

P E T A L P U S H E R

September–October 2019 Newsletter of the Missouri Native Plant Society Volume 34 No.5

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

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Missouri Invasive Plant Task Force’s Statewide Invasive Plant Assessment

New online tool helps prioritize invasive plant management efforts throughout Missouri

by Carol Davit

In February 2019, at the Missouri Natural Resources Conference in Osage Beach, MO, Dr. Quinn Long, a member of the Missouri Invasive Plant Task Force (MoIP), presented a statewide comprehensive invasive plant ranked assessment during the workshop organized by MoIP, *Invasive Species Collaboration: Informing the Masses, Building the Armies, Stemming the Flow, and Turning the Tide*. The ranked assessment of the rate of spread, abundance, and impact of 142 invasive plant species is available, with maps, at www.moinvasives.org for all to consult and use.

“One of the biggest threats to Missouri’s—and the nation’s—native plants and animals, and to many facets of our economy, are invasive plants,” said Carol Davit, MoIP Chair and Executive Director of the Missouri Prairie Foundation. “Invasive plants and animals—including that small percentage of non-native plants that, intentionally or accidentally, have been introduced here and have spread rapidly—are second only to outright habitat destruction in the loss of native biodiversity; can have negative impacts on our cattle, timber, and outdoor recreation industries; cause headaches for private landowners; and nationally, cost billions of dollars in control efforts annually.”

Dr. Quinn Long, botanist, Director of Shaw Nature Reserve, and MoIP member, worked since 2015 to lead the MoIP working group that assembled and analyzed invasive plant data for the assessment. “This assessment will provide a valuable tool for landowners, land managers, and natural resource planners to focus their efforts on invasive plant management,” said Long.

The assessment maps depict abundance, impact, and rate of spread of 142 invasive plants in the state. These factors were evaluated and assessed by more than 25 reviewers, including natural history biologists with the Missouri

Department of Conservation and other biologists familiar with the flora in their regions. Evaluation is ongoing to continue to refine and update the assessment tool, to reflect changes of invasive plant presence on the landscape over time. See the example of Autumn Olive below.

“MoIP is a dedicated group of representatives from land-holding agencies and natural resource management professionals from across the state,” said Davit. “We are pleased to present this important new tool, which is critical to assertive, prioritized invasive plant management efforts.”

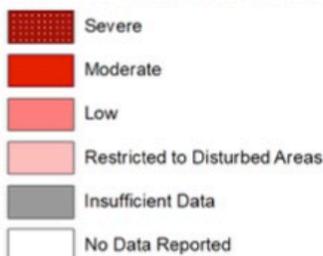
MoIP is housed and administered by Grow Native!, a native plant education and marketing program of the Missouri Prairie Foundation. The purpose of MoIP—working as a united, supportive front—is to review, discuss, and recommend actions related to managing known and potential non-native invasive plant species that pose threats in Missouri and elsewhere in the lower Midwest. For more information about MoIP, definitions of invasive plants, and many other resources, visit www.moinvasives.org

Autumn Olive *Elaeagnus umbellata*

Impact

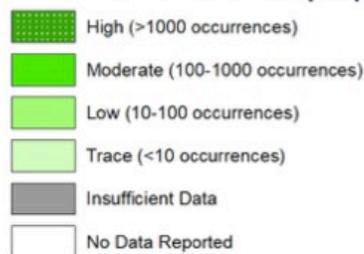


Impact: Severity of environmental degradation caused



Abundance

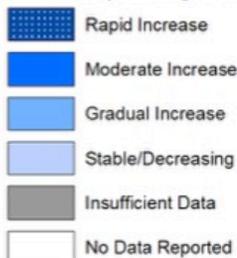
Abundance: Number of escaped populations



Trend



Trend: How rapidly the species' range is expanding/contracting



It's time for the 2019 MONPS Fall Field Trip –to Poplar Bluff, MO vicinity

We'll finish off the 2019 field trip season by visiting the Mississippi River Lowland Ecoregion. The weekend will begin on September 6th with an afternoon field trip to the Mark Twain National Forest in an area leased by the Missouri National Guard, known as the Wappapello Training Site. Here, we will see the forested floodplain and marsh communities associated with Peppermint Creek and its tributaries. We'll listen to the evening speaker at the Holiday Inn in Poplar Bluff talk about their feral hog management approach and provide information on Mingo National Wildlife Refuge and the lowland communities we can expect to see. The presenter is: Brad Pendley, Wildlife Biologist, U.S. Fish and Wildlife Service.

Saturday, September 7 will begin with a trip to Mingo NWR, with a visit to Big Cane Conservation Area in the afternoon. We'll finish the day with MONPS Board meeting beginning at 7:00PM at the Holiday Inn in Poplar Bluff. Our last trip of the weekend will be to the Bradyville Natural Area at Otter Slough Conservation Area. By the end of the weekend, you will have seen and experienced a slice of what large areas of Missouri's Bootheel once was.

