MONPS Fall Field Trip to Kirkville, MO - September 20th-22nd

Friday, September 20th at 1:00 p.m. – Morris Prairie Natural Area

Area Map  Site Info
Please join us for an afternoon on the prairie. This 340-acre area represents one of the few high-quality, tallgrass prairie remnants in northeast Missouri. Species such as Virginia bunchflower, prairie dropseed, and prairie blazingstar can be seen in abundance here. We will start at the parking area and walk the 0.5 mile distance to the natural area. No restrooms are located on site. The nearest facilities are located in Unionville or Green City.

Friday 7:00 p.m. – Speaker TBA
Meeting place: Missouri Department of Conservation
Northeast Regional Office
3500 S Baltimore St
Kirksville, MO 63501
Saturday, September 21st at 9:00 a.m. – Dark Hollow Natural Area

Area Map Site Info
This 315-acre area contains a diverse, old growth forest with species of trees including basswood, sugar maple, red and white oaks as well as a diverse understory of wildflowers. We will meet at the parking lot on the west side of the property. There are no restrooms located on site; the nearest facilities will be located in Green City.

Saturday 12:00 p.m. – Lunch at the Union Ridge Lake parking lot located in Union Ridge Conservation Area. Bring your camping chairs and sack lunches for lunch by the lake. Restroom facilities are on site. This parking lot (labeled Parking Lot E on the Area Map for Union Ridge CA) is located at the intersection of Route D and Lilac Road.
Saturday 1:00 p.m. – Spring Creek Ranch Natural Area, located in Union Ridge Conservation Area

Union Ridge Conservation Area contains a mixture of forests, prairies, grasslands, and savannah habitats. Located within the conservation area is Spring Creek Ranch Natural Area. Many savannah plant species can be found here including prairie willow, new jersey tea, leadplant, and dwarf chinkapin oak. We will meet at the parking lot labeled J on the Area Map and venture through the natural area. Restroom facilities are located at parking lots N and E.

Saturday 7:30 p.m. – Board Meeting
Meeting place: Missouri Department of Conservation
Northeast Regional Office
3500 S Baltimore St
Kirksville, MO 63501

Sunday, September 22nd at 9:00 a.m. – Thousand Hills State Park
We’ll meet up at the trailhead for the Redbud Trail and walk the mile-long trail. Thousand Hills State Park gets its name from the many rolling hills and steep cliffs in the area. The park also contains a petroglyph site to the north of our starting point. “Archaeologists believe the area was once part of an ancient ceremonial ground used by the Native Americans who inhabited Missouri as many as 1,500 years ago.” Restroom facilities are located throughout the park. The nearest to our starting point is at the trailhead of the Oak Trail, just south of our starting point.

Places to Stay in Kirksville, MO:
Baymont by Wyndham  
2702 South Franklin Street  
Kirksville, MO 63501  
Website Phone: (660) 627-110

A book of rooms have been reserved under the code: Missouri Native Plant Society. Please make your reservations by August 20th. The nightly room rate is $118 plus tax.

Optional Dinner, September 21st at 5:30 p.m.:  
Bellacino’s Pizza and Grinders  
516 N Baltimore Street, Ste C  
Kirksville, MO 63501  
Website Phone: (660) 665-7665

This itinerary and directions to each site will be published on the MONPS website, monativeplants.org. Please check the website for any updates or changes as we get closer to the date.

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 peer-reviewed scientific journal, Missouriens (the peer-reviewed journal of the Missouri Native Plant Society), or the society’s newsletter The Petal Pusher. Alternatively, recipients can present their research at the Missouri Botanical Symposium as either a poster or oral presentation. The symposium is held each fall in Rolla, Missouri. To learn more about the grant, check out this link to the Missouri Native Plants website-Hudson Fund (button below).

