August 2022

# MSU IN BLOOM

### MSU HORTICULTURE GARDEN NEWS



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# **GARDEN HAPPENINGS**

#### **Curious Gardener Series**



Autumnal Equinox Harvest Broom-Making

Back by popular demand! The fall equinox brings with it a time of reflection as we balance an equal time of day and night and slowly transition to our months of darkness. A perfect time to honor the harvest, we will spend our workshop together collecting plant material from the garden and creating beautiful brooms to decorate our homes with. Learn about the folklore behind this broom-making tradition, harvest from our own beautiful gardens, and spend an afternoon outside celebrating the dav of the equinox.

Thursday, September 22, 2022 3:00pm - 5:00pm Cost: \$20 for Members \$25 for non-Members Parking not included Maximum Enrollment: 30



**Chocolate-Making** Explore the wonderful world of chocolate with Dixie Sandborn, 4H MSU Extension Specialist. We will be discovering chocolates' interesting history, diving into the science of chocolate, and of course, tasting chocolate.

Chocolate refreshments, recipes, and fun will all be provided!

Wednesday, October 26, 2022 2:00pm-4:00pm Cost: \$25 for Members \$30 for non-Members Parking not included Maximum Enrollment: 30



Handmade Soap-Making

Keep your skin hydrated and soft this winter! Join us in creating handmade soap with add-ins from our gardens.

The workshop includes all materials and each participant will take home two bars of handmade soap.

Wednesday, November 16, 2022 2:00pm-4:00pm Cost: \$40 members \$45 non-members Parking not included Maximum Enrollment: 24

> Register for Curious Gardener at <u>shopmsugardens.com</u>



Garden Day Curious Gardener-Autumnal Equinox Harvest Broom-Making Curious Gardener-Chocolate-Making Houseplant & Succulent Sale Curious Gardener-Handmade Soap-Making

September 17 September 22 October 26 November 5 November 16

For more information about Garden Day visit hrt.msu.edu/Garden-Day

Do you have a garden-related craft passion? If so, we'd love to have you as a Garden Day Vendor! For more information, email hgardens@msu.edu

**Edible Gardening** 

REGISTRATIO

SEPTEMBER

Houseplant Propagation

CARLES TING

**Mixed Container Perennials** 

Herbal Spa



#### **Urban Foraging**

Vendor Marketplace Explore the World of Plants 

**Backyard Design** 

Saturday, September 17, 2022 hrt.msu.edu/garden-day

# PERENNIAL MIXED CONTAINERS A GARDEN DAY WORKSHOP

#### BY BETHANY TROY, PERENNIAL GARDEN MANAGER



Are you interested in using perennials in mixed containers? Is your schedule free for our annual Garden Day event on September 17th? I will be teaching a workshop that goes more detail on mixing into perennial combinations in pots, and you will have the chance to build your very own to take home! Come and learn about my own successes and failures, as well as long-term care for your perennials after they have lived their container lifestyle.



For the past five seasons working at the gardens, I have experimented with using perennials in mixed containers for display around the pond, as well as in hanging baskets for the brick path that goes through the center of the perennial garden. Maybe you have noticed them on your visits. I find myself attracted to bold color contrasts, an array of textures and height differences, and sometimes even mixing some annuals for a pop of color or for a quick-filling trailer. Some combinations have been very successful sometimes we even find photographers in the early morning light, taking close-up pictures and enjoying these containers with minimal interruption. Other combinations have not been as successful - and it is okay! Luckily for us here, we get to experiment without the fear of being judged too harshly (most of the time). When a combination doesn't work, we take notes so we can do better and remember these faulty combos in the future.





Join Jessica Wright Education Coordinator at Garden Day on September 17th and learn how to use your garden to create spa products like the recipe below for rest and relaxation. For more information and to register visit shopmsugardens.com.

# avender Vint SUGAR SCRUB

#### INGREDIENTS

- small jam jars
- 1 cup granulated white sugar
- 3/4 cup sweet almond oil
- 2 drops lavender essential oil
- 1 tablespoon dried lavender
- 1 tablespoon dried spearmint
- 2 drops of spearmint essential oil

In a bowl mix all ingredients well and divide into jars.