You are welcome to join in for all of the field trips, or just come to the ones that fit your schedule. If you'll only be attending some of the forays, it's best to join the group first thing in the morning, as we can be difficult to locate if you attempt to join during the middle of the day. Please note: Bring your own lunch, water and folding chair on Saturday and we'll picnic in the field. Changes to the schedule could occur!

Lodging is available at the Holiday Inn in Poplar Bluff (2781 N Westwood Blvd.) and the Comfort Inn (2582 N. Westwood Blvd). The Friday and Saturday night gatherings are located at the Holiday Inn.

Fall field trip Itinerary			
	Friday, Sept. 6	Saturday, Sept. 7	Sunday, Sept. 8
8:30AM		Mingo NWR, Visitor's Center Leave Holiday Inn at 8:00	Otter Slough CA Leave Holiday Inn at 8:00
11:30AM		Picnic at the Mingo NWR Visitor's Center Pavilion	
1:30PM	Wappapello Training Site	Big Cane CA	
7:00PM	Evening Presentation by Brad Pendley, Wildlife Biologist, USFS Holiday Inn, Poplar Bluff	MONPS Board Meeting Holiday Inn, Poplar Bluff	

Link to the maps for the field trip: <https://goo.gl/maps/BzFMzCBGiEK1P69Y8>

Callery Pear – “a rose by any other name would smell as rotten”

by John Richter

It's true, the flowers smell bad, and whether in reference to the specific epithet of *Pyrus calleryana* or the multitude of cultivars developed there-of, I can only muster four letter words when I think about this species.

Montage to my youth, before I knew anything about formal botany, and my observations of this tree...a boulevard of leafless, sickly fragrant white flowered trees in spring, quickly overtaken by a dense growth of round glossy leaves within which birds find shelter from peeping neighbors or the lines of cars at fast food restaurants. My first botany class in college and me recognizing that for some reason, nobody in the United States landscapes with native plants, the entire college campus a strange menagerie of non-native trees that provided walking tours for those students enrolled in dendrology a trip around the world. A summer job working for the public works department and a work order to clean up storm damage that for some reason only broke over rows and rows of the “Bradford Pear” planted in city medians. Spraying bush honeysuckle in a park and seeing 40 foot tall trees with rosaceous flowers and thorny twigs along the stream corridor, which unknown to me at the time were mature callery pear naturalized within native forest.

And to this day my observations continue, along highway right of way, forest edges, high quality natural areas. I never took the time, the hours, to learn about this disaster until recently, when I found myself cutting it out of my hay field in Ray County, Missouri, a hay field that has been mowed annually for over a decade. This very much disturbed me, a non-native tree so aggressive it now threatens to overtake grasslands should a hay cutting be missed for a year or two.

So began my education, which I first started by opening a 1963 Steyermark Flora of Missouri to see the county range map for this species. You would be proud to know there is a near pristine copy of this book at my disposal at the Black & Veatch environmental services library, world headquarters

building in Overland Park, Kansas. I may be the only person on their staff of 10,000 world-wide that can decipher the words. No mention of this plant, though at that time the species was well on its way towards receiving the accolade of “invasive” in a handful of states in the southern and eastern United States. This attests to the explosive expansion of this species across Missouri in the recent decades, a diaspora years in the making come to fruition.

“I’ll be famous...just wait a century or two” said Frank Meyer, Plant Explorer, U.S. Department of Agriculture, circa 1900. Plant Explorer? Yes, that was a job title, though keep in mind the USDA had the responsibility of a nation to feed, markets to dominate, and the sky was the limit for anything that would bring prosperity to this nation. Plant Explorers, like Frank Meyer, went forth into the world and brought back untold numbers of accessions to keep the USDA busy as beavers for half a century. Frank Meyer, for example, is claimed to have collected a prodigious number of accessions, a small list of which includes lilac, Meyer lemon, Siberian elm, soybeans, Chinese chestnut, Chinese elm, callery pear. Okay, you get the point, this man is the father of invasive species, and more so, much of his time exploring was in eastern China.

Why was he in China? He was on a very targeted exploration, one which was to locate the callery pear in its native habitat and send over 100 pounds of seed back to the USDA for experiments regarding resistance to fire blight, a deadly bacterial disease which at the time of Meyer’s collecting expedition (1917) was devastating U.S. crops of the commercial European pear (*Pyrus communis*), especially in Oregon. There was a real interest in solving this



Callery pear. Photo by John Richter

problem, since the commercial crop in Oregon alone in 1916 was estimated at a dollar value today equivalent to several million dollars. The USDA sent out their explorers to try and fix this. Frank Meyer loved walking, a lot, and working alone, so he was the obvious choice to send to China. In case you were wondering, Frank Meyer drowned in the Yangtze River a year later while on a steamer voyage to Beijing, though rest assured his collection of callery pear seeds had been secured and placed on a shipment back to the United States prior to his passing. A local farmer found his body and notified officials. For his troubles the farmer was awarded the prize of keeping the pair of fantastic yellow shoes that was attached to the waterlogged corpse of this strange white man. That happened.

