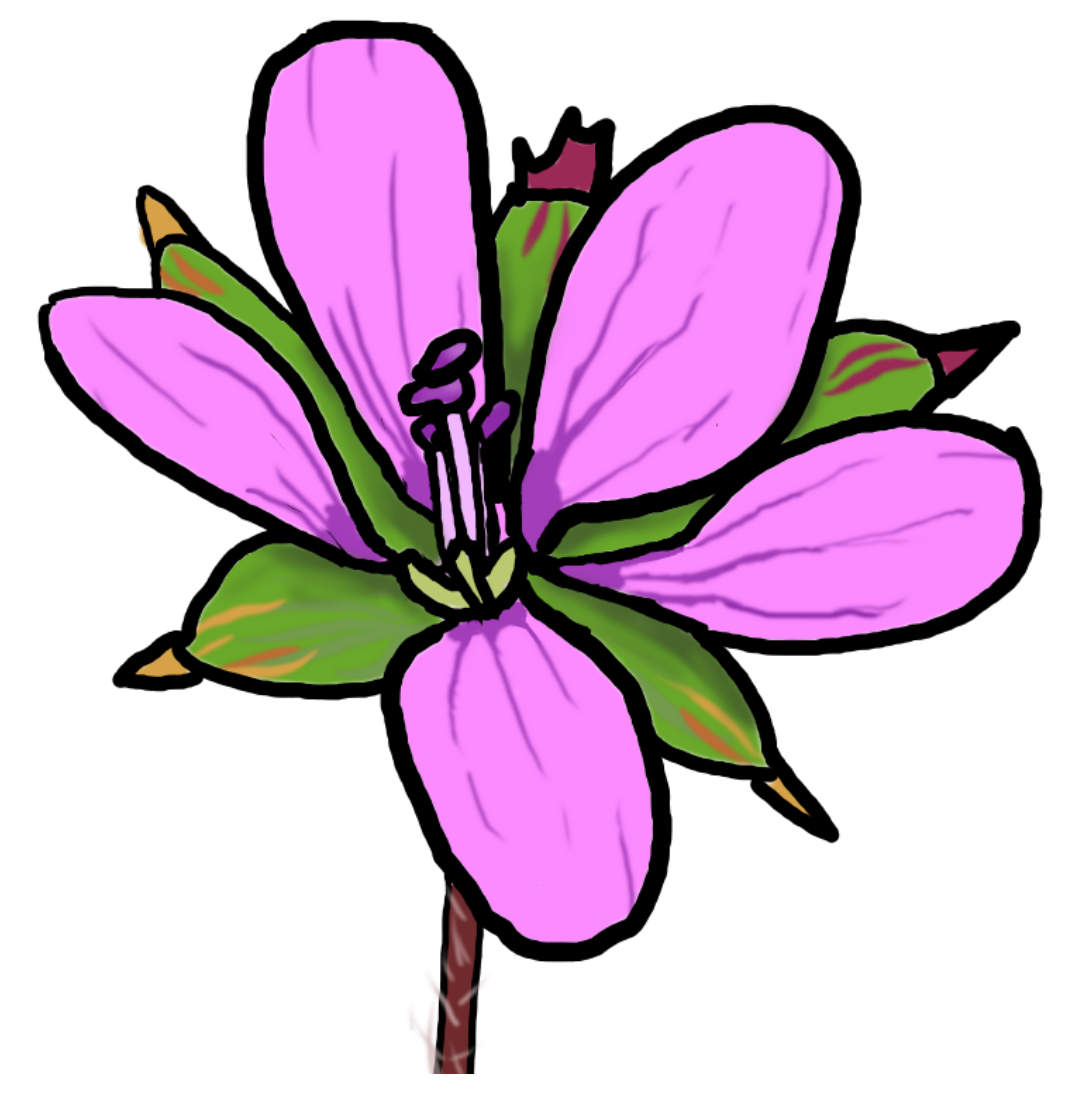




City Versus Country: Changes in *Erodium cicutarium* Floral Traits Along an Urban to Rural Gradient



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INTRODUCTION

The climate crisis is creating a need for species to adapt to environmental changes. Urban heat islands (UHI) are areas with increased temperatures, due to combustion and asphalt, leading to increased evapotranspiration. The main environmental change we are simulating is an increase in droughts. Plant populations of *Erodium cicutarium* (Common Stork's Bill; Geraniaceae) found near UHIs will be grown alongside plants from rural areas in a common garden greenhouse study to identify changes in the urban environment. The main question of our research: **How do floral traits in *Erodium cicutarium* respond to drought associated with climate change?**

METHODS

- Seeds collected from populations throughout Santa Clara County from rural to urban areas.
- Plants grown together in the SJSU greenhouse facilities to examine evolutionary differences between populations.
- Water treatments: Simulated drought to examine plasticity, using dry-down and full water treatments.
- Traits measured:
 - petal length: correlates to evapotranspiration.
 - petal cuticle transpiration: response to moisture availability.
 - flower number: fitness.
 - flower color: heat dissipation and/or protection.
 - date of first flower: phenological shifts associated with climate change.



