

P E T A L P U S H E R

September-October 2022 Newsletter of the Missouri Native Plant Society Volume 37 No.5

“... to promote the enjoyment, preservation, conservation, restoration, and study of the flora native to Missouri.”

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Fall MONPS Field Trip

September 16 - 18

Plans are set for our Fall Field Trip to northwest Missouri and southwest Iowa! On Friday afternoon, we'll visit Chloe Lowry Marsh, near Princeton. The marsh is vital habitat to eight plant species of conservation concern. This complex of freshwater marsh and wet-mesic bottomland prairie is a rare remnant of a once more common natural community across the Central Dissected Till Plains ecoregion of north Missouri.

Our Friday night speaker will be Matt Arndt, who will tell us about his experience in restoring oak savanna woodlands. He works across the state and has multiple projects in northwest Missouri. His approach to savanna restoration is to focus on woody structure first rather than herbaceous diversity. Species comes into play in the selection of trees during canopy thinning. He is especially concerned with maintaining the whole ecosystem for plants and wildlife alike. The talk will take place at the Community Center in Lamoni, Iowa.

On Saturday morning, we'll travel to Rolling Thunder Prairie in Indianola, Iowa. Rolling Thunder Prairie is a 282-acre wildlife management area with a landscape dominated by native prairie. The western 200 acres have never



Sunflowers at Helton Prairie Natural Area, photo by Aaron Jungbluth

been plowed and contain high quality prairie plant species. After a lunch break at Slip Bluff County Park, we'll explore the oak savanna restoration taking place there. The quarterly Board Meeting will be held that evening at the Lamoni Community Center.

Continued on p. 10...

Autumn Leaves: Beauty Beyond Color

by Justin Thomas

“Autumn is a second spring when every leaf is a flower.” -Albert Camus

It's all because of water, really. That magical elixir that accounts for 71 percent of Earth's surface, that both mystically evaporates into, and fantastically falls from, the sky and back to land and sea. It is the medium in which all life's soups must marinate. Life evolved in water, and though life has found ways to take water with it on land, it is still wholly dependent on the stuff. Life is water-filled cellular ecstasy, little more.

Then add in our sacred Earth. Spinning and spiraling within the great near-void of space, its orbit stretching and leaning in such a way that at some point water turns from free-flowing liquid to rigid and expanding crystal everywhere but the midsection. In its frozen form water is antithetical to life. It expands in volume rupturing cells and crushing complex organelles and membranes into greasy smears. If there is to be life in the parts of Earth that freeze, it must have a solution. This solution is found both in finding an answer and in staying solvent, which are ironically the same thing in this case.

Plants in the north temperate zones of North America have found several ways around this icy problem. The solution that all plants use is a matter of concentrating their solutions. By which I mean they concentrate compounds in their cells to form “antifreeze”. Evergreens are the easiest to understand. Their high resin content (which makes them smell so wonderful) serves to prevent cells from freezing. With this adaptation they can keep their leaves all year. However, their leaves also have to be needle-thin and need a thick waxy skin to prevent desiccation. After all, when water is frozen, the world is a desert. Unfortunately, this adaptation to cold, via simultaneously adapting to drought, actually slows their potential growth compared to deciduous plants, at least when growing in temperate zones. This is why evergreens become more common the further north one goes. An evergreen's chemical and morphological adaptations are absolutely necessary in boreal zones where deciduous species, with their broad leaves, thin skin, and weak antifreezes, cannot diversify. Life, at all scales, is about tradeoffs – managing the fluidity and depth of water's limitation on living morphologies across geoclimatological spectra being chief among them.

Few people realize that deciduous plants also survive winter by creating concentrations of “antifreeze” in their stems and roots. The only real difference is they don't do so in their leaves. Any woody species has living tissues (twigs, buds, etc.) exposed to winter temperatures and dryness. And the roots of herbaceous and woody plants, though insulated to some degree in the soil, are still found mostly in the top several inches of soil well above the freeze line. These tissues survive, like evergreens, by concentrations of chemicals that lower their freeze point. Deciduous plants evolved to maximize the growing season with wide leaves while they can, but then drop the liability of leaves in the fall. As such, Missouri's gloriously luscious springs and summers, so warmly dripping with light, water, and humid air, give celebration in diversities of color, form, and bloom. Our rich flora erupts in spring, hoping to not be too early, and proceeds to put on large, flat, photosynthesizing leaves through which move tremendous amounts of liquid water and sugars that make it all worth it. In the process, plants most efficiently convert the sun's light and the seeming empty air into the organic matter and energy with which all life weaves their bodies, makes their babies, feels, breathes, and dreams. Chlorophyll is the intermediary to it all.

