

Erythronium

IOWA NATIVE PLANT SOCIETY NEWSLETTER
SUMMER 2026



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Erythronium is the official publication of the Iowa Native Plant Society. It is published twice per year in the winter and summer. If you are interested in writing for *Erythronium* newsletter, please contact us at iowanativeplantsociety@gmail.com. Include your idea, photos, relevant experience, and any other information to support your idea.

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Leaves

from the
president's

Notebook

Greetings Iowa Native Plant Society (INPS) members and friends! The heat of the summer has moved back in, and the heavy rain has resulted in a flood of flush color and wet basements in my neck of the woods. Although much of the year has felt like a blur, I have cherished the moments spent in nature. Time in nature often creates an opportunity for uninterrupted stillness and a chance to escape the distractions of everyday life. I am thankful for the ability to take the time and to have public spaces.

A key goal of INPS is to give people the opportunity to spend time in nature. We have already hosted three field trips this year in a variety of landscapes, with more to follow in the coming months. We also sponsored the beloved Loess Hills Prairie Seminar. Thank you to all who joined us to celebrate 50 years of the Loess Hills!

Aside from field trips and conferences, INPS has also been busy in other ways. We awarded over \$5,000 in small grants to support remnant management and education and outreach efforts. Our INPS members are vital in allowing us to give back to conservation stewards. We also took on the management of a new email discussion group for native plant and insect enthusiasts. If you are not yet a member of the new email discussion group, you can find instructions for enrollment on our website.

Lastly, I want to thank our board, members, grant awardees, and followers. The support, time, work, and passion is greatly appreciated and does not go unnoticed. It takes many hands to keep Iowa's ecosystems thriving and surviving. It also takes many hands to keep INPS strong and functioning. We are a volunteer-run, donor-supported organization. We take great pride in our core work of field trips, grant opportunities, and informational newsletters. These tasks are a lot to manage for a small group of individuals. We always want to be doing more. This September we will be holding elections at our annual meeting. We will have open positions available. If you have time, ideas, and a love of Iowa's flora and fauna, please consider attending our upcoming annual meeting and joining the board! We'd love to have you! A list of upcoming INPS events can be found on our website.

I hope you all enjoy the remaining days of summer! Thank you for supporting the Iowa Native Plant Society. ■



Sarah Nizzi, President
Iowa Native Plant Society

A tangle of climbing roses blooms in shades from deep pink to nearly white on the slope below the author's home.



climbing rose

Article and photos by Diane Porter

down the grassy slope from my house, in June, a great tangle of wild roses suddenly blooms with hundreds of flowers. They billow in every tint from deep raspberry through pale pink to nearly white.

It is the climbing rose, one of Iowa's several wild roses. *Rosa setigera* is considered uncommon in Iowa. I'm rather pleased to find that it grows on my land.

On a sunny morning, bumble bees are wallowing joyously in the blossoms and buzzing. With baskets on their legs already loaded, the bees approach the blossoms for more pollen.

A bee may appear to be in a frenzy of wallowing in the anthers of a blossom, but actually, she is raking in the pollen with very fast, coordinated movements.

Pollen is what the bees are after. The whole point of blossoms, if you're a rose, is to entice

a bee to carry pollen from one flower to another and pollinate it.

The Pay

The bees are willing workers, because pollen is food. Concentrated protein. Exactly what female bees need for the larvae growing in the nest. Female bees gather pollen, munch some for themselves, and take most of it back to the nest.

In the process, they spread pollen around. And that works great for the flowers.

Male Bees

There are far fewer males, because colonies produce few of them until late summer. They do not collect pollen. They live primarily on nectar, though they may eat a bit of pollen now and then. They may even pollinate the occasional flower. But mainly all they have to do is live long enough to mate with a virgin

queen in late summer or fall.

The Difference

This species of rose is different from almost all other roses in the world. Nearly all other roses are bisexual. Every plant both produces pollen (male job) and makes rose hips (female job). But the climbing rose is dioecious—each plant is either male or female. Not both.

Male climbing rose plants have flowers that make pollen but never make rose hips. Female climbing rose plants have flowers that make rose hips but produce little or no viable pollen.

The Trick

To entice bees to carry pollen from a male plant to a female plant, when the female offers no reward, the climbing rose uses trickery.

The female's anthers look real, but they produce no pollen. A bee is fooled and lands on the flower. Finding no pollen reward, she flies away. However, the moment of contact is

all it takes to pollinate the flower.

In the center of the female flower is the pistil, whose sticky tip (the stigma) receives the pollen. At the lower end of the pistil is the ovary, where the future seeds develop.

The male flower also appears to have a pistil and stigma, but there is no ovary and nothing to pollinate. It's a fake. This might make it difficult for a bee to tell the two sexes apart, just as it is hard to for gardeners.

