

## Introduction

- Gynodioecy is an evolutionarily unstable population dynamic in plants that is characterized by both hermaphroditic and female plants, with mutations that render the male parts sterile.
- Conradina glabra* is a federally endangered mint endemic to Liberty County, FL that was previously thought to be fully hermaphroditic
- To investigate maternal investment as a potential benefit of gynodioecy in *C. glabra*, we observed seeds from both morphs of the plant.

## Questions

- Do females produce bigger seeds?
- Is there evidence of different maternal investment between sexes?
- Are there significant patterns in seed characteristics (regardless of sex)?

## Methods

### Collection

Calyces were collected from flowers during March-May 2025. Calyces were sealed with glue and opened in lab.

### Documentation

Seed data was entered in Excel, and seeds were photographed one calyx at a time. A camera mounted on dissecting scope photographed through microscope lens

### Measurement

Seed pictures were uploaded to ImageJ and scaled to measure length and area. This data was tracked by calyx and sex of the plant.

### Analysis

Data was analyzed in R using a regression model.

## Preliminary Results

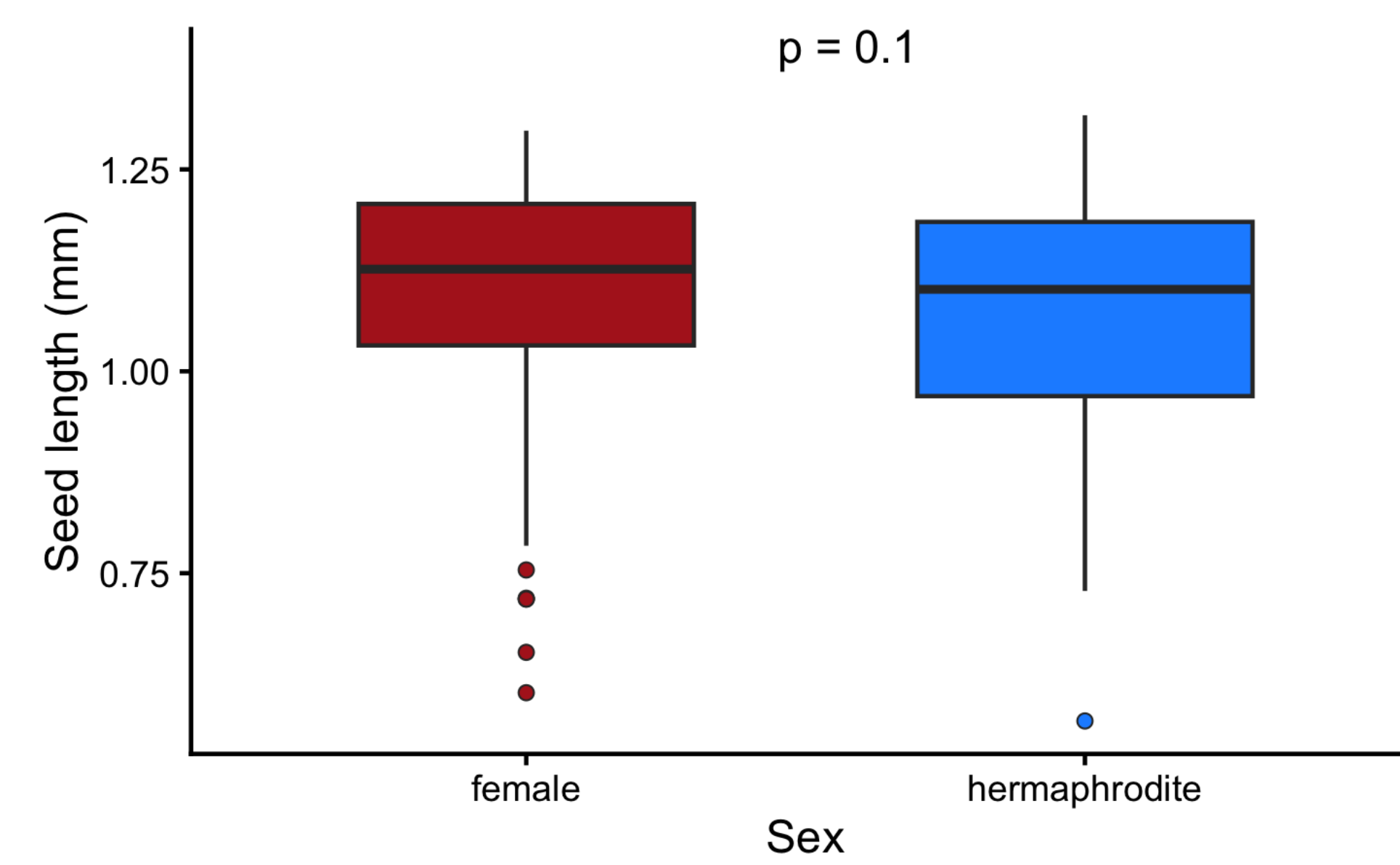


Fig. A

There was no significant difference in seed lengths of hermaphrodites and females.

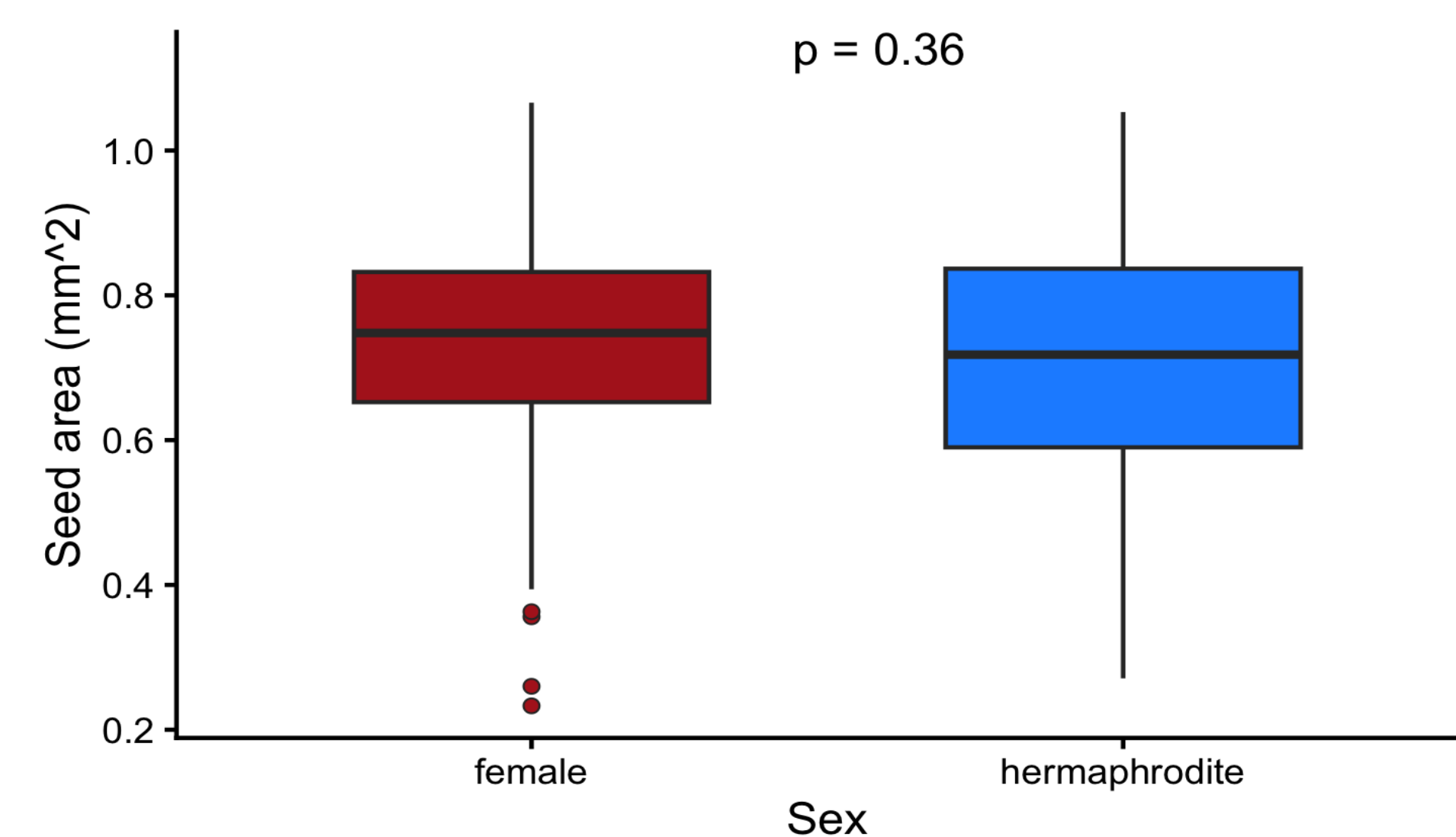


Fig. B

There was no significant difference in seed area of hermaphrodites and females.

