



NEWSLETTER

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EMORY HERBARIUM SELECTED TO PARTICIPATE IN COLLECTIONS ASSESSMENT (CAP) FOR PRESERVATION PROGRAM

The Emory Herbarium is excited to announce that it is one of 75 institutions in the United States selected to participate in the Collections Assessment for Preservation (CAP) program.

CAP helps museums improve the care of their collections by providing support for a general conservation assessment of the museum's collections and buildings. The museum will work with a team of preservation professionals to identify preventive conservation priorities. The final assessment report will help the museum prioritize its collection's care efforts in the coming years.

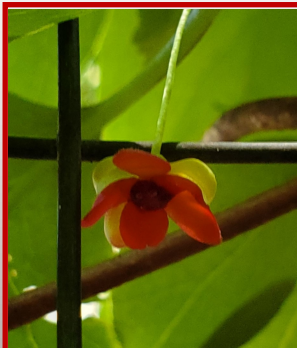
The CAP program is administered by the [Foundation for Advancement in Conservation](#) through a cooperative agreement with the [Institute of Museum and Library Services](#) which fits within the Emory Herbarium's goal to serve as a botanical research and educational resource for Emory University and global community partners. The Emory Herbarium has approximately 22,000 dried plant specimens including special collections such as the Medical Botany and Granite Outcrop collections. It also has a considerable collection of bryophytes, mushrooms and lichens that will be included in this assessment. We're excited to begin this important work this year!

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FIRST TAME AMERICAN STARVINE FLOWER BLOOM



American starvine (*Schisandra glabra*) is a highly threatened native plant species found in the Southeastern United States. This is the only American species of the *Schisandra* genus (Family, Schisandraceae) where it is primarily native to East Asia. Emory campus is one of the best sites for American starvine in the world. There are several starvine patches found in Lullwater Park and Hahn Woods. Starvine is a flagship species for these forests in being equally rare and threatened. So goes starvine, so goes the forest as with the "canary in the coal mine". Emory emeritus professor Carl Brown took a leadership role with Kirk Hines, a

horticultural therapist at the A. G. Rhodes Health and Rehab center, by establishing a long-term commitment to protect starvine, encouraging conservation of the forest and preserving the Emory identity. [Continued on page 2]

"It only took five years to have a bloom from the starvine plants in Kirk's vineyard" Emory ecologist, Carl Brown said.

Emory Herbarium partners in the Quave lab published new research findings that the noxious weed Brazilian peppertree yields active compounds against a super bug (methicillin-resistant *Staphylococcus aureus* (MRSA)). This plant is native to Argentina, Paraguay, and Brazil where there is historical evidence of it used in their medicinal practices. Brazilian peppertree was introduced to the U.S. around 1800 as an ornamental plant. But now in Florida this plant grows aggressively, threatening native plants. Read the full article: <https://www.nature.com/articles/s41598-020-65080-3>

In the wild, starvine trails the forest floor until it finds a 'suitable tree' to climb up. It produces a bright reddish orange color of male and female flowers near the tree canopy. Starvines do not produce flowers each year. Ecologists think there may be certain triggers that induce the flowering of starvine. Even though ecologists have been studying the American starvine in the wild for about 15 years or more, there is almost nothing known about the ecology or lifecycle of it. Growing starvine in a "vineyard" all by itself enables ecologists to better understand its needs. First this process was started with wild cuttings about eight years ago but was not successful at all. Then, about five years ago, wild seeds were germinated in a nursery and placed in a vineyard at the edge of the forest near Emory Wesley Woods.

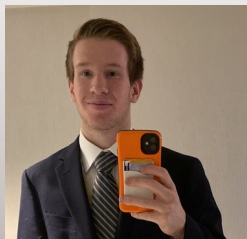
Five years from the time they gathered the original seeds, these plants have produced five male flowers at the same time of their wild brethren. This is an exciting achievement as the horticultural and ecology team now know that the plants in the vineyard are happy! They will continue to nurture the vines and monitor wild populations as step towards conservation of this unique species in the forest.