Under the microscope, I see a subtle difference. The female stigma looks more compact. On the male it looks looser. The difference is not visible to the naked eye, at least not to mine. I doubt the bees spot it, either.

My Climbing Roses

I enjoy collecting seeds of native plants and raising them, and over the years I've searched the climbing roses near my house for rose hips. The vines have produced thousands of



Left: A bumble bee visits the pollen-rich anthers of a climbing rose.

Above: Developing rose hips form after the flowers fade.



A climbing rose blossom in full bloom.



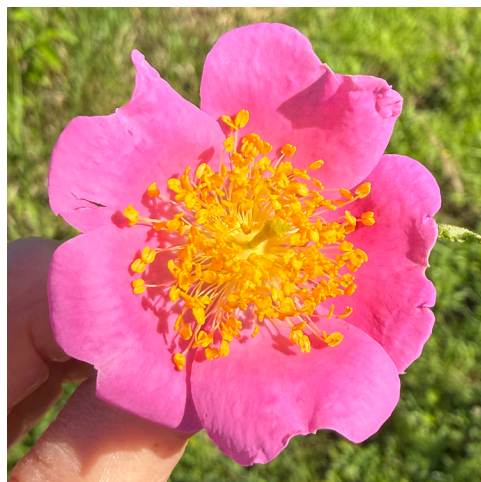
Left: Female blossom (top) and male blossom (bottom) of climbing rose. After pollination, only the female flowers develop rose hips.

flowers, but I never found a single hip.

When I learned that climbing rose plants are either male or female, suddenly I realized that I had not been unlucky all this time. It was simply that my rose patch was a male plant.

Three years ago, a climbing rose volunteered at the corner of my porch. This year it is blooming for the first time. Bees visit it occasionally, but they do not linger. And now, as the petals fall, the bases of the flowers are beginning to swell. The rose shows all the signs of being a female.

Today the rose hips are small green spheres. By fall, they should be bright red and full of seeds. ■





Virginia spiderwort

FIELD NOTES

Scenes from a summer of Iowa Native Plant Society
field trips across the state

Photos by Sarah Nizzi and Tom Scherer



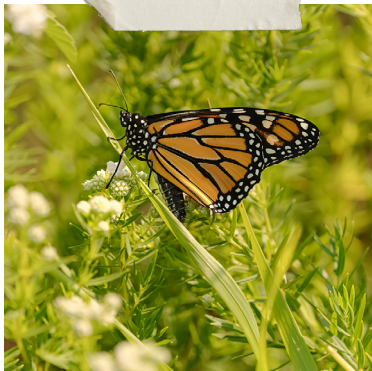
Flower fly on rose flower



Marietta Sand Prairie



*Monarch butterfly on
whorled milkweed*



*Monarch butterfly
@ Marietta Sand Prairie*



*Hiking @ Cedar Bluff
State Preserve*



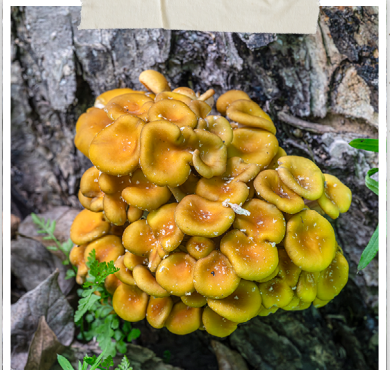
Showy orchid



Gray tree frog



*Compass plant & loess soils
@ Zales Prairie*



Golden oysters

The Loess Hills Prairie Seminar: IOWA'S GEM

By Dianne Blankenship

What an incredible 50 years! The Loess Hills Prairie Seminar began way back in 1977 when awareness of the loess hills and prairies were in their infancy. We had no state preserves in this area then, and the first foray had been held a few years earlier (in the loess hills in Fremont County). The Loess Hills Wildlife Area (LHWA) had just been dedicated. There was no Iowa Natural Heritage Foundation, no Iowa Prairie Network, no Iowa Native Plant Society, and hardly anything named after the loess hills.

An environmental educator at Western Hills Area Education Agency (WHAEA) had

noticed the Loess Hills in Sioux City where she worked. She decided to offer a back-to-nature weekend with backpacking into the new LHWA. Educators would earn teacher continuing education credit. Conservation experts and the public were welcome, including families with children. About twenty people participated and expressed such enthusiasm another weekend event was planned for the next year, 1978. Instead of backpacking, this time participants would camp at a designated LHWA site.

Since then, the framework of the Loess Hills Prairie Seminar (LHPS) has stayed much the

same and has included a variety of leaders in various conservation and nature-related topics; educator credit; free camping; multiple options of outdoor sessions at the LHWA and nearby locations; evening programs indoors in Onawa; campfire programs back at camp; free registration; and optional meals offered for a fee.