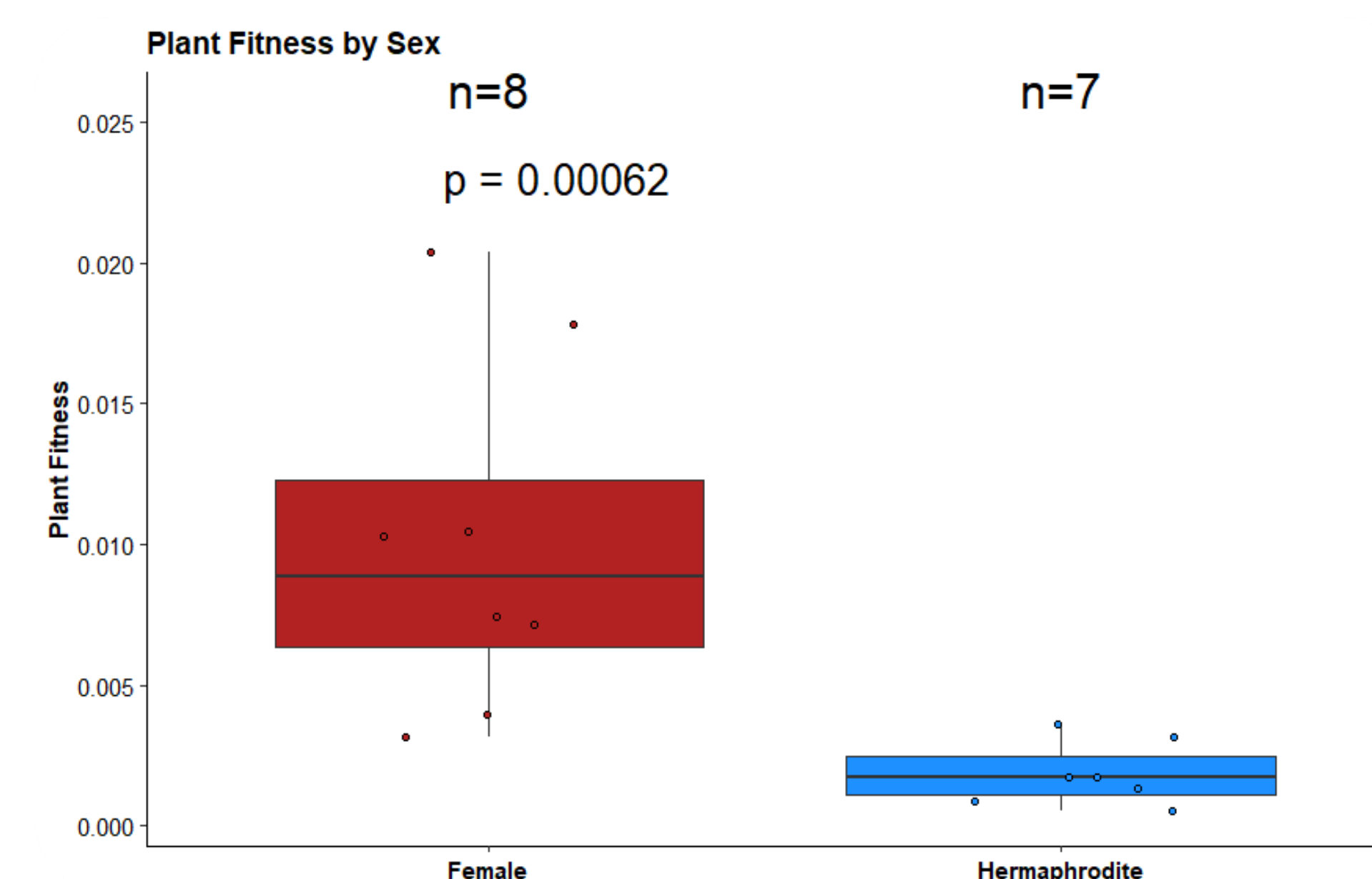