This seed, and other accessions of the species (collected in distant regions from each other in China) were subject to large acreages of out plantings with which to conduct the fire blight resistance experiments. The efforts were a success in that specimens which proved resistant to the blight were selected and further propagated for use as root stock for grafting to European pear and thus again enabling large scale production of commercial pear in the U.S. Little did anyone think of the environmental cost that would be paid for this transgenetic, transpacific violation.

It was in the out planting acreages that a striking phenotype was observed, one which had no thorns, a pleasing ascending arborescence, and dense sprays of flowers. Circa 1950, we had just won the war, why not celebrate our most cosmopolitan victory ever with the most cosmopolitan landscape tree ever. Next time you see a re-run of “Leave it to Beaver” look for Bradford pear trees lining the affluent neighborhoods, it seems they would be there. This was a time of reckless behavior with ornamentals. I grew up in a subdivision built in the late 1950s, here is a short list of the trees which were planted in the neighborhood yards during that time: Norway maple, Mimosa, Siberian Elm (two in the front yard, two in the back at many houses), golden rain tree, silver maple (a fast growing, disastrously large and damaging tree to contend with near a house). No Bradford, so maybe my neighborhood wasn’t that affluent.

Of this single specimen noted in the out plantings, likely approached by a man in a white jumpsuit and a pocket protector, thousands, then hundreds of thousands to a million progeny were produced via



Interstate 70, near exit 20 eastbound, Blue Springs, Missouri. August 16, 2019. Photo by John Richter

cultivation by grafting the genetic stock of the above ground stems to root stock of callery pear. Bradford pear was dubbed the perfect tree, and sterile for good measure since the process of developing the cultivar meant all the progeny shared the exact same genotype. The callery pear was shown to have little to no potential for producing viable seed unless cross pollinated by a differing genotype.

Okay, you ever have a talk with your teenagers about abstinence? Let’s talk about sex and plants. There are a lot of ways callery pear can get pregnant under the seemingly safe confines of self-incompatibility, shall we explore thy ways? Remember when I mentioned earlier in the article that numerous accessions of callery pear were received by the USDA, of which the accessions were collected great distances from each other? As the world works, the distances between the populations represented by the accessions provided sufficient genetic difference that the out plantings by the USDA were rather fertile grounds. Though they were meant to be breeding grounds anyway, the large diversity in the USDA out plantings just further compounded maintaining control of the plant.

As the Bradford pear cultivar grew in popularity, and size, the time came that some undesirable traits, most notably weak limb crotches, demanded improved cultivars. I won’t bore you with the cultivar names, but over 20 cultivars were subsequently developed and planted across the United States. That’s right, there were the parents not teaching their children about the birds and the bees, and you are now witness to the

alarming result. Though cultivars of callery pear are self-incompatible, they readily breed with a waft of another genotype, that is, the cultivars began cross breeding, as each cultivar represented a unique genome. I think my 5 year old could have seen that coming. This is largely believed to be the mechanism responsible for the rapid proliferation of this plant in recent decades.

My favorite way by which a cultivar of callery pear can produce viable fruits is by essentially having sex with itself. Cultivars are the result of grafting the vulgar rootstock of callery pear to the selected genetically superior scion. Damage to the tree above or below the graft can produce suckers from the rootstock which then mature into above ground flowering stems which cross pollinate with the upper class, so to speak. The phenomenon of the cultivar rootstock producing above ground stems occurs with landscape cultivars as well as commercial pear grafting, and is well documented to occur in aging orchards, the problem being numerous wild callery pear trees breeding amongst themselves at abandoned orchards.

It really was just a matter of time until the inevitable happened and the invasive species is on the loose. The thick invasions you see today on roadsides are the result of purposeful actions that began over 100 years ago. Birds such as starlings and robins eat the seeds and nurseries all over the U.S. still sell this abomination, and people keep planting the cultivars.

I'll spend the least amount of time in this article about stopping the invasion, because you can't. The invasion is here, the numbers are too great, and since the tree evolved in soils and latitudes in China similar to where we now have large infestations, I can safely say it likes it here. Fire and mowing just make it temporarily shorter. Select trees or small scale infestations can be eradicated by cutting and applying herbicidal basal treatment chemicals. So perhaps controlling it within your sphere of influence is where you can begin, my sphere of influence is my property. I won't apologize for not ending with a sunset, callery pear will continue to get worse and invade our natural areas including all regions/terrestrial habitat types within the state of Missouri.

