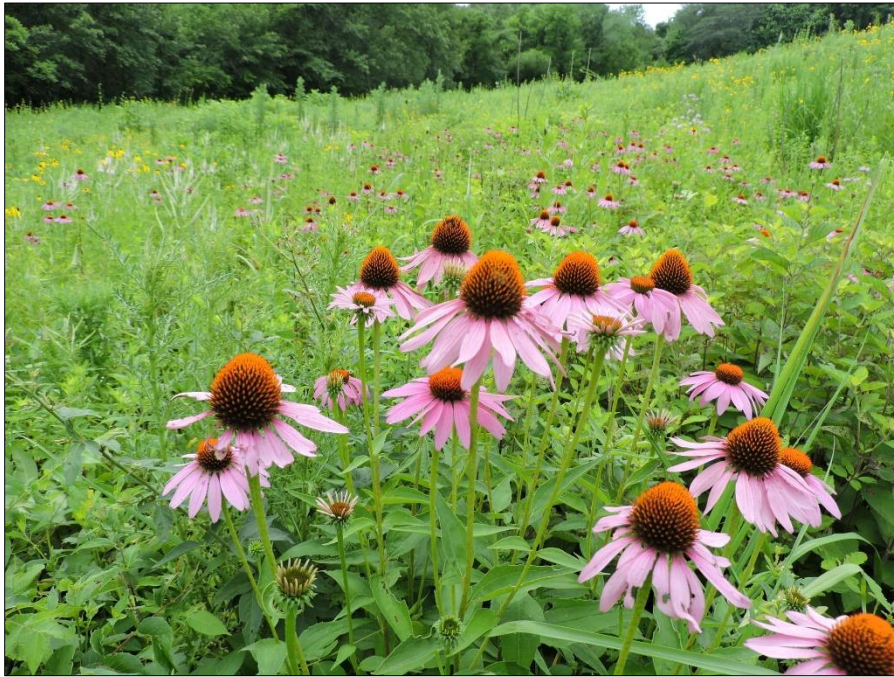


“...dedicated to the study, appreciation, and conservation of the native flora and natural communities of Illinois.”



Purple coneflowers (*Echinacea purpurea*) at Horn Prairie Grove Land and Water Reserve.
Fayette County, July 10, 2022. Photo: Keith Horn.

I'm inspired by the amount of field botany currently being exercised in Illinois. Many interesting plant observations in Illinois can be found on [iNaturalist.org](https://www.inaturalist.org), thanks in part to the annual [Illinois Botanists Big Year](#) competition. This combined with two technical flora manuals published in the last 10 years (*Vascular Flora of Illinois*, 2014 and *Flora of the Chicago Region*, 2017) makes field botany in Illinois relatively up to date with current taxonomy and distributions of plant species throughout the state. Yet, new plant species are discovered in Illinois each year and several recent exciting finds are profiled in this issue.. ∞ Chris Benda, Editor

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Message from the President



Dear INPS Members,

Happy summer! Which summer plants have you noticed blooming? We had a great time at the Annual Gathering in the Bloomington-Normal area at the end of June.

Thank you to our host, Joe Armstrong of the Grand Prairie Chapter, and to all our field trip leaders. It was a pleasure to spend time with so many fellow plant

enthusiasts. We learned about the Parklands Land Trust, protecting land along the Mackinaw River, and saw the Weston Cemetery Prairie. We also saw a presentation by ISU professor, Dr. John Sedbrook, on turning field pennycress into a new oil seed cover crop, and heard updates from four of our 2021 grant awardees. See photos on page 3. As soon as we have the dates settled for next year's Annual Gathering, we will put the word out. In the meantime, I hope you can enjoy a field trip or other event with your local INPS chapter.

Bell Bowl Prairie is still under threat by planned construction at the Rockford airport. Construction has been delayed until October 2022, but the destruction of the remnant prairie is still planned. [Learn more.](#)

Sincerely,

Emily Dangremond

President INPS

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INPS News

Annual Gathering 2022

The in-person annual gathering was a great time and well attended. More photos and news will be published in the next issue. (Photos below by Emily Dangremond.)



Merwin Nature Preserve.



Weston Cemetery Prairie Nature Preserve.

Memorial Donations in Honor of Jeff Givens, INPS Life Member



Jeffrey Givens, a lifelong resident of Peoria, IL, passed away on June 24, 2021. Over his lifetime, Jeff — who was worker, partner and owner of the family Givens Machine Co., Inc. for 43 years — pursued many other interests. Among them, he wrote, “I always had a burning desire for nature and history...when Earth Day was established, they made it April 22, my birthday. I was a member of several plant and animal societies, mostly natural plants of Illinois, and I helped create several natural prairies in central Illinois.” Jeff Givens became a life member of INPS many years ago.