Common Stork's Bill: (Photo credit: Zomorodi)

EXPECTED RESULTS

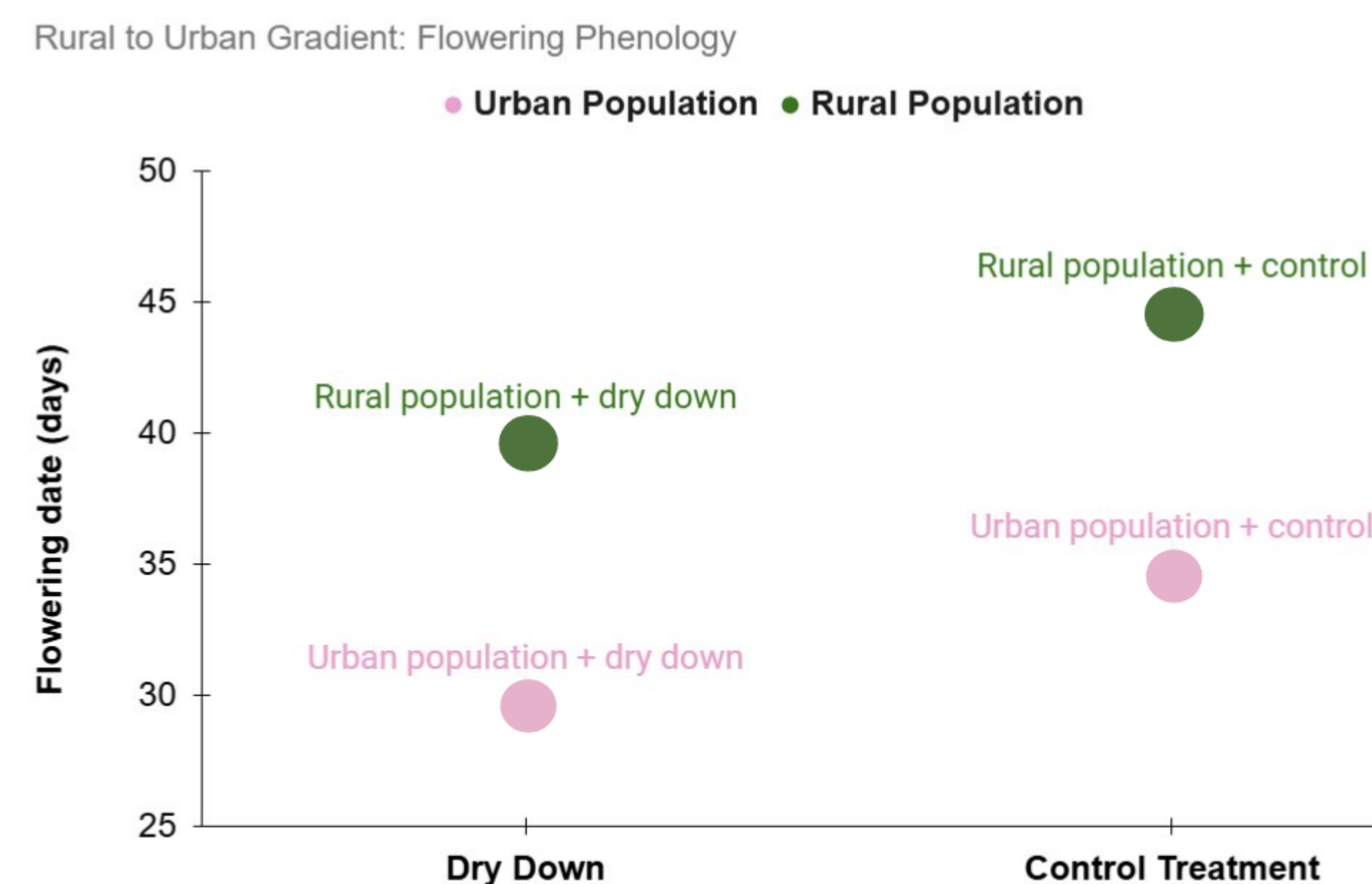


Fig 1. Urban populations will demonstrate earlier flowering times in comparison to Rural populations