Living systems, from organisms to biomes, can only exist and diversify to the extent that there is order and predictability in their world. DNA is primarily information, after all. That information is written and read as a map of how life has, and hopefully can, move forward. We forget, or maybe we just can't fathom, the degrees to which plants, or any living organism, are constantly reading the world around them and drawing on past experience. And as the days begin to get shorter, along Earth's annual orbit, deciduous plants take note. As temperatures cool toward autumn, plants again take note. And by “take note” I'm referring to a highly complex molecular regulatory network underlying leaf growth and eventual senescence (it is a kind of knowing).

This complex and orchestrated combination of regulatory factors includes genetic transcription regulators

queued by hormone systems of signals and receptors further embedded and engaged with regulators of metabolism and stress responses. So beautifully complicated. All of this complexity is ordered and directed by predictable responses within a range of external variables experienced over the evolutionary and personal histories of each individual plant. As such, there is more to the beauty of autumn than color, just as there is more to the beauty of plants than flowers.

But how does the autumnal color happen? The process is extremely difficult to explain, because, as we've established, there are many very technical things occurring and because not all species or groups of plants do it the same way. Describing it is like describing a recipe for a dish that can be made a thousand different ways from ingredients that themselves have recipes that can be made a thousand different ways. As such, description of the process tends to default to a list of the ingredients rather than shedding light on the process. And since the recipes include words and interactions that would make a chemist's head spin, let's try to stick to process and avoid too much technicality. But let's also keep in mind that the technicality of it is also beautiful and important – so important and beautiful that it is beyond our mind's capacity really.

So here is the process. As it gets cooler outside and the days get shorter, chlorophyll becomes unstable and too difficult to manufacture and maintain. This most efficient form of photosynthesis must be shut down. But chlorophyll and all the other pigments and accessory molecules that tend the day-to-day work life of a leaf are very rich in proteins, fats and sugars. It would be wasteful to let them deteriorate and fall to the ground when they can be recycled. To avoid wasting a drop, as autumn approaches deciduous plants retrofit their sugar manufacturing gear into a leaf chop shop. This chop shop disassembles the useful components of the leaf (various proteins, fats, and sugars) and exports them to seeds and other storage structures (roots, inner bark, etc.) where they can be reused. They also use these compounds to power the chop shop itself. After all, the nuclei and mitochondria of each cell in each leaf must be kept alive until the final stages of senescence. The transition of color from the first signs of autumn to leaf drop is this chop shop in action.

Chlorophyll is the least stable but the most energy rich molecule, so it is the first target of the chop shop. Chloroplasts (the organelles that contain chlorophyll) can contain up to 70 percent of the leaf's protein. Because chlorophyll is the green pigment of a regularly growing leaf, the green begins to fade as the chlorophyll and chloroplasts are digested and their valuable components are exported from the leaf. This usually happens from the tip and margins inward – again, an ordered process. This leaves behind yellows, oranges, and reds of xanthophylls, carotenoids, and anthocyanins, respectively.

Xanthophylls and carotenoids contain yellow and orange pigments and are always present (all growing season long) in a mature leaf, where their colors are masked by the more dominant green of chlorophyll. Their day-to-day job is to provide photosynthesis of more intense wavelengths of light than chlorophyll can (they do direct their light energy to chlorophyll, however). They also help oxidize harmful byproducts (free radicals) that result from exposure to ultraviolet radiation. Because they are more stable than chlorophyll, they stick around to the bitter cold end.

Anthocyanins are the reds and purples we see in fall leaves. They are mostly produced in the fall. They are not abundant in most mature and active leaves during the growing season. Their production in the leaf coincides with the decomposition of chlorophylls where they serve to chemically stabilize the absorption of the leaf contents. The chemical processes of the chop shop produces some potentially harmful or counter-productive waste products that anthocyanins stabilize. This is also why we eat berries and other plant parts that are red, blue, purple, etc., for their anti-oxidative properties.

As autumn progresses, and the internal components of the leaf (or the stem as in non-woody deciduous



Diospyros virginiana (persimmon) produce vibrant yellows in autumn.

plants) are liquidated and exported, the leaf (or stem) begins to seal off the veins in and out of the leaf. Once sealed off all that remains is the brown and hollow fiber shell. Woody plants then pull water down into their roots creating a concentration of freeze-resistant sugar-concentrate in their exposed overwintering stems. Then, like a hibernating bear, fats and sugars and memories stowed, the plant sighs into a winter slumber where it dreams of a chance to do it all again, a little wiser for the wear.



The Red Oak group, like this *Quercus acerifolia* (maple leaved oak), have striking reds in the fall.