Herbarium Outreach



Botany work shop for DeKalb teachers at the Fernbank Science Center.

THANK YOU TO OUR SPRING 2020 VOLUNTEERS!



From left to right: Top row: Elena Eubanks, Andrew Pahnke, Alice Yang, Angel Barrueta, Tsian Ramrattan

Bottom row: Ana Maria Velez, Tito Tomei, Tanika Deuskar, Burhan Mubeen, Bijia Wang



Ixora: An Attractive Butterfly Plant

By Tsian Ramrattan

I grew up in Trinidad and Tobago. Because of our tropical marine climate we have a wide variety of flora that flower all year long. I spent a lot of time with my grandparents growing up and my Granny would share loads of stories about how she helped her father garden and all the things she learnt along the way. Every day was a lesson on what leaves and petals I could eat and what I couldn't.

In her front yard, she had rows of Ixora plants or the "West Indian Jasmine" that had bunches or clusters of pink, yellow and red flowers. She'd always pick one of the little flowers and carefully pull on the base of the stem of the flower, drawing a droplet of nectar. She'd quickly lick the droplet and remind me of why the Monarchs loved this little flower so much. She would sit on the porch with me and watch me thread the flowers together to make crowns and bracelets.

These beautiful plants are extremely hardy, withstanding heavy rain and drought. They brought an abundance of butterflies, hummingbirds and bees to our yard. These plants even have the ability to withstand ten curious grandchildren. All of which have drawn the nectar, tried to catch the butterflies, and make the most amazing flower crowns imagination could buy.



VOLUNTEER SPOTLIGHT: ANDREW PAHANKE

This past spring for me at the Emory Herbarium was a really great experience to have. Even with track and cross-country practices, I was glad to have been able to work with Dr. Samarakoon and expand my skill set within plant studies. I became adept with online data entry, and I learned how to identify differing spore types on lichens.

If I didn't volunteer, I wouldn't have realized how much I find plants intriguing. When prompted to write about a plant in one of my classes, I studied it through some of the resources that the herbarium presented me.

In the future, I am considering research in botany as I believe we are so focused on pure drug compounds, that we overlook more natural remedies found in Nature.

Turmeric latte: a healthy alternative to coffee?

By Tanika Deuskar

Whenever I see “Turmeric Latte” on a Starbucks menu or #turmericlatte posts on Instagram, I both laugh and roll my eyes. I, probably like a lot of Indians, have had #turmericlattes years before it became cool. Indians use turmeric for a lot of things: it is a staple spice in curries, it is often dabbed onto cuts and wounds if a regular antibacterial is not available, it is applied on skin a la facemasks, it is used to cure minor illnesses like colds and sore throats (the slightest hint of a sniffle leads

radation and help Alzheimer’s patients.

I will probably always think that calling turmeric-milk a “latte” is a bit over-the-top, but



Turmeric (*Curcuma longa*; Family Zingiberaceae) rhizomes are widely used in Ayurvedic medicine due to its anti-inflammatory and anti-oxidant properties.

if latte art is what it takes to spread the benefits of turmeric around, I suppose liking #turmericlatte posts isn’t all that bad!

“Modern research has shown that benefits of turmeric aren’t just old wives’ tales.”

to my mom’s prescription of a teaspoon of turmeric washed down with hot water twice a day), and yes, it is mixed in with warm milk to make “lattes.”

Modern research has shown that these benefits aren’t just old wives’ tales. [Studies](#) have shown that turmeric can inhibit the growth of *Staphylococcus aureus*, a bacterium that causes respiratory infections and food poisoning (yay Mom’s prescription); [research](#) suggests that curcumin, an important constituent of turmeric, lyses bacterial cell membranes. Curcumin also has anti-inflammatory and anti-oxidant properties, and has [shown an ability](#) to inhibit key signaling pathways in the progression of cancer. Some [studies](#) also indicate that turmeric can also help in reducing neuron deg-

HOT TURMERIC LATTE RECIPE



Ingredients: 1 cup whole milk (can use almond milk, coconut milk or soy milk), 4 teaspoons freshly ground turmeric, 1 teaspoon freshly ground ginger, 1/8 of ground cinnamon or nutmeg, sweetener as needed (honey, maple syrup, sugar), pinch of kosher salt.

