

Plant Living Collections

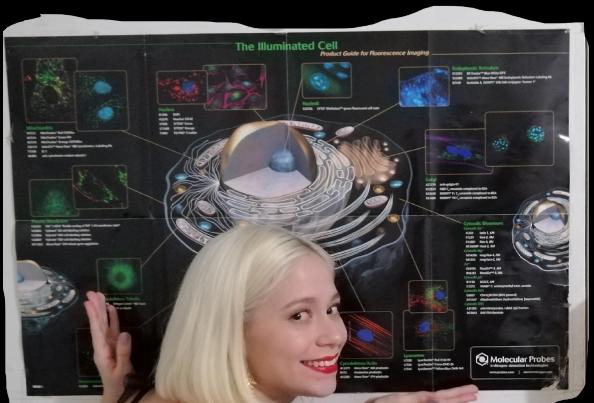
Sarita Muñoz-Gómez



Background



colOmbia



sad pandemic baby photo







WHY IS THIS
2mm BIG??!



What is a plant living collection?



Facilities where living plants (or plant parts) are kept

- Seed Banks
- Botanical Gardens
- Conservatories
- Greenhouses

The Ecology and Evolutionary Biology (EEB) Greenhouses

The Conservatory Collection in TLS is **the most diverse** of any collection at a public institution in the Northeast, and one of the three most diverse collections at an academic institution nationally



Nearly 6,000 individual plants representing
2,700+ species



Nearly **1%** of global plant diversity from
across the plant tree of life!!!





Greenhouse spaces



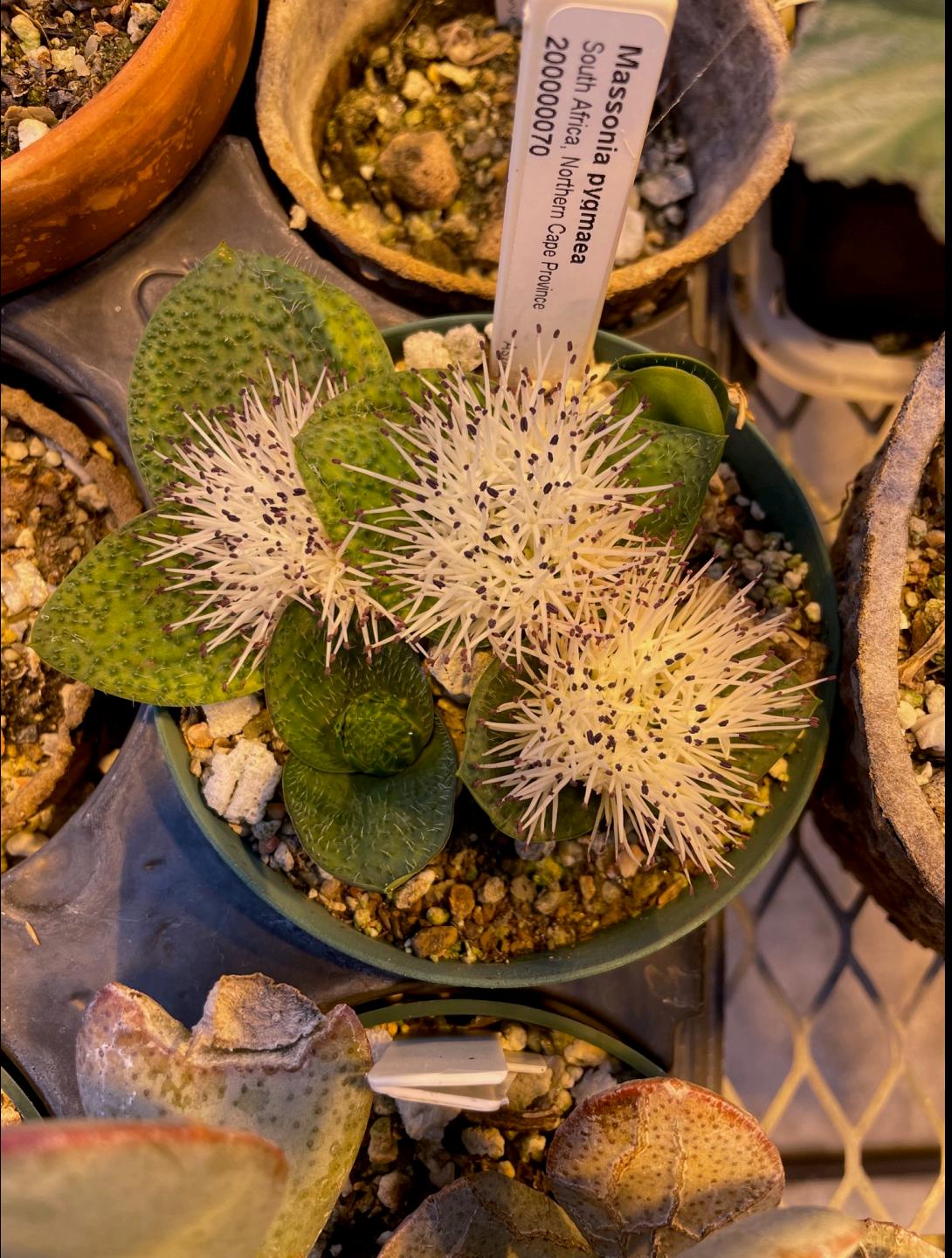


Cool notable collections

LIVING STONES!