From the Editor

It is that time of year. Again. The time of high demand. Okay, okay, so that's pretty much every day. We are always asked to "stop and smell the roses" meaning that we should appreciate the small things like flowers and make sure to make time to stop for them. At the same time, we are asked to work all day, take care of houses, yards (or land), pets, and kids; and: plant more natives (so say we all); BUT: the city says: keep your plants neat! [and if you live in the country, you may have to commute, which usually involves releasing more greenhouse gasses--there is no perfect way to exist.] In academia we are told: Teach more online! but Students want hands on and field experiences! Teach more classes! Teach more practical skills and do it this way: BUT: education is too expensive--make it free! So, what, instructors should teach their classes for free? Um, we also have to buy food and pay for housing. Oh, no, no, no, teachers should get paid more (yay!) But that means raising taxes since this education should be free...and no one will vote for that. And half the people don't even think educational loans should be forgiven. So, yes, while we are doing all of our work and caretaking and land grooming/ planting/studying, it is little wonder why it really is difficult to stop and smell the roses. But we persist and do it anyway. And, as plant lovers, we really do appreciate them and their roles in nature--the native ones, at least.

The anti-academia movement says we either don't know what we are doing or that we aren't including meaningful experiences because we just don't care or something. Or that we need to offer more practical experiences/skills/certificates despite barely being able to do what we're already doing. And then enrollment is overall decreasing in colleges, but increasing in field courses at the same time that folks are saying "no one wants to do botany any more." Here's the thing, though: making a statement about something like that doesn't make it actually true. My botany classes have increased by about 75 percent in the last 10 years despite decreasing enrollment in biology. My point is, many of us are increasingly overwhelmed by all the demands placed on us while we are also trying to eek out a meaningful existence. So please, give everyone a break. Instead of chiding folks to "stop and smell the roses," offer one up to them as you help them on their way because they are probably running late again. Like this Petal Pusher.

Thank you to our Assistant Editor, Pam Barnabee for getting everything in good shape before it came to me. Thanks also to our Board members who proofread each issue and all authors, chapter representatives, and other contributors. Please consider making a submission for a future Petal Pusher! Here is some information for submissions:

A. The theme for the November Petal Pusher is "Species Control for Winter" but other submissions are encouraged, especially Genus or Family descriptions ("Better know a genus/family"), Conundrum Corner, Invasive Tip of the Month, Name Change of the Month, Terminology, and Poetry Corner.

B. Send ONE email saying "here is my contribution on _____," and attach (don't embed) the following:

- 1) an article in Word format with photo captions at the end (no photos in the Word document) and your name in the text.
- 2) Images, in JPEG format--NOT in a document file.

C. Use only one space between sentences

D. Even short notes with pictures would be great!

E. Send to: pamela.barnabee@gmail.com (don't send them directly to me!)

F. Due date for the next issue is: October 20

**Thank you so much,
Michelle Bowe**

AUTUMN INTEREST IN MISSOURI

by James Faupel, restoration ecologist of the Missouri Botanical Garden

So often when we hear about “autumn interest” or “fall colors” in the landscape, whether it be a natural or human created landscape, plant enthusiasts will generally bring up the one thing staring at us right at eye level, the spectacular line of fall fashion that is the brilliant changing leaf colors of our deciduous trees and shrubs. Surely though, there is more to be seen in the landscape during these closing months of the growing season, beyond this blanketing veil of red, golden yellow, fiery orange, and purple foliage. What about the many beautiful flowers that persist all the way up until the first few hard frosts and the ripening fruit of summer blossoms that will last on into the beginning of winter? Better yet, these flowers and fruits will also reward you with an array of showy wildlife to additionally thrill your senses!

The monarch butterflies migrating south, and queen bumble bees preparing for their winter slumber, will be visiting the large and attractive flowers of our native thistles for the valuable nectar they provide. Two specialist bees of sunflowers, the sunflower long-horned bee and large sunflower sweat bee, will only be visible to those watching sunflower species up close. These are just two examples of some of the many colorful plant/wildlife interactions one might see this fall. However, these temporary floral displays require one to be present, patient and waiting, or you’ll miss their seasonal opportunities. In my opinion, these are the under-appreciated “fall colors” that could benefit from a little more time in the spotlight.



Female thistle long-horned bees quickly gathering pollen on one of our four native thistle species, *Cirsium discolor*. These pollen specialist bees can only feed their larvae *Cirsium* pollen. Photo by James Faupel.

In 2022, the autumnal equinox arrives on Thursday, September 22. So this year, go out on some long drives to see the autumn leaf change, but also make some plans to go out hunting for the smaller things that can inspire your senses! Below are some lists to help you get started. Happy fall botanizing!



Pictured are the many shapes, sizes, and colors of New England aster that keen-eyed botanists might come across during their fall field adventures. Photo by James Faupel.



From left to right - An eastern bumble bee entering a bottle gentian; locust borers mating on stiff goldenrod; a monarch butterfly visiting New England aster; a giant sunflower sweat bee gathering pollen on Jerusalem artichoke. Photos by James Faupel.