Jeff is survived by his wife Paula, his sister and brother, his daughters, and three grandchildren. In his self-written obituary, he asked that memorial contributions be made to the Illinois Native Plant Society. As a result of his request, INPS received generous donations from:

- Bob Anton
- Thomas L. & June N. Barnes
- Patricia Bash & Stephen Bash
- Martha Fredericksen
- David W. Jackson & Sarah C. Allen
- Mary Littmann
- Suzanne & Bob Marshall
- Jan & Ted Wanack

INPS is immensely grateful for Jeff’s passion for native plants and for designating the Society as a recipient of donations in his memory. We sincerely apologize that these donations were not acknowledged in our list of donors to INPS in the Spring issue of *The Harbinger*.

Announcing the 2022 Recipients of the Flora of the Chicago Region!



In 2022, the Northeast Chapter of INPS is awarding copies of the book *Flora of the Chicago Region* (Wilhelm & Rericha 2017) to budding botanists, naturalists, habitat restoration volunteers, or students of ecology or conservation-related programs to encourage their personal and/or professional development. A primary goal is to reduce the cost barrier to learning about local plants, as, at \$125, the *Flora* can be cost-prohibitive for many to purchase on their own. Although the chapter planned to award 6 books, it received over 70 entries with an astounding number of worthy nominations. As such, the number of books awarded was doubled and the chapter hopes to continue this initiative in the future.

Read all recipients' bios and snippets from their [nominations on the INPS website](#).

This effort was made possible through a grant from the Paul and Dottie Foundation of DuPage Foundation, Indiana Academy of Sciences, and private donations. If you'd like to contribute to such efforts that further the Northeast Chapter's mission, [consider a donation](#).

Illinois Prescribed Fire Council Recognizes Henry Eilers



Illinois Prescribed Fire Council

Congratulations to Henry Eilers! We presented him with the 2022 Leadership Award on May 5 during the Illinois Prescribed Fire Council (IPFC) Symposium. 🏆🔥

President, John McCabe (pictured right), presented Henry with the award. The IPFC Leadership Award recognizes individuals with exceptional achievements in the prescribed fire community.

As Mark Phipps of the [Illinois Department of Natural Resources](#) stated, "Mr. Eilers is the champion and advocate for local remnants of prairie, barrens, flatwoods, woodlands, and forests. Some of the first prescribed fires to ever be employed within a forested context in Illinois were led by Henry. He was at the forefront of applying prescribed fire to manage our fire-dependent natural communities. In the 1980s, Henry invited many conservation professionals to tour the Shoal Creek Conservation Area and witness the many sun-loving plants under the oak canopy."

32 years ago, Henry Eilers started using prescribed fire to manage Shoal Creek Conservation Area. Two decades ago, Henry had the insight to begin selective thinning of the canopy, with ongoing overseeding with the area transformed into beautiful and diverse habitats.



Henry has been active with the [Illinois Native Plant Society](#) for years, writing a monthly article and growing plants for an annual sale.

Henry Eilers is now 87 years old and we celebrate his decades-long leadership in fire and natural areas stewardship.

New INPS Brochure

Thanks to Tracy DeMarco, the long-outdated INPS tri-fold brochure has been updated and redesigned! Take a look on the [INPS Publications webpage](#).

Announcing 2022 INPS Research Grant Awardees!

Congratulations to our new cohort of Research Grant recipients who have met rigorous guidelines and whose applications were evaluated by a seven-member professional review panel.

❖ **Samantha Berk**, Northern Illinois University (BS 2020); currently Lab Technician, Dr. Holly Jones' Research Lab, Northern Illinois University

Project Title: What role do graminoids play in prairie ecosystem functioning?

Project Description: Studying the relationship between biodiversity and ecosystem function (BEF) allows us to better predict consequences of environmental change in endangered ecosystems such as tallgrass prairies. Despite graminoids making up a large percentage of prairie vegetation, little focus has been placed on their ability to function amidst environmental change; we especially lack data on their influence in prairies that have differing levels of functional diversity. In this study I will examine how different ratios of graminoids, graminoid functional groups, and graminoid origins affect prairie productivity and decomposition across different levels of functional diversity. I will see how the

interaction between graminoids and functional diversity affect productivity and decomposition changes depending on the number of graminoids present in a prairie, whether those graminoids are C3 or C4, and whether they are native or non-native. This multi-lens approach will allow me to understand how graminoids and diversity changes impact ecosystem functions on a finer, more in-depth scale than has been tackled before. My research is part of a larger BEF experiment containing non-random, realistic multi-species assemblages. The experiment will have 60 plots with 12 species each and have a gain, loss, or no change in functional diversity in relation to the initial manipulated community. The results of studying graminoids in realistic, functionally diverse assemblages will create informed decisions on plant assembly in restoration, influence biodiversity management where maintaining graminoids and their associated functions are a priority, and increase public knowledge on the value of native flora and habitats.