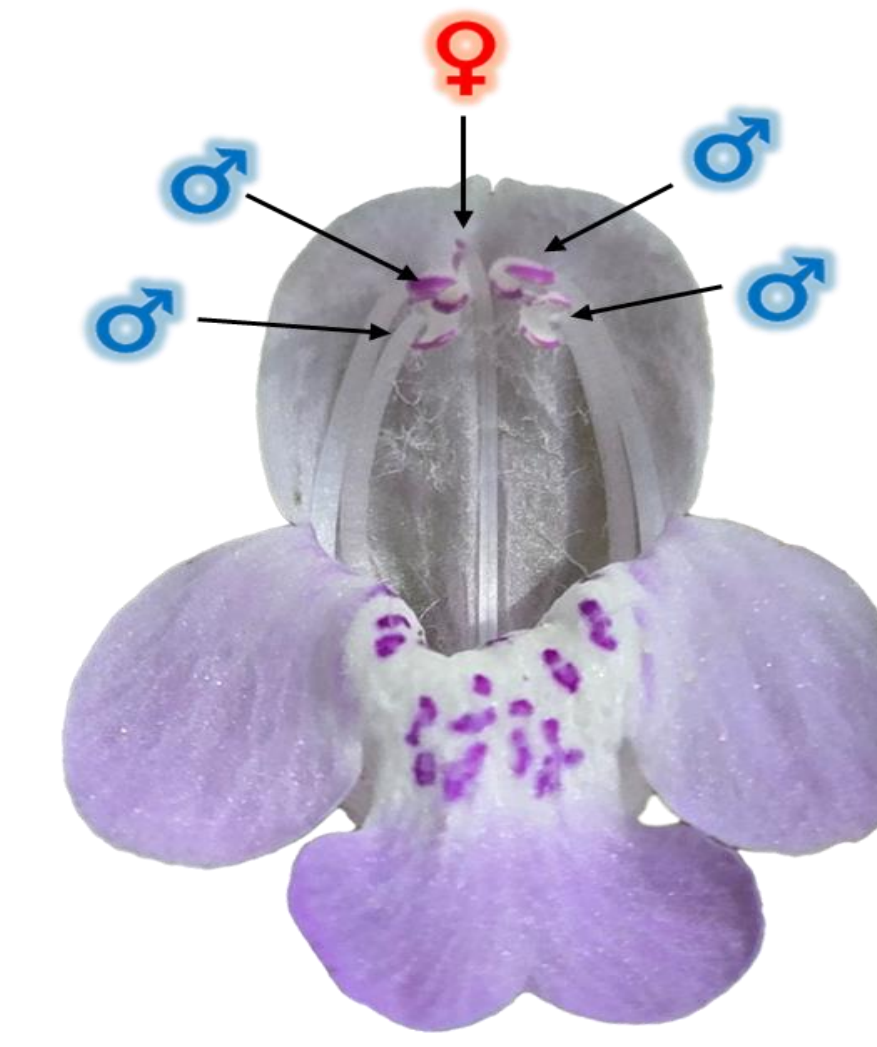