Some Examples of Attractive Fall Flowers and Where to Look for them in the Wild

Thistles: Four Missouri native *Cirsium* species; widespread across Missouri; variety of grassland habitats; wild-life association examples - pollinator hosts to fritillaries, sweat bees, pollen specialist bees (just like the other Aster family members below), queen bumble bees getting ready to overwinter, and migrating monarchs; migrant goldfinches will also be eating the seeds of *Cirsium* sp. and many of the other Aster family members listed below.

Sunflowers: Sixteen native *Helianthus* species; widespread across Missouri; variety of grassland habitats

Goldenrods: Twenty-three(+/-) native *Solidago* species; widespread across Missouri; variety of grassland habitats

Asters: Twenty-one(+/-) native *Symphotrichum* species; widespread across Missouri; variety of grassland habitats

Sneezeweeds: Three native *Helenium* species; scattered across Missouri; moist grassland habitats

Gentians: Three native *Gentiana* species; scattered across Missouri; variety of grassland habitats

Orchids: Approximately ten of Missouri's thirty-five orchid family members bloom in the fall; scattered; variety of habitats

Ghost pipes: Two native *Monotropa* species; scattered across mostly southern Missouri; bottomland woodland

Blue sage: *Salvia azurea*; primarily western Missouri; variety of grassland habitats, such as upland prairies

Virginia witch hazel: *Hamamelis virginiana*; scattered across southern quarter of Missouri; wooded slopes and streambanks



From left to right - Arrowwood viburnum berries; deciduous holly berries that will last months into winter on the stems; the incredibly showy stems of American beautyberry before leaf drop; black choke berries about to be devoured, well before winter. Photos by James Faupel.

Some Examples of Attractive Fall Fruit and Where to Look for them in the Wild

American Beautyberry: *Callicarpa americana*; south central Missouri/Arkansas border; dolomite slopes/bluffs

Fringe tree: *Chionanthus virginicus*; southwestern Missouri/Arkansas border; glade edges, bluffs

Tupelos/black gums: Two native *Nyssa* species; southeastern Missouri; bottomland woodlands to swamps
Hollies: Three native *Ilex* species; one mainly in southern half of Missouri and two in southeast; various woodlands
Laurels: Two native *Lindera* species; one mainly in southern half of Missouri and one in southeast; low/moist woodlands
Wahoos: Three native *Euonymus* species; one widespread and two in southeast Missouri; various wooded habitats
True buckthorns: Two native *Rhamnus* species; scattered across Missouri; glades, open woodlands
False buckthorns: Two native *Sideroxylon* species; scattered across southern Missouri; various habitats
Persimmon: *Diospyros virginiana*; widespread across Missouri; upland woodlands, old fields
Dogwoods: Six native *Cornus* species; widespread across Missouri; various wooded/edge habitats
Viburnums: Eight native *Viburnum* species; scattered across Missouri; various wooded/edge habitats
Sumacs: Three native *Rhus* species; widespread across Missouri; prairies, upland woodlands, fields



From left to right - Shining bluestar showcasing some gorgeous golden fall color; a yellow garden spider catching some prey above the last flowers of the season of obedient plant; a beautiful chanterelle mushroom; a nice symmetrically formed frost flower at the base of white wingstem. Photos by James Faupel.

Other Fall Natural Wonders Not to be Missed

There are many other natural wonders that you shouldn't miss while out on an autumn botanizing adventure that just couldn't be elaborated on in this article, too. While you are out enjoying the fall flowers and fruits of our many Missouri native plants, be on the lookout for fungi producing their attractive fruiting bodies, once temperatures begin dropping from their summer highs and after a rainfall event. Spiders become very active and visible this time of year as well, making them and their dew- or frost-covered webs perfect targets for our camera lenses. Many herbaceous plants have showy fall foliage just like their woody cousins, such as big bluestem grass, little bluestem, seedbox, and bluestars, just to name a few. As all the autumn foliage and flowers start to fade away and give way to winter, be on the lookout for all the wondrous seed heads worthy of photos and frost flowers at the bases of stems of a handful of native plants during the first few hard morning frosts. Perfect timing on your part will be required to be at the right spot, at just the right time, to photograph these ephemeral flowers before they melt away with the first rays of sunlight of the day!



Common milkweed seeds exiting their seed pod, waiting for the next fall wind to carry them to their new home in the surrounding prairie landscape. Photo by James Faupel.

Literature Cited

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- Yatskievych, G. 2013. Steyermark's Flora of Missouri, revised edition, volume 3. St. Louis: Missouri Botanical Garden Press.

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We Welcome Member Submissions!

The Petal Pusher wants YOU ... to write articles for the newsletter.