- ❖ **Andrew Davies**, Graduate Student (MS), Northwestern University and Chicago Botanic Garden

Project Title: Genetic diversity and plant fitness decline in small, rare plant populations: a case study on *Synthyris bullii*

Project Description: Species at the southern edge of their range have been identified as most susceptible to climate change impacts. This is especially true for rare plant species with narrow habitat specificity and small geographic range. As populations under such conditions become small and isolated, extinction risk increases with genetic diversity loss and increased inbreeding. Together, these processes can reduce fitness and increase the threat that environmental stochasticity poses. For this study, I propose to determine how populations of varying sizes differ for genetic metrics of diversity and inbreeding, and to assess how those metrics relate to changes in census size and plant fitness. To achieve this, I have selected *Synthyris bullii* (kittentails), a midwestern endemic that is threatened or endangered in all states across its range. In Illinois, this species occupies the southern edge of its distribution in small (<50) to large (>500) populations. I propose to revisit populations surveyed by Molano-Flores in 2011, which represent this spectrum of sizes. I will visit populations to complete a 2022 census; to measure flower number, flower size, and fruit set; and to collect leaf material and fruit for genetic analysis. From collected fruits, I will calculate seed set, germination rate, and seedling survival to assess progeny fitness. To characterize climate stress tolerance, seedlings will be grown in a common garden and exposed to a drought treatment. Results will provide insight into the mechanisms behind population decline and allow managers to better address the long-term needs of small, rare plant populations such as *S. bullii*.

- ❖ **Melissa Duda**, Graduate Student (MS), Northwestern University and Chicago Botanic Garden

Project Title: Origins and natural history of the rare gentian hybrid, *Gentiana x billingtonii*

Project Description: In North America, the tallgrass prairie is the most endangered ecosystem. Therefore, the rare flora native to prairies should receive high prioritization in regards to research and protection. *Gentiana x billingtonii* (*Gentiana andrewsii* x *Gentiana puberulenta*) is a rare, perennial, naturally-occurring hybrid species. It can be found where the putative parental species co-occur, which requires remnant wet and dry prairies that are sufficiently close to allow cross-pollination. The sudden appearance of these hybrids is surprising, given that *G. andrewsii* and *G. puberulenta* have existed in these habitats for a long time. The arrival of this hybrid may be due to changes in flowering phenology. Alternatively, *Gentiana x billingtonii* might be occupying a novel niche distinct from those of *G. andrewsii* and *G. puberulenta*. Another possibility is that due to the scarcity of *G. puberulenta*, it is pollen limited and willing to accept pollen from *G. andrewsii* via shared pollinators. The presence of this

rare hybrid may have negative consequences for the parental species as ongoing hybridization can rapidly extirpate rare species. Formal research to address these concerns has never been conducted on this hybrid complex. As such, the objectives of this research are to 1) identify pollinators (assumed to be predominately *Bombus*) that pollinate the species through pollination visitation observations and 2) compare phenology, seed characteristics, and germination rates among *G. x billingtonii*, *G. andrewsii*, and *G. puberulenta*. This study is conservation-focused and will establish foundational knowledge necessary to understand the novel existence of *G. x billingtonii*.

❖ **Ingrid Felsl**, Graduate Student (MS), Southern Illinois University Carbondale

Project Title: Determining preferred microsite characteristics of a state threatened legume: *Trifolium reflexum* L.

Project Description: Rare plants contribute to ecosystem functioning, but are often overlooked. *Trifolium reflexum* L. (buffalo clover) is a biennial legume listed as Threatened in Illinois due to population decline caused by habitat loss. Currently only eight populations still exist in the state. The objective of this study is to determine how microsite characteristics and surrounding vegetation affect *T. reflexum* fitness. Ultimately, my goal is to provide information to land managers regarding how to best manage *T. reflexum* populations in Illinois and surrounding areas.