The attendance has NOT stayed the same. One photo shows those at the 2016 seminar before they selected from 11 options for that morning's first session. Those options included "Reptiles and Amphibians" (for children) with Carol and Nancy Schwarting, "Turin Man" with Ron Butler, "Stories from Earth and Sky" by Jeanine Laverty, the "Brogie Bird Tour," Jerome Kills Small's "Stories and Songs of Great Plains Native Americans," "Edible Native Plants" with Addie Kinghorn, "A Sugar Creek Chronicle: Climate Change" discussion with Connie Mutel, Don Poggensee's "Prairie Photography" in the field, Bill Pusateri's "Unraveling Prairie Mysteries,"

Tom Rosburg's "Prairie Ecology," and "The Amazement Connection: Stimulating an Interest in Science" with Larry Stone. Is it any wonder why people attend year after year to participate in such a diverse offering of sessions?

What an accomplishment! What an amazing 50 years.

The founding environmental educator mentioned above was Carolyn Benne. Her life was cut short in 1980 when she was forty-one. The shock of her death motivated tributes to her including the protection of Sioux City Prairie by the Iowa Chapter of The Nature Conservancy, the establishment of the Carolyn Benne Trail at Stone State Park, and the continuation of the Loess Hills Prairie Seminar led by her husband, Larry Benne. He was very committed to the seminar and led it through 2005. I coordinated it until 2016, all with the support of the WHAEA which now is named Northwest AEA (NWAEA). At that



time, NWAEA stepped down from managing it and the Monona County Conservation Board offered to hire a naturalist whose duty would be to manage the Loess Hills Prairie Seminar. Andrea Porter was hired, and Tyler Ruge followed her in that role.

The Monona County Conservation Board had been very involved with the seminar right from the second year. Its director for thirty years, Tom Bruegger, led sessions and supported and attended all aspects of the seminar until 2010. The Iowa DNR has also been a strategic partner, with Doug Chafa involved for the past nineteen years.

So, who are some of the other leaders that the seminar brings to educate the people who attend each year? A few additional names include: Deb Lewis, Brian Hazlett, Bill Zales,

MJ Hatfield, Glenn Pollock, Kathy Koskovich, Bruce and Marlene Ehresman, Kelly Madigan, Lance Brisbois, Tucker Lutter, and many more. And, in the early days, Sylvan Runkel, Dean Roosa, Jean Prior, Doug Wade, Lois Tiffany, and several others set the standard of high-quality facilitators. Ed Brogie led birding sessions for forty-three years and included his brother and other family members. Don Poggensee has helped those interested in nature photography for thirty-nine years. Fifteen additional people have presented at twenty or more seminars. County conservation naturalists provide sessions annually, especially for children or families. There is always something offered for children, both outdoors and indoors.

How can this weekend event continue to be free to attendees? Most presenters volunteer to present their sessions and programs. The atmosphere is so welcoming; they can bring their families; there is time to visit with other conservation leaders and the attendees. Volunteers serve on committees, help during the seminar, and run the silent auction which brings in funds. Also, there are many organizations and some individuals that annually support the seminar. Grants have also been awarded.

Getting to interact with such leaders in an informal outdoor setting and hearing some of them speak indoors is so valuable. Participants return home with new knowledge and have been influenced by learning outdoors. Those unable to hike the hills are free to attend sessions in camp or just do the indoor programs in the evenings. They all leave the weekend more knowledgeable of our loess hills, prairies, woodlands, conservation, and several nature-related topics or activities. Those who camp at the seminar site have the opportunity to experience campfire music and s'mores, a night hike, astronomy, or blacklighting for insects. The entire seminar is a shared experience with others who appreciate the outdoors and nature; it is conducive to making friends. People return to attend different sessions, to learn more,

Each seminar ends with a Saving Our Avian Resources (SOAR) program and usually a raptor release. Photo by Don Poggensee



Yucca is a native plant found in the Loess Hills.

and to reconnect with others who appreciate native plants and all of the other aspects offered by the seminar.

The Loess Hills Prairie Seminar is such an ongoing tribute to Carolyn Benne and her husband, Larry, who made sure her vision of environmental education about the Loess Hills has flourished and continues into the future. It has been a great fifty years.

Mark your calendar for June 4-6, 2027.

Bring your family and some friends. Come to meet many prairie plants that are unique in Iowa and make the Loess Hills their home. ■



Piecing Together the Flora of Backbone State Park

By William (Bill) R. Norris, Professor of Biology, Department of Natural Sciences,
Western New Mexico University



Stiff gentian (*Gentianella quinquefolia*), photographed by longtime park ranger Dave Sunne after he discovered a remote population in Backbone State Park.