Fig. C

Figure C represents the significant difference in plant fitness between females and hermaphrodites



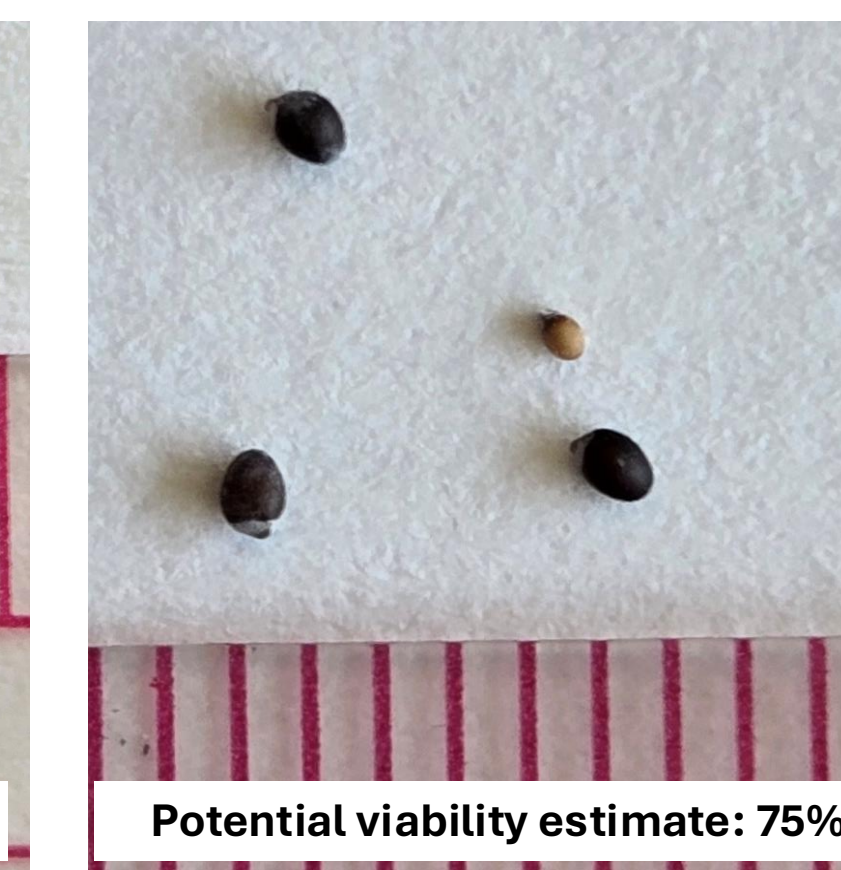
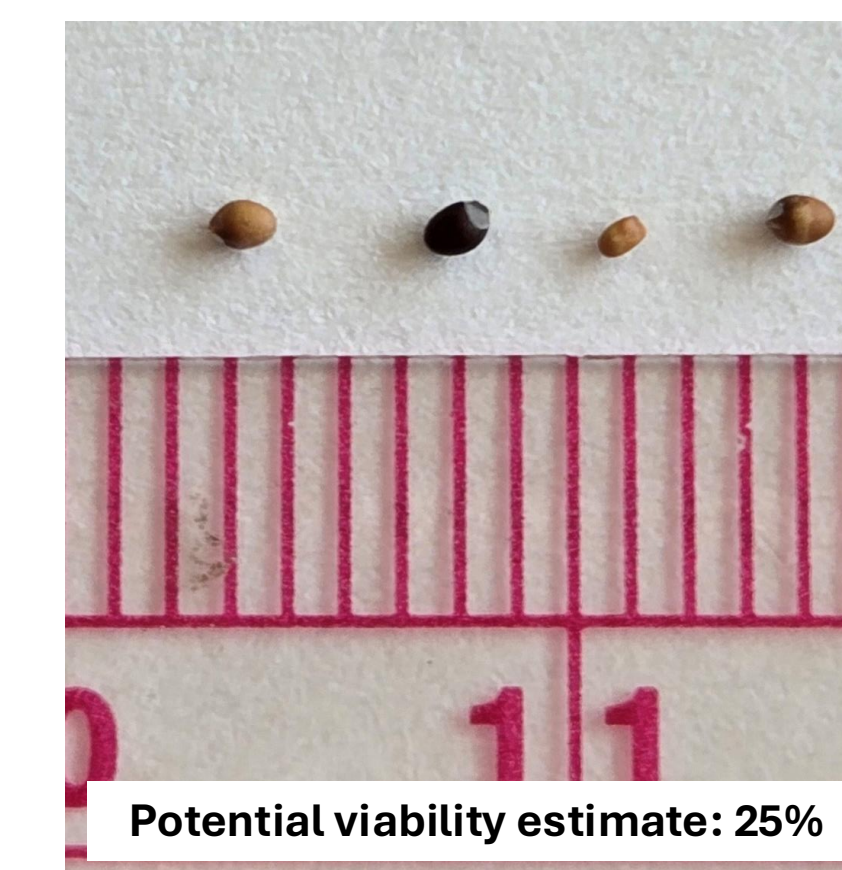
1. Hermaphrodite flower with both male (anther) and female (style) parts



2. Female flower with petaloid mutation



3. Female flower with abortive anther mutation



## Conclusion

Upon analyzing the data, it was seen that differences in seed lengths and areas between the two sexes were not statistically significant. This means that we cannot conclude that there was a significant difference in maternal investment between the two sexes based off seed length and areas alone. However, we noticed several patterns in other seed characteristics while collecting our data that may prove useful for future research, such as color.

## Future Implications

Patterns in seed viability between sexes

Further research into the significance of seed color

Investigations of beneficial characteristics of pollinators

## References

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