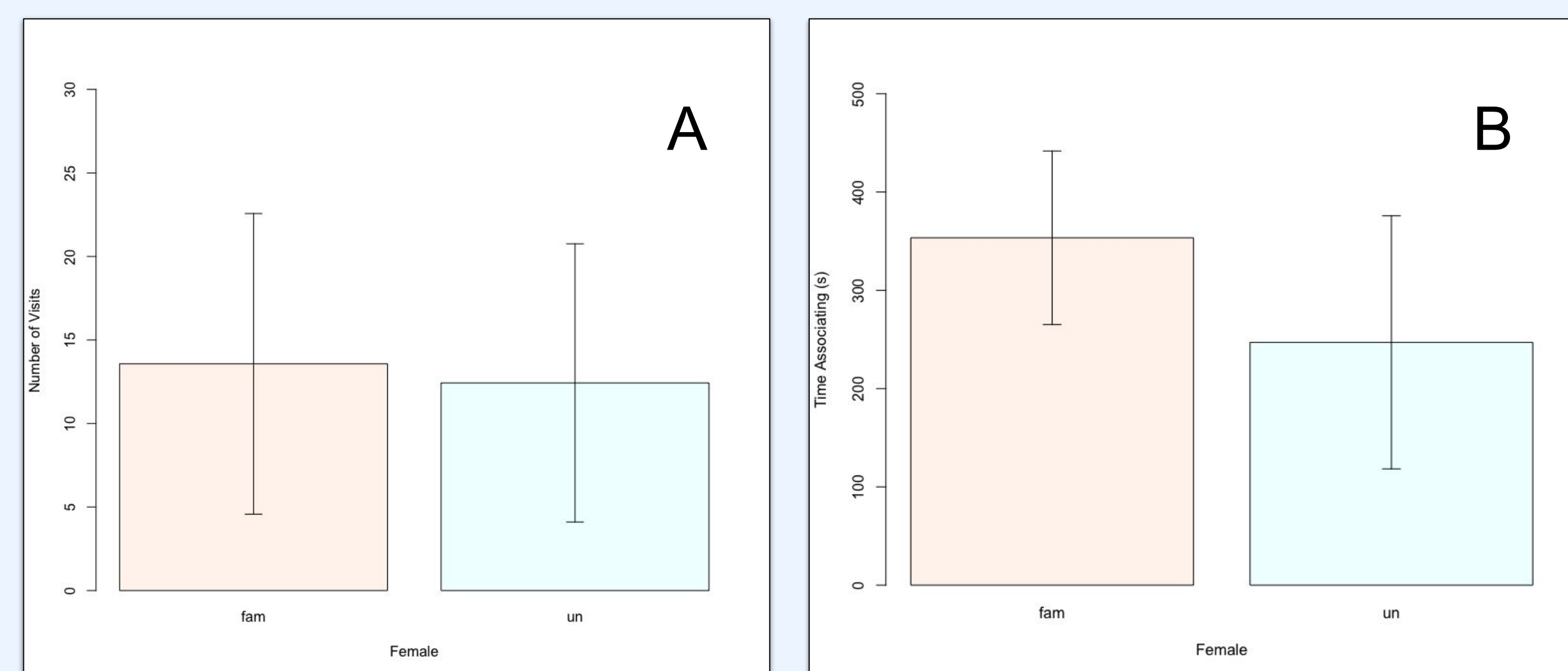


Figure 3. Males showed **no preference** for familiar or unfamiliar females based on number of visits (A:  $t = 0.17$ ,  $df = 12$ ,  $p\text{-value} = 0.86$ ) or time spent in association (B:  $t = 1.27$ ,  $df = 11$ ,  $p\text{-value} = 0.23$ )

