

Dioskouroi: Expanding our understanding of the

Phlox pungens & *Phlox speciosa* complexes

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Introduction

- Historically, the *Phlox* genus has been taxonomically difficult, and our understanding of the relationships has been based on morphological traits.
- Phlox pungens* - **rare and endemic**, exclusively found within Wind & Green River Basins of Wyoming. Moderate genetic variation found between the two morphs.
- Phlox speciosa* - **common, morphologically variable, and widely distributed** from central California to British Columbia. Previous study found this species to have low genetic diversity compared to other *Phlox* species published.

Hypotheses

To Be, Or Not to Be, *Phlox pungens*

H0: The Ross Butte morph is *Phlox pungens*.

H1: The Ross Butte morph is a new *Phlox* species.

H2: The Ross Butte morph is another previously described species of the *Phlox* genus.



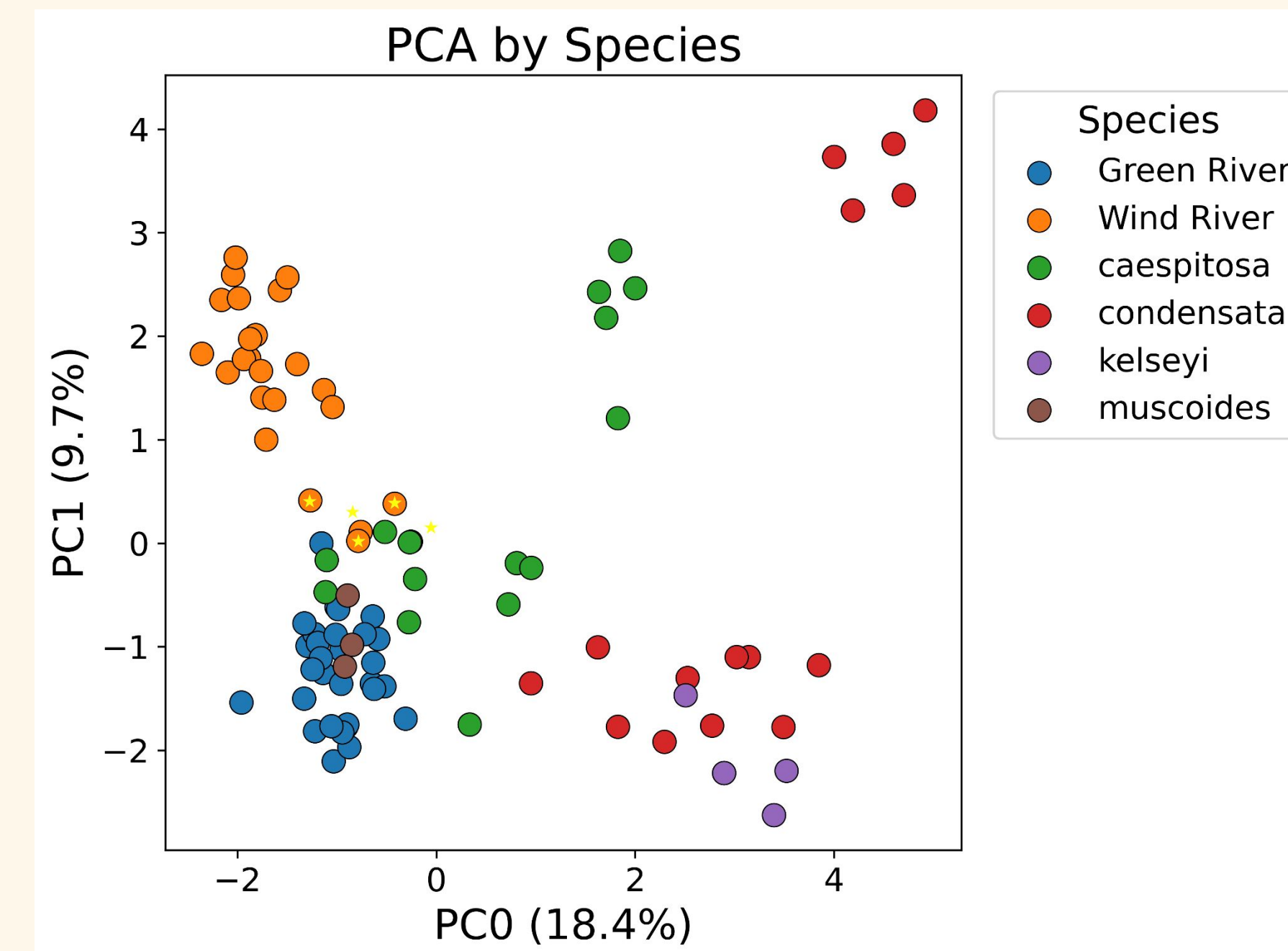
Polemoniaceae
Phlox pungens Dorn
E. Nelson 64721