Membership has Berefits

the Gardens

Do you love the Gardens or know someone who does? Why not become a member? Or give a membership as a gift! Membership has many benefits!

- Early access to our Plant Sales
- Discounts on your Plant Sale purchases
- Discounts on our garden programming
- Free admission to 200+ American Horticulture Society reciprocal gardens across the country
- And more!

You can renew or join online here: <u>www.hrt.msu.edu/join</u>. If you would like a brochure mailed to you, please contact <u>hgardens@msu.edu</u> or, 517-353-0443, or download one <u>here</u>.

Did you know that you can commemorate a loved one or special event in the Gardens? Consider purchasing a brick in memory of a special memory or event. The Gardens offers commemorative bricks in two sizes that can be engraved and permanently installed in one of several locations. Remember a loved one or special event each and every time you visit the Gardens. Find more information <u>here</u>. If you would like a brick brochure mailed to you, please contact <u>hgardens@msu.edu</u> or, 517-353-0443. Purchases can be made <u>here</u>.

ommemorative Bricks



Volunteer

Do you love plants? Do you love to garden? The MSU Horticulture Gardens staff relies on a dedicated group of volunteers who help us accomplish many tasks each year. No experience is necessary - though you may find new ways to use your skills to help!

- Weekly volunteer days
- Daily welcome booth
- Annual volunteer field trip
- Annual volunteer appreciation dinner

To learn more, visit

https://www.canr.msu.edu/hrt/our\_gardens/Volunteers or contact Bethany Troy at <u>troybeth@msu.edu</u>



# MY HORTICULTURE ORIGIN STORY DAEDRE MCGRATH, TRIAL GARDEN MANAGER

My first memorable experience with plants goes all the way back to early elementary school. My first-grade teacher, Mrs. Rydahl, nudged the first domino in the chain reaction that resulted in my eventual career. Mrs. Rydahl brought in some spider plant pups and put them in a vase of water so we could watch their roots grow. I was mesmerized (and probably asked a lot of questions), so Mrs. Rydahl gave me one of the plants to take home. I was hooked from that moment. By third grade, I already knew I wanted to be a scientist when I grew up. I never wanted to be a Disney Princess or a Power Ranger, both highly popular career choices for school kids back in the early 90s. It was always science for me.



First grade, where everything started

Fast-forward to sixth grade, and I had another teacher, Mrs. Horgan, who had a couple enormous potted spider plants in the middle of her classroom. They lived on an island made of filing cabinets and their runners cascaded down the sides. Sometimes you remember things being bigger than they actually were when you were a child, but I had already reached my full 5-foot 7-inch height by sixth grade. I realize now that her classroom had south-facing windows, so it is likely they were in fact the biggest spider plants I had ever seen. I loved learning in that classroom full of plants and already had a small collection of houseplants in my bedroom at home (including that spider plant from Mrs. Rydahl). Mrs. Horgan indulged my budding scientific/analytical side and allowed me (and a handful of her other students) to do accelerated math in an independent study group. I had never before had a teacher tailor my learning experiences to my personal strengths. She helped make a nerdy, math-loving girl feel empowered and special. It was also around sixth grade that I started gardening. I was not your average pre-teen. I lived on the edge of town with parents who both worked full time, so I had to entertain myself. My two older brothers were in high school and didn't want much to do with me at that age. So, I retreated to our large backyard, where I started a vegetable garden and compost pile. My original vegetable garden was in a shady spot where a rusty and neglected jungle gym once lived. Despite being in almost full shade, I grew a lot of tomatoes and zucchinis in that patch. My parents recognized my interest and took me to the local garden center each spring to pick out a couple flats of plants (which I remember being about \$5.99/flat at the time). We would get flowers for the front yard and vegetables for the backyard. At the time, 'Early Girl' was just about the only tomato variety available (that, and maybe Better Boy). I didn't even like tomatoes at that age, but I loved growing them!