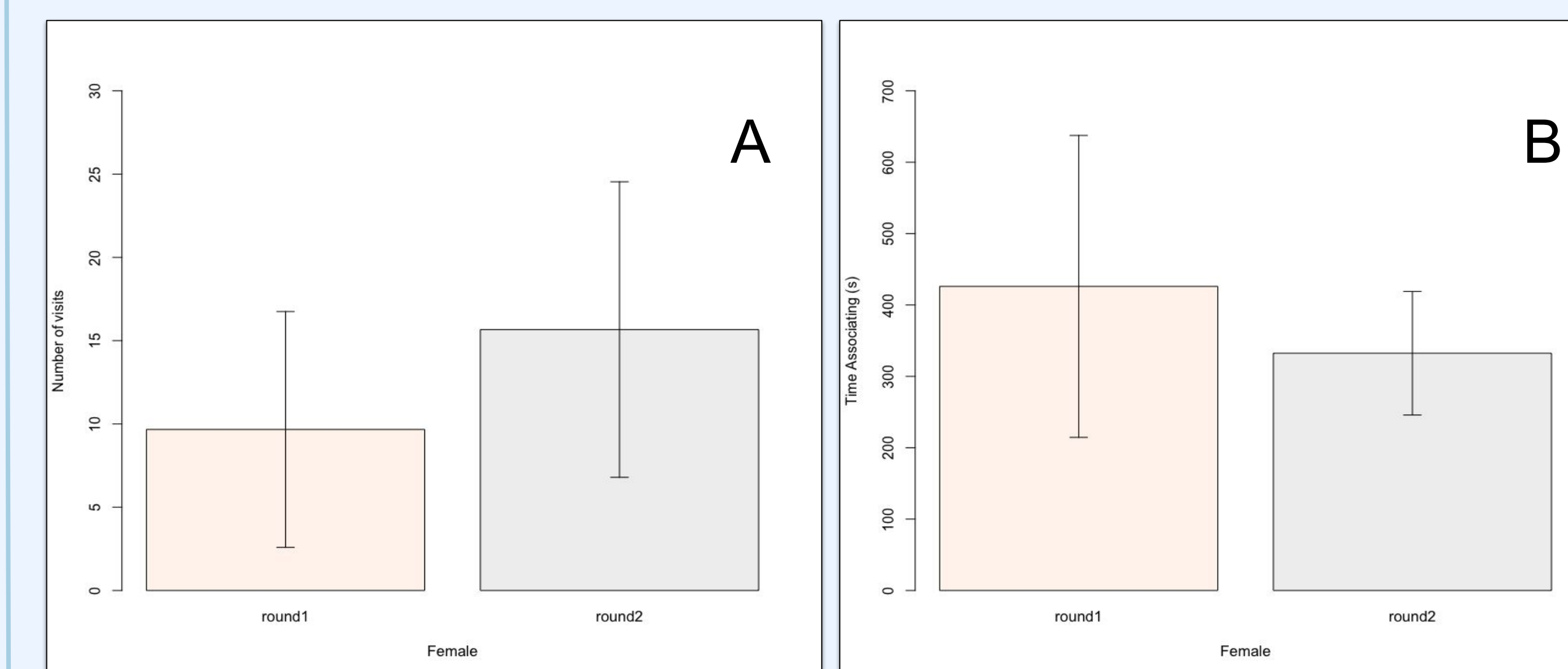


Figure 4. Males **did not change** their number of visits (A:  $t = -1.6$ ,  $df = 5$ ,  $p\text{-value} = 0.17$ ) or association time with an individual female based on when she was unfamiliar or familiar (B:  $t = 0.72$ ,  $df = 5$ ,  $p\text{-value} = 0.50$ )

## Conclusions

- Based on data collection to date, we did not find a preference for familiar or unfamiliar females based on visits or time of association
- Non-visual cues (olfactory, tactile, etc) may play a larger role in influencing male mating preferences
- Smaller non-courting males, tested in this study, may have different mating strategies compared to larger, courting males
- Future studies should test courting males and allow olfactory cues

## Literature Cited

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