Frank Meyer was right---today he is famous. For a more palatable story about the bitter and the sweet I encourage you to learn about the Meyer lemon, I hear botanists theorize the Chinese grew it as a hybrid between a lemon and a tangerine...

Chapter Events

Hawthorn

09-19, 10-17, 11-14, 12-19: Chapter Lunches at 11:30 a.m.

Chapter lunches are held on the third Thursday of each month. (November will be the second Thursday due to Thanksgiving.) We meet just south of Broadway Street in downtown Columbia at Uprise Bakery inside the lobby of the RagTag Theatre, 10 Hitt St, Columbia Missouri.

09-09, 10-14, 11-11: Chapter Meetings at 6:30 p.m.

The September meeting will be held at the A.L. Gustin Golf course on the University of Missouri Campus. We have added an October meeting. There will be no December meeting. The remaining meetings will held at the Unitarian Church, 2615 Shepard Boulevard, Columbia Missouri. Newcomers and friends are welcome to attend.

10-12 Plant Propagation Workshop at MDC Regional Office, Columbia 12-4 p.m.

Educational Events

10-19 Mosey at Hundred Acre Woods at 1 pm

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

Kansas City

09-03, 11-05: At 7 p.m., next chapter meetings at the Anita B. Gorman Conservation Discovery Center, 4750 Troost Ave., Kansas City, Missouri.

09-16, 10-17 at 5:30 Botany Walk at Blue River Glades on Blue River Rd.

Our chapter meetings are held at 7p.m. on the first Tuesday of every odd numbered month, except for July, at the Anita B. Gorman Conservation Discovery Center, 4750 Troost Ave., Kansas City, Missouri.

Our Botanical walks of 2019 are held every third Thursday at 5:30 p.m., April to October. Meet at the Eddy-Ballentine Trail Head on Blue River Road, 1/2

mile North of the firefighter memorial on 87th St. Parking is limited to 2 little areas on the East side of the road and larger parking area next to the utility substation on the West side of the road.

HEADS-UP

11-05: At 7:00 p.m., MDC Discovery Center: Chapter Meeting – Guest Speaker Linda Hezel and Molly Gosnell, "Development of a Carbon Farming Plan through Assessment of Tree/Shrub Agroforestry Data for Increased Production, Resource Valuation, Carbon Sequestration and Related Ecosystem Benefits". Presentation abstract is as follows:

This presentation will share findings of a Sustainable Agriculture Research and Education (SARE) program funded study conducted on Prairie Birthday Farm LLC to “Assess Tree/Shrub Agroforestry Data for Increased Production, Resource Valuation, Carbon Sequestration and Related Ecosystem Benefits”. According to recent climate reports emphasizing rising greenhouse gases, the Midwest faces more weather extremes (heat, drought, torrential rains, humidity) with more crop diseases and pests coupled with the ongoing extinction of species. Kansas City ranks 5th of cities to be most impacted by climate change. The identification of and discussion about the role of native trees are integral to mitigation of climate change impacts and food security. Ecologically sound land stewardship is best accomplished by understanding and acting upon the complex and interdependent value of ecosystem benefits of intentional land management. Ecosystem services are necessary for survival and support essential life resources (clean air, water, soil). Our continued existence relies on the preservation and regeneration of healthy biological and ecological systems. These results will serve to inform the necessary and urgent use of native trees and shrubs in landscapes large and small.

Please put this on your calendar and let’s have a big turnout!

Call John Richter 816-519-8201 or email richterjc@bv.com, President of Kansas City Chapter of Missouri Native Plant Society for more information.

Osage Plains

09-23 Meeting at the library. Details TBD

Ozarks

09-17: Caterpillar Madness! Susan Farrington will bring in caterpillars for “show and tell” and will use a digital microscope and the large screen to make them big enough for all to see. We’ll talk about the importance of our multitude of native caterpillars and how to ensure you are providing habitat for them.

10-15: Winter Birding – Lauren Flesher will give a presentation about the birds you can find here during the winter months.

Chapter meetings are held on the third Tuesday of the month except for December and January. Meetings begin at 6:30 p.m. at the MDC Regional office at 551 Joe Jones Blvd, West Plains. For more information, contact Susan Farrington at 314-402-3345.



Flower heads from Hawthorn chapter seed swaps

Paradoxa

Paradoxa schedules meetings and walkabouts at a variety of locations in the Rolla area. Watch our chapter page on the monativeplants.org website

for updates, or email us at paradoxarolla@gmail.com, and ask to be added to our email list, as dates and locations may change. Workdays for the Bray CA Botanical Collection and Herbarium Project are generally held on the first and third Thursdays of the month. Please contact us at the above email if you would like to join the crew.