Consider these possibilities to get your creative juices flowing:

- Conundrum Corner: Tips on how to distinguish between tricky, look-alike species.
- Invasive Tip of the Month: How to identify and eradicate a particular invasive species.
- What's Cooking: Recipes using native Missouri plants.
- Name Change of the Month: Latin names, they keep on a-changin'; help us all stay up-to-date.
- Poetry Corner or Quotation Corner: Give us your suggestions for poems or quotes, or submit your original poetry. (Note that for poems, we must have permission from the publisher.)

Food for Thought about the Pronunciation of Scientific Names

by Cécile Lagandré

Ted MacRae's guidelines for the pronunciation of scientific names, which was published in the last issue of *Petal Pusher*, has joined a whole array of guidelines on the same topic available online. It is difficult to make heads or tails of them all because they aren't even written using the same vocabulary and no overall goal is declared. Who is ever going to mention the pronunciation elephant of our prairies? This subject is very taboo—James Trager, in his article “De Latino Botanica”, also published in the last issue, admitted he didn't want to broach it. I am certainly not the best person to tackle this issue but let me give it a try.

My own experiences with these strange forces

My first experience concerned the genus name *Psoralegium*. I was then expecting all the letters of a scientific name to be pronounced and it didn't even occur to me that anybody would do differently. I racked my brain in the 'S' folder to find a genus starting with the letter 'P'. How innocent I was in my late 40's while rediscovering the thrill of my French botanical education. I had studied English at school for ten years, I had lived in the United States for twenty, and still I found myself unable to transfer back and forth in my mind this obviously very important detail.

When in Rome, do like the Romans. As the years passed, I thought I was losing my French automatic ability to read the letters C and G 'correctly' when followed by front or back—in reference to tongue position—vowels, like in the epithet *circaezans*. What kind of plot could thicken from not pronouncing the spelling mistakes created when the code removed all accentuation marks and ligatures—œ, æ—to, yes indeed, pronounce botanists' spelling mistakes? I didn't know the true extent of this terrible joke until, during a field trip, nobody was available to rescue me when what sounded like a jumble was offered in lieu of a name for a plant new to me. A traditional spelling solution didn't help because the part of my brain responsible for making words out of aural letters hasn't worked for ages.

Continental versus Anglicized Pronunciation Methods

Catherine of Aragon and her future (first) husband Arthur first met each other in England 10 days before their 1501 royal wedding. "The couple had corresponded in Latin, but found that they could not understand each other's spoken conversation, because they had learned different Latin pronunciations."⁴

How many more years of failed communications can we handle? English native speakers share their own language with the world to ease international communications but the U.S. botanical scene seems oblivious to its own linguistic difficulties when it comes to international scientific names.

Advice from some leaders

The most complacent: "How (scientific names) are pronounced really matters little provided they sound pleasant and are understood by all concerned."¹

Everybody wins, nobody loses: "There is no 'wrong' Latin dialect."²

My favorite: "I think the most important rule is to pronounce every letter and in the correct order."³

Missouri, Missouruh, Missourah

Pride and ability: I say the French number twenty (*vingt*) with the Belgium accent because I grew up on the border of the two countries. If only I could notice when this speech oddity occurs, I would really love to hear this treasure of my childhood.

Expectations: Do we really believe that pronunciation guidelines will change anybody's habits or are they just written as a surrogate polite conversation about pronunciations?

A few points about pronunciation in general

Word stress helps make sense of English sentences but it has absolutely no function in the case of scientific names.

The 'schwa' sound—ex: the a in about—is the most used vowel sound in English, particularly in unstressed syllables and stressed syllables affected by the letter 'R'. It is formed in the relaxed position of our speech apparatus and is situated in the auditory middle of all our possible vowel sounds. No wonder I cannot understand scientific names said in the Anglicized Method for I can only hear a succession of medium vowel sounds barely interrupted by inde-script consonants.

Epithets derived from a last name

A little over a hundred years ago, Jepson⁵ proposed the retention of native pronunciation for last names used in epithet which is very difficult to accomplish across the board. In addition the capacity to hear, recognize, and pronounce some foreign sounds depends on the ability to travel overseas. This reliance is discriminatory in nature. As James mentioned two months ago, this whole vocabulary was only accessible to the powerful at the onset of its usage for botanical purpose. Then, it was only the aristocracy that could explore. Do I need to talk about current educational costs?

Conclusion

The democratization of the field of botany is urgent. Would a technical education be adequate for all the field work that climate change is going to require in the next two hundred years? I truly feel that the time has come to simplify our pronunciation of scientific names down to only five Spanish-like vowels without exceptions.