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/
Plant ID is all about Pattern Recognition, Part I
by Dr. Richard Abbott

Even as a child, I was fascinated by plants, spending hours on my hands and knees in the yard, nose pressed to the clovers, sorrel, violet, grasses, dandelion, mosses, etc. As soon as I was old enough, I disappeared into the woods to explore a whole new world of plants: oaks, maples, hickories, mulberries, grapes, sedges, wild ginger, etc. Even though I could tell that they were different from each other, I didn’t actually know what most of them were called, as I had never heard of botany, knew nothing of scientific names, and had only the barest grasp of common names, yet the curiosity simmered unabated (and unrequited) for years...

I started college interested in ‘life sciences’ and ‘foreign languages,’ with no real understanding of why I was there (I didn’t want to go to college; I was blackmailed into going, but that is another story...). But before I even took my first botany course, I got a job in the Berea College herbarium, a museum of dried plant specimens. Imagine my euphoria when all the plants I had seen as a child were lying there in front of me as specimens with names on them!! Chills. Within minutes of setting foot in the Berea herbarium, I knew I had found my raison d’être, and I was fortunate to be able to spend several years under the excellent mentorship of Dr. Ralph L. Thompson (now emeritus), who helped me build a very solid foundation of practical plant ID. My desire to see and study new plants has led me to botanize in every state (except Alaska) and 20 countries outside the US, including a term abroad in Europe and a year living in South America, both of which whet my appetite for the global flora and forced me to embrace the sad reality that there was just no way I would ever be able to know all the plants through rote memorization, which planted the seed to find some simplified way of handling the overwhelming diversity, e.g., North America has around 20,000 vascular plant species, and the country of Colombia, only 1/9 the size of the US, has even more, with 24,000 species. In the US, a typical state has around 3,000 species (± 1,000) and a typical county around 1,000 (± 500). Continued on p.6..............

Shop Online for Embroidered MONPS Logo Apparel

Check out the “MONPS Logo Apparel” link on the menu bar of our home page (monativeplants.org), and you’ll be able to access our online store. Short-sleeved and long-sleeved t-shirts, sweatshirts, and ball caps with embroidered MONPS logos are available in five colors. There’s also a booney hat with embroidered logo, in dark brown. The tote bag has a direct-to-garment print of our logo. Our vendor, Fast Yowi, is located in Columbia, so you can pick up your order there if it’s convenient, or have it shipped.

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.
Plant ID continued...

numbers that can still take years to learn, especially when you consider the different forms of a single plant, from seed to seedling to mature adult, variation from sun to shade or based on habitat differences or genetic polymorphisms, and how different a flower is from a fruit and a leaf, with all being the same species. Most botanists are regional specialists, familiar primarily with the flora of the geographic region where they live or conduct research. With 300,000+ known vascular plant species globally (and an estimated 50,000+ still undescribed), what is a botanist interested in the global flora to do (especially a poor one who can't afford to travel anywhere near as much as he would like, but is very grateful for the opportunities that being born in the US provides, compared to many people globally)?

Asked differently, how does one eat an elephant? One bite at a time. Tackling global (or even regional) plant diversity is a matter of figuring out what the 'bites' should be, to reduce the numbers, simplifying them into learnable patterns. Groups of related species are called a genus (pluralized genera), groups of related genera are called a family, and groups of related families are called an order, all of which are considered natural groups (even if their exact delimitation involves a certain amount of human arbitrariness), and many of which are at least somewhat morphologically diagnosable (even if variable and/or only cryptically). Precise numbers are difficult to calculate, with conflicting estimates by different authors, but there are approximately 60 orders, 500 families, and 15,000 genera of vascular plants. While the world's best, most experienced botanists might know around 15,000 plant species, most people will be lucky to know 5,000-10,000 after many years of study. Most genera can be learned, but there are still thousands to contend with. Most orders are not macro-morphologically readily diagnosable, whereas most families are (but certainly not all, not in this modern world of DNA-based understanding of relationships). This makes families the most practical field unit for identification, in many cases, a logical focus for building and improving plant ID skills.