A nearly complete collection of the 109 species of *Conophytum*, a group of “living stones” from the deserts of southern Africa











TROPICAL GINGERS!

The facility now houses 150 species of tropical gingers and their relatives that were obtained from the Kress Collection at the Smithsonian Institution with the support of

Dr. John Kress





ANT PLANTS!

Ant plants are plants that have mutualistic relationships with ants. These plants are found across the world's tropical regions







The EEB graden









What do plant living
collections do?

Education & outreach





Approximately 3,000 students per year complete course assignments in the Conservatory or using plant materials provided by the Conservatory





Plants kept at the research
greenhouse facility for
undergraduate classes





Hundreds of off-campus visitors, both as informal browsers and in organized tour groups, experience the sights, smells, and feel of this unique collection



[eeb.greenhouse](#) We had a great tour today with members of the UConn American English Language Institute! It was so much fun sharing our plant collection with plants from around the world!!

2 sem [Ver traducción](#)



[in_watrmelonsugr](#) Thank you for the grand tour 🔥🔥 Such an incredible collection!

2 sem [Responder](#) [Ver traducción](#)

Jacob's systematics class at Harvard!



Jacob's systematics class at Harvard!



The greenhouses usually host plant giveaways and plant care workshops during the semester



Conservation



The collection currently contains **seven** species
considered extinct in the wild, **35** listed as critically
endangered, and **55** as endangered



Research



My first (small) living collection

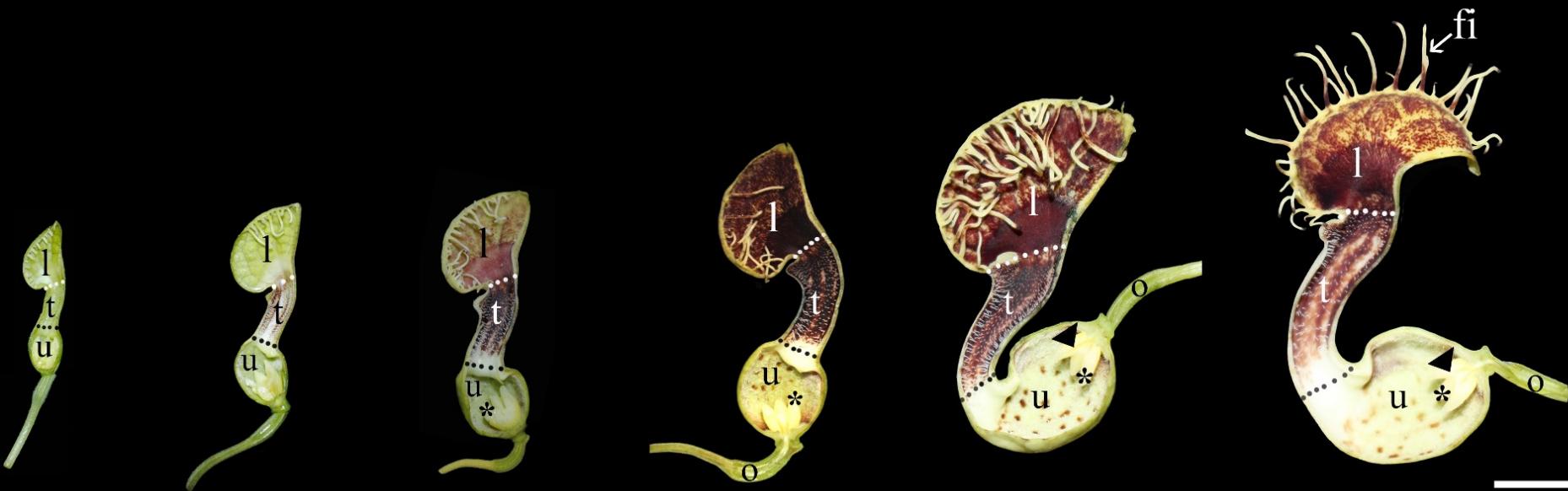


The importance of living botanical collections for plant biology and the “next generation” of evo-devo research