A Simple Recipe: Combine all ingredients in a small pan and bring it to a simmer. Lower the heat and simmer the mixture for 5 minutes. Turn off the heat and strain through a fine-meshed sieve into a cup and serve.

GEORGIA'S HIDDEN TREASURE: ARABIA MOUNTAIN

by Bijia Wang

Earlier this year, I began my research project on lichen at the Emory herbarium. There was already a new, growing collection of lichen at the Emory Herbarium, and although I initially did not know much about lichen, it quickly became clear to me exactly how fascinating lichen were. By definition, lichens are composite organisms that arise from a joint relationship between a fungus and a photosynthetic partner, such as algae or cyanobacteria, and are typically found on trees, rocks, and fallen branches.



The natural positioning of lichens primes them to be an excellent surveillance system on the environmental quality of their surroundings. Because lichens are very sensitive to atmospheric pollution and respond in an especially clear way to environmental change, I decided that my project should compare the air quality of certain areas through their respective lichen profiles. I decided on a plan of lichen collection at Arabia Mountain in Lithonia, Georgia where air pollution is less.



The drive to Arabia Mountain was about 20-30 minutes, with no traffic. Before we began climbing the mountain, we armed ourselves with collection tools, a notebook, sharpies, and brown paper bags. From the mountain's information guide at the beginning of the trek I read that Arabia Mountain consists of granite outcrop fields and granite top pools. The unique characteristics of this monadnock allows for the bright-red diamorpha plant that lives in small pools of water, where the rare black-spored quillwort *Isoetes melanospora* are also

found.

However, the information on the guide could not prepare me for what I saw. Arabia Mountain was unlike any other mountain I had seen before: the diamorpha plants formed bright pools of red and the black crustose lichens formed on the migmatite (granite and gneiss mixture) of the mountain provided an amazing contrast. To my delight, small cacti sprung up near the pools. As we walked through our surroundings, you could still see the remains of the quarry operations that took place in the 19th and 20th centuries.



It was a productive lichen collecting trip; at the end of our time there, we managed to collect quite a few lichen samples. One of my favorites was the *Cladonia rangiferina*, a pale, bright fruticose lichen that popped up in bunches in the patches of sporophyte moss. According to local lichen specialist-in-residence, Sean Beeching, this particular lichen was nicknamed reindeer lichen as it served as a food source for deer and has an interesting back-story. Following Chernobyl, the reindeer lichen of northern Scandinavia had accumulated so much radioactive elements that the deer feeding on them were considered dangerous to eat.



The trip to Arabia Mountain was not only enjoyable, but extremely educational in teaching how to spot and identify lichens and how the ecosystem of this unique mountain is interconnected. I was glad I was able to add to the herbarium collection and gain experience collecting in the field. After my first trip, I later went back just to hike the mountain—this time, I wondered how anyone could miss the lichen—



they are everywhere. I watched the sun rise at the top of the mountain and saw tiny tadpoles in the pools. I highly recommend Arabia Mountain for anyone who is interested in lichen or just looking for a good hike.

Like us on our Facebook & follow us on Twitter and Instagram to stay up to date with all our exciting activities!



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OUR MISSION

The mission of the Emory University Herbarium (GEO) is to serve as a botanical research and educational resource for the Emory University and global community. GEO aims to foster understanding of the human-nature interface by collecting, preserving, researching and exhibiting botanical specimens and ethnobotanical objects.

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Due to the emergence of COVID-19 and new campus safety protocols, we will not be able to host visitors in the Herbarium this summer or fall. We will continue to engage in research, education and outreach using virtual communication channels.

Support our research and outreach activities with a tax-deductible donation. Information on how to give is available [HERE](#) or on our website at <https://scholarblogs.emory.edu/emoryherbarium/>