In the modern phylogenetic cladistic paradigm, i.e., the way in which we study taxonomic relationships, groups like genus, family, and order are all 'natural' in the sense that they are monophyletic, clades comprised of a common ancestor and ALL of its descendants. Any group that is comprised of unrelated individuals or that excludes some of the descendants is considered to be non-monophyletic or 'not natural' in a cladistic phylogenetic sense. With formal taxonomic names and classification systems, the modern paradigm, again, is to only accept monophyletic lineages. For a purist, then, only 'natural' groups should be talked about, but with 150+ plant families in most major regions and hundreds to thousands of genera and species, even learning the flora of a single county can be a daunting task. For anyone interested in the flora of a whole state or larger region, it can take years to learn all the different natural groups of species. Meanwhile, as I was figuring all that out...

I was driven to eventually complete graduate degrees in botany at the University of Florida (UF), because I wanted to keep learning about plants. I chose UF because of Dr. Walter Judd (emeritus), a plant taxonomist renowned, in part, for his knowledge of plant family identification. My desire to keep learning about plants is also what led me to St. Louis for several years, home of the Missouri Botanical Garden, one of the premier botanical research institutes in the world. I actually came to the Missouri herbarium so that I could learn from the plant specialists there, notably Ron Liesner, famous (albeit in limited circles) for his skills as a plant ID generalist, particularly neotropical woody plants. I had met Ron on previous visits to the Missouri herbarium, and a few minutes with him had been enough to impress upon me that he was someone who could help me continue to take my plant ID training to a new level. While in St. Louis, I was lucky enough to hook up with the Webster Groves Nature Study Society (WGNSS) and the Missouri Native Plant Society (MONPS). While the three men I mention above were major influences, I have also learned from hundreds of people over the years, about plant ID and about how to share my knowledge with others, and those six years with WGNSS/MONPS folks were formative years for me, helping to shape my approach to teaching plant ID.

For my entire professional career, I have been involved in community outreach education, including informal courses, workshops, talks, and walks with various orga-
nizations and a wide array of audiences, from children’s
groups to civic groups, gardening groups, nature study
groups, school groups, and bioblitzes. Public outreach
to non-scientists is very important for communicating
what we do; the public has to support us and support
the people we are educating who ultimately will con-
serve the plants we study and depend on. Some of the
passionate amateur enthusiasts I met through WGNSS/
MONPS are better plant ID generalists, and/or local/
regional flora specialists, than many professional bota-
nists I’ve met, in part because most botanists specialize
taxonomically (focusing on a genus, family, or rarely an
order) and, in recent years, have done so to the extent
that broadly trained generalists are hard to find these
days. With the right training (and interest and aptitude,
of course), a lot more people could develop better
generalist plant ID skills. The basics can be learned in
a few weeks or months by focusing on foundational
norms, but even after years of experience and dedicat-
ed effort, there will always be more to learn.

Plant identification is about pattern recognition, and
to do it well, it should be a blend of traditional imprinting
(learning to recognize something because someone
else has told you what it is) and character-based diag-
nosis (figuring out what something is based on its
features). It is about training the eye to see differences and
the brain to be able to articulate them (thus, botanical
terminology is needed). Incorporating an understand-
ing of phylogeny (relationships between groups) can
further strengthen ID skills since some features are
reliable at different levels of universality, e.g., a charac-
teristic that applies to a species may also apply to re-
lated species (in same genus, family, order, etc.), so that
with the right context, learning a pattern might actually
represent dozens or hundreds of species. Plant iden-
tification is challenging for many people, but the more
it can be holistically integrated with everything else
we know, the easier it gets. If the goal is practical plant
ID, if certain patterns are readily seen and understood,
even if they do not reflect natural groups (formally
named taxa), might it be okay to use "artificial" groups,
created for convenience, as long as we make it clear
when we’re dealing with "artificial" groups? An easy
way to do this is by putting quotes around "artificial
names," so that participants are instantly clued in that
a "motif" deals with unrelated groups which happen
to share similar features, while a motif is a group that
reflects shared evolutionary history.