09-07: Fall Native Plant Sale, Birding & Pollinator Festival, 8:00 a.m. to 2:00 p.m. at Audubon Trails Nature Center in Rolla. MONPS Paradoxa will have a display and also offer wildflower walks. Please contact us at the above email address if you can help out. Festival activities will include presentations on native plants for pollinators, invasive plants, and medicinal plants; as well as displays from a variety of organizations and activities including birding walks, hummingbird banding and a Missouri medicinal plants walk. Rain date is September 14. Details are at festivaleducation.com.

09-18: Walkabout at Audubon Trails Nature Center, 5:30 to 7:00 p.m. We'll meet at the Nature Center,



Wayne Morton, showing off an Ozarks chinkapin during the July meeting of the Ozage Plains chapter

located at 550 Meriweather Court, Rolla, and walk the half-mile Prairie Trail Loop to see what's in bloom.

10-19: Seed Exchange/Show-&-Tell/Walkabout at Bray CA, 1:00 to 4:00 p.m. Bring seeds for sharing and/or your favorite books, tools, tips, and suggestions/requests for next year's activities.

Southwest

10-22 Chapter meeting and seminar at 6pm at the Midtown-Carnegie Branch Library in Springfield: The Hawthorns will present a workshop entitled "Protection

& Maintenance of Pollinator Habitat". Contact Michelle Bowe (mbowe@missouristate.edu) for more information.

Dues are Due

By Ann Earley, Membership Chair

Membership renewals for the July 2019-June 2020 year are due. If you receive your newsletter by postal service delivery, please check the top line of your mailing label. If it shows the date 20190630, your dues are now payable. When renewing, please remember to include your contact information including email address, and your society and chapter dues preferences. Membership renewal online is also available via our website at www.monativeplants.org which offers the option of online payment via PayPal.

For those members receiving their newsletter by email without a mailing label, or for others with questions about their membership status, please contact me or your chapter representative (see back page for contact details) for information about your membership expiration date. We value our members and urge you to renew today!

New Members

Perennis

Debbie Koenigs, Poplar Bluff

St. Louis

Lydia Porter, Four Seasons

Kiwi Carlisle, Maplewood

Joe Krauska, Wildwood

Susan Leahy, Brentwood

Keith Kretzmer, Wildwood

Hawthorn

Jayne Young, Columbia

Marcia B. Finch, Sullivan

Paradoxa

Lydia Porter, Four Seasons

D. Colleen Barnhart, Vienna

State Level Membership

Vanessa Rawson, Cuba

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amazonsmile

[amazon.com](https://www.amazon.com), the AmazonSmile Foundation donates 0.5% of your purchase of eligible products to MONPS.

Simply visit [smile.amazon.com](https://www.smile.amazon.com) and search for Missouri Native Plant Society Inc. After you finish shopping, Amazon will automatically donate to MONPS. You may also click the AmazonSmile link on [monativeplants.org](https://www.monativeplants.org).

Make sure to navigate to [smile.amazon.com](https://www.smile.amazon.com) each time you shop. The default [amazon.com](https://www.amazon.com) will not result in a donation, and your smart phone application may not support AmazonSmile. Visit [About AmazonSmile](#) to read more about the AmazonSmile Foundation.



Graham Cave trail--photo taken during the summer MONPS field trip.

Chapter Updates

Hawthorn

By Cindy Squire, Chapter President

July-August Report--This was erroneously omitted from the last Petal Pusher (apologies to Cindy!)

Our moseys in April and May were wonderful! The weather cooperated and the hikes were invigorating. It was a lovely time to meander and discover the natives in the woods and glades. Please see our June newsletter for a more in-depth description of the mosey at Big Sky.

The Hawthorn Chapter sold native plants at three events in Mid-Missouri in April and May. Lots of native plants now have new homes. May they be fruitful and multiply!!! We played a game of name the invasive at the Birds and Bees Festival in the town of Arrow Rock. Spring and summer maintenance is ongoing at our adopted city gardens.



Seeds from a Hawthorn Chapter seed swap

September-October Report

Ethan Miller was our invited guest at the July Meeting. He is the district manager of the Boone County Soil and Water Conservation District. Ethan explained ways that they encourage landowners and farmers to save soil and keep our waterways clean through practices involving natives and other conservation techniques. Our September meeting will be a special tour of the A.L. Gustin Golf Course on the University of Missouri Campus. This golf course has native plantings and is located in the heart of Columbia! This will be a special evening. Jacob Westhoff from MDC will be our presenter in October. Jacob's presentation will be about the diversity of fish in Missouri.

Many Hawthorn Chapter members purchased metal signs through Missouri Prairie Foundation for our gardens and prairie plantings. The Hawthorn Chapter sponsored a table at the MPF Banquet on August 10.