¹ William Stearn, "Botanical Latin" (4th ed., David & Charles, 1992)

² Peter Ommundsen, <http://capewest.ca/pron.html>

³ Elisabeth C. Miller Library <https://depts.washington.edu/hortlib/pal/pronouncing-botanical-and-lat-in-names/>

⁴ https://en.wikipedia.org/wiki/Catherine_of_Aragon

⁵ Cited in <http://www.calflora.net/botanicalnames/nomenclature.html>

Field trip, continued...

On Sunday morning, we'll return to Missouri to visit Helton Prairie (near Bethany), another example of unplowed prairie. The northwest corner of the area includes the Helton Prairie Natural Area, one of the best examples of native prairie in north Missouri. Nearly 200 native prairie plants have been identified on the 30-acre natural area.

Please visit our website, monativeplants.org, for times, maps and directions, lodging information, and any last-minute updates.



Pickerel weed at Chloe Lowry Marsh, MDC photo

Highlighting Hawthorn Chapter

We want to know our chapters better. We want to hear about all the fun and valuable activities our chapters do, understand their needs, and share that with you, our members. We hope you will find ways you might participate. In the next several issues of the Petal Pusher, we plan to showcase one of our chapters; up this month is our chapter in Columbia: Hawthorn.

We welcome anyone to attend MONPS meetings and events! There are no prerequisites. MONPS members span all walks of life and can range from beginners to experts and everything in between. Members love to teach as well as to learn from others, MONPS events are a great way to get to know people in the conservation community for career networking.

Cindy Squire, Chapter Representative: Our officers are Elena Vega - President, Nadia Navarrete-Tindall - Vice-President, Emily Beckett - Secretary, Diane Privitt - Membership and Treasurer, Cindy Squire - Chapter Representative, with Becky Erickson - Communication Member and Louise Flenner - Librarian. Our current membership is 101 individuals.

Being a large chapter, we have members in all stages in their journey of exploration of native plants. Mid-Missouri isn't as densely populated as other cities. Columbia just reached over 125,000 residents. Columbia has a high density of educational institutions which means that the population fluxes wildly during

the school year, and we have many highly educated people in the community.

Hawthorn Chapter was formed about the same time as the state or shortly thereafter. A letter went out to teachers, scientists in town, and other interested individuals. The letter we received came from Bill Clark (as best as I can remember) and I think it was in the mid-to late 1970s. All of our newsletters are archived with the State Historical Society and as many of the early ones that we could find are included. We were more of a hiking group in the beginning and had presentations at monthly meetings, just as we do now. We did not start doing booths until opportunities arose around 1990. We sold books, gave out membership information on a card table, and sold some plants propagated by various members in our early years. We had a holiday party, propagation workshop, wreath-making workshop, and a summer picnic every year.

We have meetings now both in person and on Zoom. Meetings can vary from plant identification meetings to informational presentations to garden tours. We have monthly lunches where we discuss flora and fauna. We take moseys (guided hikes) when we can. We participate in plant sales and festivals selling member-grown plants and inspiring the public to learn more about native plants and use them in their plantings. We grant money to schools and other entities for public native gardens. We have an adopt-a-spot which features native



Chapter mosey to a property overlooking the Missouri River, photo by BE.

plants. We have a holiday wreath-making activity during the winter holidays.

Meetings are required to be held bi-monthly. Moseys are during the spring and fall when temperatures are more comfortable for hiking. Plant sales and festivals are mostly in the spring. We have lunches most months (except when COVID rates are high.) The newsletter and emails are the most reliable source for times and locations of events as changes may occur.

We have attended multiple festivals and plant sales through Missouri Prairie Foundation, the city of Columbia, University of Missouri, and the city of Arrow Rock. We have a canopy, tables, and even a Hawthorn banner, so we are amazingly prepared for community outreach. We sell books, plants, and t-shirts, and distribute free literature about native plants and associated fauna. We give back to schools through grants and volunteer work. We donate plants for various public projects. We have a lot of activities where members can learn either by hands-on work or through virtual events. Our membership strives to get native plants into all types of gardens throughout the area.

A new member can expect to be greeted warmly by other members. Seasoned members will try to engage a new member and invite them to other chapter activities. Our goal is to involve new members in multiple types activities to retain them long term. New members will receive multiple emails of chapter activities and the chapter newsletter. So many activities may be a bit overwhelming, but we really want to immerse our members in knowledge of plants from all aspects.

We have a smaller group of about twenty members who are reliably involved in activities, and we would like to enlarge this hardworking group to spread out the work and involve other, younger members. We would



Chapter President Elena Vega, photo by BE

like to have more help in locating presenters for our meetings.



Plant sale at MU Bradford Farm, photo by V. Melton



Member Joanna Reuter giving a workshop on using iNaturalist, photo by BE.

“Education is the key to unlock the golden door of freedom.”
—George Washington Carver



2022 Missouri Botanical Symposium

November 4, 2022
Rolla, MO

www.missouribotanicalsymposium.org

Save the Date!

