INTRODUCTION

- Spotted sandpipers (Actitis macularius) are migratory shorebirds that exhibit sexual dimorphism and are sequentially polyandrous
  - Females compete for multiple mates
  - Males care for offspring
- Midwestern population: females have larger body mass and feather spots
  - Does our California population follow this pattern?
- Hypothesis: Sexual dimorphism will be expressed in morphological traits

METHODS

- Collected blood samples of 30 birds
- Measured morphological structures such as tarsus length, wing length, bill length, and body mass
- Conducted PCR and Gel electrophoresis to determine genetic sex
  - 19 males and 11 females
- Used R Studio to evaluate sexual dimorphism of morphological traits
  - Shapiro-Wilk normality test
  - Welch Two Sample t-test
  - Wilcoxon Rank Sum Test*

RESULTS

a. Tarsus length

<table>
<thead>
<tr>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>28</td>
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</tbody>
</table>

b. Wing length

<table>
<thead>
<tr>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>96</td>
<td>104</td>
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CONCLUSION

- There are significant differences between the male and female spotted sandpipers for these certain morphological traits – sexual dimorphism is expressed
- The Midwestern and California populations have evolved similarly
- Samples size is small, so further investigation should be conducted to make hypothesis stronger
- For the future, we are planning on increasing our sample size by doing more fieldwork to further strengthen the hypothesis and the results

ACKNOWLEDGMENTS

This poster was possible because of the work of...
- Dr. Thomas Hahn
- Dr. Jessica Malisch
- Rayven Hernandez
- Carly Hawkins
- Mulcahy Scholars Program
- College of Arts and Science Undergraduate Research Experience
- My mom

REFERENCES