Chapter Reports, cont.

Members and their guests had an enjoyable evening.

Monthly lunches at the Uprise Bakery on 10 Hitt Street in Columbia are quite fun and educational. The food at the Uprise Bakery is nutritious and delicious. Conversation focuses around native plants and their environment. Please join us for lunch!!

Kansas City

Report by John Richter

(Cécile Lagandré is Chapter Representative)

At Blue River Glade, we have discovered a diminutive species of fern growing on the large limestone outcrops. The fern is cloak fern (*Notholaena dealbata*), see picture below, and the specimen is full-grown. We didn't "stumble across" this species for two reasons; 1, it grows on the side of limestone outcrops, and 2, wherever found it would not present a tripping hazard.



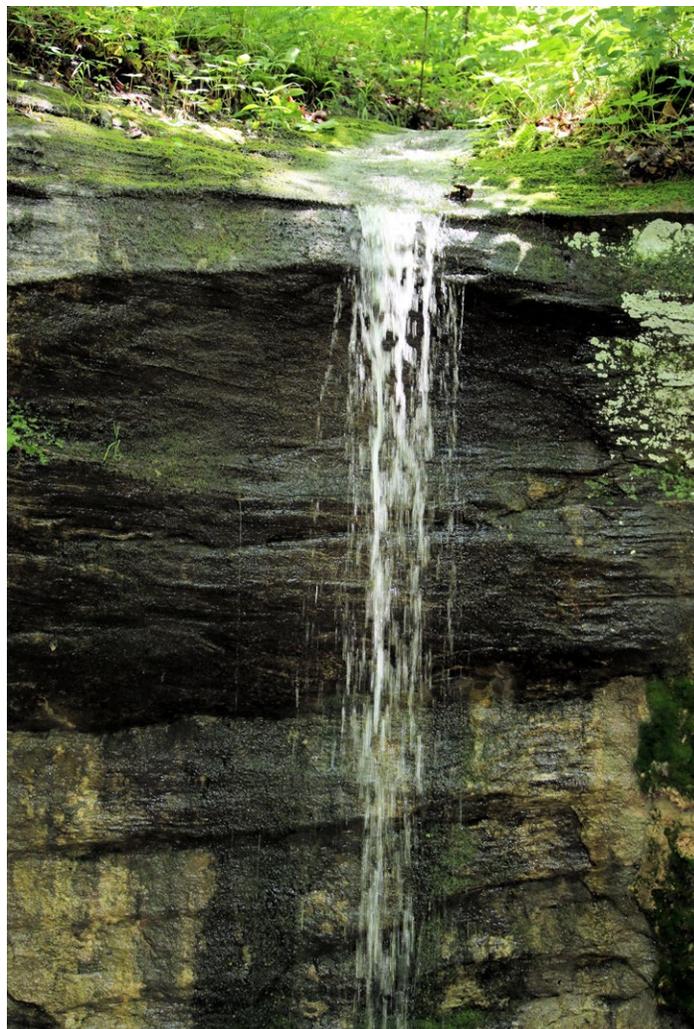
Osage Plains

By Chapter Representative: Casey Burks

Our Chapter meets at the Clinton Library "Friends Room". Regularly scheduled meetings begin at 6:00 p.m. on the 4th Mondays of the month. No meetings are held during December, January or August. Programs are open to the public and our purpose is to enjoy learning about and sharing information about native plants. Please contact President Janetta Smith jans@iland.net or Chapter Representative Casey Burks mobugwoman@gmail.com for the latest information on meetings. Sometimes change happens. Bernie Henehan berniehenehan@yahoo.com

and Dan Henehan henehandan0@gmail.com are our trip coordinators.

The summer MONPS meeting at Fulton, MO, was wonderful in spite of the rain. We sat around the motel breakfast area with unlimited coffee and had a chance



Waterfall at Graham Cave

to really visit. So the morning trip was cancelled but the rain let up and we did the scheduled afternoon trip to Graham Cave State Park. Graham Cave is where the farm owner parked his machinery during the winter. He took some of the fossils he picked up to be identified and created a lot of excitement. The walk through the park was somewhat like being in a jungle but with Interstate noise close by. Waterfalls, flowers, ferns, moss covered rocks along the root path were simply lovely. We also were privileged to see the rare running buffalo clover. I finally understood the "running" part is because it has strawberry-like runners.



Liatris at Wayne Morton's

On, July 11th OP members met at Wayne Morton's savannah and this time the *Liatris* gave us a show! Wayne has three different kinds of *Liatris* in the same area and the variety of nectaring butterflies was amazing. He is also very happy to stand beside the Ozark chinkapin that he got seeds of several years ago from the chinkapin society. The biggest one is a good 5' by now.