I plan to visit all eight known populations of *T. reflexum* spanning the extent of its native range in Illinois in three different habitats in which it is known to occur: tallgrass prairie, oak savanna, and upland oak-hickory forest. I will visit each population four times between April and July 2022 to record plant functional traits related to fitness. I will measure abiotic microsite characteristics and vegetation composition inside the populations as well as directly outside the populations in an effort to determine why the population extents are shrinking (or not expanding). Once the selected *T. reflexum* individuals senesce, I will collect their seed heads for a greenhouse experiment to be conducted in the fall 2022 and winter 2023 at Southern Illinois University Carbondale. The greenhouse study will complement the field work by seeing how *T. reflexum* seedlings respond to different light and water treatments, which will be based on the field measurements taken this summer.

❖ **Matt Hokanson and Erin Hokanson**, co-owners and ecologists, Woods to Wetlands, LLC

Project Title: Turf lawn to prairie conversions: evaluating and comparing grass elimination techniques and native seeding scenarios

Project Description: General awareness of ecosystem loss is increasing along with a demand for native plants in home or public landscapes. The turf grass lawn is a common urban/suburban U.S. landscape, and the idea of converting lawn into prairie is becoming a more accepted and supportive practice. Eurasian and bluegrass (*Poa* spp.) dominated lawn conversions to prairie is simple in theory. The grasses are eradicated or slowly replaced by native prairie plants via seeding or planting live plants and the area is maintained for weeds for a number of years. However, prairie conversions are also a long-term investment and can be costly. A common turf grass elimination method includes chemical application(s) which provides immediate results. However, if native plant establishment during the early stages of prairie conversions is poor, bare soil areas are prone to weed invasions. Another practice includes seeding native prairie species directly into old fields without an initial grass elimination. Eurasian grasses are slowly weakened through precisely timed mowing or prescribed fire. Although apparently effective, this method must be repeated for years, and limited budgets may restrict its use. Focusing on replacing Eurasian grasses using native seed, which is typically the more cost-effective

choice, this study aims to determine the quickest technique to establish a prairie in a turf lawn by evaluating the success of grass eradication methods and native plant emergence. Multiple seeding scenarios are also compared by evaluating native plant coverage from different prairie grass/forb ratio mixtures, seeding rates, and the presence/absence of cover crop.

- ❖ **Susan McIntyre**, Assistant Scientist, Wetland Plant Ecology, Prairie Research Institute, Illinois Natural History Survey

Project Title: Reproductive ecology of *Polygala incarnata* (Polygalaceae) in Illinois

Project Description: *Polygala incarnata* (pink milkwort) is a species in decline along the edge of its range, including Illinois, where it is state endangered. Much loss is due to habitat conversion; however, other biotic and abiotic factors may compound threats to the species, particularly as a sparsely distributed, relatively low seed-producing annual. With only two remaining known populations in Illinois, both comprised of a few scattered individuals that likely have low genetic diversity, the species is at risk of loss due to a number of threats, including stochastic events and climate change. Fortunately, some historic and adjacent sites have potential for recovery or reintroduction. To better understand the threats to remaining and potential future populations, more knowledge of the ecological needs of the species is needed. This project proposes to fill knowledge gaps in reproductive and other ecological behavior, such as insect associates and pollination systems, and compare to more abundant congeners that exhibit some of the same local scarcity. To achieve this, insect visitation surveys and pollinator exclusion will be conducted at three known *P. incarnata* locations: northwestern Illinois, west-central Illinois, and western Kentucky (near historic southern Illinois populations). Other empirical data will also be collected related to habitat and associates. This information may help guide management and potential reintroductions both in Illinois and in other U.S. states and Canada where it has declined. This information may also help improve our understanding of reproductive ecology of other rare species with low abundance and sparse local distribution.

- ❖ **Noah Pyles**, Graduate Student (MS), Southern Illinois University Edwardsville

Project Title: Auxin production of root-associated bacteria in Illinois prairie orchids

Project Description: *Spiranthes* orchids are native Illinois prairie plants that face threat due to overcollection, habitat destruction, and difficult cultivation methods. These orchids lack endosperm, a carbohydrate nutrient source which functions to feed the developing embryo, and thus rely on microbes present in the soil to successfully germinate. It is possible that these microbes are providing signals to the plants, such as auxin, an essential plant hormone that impacts root development and seed germination. Bacteria will be isolated from the roots of *Spiranthes magnicamporum* and *Spiranthes cernua* orchids and examined for auxin production. A colorimetric assay using Salkowski Reagent will be used to detect auxin in the supernatant of isolated *Spiranthes* root bacteria grown in tryptic soy broth. The 16s rRNA sequences from isolated bacterial colonies will be sequenced to analyze the diversity of microbes associated with *Spiranthes magnicamporum* roots. *Arabidopsis thaliana* and *Spiranthes magnicamporum* seeds will be grown with bacterial supernatant containing auxin to observe its effect on germination and root development. Isolated bacteria that produce auxin will be fluorescently labeled and regrown with *Spiranthes magnicamporum* to observe if it infiltrates or lives outside the roots. RT-qPCR will be carried out on *Arabidopsis thaliana* seeds that have been grown with auxin produced by root-associated bacteria to examine the expression of genes involved in germination.