In high school, I was "too cool for school" and was ready to move on to bigger and better things. I took my first college class at Central Michigan University (in my hometown) the summer between my freshman and sophomore years of high school. It was Introduction to Field Biology taught by Dan Benjamin at the Beaver Island Biological Station. I spent two weeks on the island traipsing around primeval forests, exploring bogs and fens, trapping, tagging, and releasing carp and small mammals, and falling in love with field biology. I also fell in love with Beaver Island and took three other summer classes there before completing my undergraduate degree. While in high school, I passed the AP Calculus exam, CLEP'ed out of college English, and took as many college classes as allowed by my high school dual-enrollment program. I was able to start college with enough credits that I was officially a sophomore from day-one. I wasn't messing around.



Beaver Island, In northern Lake Michigan, can be reached by ferry from Charlevoix, MI

Because I had already taken so many of my prerequisites as a high schooler, when I started my Bachelor's degree at CMU, I had to jump right into a full course load of degree-specific classes (so no "blow-off" classes). I found the perfect minor, museum studies, to compliment my biology major and was introduced to Dr. Kirsten Nicholson. Kirsten was a newly hired professor who would be splitting her time between the biology department and curating the biology collection at the CMU Museum. Luckily, because she was new to the university, Kirsten didn't have any graduate or undergraduate students working with her yet. I already knew graduate school was in my future, so I was looking for undergraduate research opportunities. We met in her office one day to discuss her program...and the research sounded wild! Soon after, I had a student job at the museum as their sole biology major, and a spot in her research program.

Here's where my story veers a little off course. My course of study, student job, and undergraduate research all seemed to be converging into a particular field, which was zoology with an emphasis on herpetology (the study of reptiles and amphibians). At my museum job, I was trained to prepare study skins for the museum's taxidermy collection. I would select a frozen bird or mammal specimen (usually roadkill) from the museum's freezer, thaw it out, skin the animal, then stuff it in a simple lay-flat position (rather than in a lifelike pose as with most taxidermy). This process was pretty gross, and I loved it! I also spent considerable time changing out the old preservative in the "spirits collections" (a fancy term for pickled animals stored in jars). This process was also pretty gross, and I wasn't a big fan. The fumes from the preservative somehow gave me the munchies, which isn't the best reaction when you're up to your elbows in pickled frogs and lizards.

The research I did as an undergraduate could easily fill an entire book. It was a combination of incredibly silly, somewhat dangerous, and unbelievable once-in-alifetime opportunities. In the "incredibly silly" category, I spent a lot of time photographing lizard penises. Let me explain...my research advisor Kirsten, was a phylogeneticist studying the evolutionary relationships among lizards in the genus *Anolis*. Specifically, she was interested in determining if the characteristics of the *Anolis* penis could be mapped on their family tree.



One particularly beautiful Anole

Anoles technically have a hemipenis (meaning two independent penises), rather than a single penis like most animals. Fun fact: They alternate which one they use each time! Hemipenes vary greatly in shape (visible to the naked eye) and even texture (viewed under the microscope), depending on the species of anole. Another fun fact: It is believed that female anoles have species-specific correspondingly-shaped lady parts! Nature is so cool, isn't it!? Anyway, it was my job to photograph and record data on hundreds of pickled specimens collected from various research collections. For spring-break one year, we got to explore deep in the bowels of the Smithsonian Museum of Natural History in Washington D.C. and dig through their spirits collection for appropriately preserved anoles (not all specimens) have the hemipenes everted during preservation, a skill I would later learn). Our selected specimens were "checked out" to us (as you would library books) and shipped to us in Michigan. I swear this is all going somewhere plant-related, just stick with it.



A variety of Anolis hemipenes

At some point during my time with Kirsten, she was invited to participate in a National Geographic-funded expedition to several locations in Central America...and guess who got to go along as her research assistant? Moi? Yes! Tagging along on this expedition continues to be the craziest thing I have done in my life and I highly doubt I will ever be able to top it. We joined approximately 6 other herpetologists who were studying amphibian decline in tropical Central America. At the time, there was a fungal pathogen wiping out entire species of amphibians around the world (kind of like coronavirus, but for frogs!). The goal of the expedition was two-fold: 1) document the biodiversity of reptiles and amphibians at our research sites, and 2) determine the presence or absence of the fatal pathogen in the amphibian populations. My advisor and I were there to assist the other researchers, as well as collect Anolis specimens for our own research. This all took place in the southern region of Panama known as the Darien Gap. Fun fact: The Darien Gap is considered one of the most dangerous places on the planet (due to the nearly-impenetrable terrain, an abundance of venomous creatures, drug traffickers, and more)! Obviously, I survived to tell the tale, and I even returned to the Darien a couple of months later (on a second expedition to another location).