We are pleased to announce that the 8th Annual Missouri Botanical Symposium will take place on November 4th, 2022, in Rolla, Missouri, after a two-year pause due to Covid. This event is a one day-long conference and will feature seven engaging presentations by regional ecologists and botanists, as well as a morning poster session. Lunch is provided. It's a wonderful opportunity to spend a day with plant enthusiasts from across the state and learn about some interesting botanical research! We ask speakers to present their information in a way that's digestible to a wide range of audience members, from beginners to experts. The symposium is sponsored by NatureCITE and the Missouri Native Plant Society. To register and view more details, please visit www.missouribotanicalsymposium.org.



MONPS Membership Benefit: Master Classes from Missouri Prairie Foundation

Missouri Prairie Foundation (MPF) and their Grow Native! program host a series of webinars that are free to all, and also online master classes that are free to MPF members only. Since Missouri Native Plant Society is a sponsor of MPF and GrowNative!, MONPS members are entitled to attend those master classes for free.

The topic for the next master class, on October 26, will be The Seed Cycle: Native Seed Collection, Stratification, and Propagation. Mike Hoyle, the manager of Missouri Wildflowers Nursery, will share information about the plant life cycle, and how to mimic some of nature's processes that impact seed germination and plant growth.

Register for webinars and master classes, and sign up for MPF's biweekly newsletter, at moprairie.org.

Seeking Donations for the Stan Hudson Research Grant

Could you help us support students who are conducting botanical research in Missouri? The Stan Hudson Research Grant is available to assist with funding for research projects conducted by college or university students under the supervision of a faculty member. The grant honors the late H. Stanton Hudson (1921–2002), a long-time member of the Missouri Native Plant Society whose passion for the flora of Missouri and its conservation inspired his friends and family to create a small grants program in his memory. The grant is usually given annually.

To qualify for the Stan Hudson Research Grant, research must involve Missouri native plants in some way, but may have as its primary focus any pertinent subject area in plant biology, including conservation, ecology, physiology, systematics and evolution, etc. The grant may be used for any non-salary expenses relating to the proposed research, including travel, equipment, and supplies. At the conclusion of the project, grant recipients will be expected to prepare research results for publication in a scientific journal and to present their research at the Missouri Botanical Symposium, which is held in Rolla, Missouri each Fall. To learn more about the grant, check out this link to the [Missouri Native Plants website-Hudson Fund](#).

[Click here to make a donation](#) to the Hudson Fund
Any amount is appreciated!

The button above links to the [Missouri Native Plant Society's donation site](#).

“Sometimes I wish I could photosynthesize so that just by being, just by shimmering at the meadow's edge or floating lazily on a pond, I could be doing the work of the world while standing silent in the sun.”

-Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*

New Members

St. Louis

Holly Kinser, St. Louis

Bob Dye, St. Louis

Hawthorn

Pat Friedrichsen, Columbia

Kansas City

Nancy O'Brien, Prairie Village, KS

Southwest

Rebecca Nassif, Strafford

State Level Membership

Leah Preus, New Haven

Linda Cottros, Fredericktown

Andy Besselman, Jefferson City

Not getting the Missouri Native Plant Society organizational emails?

Most email clients have a "safe senders" mechanism for you to make sure that your email server always sends mail from our MONPS server to your inbox.

*Some just have you add our server to your "Contacts"

*Some have you create "Rules".

*Some have an actual "Safe Senders/Domains" area in the settings.

To ensure that you get the organizational emails please add these two domains to whatever your email's "safe senders" process is: monps.org and webapps.monps.org

OR: You may simply need to update your email address with us. If so, click this link: <https://monativeplants.org/ask-a-question/>

Do You Have a Plant Story?

Learn more about Missouri native plants at the newest feature on the MONPS website (monativeplants.org): Plant Stories. Do you have a favorite Missouri native plant? A photo you're particularly proud of? Please submit your story to pamela.barnabee@gmail.com for posting.

CHAPTER REPORTS and EVENTS

HAWTHORN

by Cindy Squire, Chapter Representative

Past and Future Chapter Events

21 July. Lunch at Uprise Bakery inside Ragtag Theater Building.

29 July. Joanna and Eric Reuter graciously led a prairie nature hike at Rocky Fork Lakes Conservation Area. Many beautiful pictures were shared on iNaturalist.

8 August. The Hawthorn regular business meeting was held via Zoom. A program was given by Danielle Fox; the presentation was entitled Show Me The Heat. High resolution data on urban heat is being collected in this community science project. Information will be used to develop more local native plantings to dissipate heat in Columbia.

18 August. Lunch at Stephens Lake Park.

Upcoming Chapter Events

12 September. Regularly scheduled monthly meeting at Hillcreek Fiber Studio - 7001 S Hill Creek Rd, Columbia. Native Plant Dye: colors and plant identification with some free plants to take home.