A New Orchid for Illinois: *Neottia bifolia* (*Listera australis*)

By Jenny Lesko, District Forester, Illinois Department of Natural Resources

Working for Illinois DNR Division of Forestry, I often assist landowners in managing their forests. Early in May, I was marking a forest improvement thinning on private property in Pope County. About 10 acres were planted in mature eastern white pine. Passing through this section I noticed some small plants among the leaf litter. They had mainly red coloration (like many non-photosynthetic plants) and two small, paired green leaves. They were less than a foot tall, and 100 or so stems within 1/10 acre. They reminded me of the three birds orchid but didn't quite match. I took some pictures and moved on.

At home, going through my Illinois botanical books, the pictures didn't match anything in the keys. Online I found a list of pictures of [Kentucky wildflowers](#). I scrolled down (Kentucky has a surprising diversity of wildflowers!) and finally saw the exact match: the [Southern Twayblade orchid](#), *Neottia bifolia*, synonym *Listera australis*.

This orchid has not been found in Illinois before, but is distributed in many other states to the south and east. Plants are completely non-photosynthetic in some locations (these were called *Neottia*), but have green leaves in other places (these went by *Listera*); all are currently grouped under *Neottia bifolia*. Their typical habitat is 'damp forest areas and open bogs.' Although some orchid species prefer pine forest, it was surprising to find a new orchid to Illinois in pine plantation. It's not known whether these orchids are native to the area, or if their tiny seeds could have been brought in with the pine seedlings when planted.



Hidden in Plain Sight Part 1: *Uvularia floridana*

By Christopher David Benda, Botanist with Southern Illinois University and the Plants of Concern Program

One of the most exciting discoveries a botanist can make is finding a plant species in the wild that is new to the state. At one end of the spectrum is finding a plant species that is a new invader, a non-native species that is moving into new territory. But at the more exciting end is finding a species native to the region that is expanding its range from a neighboring state or has been there for a long time, evading detection by botanists.

Such is the case for the discovery of Florida bellwort, *Uvularia floridana*, at Heron Pond Nature Preserve within the Cache River State Natural Area in Johnson County, Illinois.

Prior to this discovery, there were two species of *Uvularia* that had been documented in Illinois. Large-flowered bellwort, *Uvularia grandiflora*, is common throughout the state and occurs in almost every county in Illinois. Sessile-leaved bellwort, *Uvularia sessilifolia*, is uncommon in the state and occurs in 16 counties, mainly at the southern end of the state and Cook County. They can be easily distinguished from one another because large-flowered bellwort has perfoliate leaves and sessile-leaved bellwort has sessile leaves. However, Florida bellwort also has sessile leaves. It is relatively rare and is known to occur in only about 30 counties in Mississippi, Alabama, Georgia, South Carolina, and Florida.



Sessile-leaved bellwort, *Uvularia sessilifolia*



Florida bellwort, *Uvularia floridana*

Around the time of the 50th anniversary celebration of the dedication of Heron Pond as an Illinois Nature Preserve last April, Travis Neal posted a photo on iNaturalist of a sessile-leaved bellwort photographed along the trail near the bridge over the Cache River at Heron Pond. It was recognized by Ryan Sorrells who identified it as *Uvularia floridana*, based on the keys in Weakley's *Southeastern Flora of the U.S.* Several others corroborated the

identification. The difference between *Uvularia floridana* and *Uvularia sessilifolia* is that the former has a bract on the stalk of the flower and has flowers with longer petals that flare more than forming the shape of a bell. Travis and I visited the site the next day, observed both species, and photographed them occurring side by side in the floodplain forest along the trail. While we were out there, we ran into John and Martha Schwegman, told them about the discovery, and showed them the plants. They were astounded that such a discovery could be made along a very popular trail in a nature preserve that had been visited by many botanists over the years! But *Uvularia* blooms fairly early in the spring and the flowers don't last long, making them inconspicuous among the other vegetation.

This story goes to show how careful examination can lead to new discoveries and that is one of many reasons why botanizing in Illinois and in general is so fun and rewarding.

Pink Milkwort (*Polygala incarnata*) in Illinois

By Susan McInyre, Assistant Research Scientist with the Illinois Natural History Survey and Recipient of an INPS Survey Grant

A year-long Easter egg hunt. That's what 2021 felt like.