Pit viper; fangs; bathroom facilities



I won't go into too much detail (there is where I could write an entire book), but the Darien was amazing! We spent hours climbing up and down cloud-forest-covered mountains, searching with headlamps (because frogs are more active at night), capturing specimens in sandwich baggies, and then "processing" them for research. Our whole crew would crowd around our make-shift lab station (still wearing headlamps, because it's always somewhat dark in the rainforest), swabbing for fungal samples and then euthanizing, tagging, and chemically preserving the specimens for further research. I spent most of my time wielding a hypodermic needle full of Formalin, a chemical preservative (and I only accidentally stuck myself with the needle once Mom). This is when I learned the fine art of everting hemipenes. You just have to find the sweet spot at the base of the tail and inject formalin until "they" emerge and blow up like balloons (but be sure not to over-inflate). During our time at the Smithsonian, we encountered a severe lack of Anolis specimens with everted hemipenes, so we made sure to evert every single male specimen we could.



Freshly preserved Anoles; Injecting a snake with perservative

It was an incredible experience. I felt "safe enough" during both expeditions. The worst thing that happened to our crew was that one guy, with a mild nut-allergy, accidentally ate an almond. There were a lot of potentially dangerous things that happened, but luckily, they never amounted to anything. Yes, we regularly came across pit vipers, scorpions, bullet ants, and other nasties. Yes, we could see the lights of a drug operation across the valley on a neighboring mountain range. Yes, we saw fresh jaguar prints quite often. Yes, we heard rotten trees falling down around us in the rainforest on a regular basis (including one that went down close enough to our camp that we could all run over and search the canopy for normally out-of-reach arboreal amphibians). But we also had a great time! We were able to help survey amphibian-decline in these remote regions and collect specimens for future research. I stumbled across the third ever documented specimen of a caecilian (legless amphibian) species called *Caecilia isthmica*, and a rare dwarf boa constrictor in the genus *Trachyboa*. Unfortunately, what we did not find (on either of the two expeditions) were many anoles; the whole reason we were there! This situation had a huge impact on my decision to pursue the plant sciences rather than zoology. I can't imagine devoting a career to an organism and then not being able to find it in the wild. Animals move, plants don't. I would much rather study an organism rooted in place that I can depend on staying put!

Critters collected on the expedition







During the final year of my undergraduate degree, I took a fantastic plant physiology course (shout-out to Dr. Dannenhoffer) and started applying to graduate school programs. I now knew I wanted to work with plants, but I wasn't dead-set on anything too specific. I looked into ethnobotany programs, bioremediation programs, and several that fell under the horticulture umbrella. My top two options ended up being Penn State and MSU. My research at Penn State would have involved researching the use of houseplants for indoor air pollution remediation. Looking back, Penn State probably would have been a much better fit for me, but the offer from MSU was more attractive (as well as the cost of living being significantly lower in the Lansing area). The MSU program was also going to let me skip right to a PhD, which was my ultimate goal anyhow since I wanted to teach at the college level.

So, in the fall of 2008, I moved to Lansing and started graduate school. I studied the use of light-emitting diodes as an energy-efficient alternative to standard greenhouse lighting. The research was cool, but a combination of factors led to me eventually opting out of the PhD program and finishing with a Master's degree instead. Writing research papers and grant proposals is a large part of having a PhD in the sciences. For an intensely creative person, the rigid structure of the research and grant funding processes was pretty painful. Looking back, I'm glad I finished with a Master's instead because it's just another reason why I ended up where I am today. And, I realized later that you don't need a PhD to teach at the college level.



