

# Pollinator Visitation to *Hydrangea arborescens* Is Influenced by Floral Traits

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## Introduction

- ❖ In light of widespread pollinator decline, there is a growing interest in pollinator-friendly gardening
- ❖ Consumers want to make informed decisions at the plant nursery; however, it's unclear how plant breeding influences floral resource availability<sup>1,2</sup>
- ❖ It is unknown whether cultivars can support pollinators, and which traits are associated with visitor attraction
- ❖ For *Hydrangea arborescens* we asked:
  - 1) Are there differences in pollinator visitation among cultivars?
  - 2) Can differences be explained by floral traits?

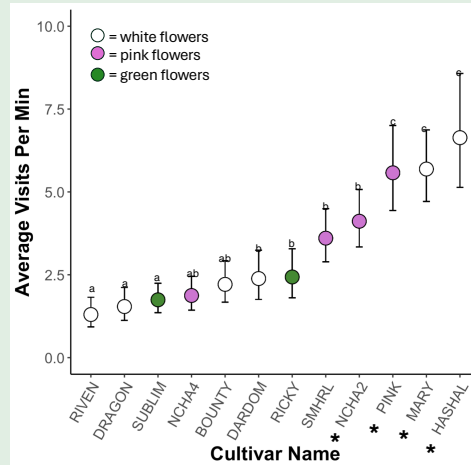
## Methods



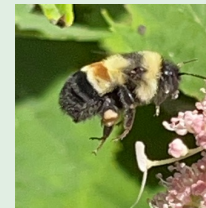
- ❖ We selected 12 *H. arborescens* cultivars that varied in two traits: color and proportion of fertile disc florets
- ❖ In July 2024, we counted and identified flower-visiting insects to each cultivar across the bloom period.
- ❖ Each cultivar was represented by 3 plants, and each plant was surveyed 8–10 times
- ❖ During surveys, we estimated floral display size to control for differences among plants



## 1. Are there differences in pollinator visitation among cultivars?

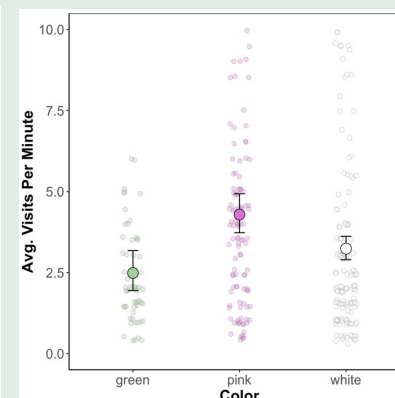
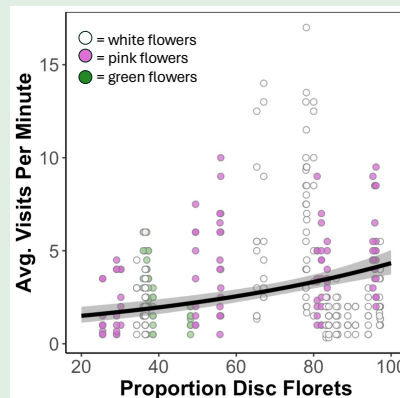


Visitation varied significantly among *H. arborescens* cultivars



\*\* The federally endangered rusty-patch bumblebee visited 4 *Hydrangea* cultivars

## 2. Can floral traits explain variation in pollinator visitation rates?



Cultivars with More Fertile Disc Florets Received More Visits

Pink Cultivars Received Significantly More Visits Per Minute

## Conclusions

- ❖ Some *H. Arborescens* cultivars are more attractive to pollinators than others
- ❖ Floral traits can be used to predict pollinator visitation and inform future cultivar breeding<sup>2</sup>
- ❖ Short non-lethal pollinator surveys detect differences in visitation rates and are suitable for endangered species



'Haas' Halo' received the most visits

## Relevance to Practice

- ❖ Considering growth habits and pollinator visitation, we suggest: 'Haas' Halo,' 'Pink Pincushion,' and 'NCHA2 Spirit 2' for a pollinator-friendly garden<sup>3</sup>
- ❖ Pink cultivars with many fertile disc florets (lace caps) will be the best-informed choice in the absence of these cultivars
- ❖ Future research can analyze the nutritional quality of pollen and nectar resources to further explain differences in visitation

## Acknowledgements



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## References

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