In 2021 I received a Survey Grant from INPS to look for the state endangered pink milkwort (*Polygala incarnata*) in Illinois. The IDNR gave pink milkwort high priority for surveys since it had few recently documented occurrences, and very few had been searched in the past 20 years. I chose pink milkwort because it is cute and I figured I couldn't confuse it with anything else.

If you aren't familiar with this plant, it is a rather diminutive annual species that typically occurs as sparse populations in open, fairly dry or well-drained soil. At only a foot or two tall, slender blue-green stems just barely stand out among brighter green neighbors, not at all aided by the miniscule leaves that alternate infrequently up the stem. The main way to find this plant is by spotting its spikes of tiny pink flowers at just the right angle as you meander through surrounding vegetation. But oh! When it does catch your eye! It's like finding that set of car keys you've been hunting for all morning, combined with finding a slice of chocolate cake you forgot about in the fridge, all at once.

Also known as "procession flower" because of its resemblance to (and possible use as) a European species that young women wove into garlands during the pagan and later Christian celebration of Rogation, following Easter. It is hard to imagine pink milkwort occurring in such quantities that it could be made into garlands. Other than pretty looks, pink milkwort has little economic value, though Dr. S.B. Mead (1846) described it as "acrid; sudorific;" it may have had use for respiratory ailments, though other *Polygala* species were likely preferred.

Pink milkwort is known from a variety of open, dry-ish habitats across the Eastern U.S., but it has declined significantly in the northern half of its range. Based on my preliminary field searches of a few herbarium records, it may have also disappeared from some of its less protected sites in southern states.

In Illinois, one of the earliest accounts of the species was by Dr. C.W. Short (1845) on his "autumnal" tour of the Illinois prairies, when it "occurred under circumstances not calling for particular note or comment" (193). Gerhard (1857) noted the "rosy, pretty little blossoms on a tall stalk" in "dry prairies extending up the bluffs" (238-239). Several records occurred around Chicago prior to 1900, often at the edges of the new suburbs. With rapid development and conversion of the prairies to cropfields and barrens to timber, it was not long before pink milkwort sightings were restricted to what remained of "original" prairie, such as railroads near Warren (Pepoon 1927) and Godley (Schneider, 1939, U of IL herbarium specimen), and the occasional grazed hill prairie. New records appeared up until the 1980s during road-railroad searches or along then-open logging roads in the Shawnee National Forest.



State endangered pink milkwort (*Polygala incarnata*).



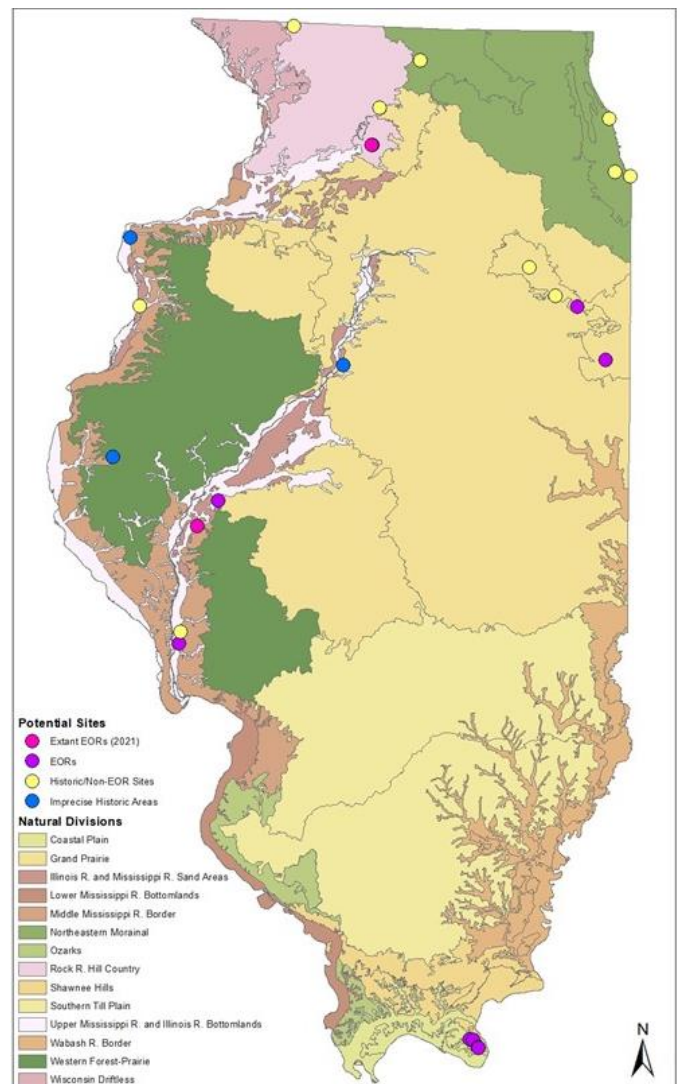
But many of these barrens, bluffs, and prairie strips have since closed in, taken over by trees, shrubs, non-native weeds, and more dominant but less disturbance-tolerant native species. Pink milkwort seems to thrive in poor, exposed soil and does not tolerate shading, deep leaf litter, or close competition. It pops up in scrapes, interstitial areas between bunch grasses, and occasionally ant mounds, possibly from where its elaiosome-bearing seeds were deposited the year before. They shoot up in mid-late June and begin producing fruits almost immediately, as if trying to beat the community rush, though they rarely overtop the surrounding vegetation. The flowers bloom continuously up an indeterminate spike or spikes, potentially until October.