Michael Dosmann¹ and Andrew Groover^{2,3,*}

To answer questions in
developmental biology

C



D



The ARNOLD
ARBORETUM
of HARVARD UNIVERSITY



To answer questions in
gene expression

A



B



C

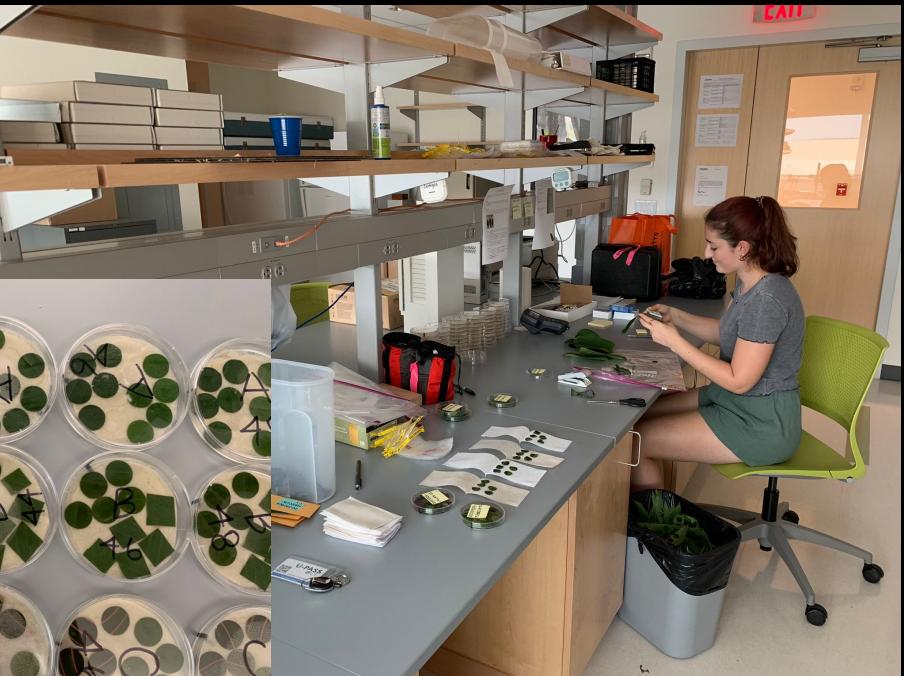
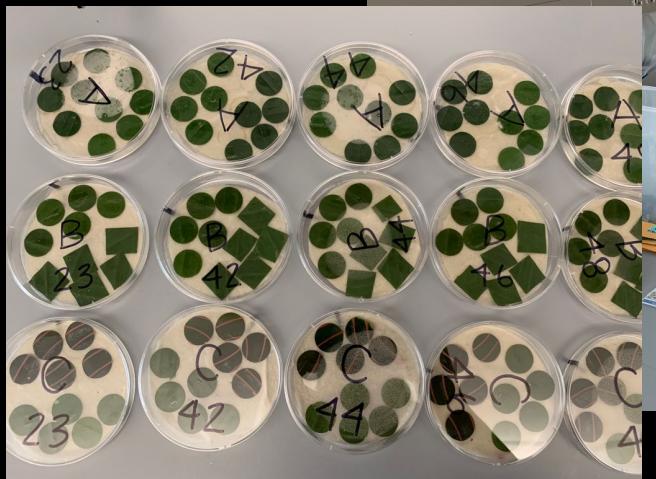


D



To answer questions in plant
physiology

Georgia's experiment using Ginger plants!



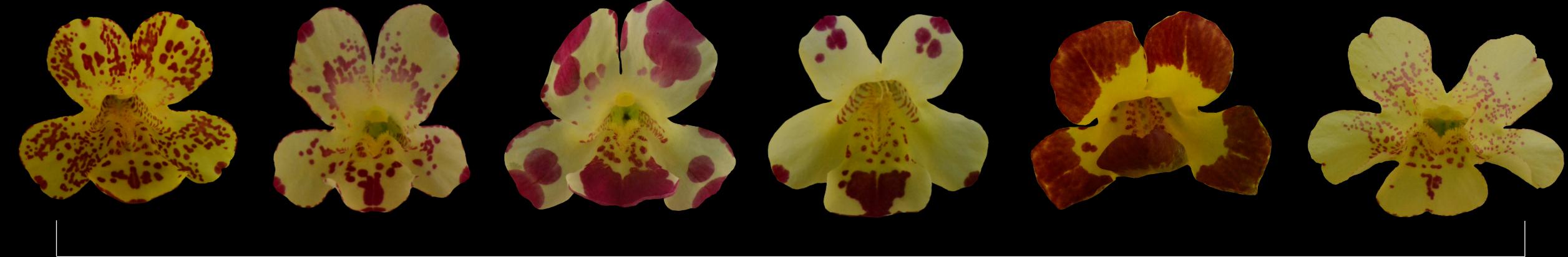
To answer questions in plant
genetics

Cool *Mimulus* experiments!