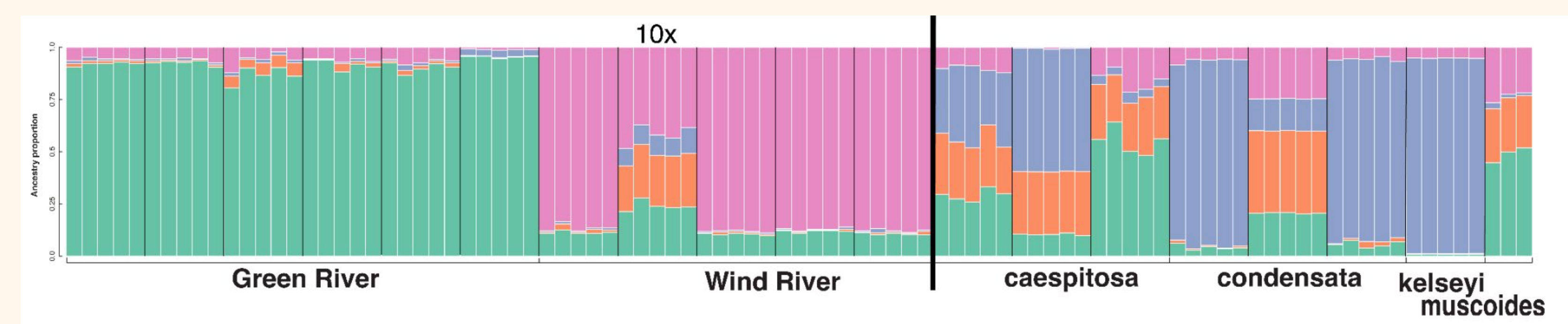
Polemoniaceae
Phlox speciosa Pursh
D.E. Breedlove

Preliminary Results

To Be, Or Not to Be, *Phlox pungens*



- Results support that the Ross Butte & typical morph are genetically distinct.
- The 10x (decaploid) population stands out amongst the Wind River populations.



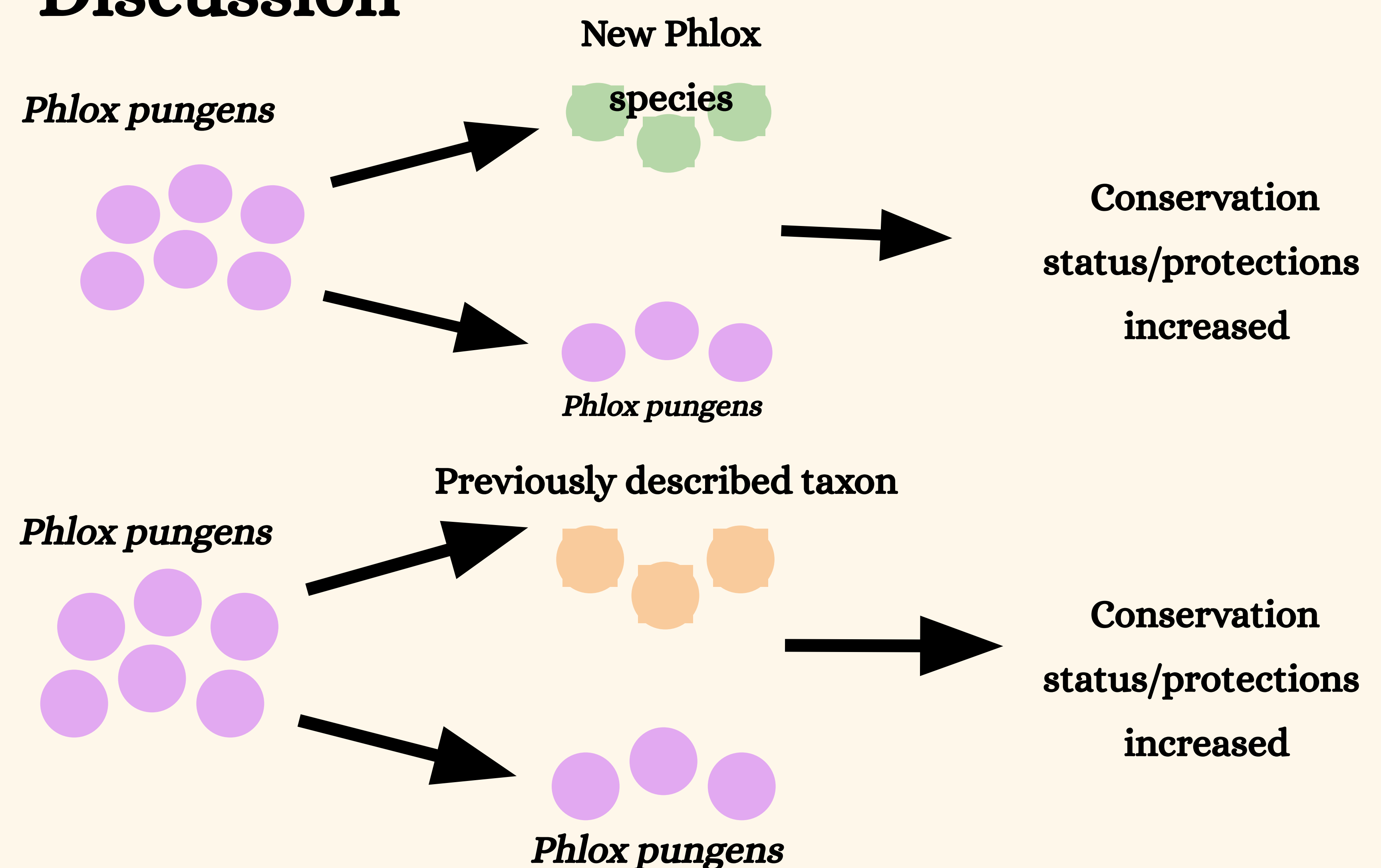
- Further sampling of *P. caespitosa* & *P. condensata* will tell a better story.
- Current sampling shows unclear relationships within and between these related species..

To thine own self be true, *Phlox speciosa*

Phlox speciosa samples will be sequenced using Illumina GBS, and will undergo a similar pipeline as our *Phlox pungens* samples

- Planning for 24 populations of *speciosa* to be sequenced

Discussion



Future/Current Work

Currently, we are working on getting our *Phlox speciosa* samples sequenced, as well as adding 35 more *Phlox pungens* relevant samples into our current dataset.

Our pipeline is currently still being fine-tuned and modified to produce better results on both *Phlox pungens* & *Phlox speciosa*.

References



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