It is these flowers that I had my eye out for all through my travels in and around Illinois in 2021. I was briefly fooled by many look-alikes: other tall, slender, or pinkish-purple flowered plants such as *Lobelia spicata*, *Linum sulcatum*, *Allium vineale*, *Dalea purpurea*, and even wilted sky-blue aster. I confirmed my search image by finding populations outside Illinois, with the help of iNaturalist. But sadly, within Illinois, I found only two populations. Both populations are on protected land and currently being managed with invasives control and prescribed fire. One was a well-known population, but the other had not been documented by the IDNR since 1994. Woody species removal likely helped this latter population, which has over 80 individuals so far in 2022.

I am currently spending 2022 learning more about the ecology of this species, such as what insects pollinate it and disperse its seeds. But I also hold out hope that new, heretofore unknown populations have yet to be (re)discovered. After all, one short-lived southern Illinois population was completely unknown prior to the 1980s. Now that the planted pines are reaching maturity, perhaps now clearing them will expose new populations of pink milkwort. Likewise on the hill prairies that were once both maintained and degraded by grazing, perhaps clearing the thicket of trees and shrubs that encroached during their decades-long rest will expose a seemingly impossible seedbank of our little pink friend. Even well-known but infrequently botanized sites could harbor overlooked populations, particularly where fire and brush management have been reintroduced. Since the plant is an annual species, it may need just the right conditions to emerge, such as a good rainy season following a burn.

So, if you would like to join the great milkwort hunt, this handy map may guide to you general areas near you. Take a friend, since they may see a plant that you stepped right over without noticing. And keep in mind that many of these records pre-date current development and agriculture, so parts of the state may simply be a hunt for natural areas. Which, even if you don't find pink milkwort, can conceal other forgotten treasures. Let me know what you find! Find me on iNaturalist ([curlysumac](#)) and share your results. Happy hunting!

Thanks to the Illinois Native Plant Society for funding this survey grant.



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Other News, Blogs, Publications, & Web Links

How to Meet Illinois “30 by 30” Commitment

The 30 by 30 movement is an outgrowth of the “global deal for nature,” proposed by scientists as a nature-based companion to nations’ Paris Agreement pledges to reduce carbon emissions. The [Illinois 30 by 30 Conservation Task Force](#) was created to advise on how to get Illinois from its current 4% of land and water protected to the goal of 30%. After first convening in February, the task force held a series of listening sessions in early spring to consider existing programs the state could tap into to reach the target, as well as potential new avenues to pursue: Land acquisition? Public-private partnerships? Enhanced management of agricultural acreage? Maximization of urban assets such as green roofs? The answer is yes. Yes to all of it and more. The Task Force is developing a report to the Governor and the General Assembly by July 1. To read more about the challenges and opportunities, read this [WTTW article](#) by Patty Wetli.

Update on Garlic Mustard Aphids

In May 2022 the Midwest Invasive Plant Network put out the call for citizen scientists to be on the lookout for garlic mustard aphids (*Lipaphis alliariae*). These garlic mustard specialists, originally from Europe, were recently detected by staff at Holden Forests and Gardens in Cleveland. Because these aphids may help control invasive garlic mustard plants, there is an effort to map their distribution. The aphid seems to negatively affect the plants by creating twisted seed pods (siliques) and a wrinkled effect on the leaves. During this first reporting season, a total of 72 reports were submitted, including 39 positive reports of garlic mustard aphids from four states in MIPN's area of coverage: Ohio, Michigan, Wisconsin, and Minnesota. Reports were also submitted from Massachusetts, and Connecticut. See this [informational flyer](#) for more information.