TO BE CONTINUED

Editor’s Note: Details and examples of Dr. Abbott’s
method can be viewed on the MONPS website, monative-
plants.org, at the link to MONPS Webinars. His presen-
tations include Trees of Missouri (January 2024), Artificial
Plant Id Motifs: Examples from Selected Plant Families
(March 2021), Artificial Plant ID Motifs: Simple and
Useful Patterns of Field Identification of Plants (January
2021), and Vines of Missouri.

From the Editor

Thank you to our Assistant Editor, Pam Barnabee, for
getting everything in good shape before it came to me. A
special thanks to Hilary Haley for getting all of the field
trip information together for each issue! 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 September 2024 Petal Pusher is
"Missouri Native Plant Nurseries: Origin Stories & Oper-
ations" but other submissions are encouraged, especially
Genus or Family descriptions ("Better know a genus/fami-
ly"), 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____,

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: August 20

Thank you so much,

Michelle Bowe
MONPS Annual Meeting/Election

The Annual Meeting of the Missouri Native Plant Society was held on June 22 at the MDC Southeast Regional Office in Cape Girardeau. Vice President Hilary Haley reviewed our activities and accomplishments of the past year:

- Continued our sponsorship of the GrowNative! program and provided financial support to the Missouri Prairie Foundation
- Provided botanical education to the thousands of members of our Facebook page
- Continued the expansion and enhancement of MissouriPlants.com
- Recognized the contributions of Besa Schweitzer with the Erma Eisendrath Memorial Education Award, and of Mike Reed with the Plant Conservation Award
- Awarded Stan Hudson Research Grants to Anna Faust, Missouri State University, and Leidy Laura Arias Martinez, Southern Illinois University.
- Hosted the Missouri Botanists’ Big Year 2023 on iNaturalist
- Conducted three field trip weekends at sites around Columbia (summer 2023), Clinton (fall 2023), and Ava (spring 2024)
- Published Volume 41 of our scientific journal, Missouriensis

Steve Buback and Rick Gray were re-elected by acclamation to three-year terms on the Board of Directors.

New Members

St. Louis
Jennifer Moody, Labadie
Dylan Jacobs, DeSoto
Alex Long, Spanish Lake

Hawthorn
Dana Whiting, Columbia
Trana N. Madsen, Auxvasse
Brent Shelton, Moberly
Matt Fetterly, Columbia
Mary Straub, Columbia
Crystal Ferguson, Fulton
Emily Gustafson, Columbia
Cynthia Grant, Columbia

Kansas City
Grace Suh, Roeland Park, KS
Julie Copley, Maryville
Meagan Jacoby, Smithville
Pam Seator, Kansas City

Empire Prairie
Julie Copley, Maryville
April Preston, Dearborn

Chapter Reports and Events

HAWTHORN
by Cindy Squire, Chapter Representative
Upcoming Chapter Events July and August
8 July - Meeting at Universalist Unitarian Church.
12 July - Adopt a Spot work day.
18 July - Monthly group lunch at Uprise Bakery inside Ragtag Theatre.
TBA July - Mosey at Sedalia prairies.
12 August - No Meeting.
15 August - Monthly group lunch at Uprise Bakery inside Ragtag Theater.
16 August - Adopt a Spot work day.
TBA August - Mosey. Check your email.

We Welcome Member Submissions!