During grad school, I bought my first house. Lansing was riddled with inexpensive foreclosed homes, so I took advantage. I gave my realtor one essential requirement: the house had to have a decent-sized yard with at least some areas of full sun. I missed my childhood garden and although Lansing has a great system of community garden spaces, I wanted a garden to call my very own. I ended up in a nearly 100-year-old home with a whopping <sup>3</sup>/<sub>4</sub> acre (which is nearly unheard of in that part of Lansing). I quickly put in a 1,000 square-foot vegetable garden and got myself a flock of backyard chickens. I had a blast

landscaping my front yard and growing dozens of varieties of heirloom tomatoes (among many other things) in the backyard. For a couple summers, I sold produce and cut flowers most Saturdays at the South Lansing Farmer's Market.

During the time between finishing my Master's, and staring at the MSU Horticulture Gardens in 2013, I held four different, yet somewhat related, part-time/temporary jobs. During the summer of 2012 (while still a graduate student), I started working for the Organic Pest Management lab in the Department of Entomology. My field work experience on Beaver Island and Panama helped me get hired as a field assistant to sample pest insect presence in apple orchards and high-tunnel raspberry production systems. I was happy to be working outside again, despite spending long days crawling on my hands and knees looking for insect bore holes in tree trunks.

The fall of 2012, I also worked part-time as a teaching assistant for Dr. Art Cameron in the Department of Horticulture. Art was one of the few professors in the Floriculture group of faculty that regularly taught classes. Art was an inspiring teacher and he created incredible hands-on learning opportunities for his students. As his teaching assistant for the laboratory portion of this class, he would let me observe his lectures in one or two sections of the lab, then I got to teach the lecture in the final section(s) of lab. This experience is what finally got me comfortable speaking in front of an audience and improved my ability to "speak on the fly". Unfortunately, come December, both of these part-time jobs had ended. Luckily, I had a third job! I worked for an interiorscape company taking care of houseplants in commercial and office settings. I love houseplants, but I hated this job. Luckily, my time there was short-lived as I managed to line up a fourth and final job during the spring of 2013. I was hired by Mid-Michigan Community College (in my hometown of Mt. Pleasant) as an adjunct biology professor. My teaching experience with Dr. Cameron made a huge impact on my ability to not only land the job, but do the job with confidence.

Adjunct "professoring" is a gamble. You never know if your contract will get renewed for the following semester. Since we were heading into summer session (when fewer courses are offered), and because I was the newest staff member, I did not have a contract past May. Luckily, I had heard through the grapevine that the trial garden manager at the MSU Horticulture Gardens, Katie McCarver, was leaving to join the Peace Corps. I applied for her position, interviewed, and was thrilled to be offered the position with a July 1 start-date. I was fortunate to have a couple weeks of overlap with Katie to help learn the ropes of my multifaceted position. I also started mid-summer, so the gardens had already been planted. I was able to ease into the position without immediately having to endure the craziness of planting-season.







Swiss Chard air-guitar

Evaluating petunias

Working in the garden

And that's how I became the Trial Garden Manager at the MSU Horticulture Gardens! My horticultural origin story, so to speak. While my job is often stressful (because I'm responsible for keeping tens of thousands of living things alive) and exhausting (after planting, weeding, and watering those tens of thousands of living things), it has so many amazing aspects that have kept me here (my 10-year anniversary will be July 2023). I am incredibly fortunate to have a career that actually utilizes my college degrees. Sadly, for many people in my generation, this is not the case. I am also wildly lucky that I have a job where I get to be creative! When I design my annual displays each year, the sky is almost the limit. The trial program portion of my job is also super unique and satisfying because I get to work with new plant varieties before anyone else does! Very few people in the world have my job title, which makes me feel special and inspires me to do my best. I truly love my job.

I want to give a special shout-out to all the teachers who have helped me get to where I am today: Mrs. Rydahl and Mrs. Horgan for planting the seed; Dan Benjamin for introducing me to field work and the amazing secrets of the natural world; Dr. Kirsten Nicholson for being an incredible role model and bad-ass women biologist; Dr. Joanne Dannenhoffer for encouraging me (and giving me the courage) to shift my pursuits towards plant biology; and Dr. Art Cameron who has had a huge impact on my adult life and career (and I want to be just like him when I grow up).