Changing Conservation Tactics for Mead’s Milkweed

Mead’s milkweed (*Asclepias meadii*), a Missouri native, has experienced such severe decline that it has been listed as federally threatened since 1988. Initially, habitat loss and degradation caused the species’ decline. Low reproductive success has led to its continued decline. A recent Missouri Botanical Garden study has shed new light on the underlying cause of its reproduction failures, resulting in an immediate shift in conservation practices. The study found that genetic diversity was unrelated to reproduction. Instead, they found that the

problem was much simpler: successful reproduction only occurred when populations had 50 or more plants flowering at once. Since the report's release in 2020, the results are being used to make conservation management and policy decisions. To read more about the study and steps being taken to change management practices, see this [Missouri Botanic Garden blog post](#). (If you see an error message, try scrolling up.)

Botanists are disappearing – just when the world needs them most

Various studies have documented falling plant literacy worldwide. Plant content is often neglected in textbooks and students are unable to recognize even local plant species. Less teaching about plants and the ensuing disconnection from the natural world will, if not reversed, have irreparable and disastrous consequences. [Read more about this study](#) of the decline of botany education in the United Kingdom -- it has been over a decade since a student was enrolled in a botany degree in the UK – and the growing skills gap, with a looming shortage of professionals capable of effectively managing environmental projects.

Wisconsin Family Finds Rare Fern Not Seen In 90 Years

Monona resident Ben Redding was hiking with his two kids and their dog in Sauk County last summer when they spotted something unusual. He thought it looked like something he'd seen in his fern book — a cliff-dwelling fern called maidenhair spleenwort (*Asplenium trichomanes*). As a volunteer with the Wisconsin Department of Natural Resources' Rare Plant Monitoring Program, Redding is used to identifying unusual plants, so he snapped a few photos and later learned that while populations of maidenhair spleenwort are scattered throughout the state, including in north-central Wisconsin, Door County, and the Wisconsin Dells, none have been seen in this exact location for 90 years. The maidenhair spleenwort is one of more than 300 rare plant species monitored through a citizen science program managed by the DNR since 2013. For the whole story on this family of citizen scientists and their rare find, read this [Wisconsin Public Radio article](#).

Rare Plant Species Discovered at Appalachian Center for Craft Campus in DeKalb County, TN

Tennessee Tech University students participating in a field botany summer intersession have discovered a rare plant species in a wooded area surrounding the Appalachian Center for Craft, Tech's satellite campus. The plant is called the Cumberland pagoda-plant (*Blephilia woffordii*) and is a species new to science, first described in 2020 by Aaron Floden, Ph.D., and Ed Schilling, Ph.D. The plant is so rare that there are only four other known populations surrounding the Caney Fork River area and this is the furthest east location. For more about this important discovery, read [this WJLE article](#).

***Native Orchid Conference Journal* Back Issues Available Online**

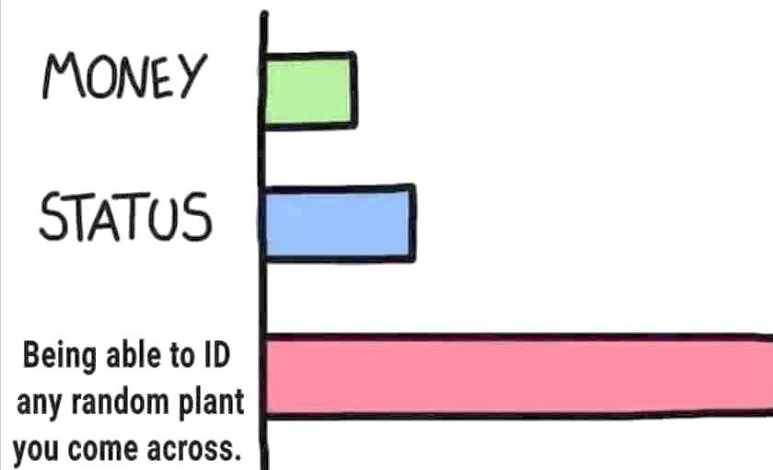
The Native Conference Journal back issues from 2004-2022 are now available [online](#).

Videos

- [PRN Lunch Series: Herbicide Drift, Threats to Cultivated and Wild Landscapes](#). Watch Prairie Rivers Network Senior Habitat and Agriculture Programs Specialist Kim Erndt-Pitcher explain how herbicide drift can threaten cultivated and wild landscapes. She shows examples of what drift damage looks like and talks about the PRN tree and plant health monitoring program.



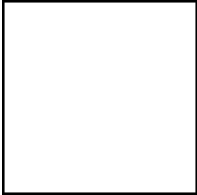
WHAT GIVES PEOPLE FEELINGS OF POWER



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Swamp milkweed
(*Asclepias incarnata*)
Photo: Dennis Kiefer

The Harbinger Summer 2022

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