The Petal Pusher wants YOU … to write articles for the newsletter.
Consider these possibilities:
- 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.)
Activities Report
1 May - Mosey at Cedar Creeks. Ann Wakeman guided us to see the beautiful Lady Slipper Orchids.
3 May - Adopt a Spot - Removal of trash and weeded.
9 May - Mosey at Rocky Glade at Three Creeks. Many native ephemerals were still blooming.
11 May - Mosey at Hundred Acre Wood shooting star walk.
16 May - Monthly group lunch at First Watch - Stadium location.
17 May - Adopt a Spot work day. Weeded back rain garden.
18 May - Bass pro Plant sale. Many plants found new homes.
31 May - Adopt a Spot work day. Weeded and removed trash.
31 May - Partnership with Nature Conservancy on restoration of Katfish Katy's.
1 June - Mosey at Ha-Ha Tonka. Observed many native plants and of course toured the castle.
14 June - Adopt a Spot work day. Weeded front area, pruned and trash removal.
20 June - Monthly group lunch at Uprise Bakery inside Ragtag Theater.
22 June - Mosey at Rocky Glade near Rock Bridge State Park.

PARADOXA
by Kathy Gallagher, Secretary, and Pam Barnabee, Chapter President
The Paradoxa Chapter of the Missouri Native Plant Society resumed our spring-summer walkabout schedule in April with a visit to Edgars' Prairie. We saw many early-blooming plants. For example, we saw Amsonia illustris - shining blue star, Camassia scilloides - wild hyacinth, Castilleja coccinea - Indian paintbrush, in its various color variations, and Asclepias quadrifolia - four-leaved milkweed, which had not been seen before on their place. John Edgar pointed out lots of plants, and showed us his current project, returning part of his woodland to its original state.

Our May visit was to Solomon Hollow, to see a sandstone glade there. Sandstone glades provide natural openings in the woodland tree canopy, developing on sandstone from the Roubidoux formation. They are relatively rare, but there are several here. Again, we saw many plants, including Krigia virginica - dwarf dandelion; Oenothera linifolia - thread-leaved sundrops, Scutellaria parvula - small skullcap, Vaccinium arboreum - farkleberry, and Phemeranthus calycinus - fame flower.

Also in May, Paradoxa co-sponsored (with Meramec Hills Chapter of Missouri Master Naturalists) its annual Spring Native Plant sale, which was quite successful. Prairie Hill Farm and Doolittle Gardens were our vendors.

In June, we explored the glade natural area at Indian Trail Conservation Area, near Salem. We were able to identify almost sixty species that we saw there, but there were many plants not yet blooming that will require a return trip later in the year!

Upcoming Chapter Events
Monday, July 15, 6:30 - 8:00 p.m., John and Elaine Edgar property. We’ll return to one of our favorite places to see what’s new on the restored prairie, glade, and woodland. In July, when the blazing star is in bloom, it is a sight to behold.

August Workshop, Time and Date TBD, Floristic Quality Assessment at Audubon Trail Nature Center Saturday, September 7, Missouri Botanical Garden, 10:00 a.m. - 1:00 p.m.

OSAGE PLAINS
by Casey Burks, Chapter Representative
A small, but intrepid, subset of the Osage Plains Chapter met for a luncheon and field trip at Truman State Park June 30th. President Sondra Raper had gathered information about the walking trails there. Three trails are available: 1000th Mile Trail (1 mile), Western Wallflower Trail (.8), and the Bluff Ridge Trail (2). With the heat, humidity and mosquitoes, we did the first two trails and found several plants we’d never seen before.

Below: Sondra Raper, Sharon Cooper, Wayne Morton, Pat Licher and her guest. Photo by Casey Burks
# Missouri Native Plant Society Membership Form

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Newsletter Delivery (normal delivery is via email):

Check here if you prefer to receive your newsletters via postal mail! $10

Other contributions (optional, check all that apply, specify amount, tax deductible):

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Total:

| Total amount | $ |

Make checks payable to the *Missouri Native Plant Society* and mail to:

Missouri Native Plant Society
PO Box 440353
Saint Louis MO 63144-4353

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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