EXPECTED RESULTS

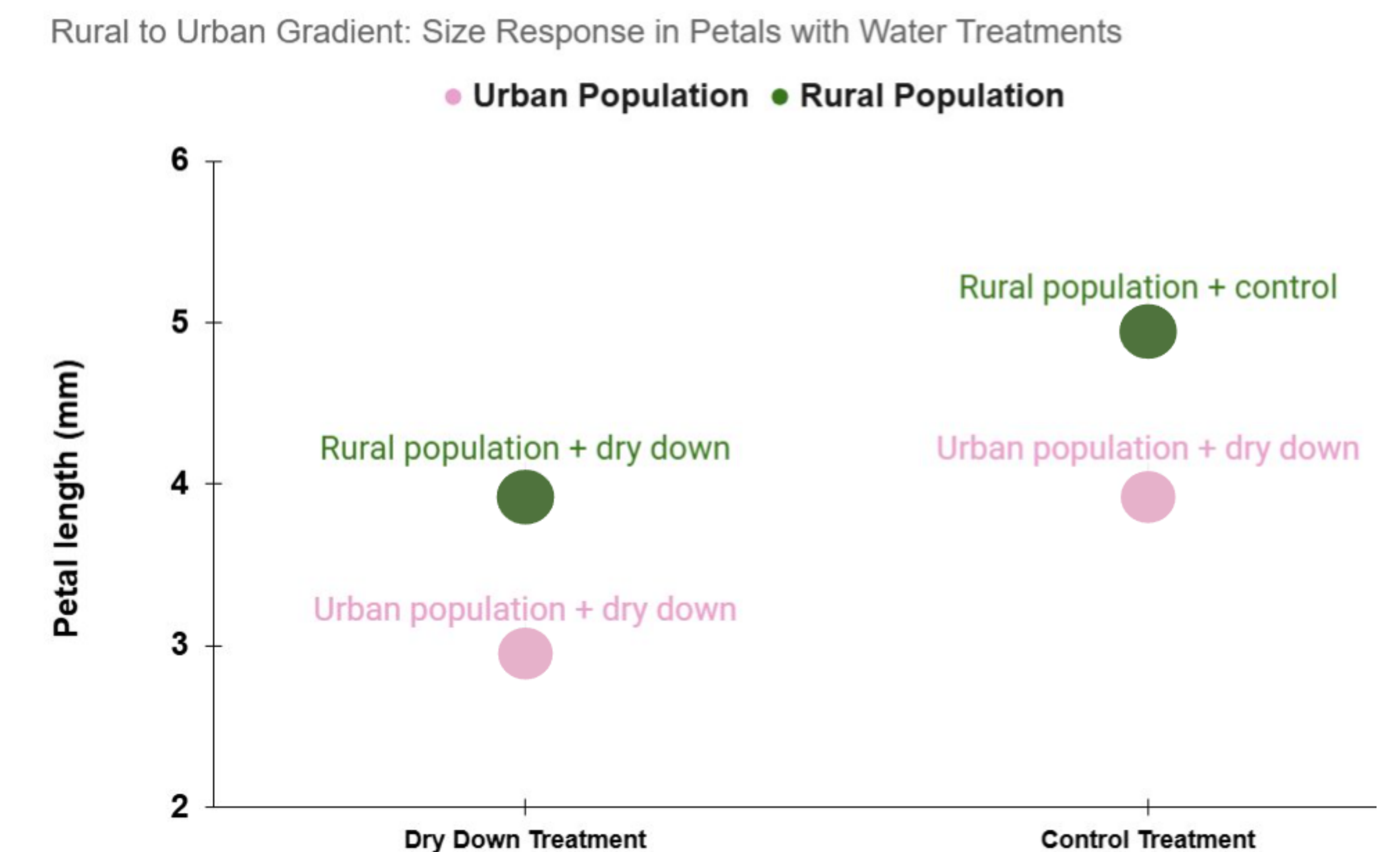


Fig 2. *E. cicutarium* individuals from rural populations should have larger petal sizes when compared to urban populations.



Common Stork's Bill Urban: (Photo credit: Zomorodi)

EXPECTED DISCUSSION

With results, we hope to better understand how plant traits change under drought stress associated with anthropogenically induced climate change.