M. cupreus x *M. variegatus*



F1 X F1



F2

For learning about interesting
species

Building new knowledge on *Mimulus pictus*



Repotting *M. pictus* flowers



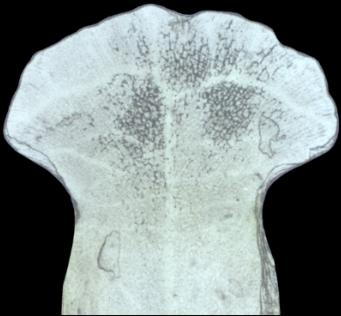
M. pictus open flower



To answer questions in
development



Stage 1



Stage 2



Stage 3



Stage 4



Stage 5



Stage 6



Stage 7



Stage 8

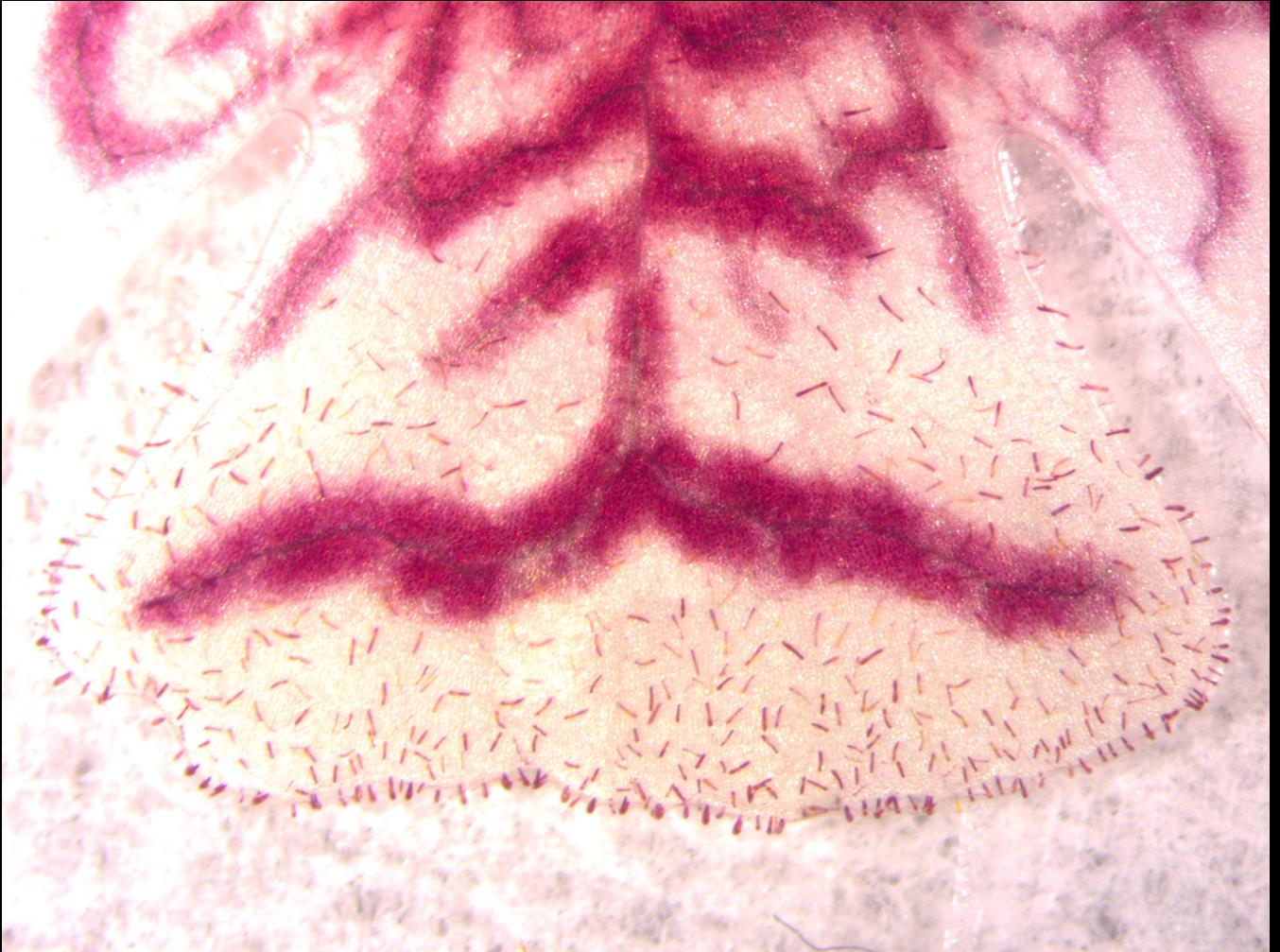
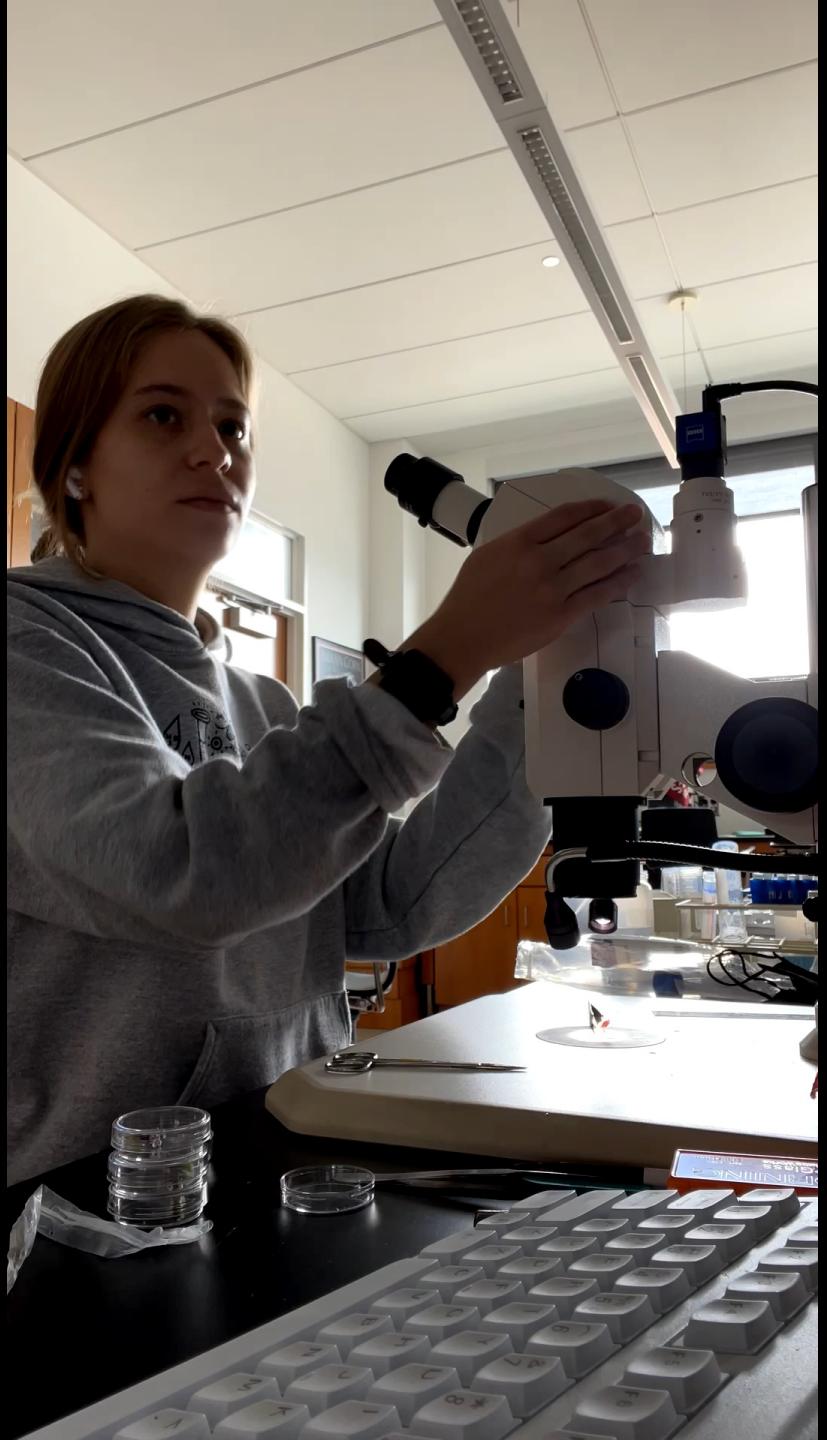