On a personal note, I just returned from an entomology meeting in Ames, IA and we had a tour of the Reiman Gardens. Talk about a botanical wonderland! There was an area that had many of Dr. Buck's cold hardy roses. One of his roses was the parent of the Knock-Out rose. One station we all stayed at the longest was a flower basket you could twirl with mounted kaleidoscopes you could look through to see the different patterns as the plants went by.

Paradoxa

By Pam Barnabee, Chapter President

For our June 15 meeting, Paradoxa chapter planned to explore the sandstone glades of Solomon Hollow Glades Natural Area, about 15 miles south of Rolla. The weather forecast for that Saturday morning showed a 50% probability of thunderstorms, but we decided to chance it. It was a good decision, as the weather gods favored us with a cloudy yet rain-free and pleasant morning. USFS Botanist Angela Sokolowski and assistant Valerie Repp drove from Ava to meet us at the area and guide our walk - thank you! We found several glade species we hadn't previously seen "in the wild," including small skullcap



Above, top, one of Dr. Buck's Kaleidoscopes and the view inside, below. From Osage Plains chapter

(*Scutellaria parvula*), dwarf dandelion (*Krigia virginica*), thread leaved sundrops (*Oenothera linifolia*), and fame flower (*Phemeranthus* sp. - not blooming). Time passed much too quickly, as always, as we spotted new plants and gathered around to identify them; we didn't even make it to the largest, acre-and-a-half glade. But we'll be back!

On July 1, we met at the home of member Phyllis Murphy to do a plant survey of her forty-acre property. We weren't able to do a complete survey, but we did identify seventy-six species in the hour and a half we spent there. Phyllis and her husband, Jim, converted a large area of their front lawn to pollinator habitat several years ago and it's thriving with a diverse array of species. Behind the house, mowed pathways lead to different parts of the property. We walked to a glade area and found abundant Missouri coneflower (*Rudbeckia missouriensis*), lead plant (*Amorpha canescens*), whorled milkweed (*Asclepias verticillata*), purple prairie clover (*Dalea purpurea*), and more. What a great visit! We hope other members will volunteer to host future walkabouts.

PERENNIS

by Andrew Braun, Chapter Representative

Members of the Perennis and Ozark chapters met at Poplar Bluff Forest Natural Area on July 7. A mix of Ozark and Coastal Plain species inhabit this interesting area. Species typically found in open-canopy wetlands were seen in a powerline corridor that cuts through a seep at the base of the Ozark hills. Purple fringeless orchid (*Platanthera peramoena*), brookweed (*Samolus parviflorus*), and potato bean (*Apios americana*) were a few of the plants seen flowering here. In the wooded part of the seep, several sedges, royal fern (*Osmunda regalis*), and swamp lousewort (*Pedicularis lanceolata*) were seen.

Watch for announcements by e-mail, the MONPS Facebook page, or the MONPS website.



Whorled milkweed, photo by Edie Starbuck

Officer nominations for the MONPS Board

Vice President: Malissa Briggler

Secretary: we are now seeking nominations! Please consider this important role!

Conundrum corner: a pictorial

by Susan Farrington

The evil *Sericea lespedeza* (*Lespedeza cuneata*)

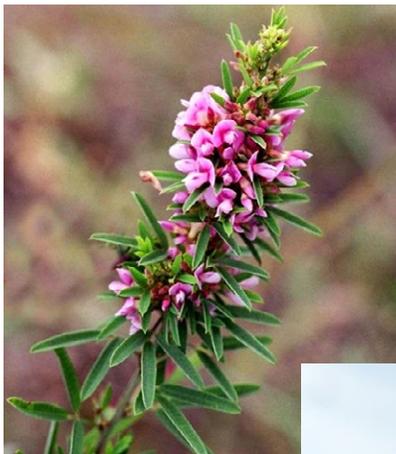
- Stems are typically highly branched.
- Very aggressive – outcompetes natives and becomes monoculture
- Flowers mid to late August thru Sept
- White flowers with purple centers

Native look-alike: Slender lespedeza (*Lespedeza virginica*)

- Not highly branched, although it will branch right at flowering time.
- Flowers late August thru Sept
- Pink flowers



Sericea lespedeza
photos by Susan
Farrington



Slender lespedeza
photo by Susan Farrington



Left: EXOTIC *Sericea*:
Straight veins look like
fish bones – Remember
that fish stink and so does
Sericea!

Right: NATIVE Slender
Lespedeza: Veins are curvy
and curly

From the Editor

This issue focuses on invasive exotic species rather than mostly native plants. Despite not being native, exotic invasives are important, but in a negative way: they are responsible for up to half of all species extinctions. So, let's get out there and pull some up today! See the following link for much more information!