Adopt a Spot Work Days are dependent on weather - check emails

15 September. Monthly group lunch, location TBA

1 October. Chestnut Festival plant booth and educational activity at MU Horticulture and Agroforestry Research Center.

10 October. Regularly scheduled monthly meeting TBA

20 October. Monthly group lunch, location TBA

See www.columbianativeplants.org for an updated posting of newsletters and activity details.



Hawthorn members enjoy an outdoor lunch at Stephens Lake Park. Photo by C. Squire.

PARADOXA

by Kathy Gallagher, Chapter Secretary

July's walkabout saw Paradoxa members traveling to Shaw Nature Reserve to meet Meg Engelhardt, Seed Bank Manager for the Missouri Botanical Garden (MOBOT). She gave us a tour of the seed bank at Shaw Nature Reserve and told us about their mission and the work they do there. We learned about the entire process, from seed collection through storing the seeds in freezers. We also learned about their seed viability tests, and with whom seeds are shared. Meg emphasized how much the seed bank program depends on volunteers.



MOBOT Seed Bank Manager Meg Engelhardt showed us all the cool tools they use at the seed bank.

Following the seed bank tour, we enjoyed a picnic lunch and then strolled through the Whitmire Wildflower Garden at Shaw Nature Reserve before heading home.

Paradoxa Chapter visited Little Prairie Conservation Area for our August trip. The area is located between Rolla and St. James. Among its features are the 40-acre remnant Heilbrunn prairie and a 3-mile hiking trail through woodlands, restored grasslands and pollinator plantings. We hiked along the trail near Towell Lake, and observed many more plants than we expected,

still in bloom.

Upcoming Events

Saturday, September 10, 8:00 a.m. to 2:00 p.m. The annual Bird & Pollinator/Native Plant Sale will be held at Audubon Trails Nature Center in Rolla. This is a great opportunity to shop for native plants locally and enjoy all the activities and exhibits going on; check it out at [FallFestival.MoNature.org](https://www.fallfestival.monature.org). Volunteers are needed to assist the plant vendors and also help out at our chapter booth.

Monday, September 19, 6:00-7:30 p.m. Our September trip will be to the Bohigian Conservation Area, where Dr. Robin Verble will update us on the Ozark Research Field Station there and Mill Creek restoration efforts. (We'll also look at plants.)

Saturday, October 22, 10:00 a.m. to 1:00 p.m. Our annual seed-and-plant swap/planning for next year/pizza luncheon will be held once again at Bray Conservation Area. You don't need to bring seeds to participate, but please bring your ideas for things you'd like to do and areas you'd like to visit next year!

Paradoxa's phenology project at Audubon Trails Nature Center continues weekly. The list of plants observed blooming increases with each visit. We will continue to walk our trail and document what we observe. After the long dry spell, the rains Rolla experienced produced a resurgence of bloom.



Whitmire Wildflower Garden is an ideal walkabout location for July in Missouri.

St. Louis

by Rick Gray, President

Upcoming Events

The St. Louis Chapter will not meet in August. Our next meeting will be held on September 28th via Zoom during which Dr. Aaron Floden of the Missouri Botanical Garden will present. The presentation for our October 26th meeting will be a botanical photography Show-and-Tell.

Chapter meetings (via Zoom) are planned for the fourth Wednesday of each month (January – October) beginning at 7:00 pm. A Zoom invitation will be sent via email a few days prior to each meeting.

Missouri Native Plant Society Membership Form

Name	
Address	
City, State, ZIP	
Phone	
Email	

Membership Level (check one):

	Student	\$5
	Goldenrod	\$10
	Sunflower	\$25
	Bluebell	\$50
	Blazing Star	\$100

Chapter dues (optional, check all that apply):

	Empire Prairie (Saint Joseph)	\$5
	Hawthorn (Columbia)	\$5
	Kansas City	\$5
	Osage Plains (Clinton)	\$5
	Ozarks (West Plains)	\$5
	Paradoxa (Rolla)	\$5
	Perennis (Cape Girardeau)	\$5
	Saint Louis	\$5
	Southwest (Springfield)	\$5

Newsletter Delivery (normal delivery is via email):

	Check here if you prefer to receive your newsletters via postal mail!	\$10
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Other contributions (optional, check all that apply, specify amount, tax deductible):

	Hudson Grant Fund	
	Other contributions	

Total:

Total amount	\$
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Make checks payable to the *Missouri Native Plant Society* and mail to:
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Visit us on the web (monativeplants.org) and join us on Facebook!



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To contact the Missouri Native Plant Society, please **click the "Have a Question" link** on our website.

"In nature nothing exists alone."

--Rachel Carson