Stage 9

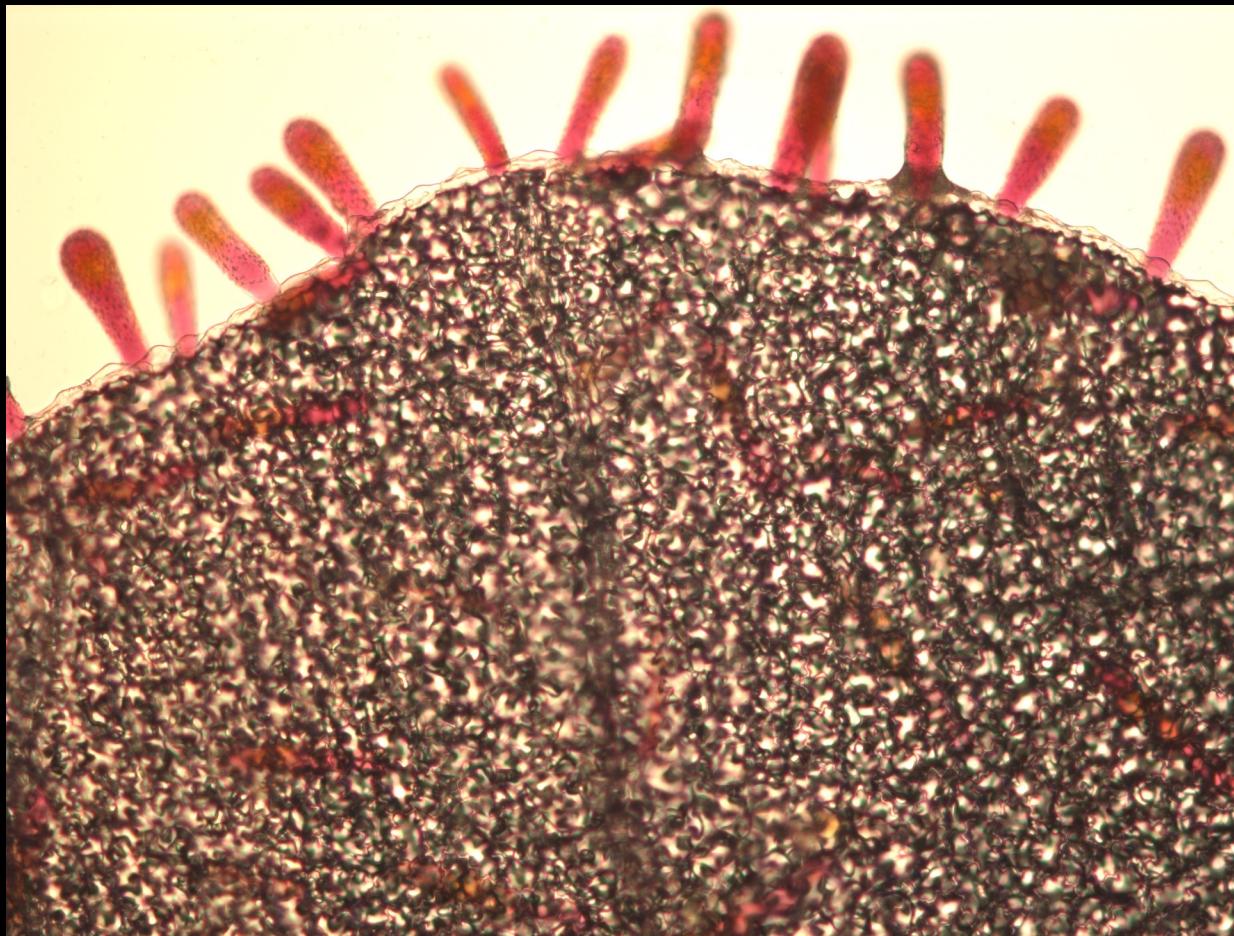


Stage 10

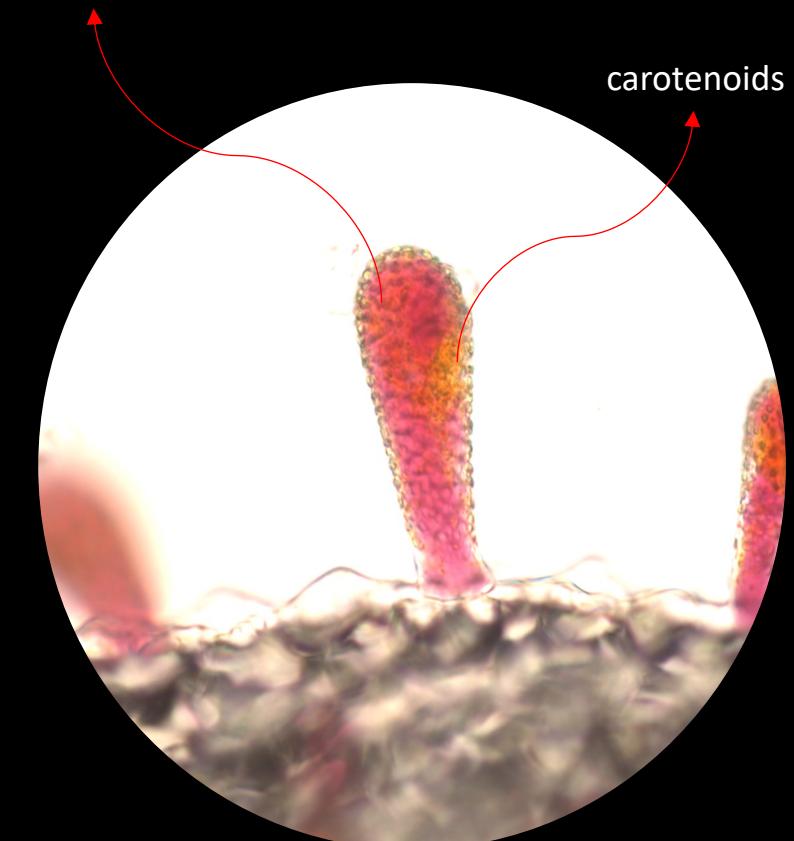
To answer questions in plant
morphology



Analyzing *M. pictus* morphology using fresh tissue



anthocyanins



carotenoids

To answer questions in plant
pigmentation patterns and vasculature

Week 1 Sept 30



Water (h) treatment



NPA (h) treatment

Week 2

October 7

Top vein disappeared



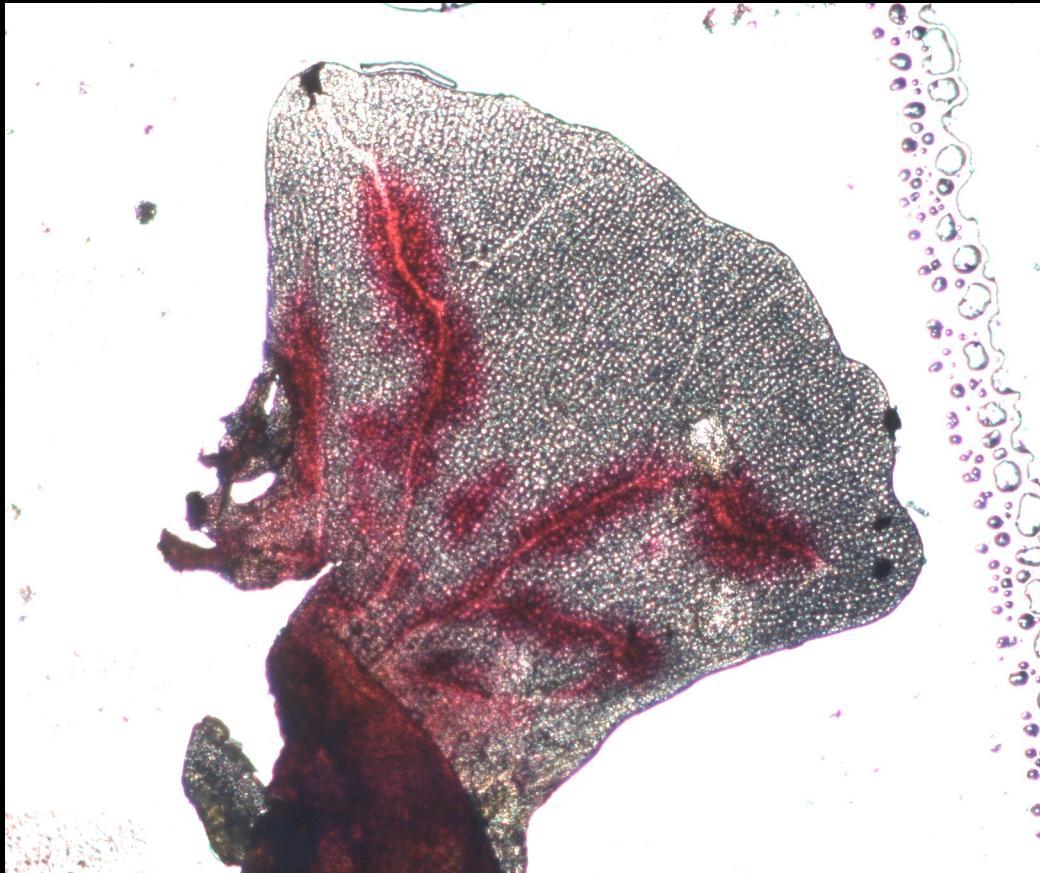
NPA (h) treatment

Week 2

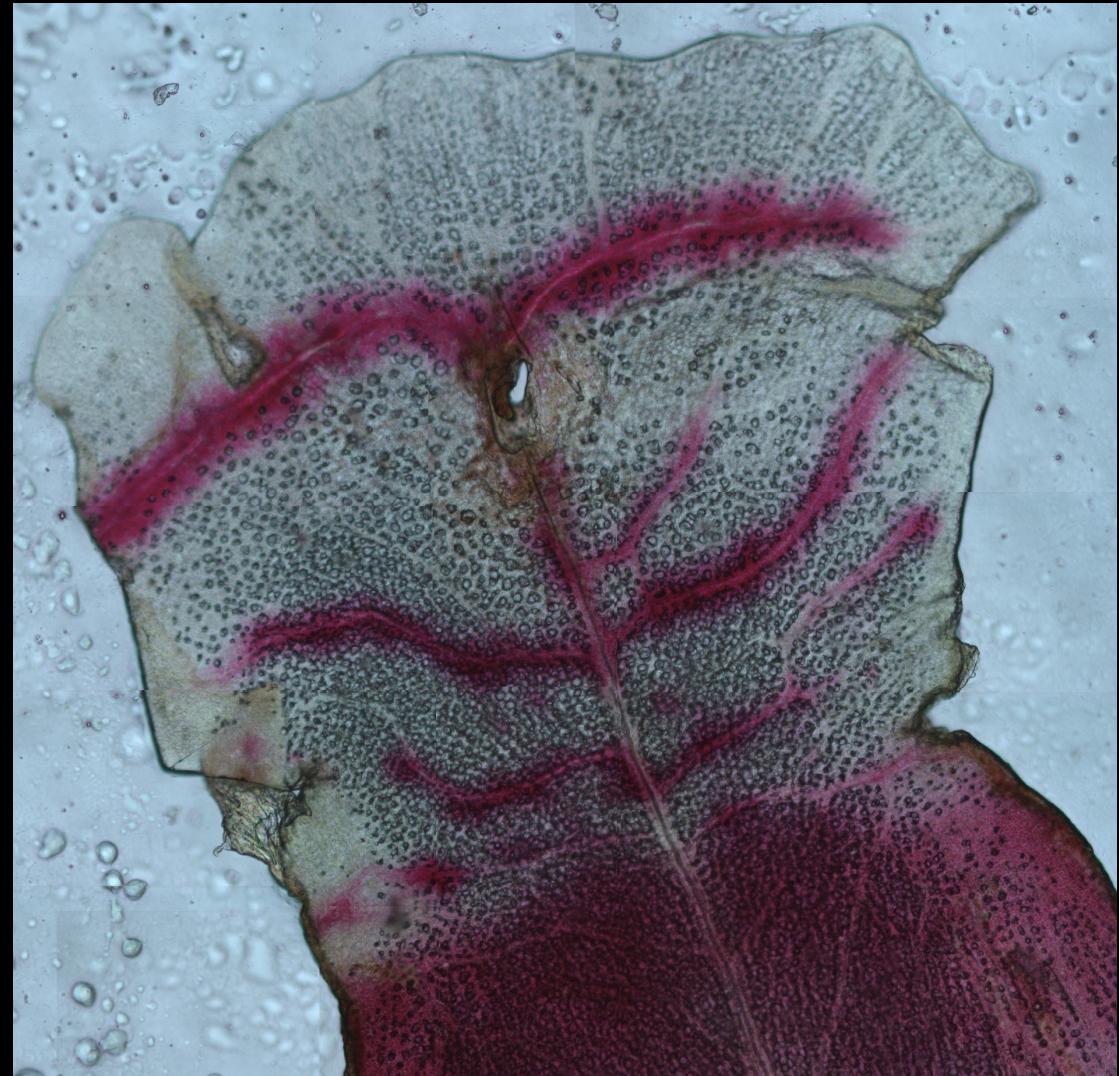
October 7

Top vein disappeared

NPA (h) treatment



Wildtype



Week 3

October 11

Weird phenotypes



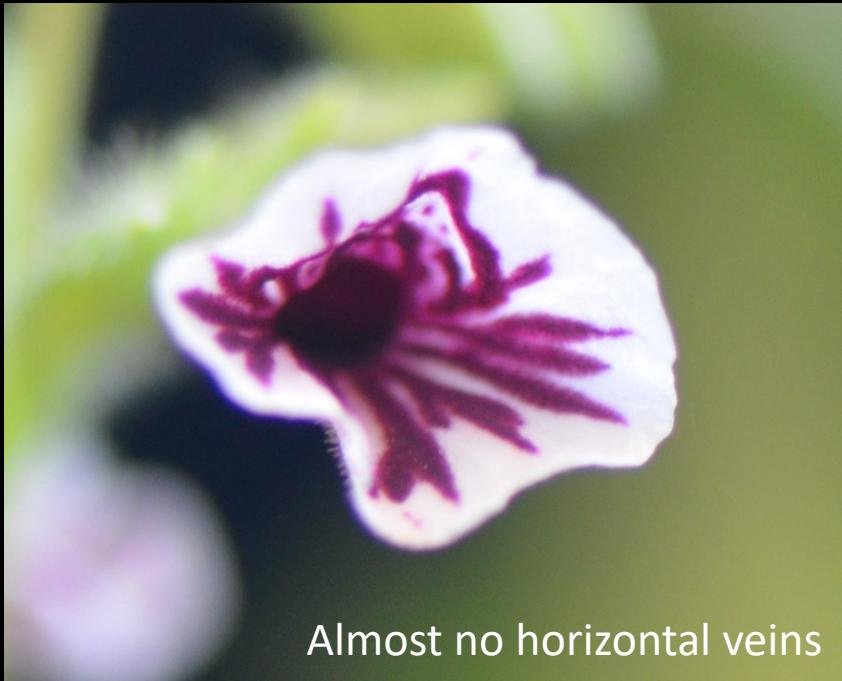
Fused petals

NPA (h) treatment

Week 3

October 11

Favorite phenotype



Almost no horizontal veins

NPA (h) treatment



Fused petals



Super elongated tube

Get involved



Volunteer at the greenhouses!

Watering
Propagation
Repotting
Plant care
Gardening

To get involved contact
Meghan Moriarty at
meghan.moriarty@uconn.edu



NatureRx

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NatureRx at UCONN

Did you know spending time in nature improves physical and mental well-being? [Research](#) has shown that as little as 20 minutes spent engaged with nature can reduce feelings of stress, depression and anxiety while at the same time increasing immune system function, concentration and memory. We acknowledge that definitions of nature vary, and that many factors affect how individuals experience nature, such as [race](#), ethnicity, class, gender, culture and childhood experience. **We encourage you to find a way to be in nature that speaks to you.** NatureRx at UConn is one of a growing number of programs on [college campuses nationwide](#) designed to promote spending time in nature. This site will help you find great places to sit quietly, hike or bike near UConn and in the town of Mansfield.



You can follow the
greenhouses on Instagram

@eeb.greenhouse