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_024329.pdf

Thank you to Erin Skornia and our proofreading team, including Malissa Briggler (who put together the Chapter Reports and Events), Dana Thomas, and other board members. Thank you to our authors, chapter representatives, and other contributors. A special thank you to Sonja Lallemond and our friends in Illinois for contributing the book review. Thank you to all for your time, dedication, collaboration and support!

-Michelle Bowe

Prairie Wildflowers, a review

by Sonja Lallemond, courtesy of The Harbinger
(the newsletter of the Illinois Native Plant Society)

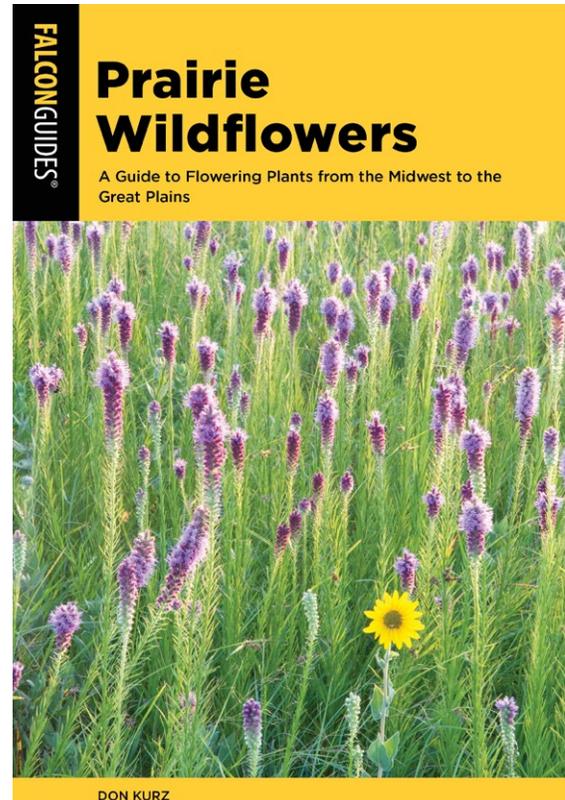
Prairie Wildflowers: A Guide to Flowering Plants from the Midwest to the Great Plains by Don Kurz, is the newest reference book on the native flora of the plains. This new edition will join the many books available from FalconGuides, the largest “publisher of Human-powered outdoor recreation guidebooks.”

Organized by flower color (with color tabs), this beautifully illustrated guide provides detailed information on the plants and their habitat. The thorough descriptions give a great deal of information to make identification easier for novice botanists and plant enthusiasts. However, the plants are sorted by Plant Families (Asteraceae, Commelinaceae, Fabaceae, etc.) rather than season of bloom (spring/summer, summer/fall, etc.) which would have made finding the flowers a bit easier. Mother Nature always adds a twist, so the author in the ‘Comments’ section identifies related species and recounts interesting anecdotal information on their uses by Native Americans.

In the Introduction, Don Kurz has provided the plant enthusiast with precise descriptions of the different types of prairies/habitats, their locations, and a short list of plants that are likely to be found in them. Identifying a plant by flower color and/or shape is often not enough. The ‘Plant Identification’ in the introduction covers the basic shapes of leaves and flowers and is complete with illustrations.

Most of the plants (350) chosen for this book have a wide range of distribution and can be found throughout the tallgrass prairie. Among the selections included are plants found in specific areas like blue wild indigo (*Baptisia australis* var. *minor*), occasionally found in upland prairies. To bring awareness to the status of these plants in the wild, the author indicates in the ‘Habitat/Range’ section the frequency of occurrence of the plants in their native habitats. No guide book would be complete these days without a section on ‘Weeds.’ The final section includes these invaders that are now found in the prairies, their origin, and a description of the role they have played in the degradation of our natural areas.

This guide is complete with a glossary as an added bonus for those who are just starting to explore identification of native plants. Where are the prairies located? A complete directory by state lists the name and contact information of the various state agencies and organizations involved in preserving our prairies. Out on the prairie where the smart phone does not have access to an app, this guide will be the perfect companion.



A Note of Passing

We were saddened by the news of the passing of one of our loyal members from the Osage Plains Chapter. Jim Licher passed away shortly before this issue was published. He is survived by his wife, Pat, also a MONPS member. Jim and Pat attended meetings regularly were active participants--Jim will be sorely missed, and our heartfelt condolences go out to Pat and the rest of his family.

Join Us! Become a New Member or Renew

You may become a member online at <https://monativeplants.org/membership/>, or you may fill out this form and mail to:

Missouri Native Plant Society
PO BOX 440353
St. Louis, MO 63144-4353

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**“A thing is right when
it tends to preserve
the integrity, stability,
and beauty of the
biotic community.
It is wrong when it
tends otherwise.”**

—Aldo Leopold