As a young man, I first visited Iowa's first state park on a spring day way back in 1994. While driving back and forth along several paved roads that traverse upland terrain in the park, I encountered sugar maple and oak trees with newly emergent fresh green leaves which shaded colorful spring wildflowers and fern and moss-covered boulders in the understory. I stopped to take a hike out on to the narrow ridge ("The Backbone") that gives this park its name, and I was startled to encounter a diverse mixture of prairie and boreal plants growing

in thin soil over dolomite. Once down in the wide open, central "Flats" area, I observed narrow strips of riparian trees on the margin of the meandering Maquoketa River which has carved this wide valley over millions of years. Looking up from this low vantage point, I noticed towering white pine trees growing at the edge of high, vertical rock walls. At the end of the day, my overall impression was: Wow!

Of course, I am not the first botanist to encounter and become enamored with the flora of Backbone State Park. Thomas H. Macbride, the "Dean of Iowa Conservation"

who first visited the Backbone in 1864 (Conard 1997), recognized its significant geological and botanical features. He observed (1895) that “here are cliffs and rocks, woods, rivers and beautiful springs and, what is rare in Iowa, white pine.” Pioneer Iowa botanist Louis H. Pammel (1919) was likewise enamored by the Backbone flora: “There are as many species in this small area as in any other similar area of northeastern Iowa. White Pine—the white pine is among the largest and oldest native white pine in the state. I saw a stump there and I should judge that these trees go back to the time when Iowa belonged to France. The Indians protected these trees and why should we not do the same.”

Despite this early recognition of Backbone’s botanical significance, Iowa Department of Natural Resources Ecologist John Pearson noted in 1995 that 75 years after its dedication as Iowa’s first state park in 1920, “...no comprehensive study of the flora of the park has been conducted” and that “several hundred species of vascular plants undoubtedly occur on the park” (Pearson 1995).

No longer a young man, and having spent several hundred hours exploring the park on foot (often accompanied by Iowa State University Herbarium Curator Deb Lewis (retired) and John Pearson) since 1994, I am happy to report that the above void has been filled. Since 1987, when John conducted preliminary plant inventories at Backbone and which marks the official start of this study of the “modern” flora of the park, the three of us have documented 639 vascular plant species to occur here via the above field work conducted repeatedly over many years in a multitude of habitats —upland and lowland forests, cliff faces, glades, prairie remnants, river banks, springs, lakeside marshes, mudflats and gravel bars, roadsides, picnic areas, campgrounds, waste areas, etc.—in spring, summer, and fall. We documented the majority of these plant species, except for those occurring in small populations, by collection of at least one plant specimen

pressed, mounted, and deposited in the Ada Hayden Herbarium at Iowa State University.

Is our effort to characterize the flora of Backbone State Park complete? Not quite. As alluded to above, botanists have been drawn to this park to study its flora for more than a century. Their botanical discoveries in Backbone are revealed in several formats, including written descriptions and/or plant specimens collected in the park and subsequently deposited in a number of Iowa herbaria. To obtain a more complete picture of the park flora, we felt it imperative to look for evidence of additional “historical” plant species documented to occur in the park prior to the current study (1987-present), either overlooked by us or now extirpated. Thus, for the past decade we have put on our detective hats while scouring the Internet for historic literature and technical reports that anecdotally describe the Backbone State Park flora while also searching four major Iowa herbaria for historic records of the Backbone State Park flora.

Early 20th Century Description of the Backbone State Park Flora

In the landmark report of the Iowa State Board of Conservation, Pammel (1919) provided the first detailed description of vegetation in Backbone based on several late 1918 visits just after its selection by this board to become Iowa’s first state park. Following his description of white pine in the park (see Introduction), he noted the following additional woody plant species in the park: “Common juniper, red cedar, American yew, three poplars, the quaking aspen, large-toothed aspen, and cottonwood, five species of willow—black willow, almond-leaf willow, prairie willow, pussy willow, and dwarf-gray willow. Of the oaks the following are: Chestnut, bur, red, white, quercitron and barren. Some of the old oaks, perhaps one 150 years old, are still standing. It is the fervent view of the scientist that they be preserved. The blue beech, ironwood, and paper birch occur. Of the nut-bearing tree, butternut, black walnut, shell-bark hickory,

pignut and hazelnut. The sycamore also occurs. This is a very rare tree in northern Iowa. There are three elms, American, slippery, cork, or rock elms, also the hackberry, the leatherwood—a beautiful, early blooming shrub with numerous yellow flowers—also occur. The common elder, abundant, and the less common red-berried elder, the high bush cranberry, arrowwood, and snowberry, and two honeysuckles are interesting shrubs found in this region. There are four dogwoods—the rare round-leaved dogwood, silky cornel, red-osier, and the alternate-leaved dogwood is abundant over the hills. There are three species of gooseberries and wild currents. The prickly and smooth gooseberry and the wild black currant.

“The Rose family is represented by the common red raspberry, wild white rose, wild

crab, five species of wild red haws, and the serviceberry. Wild black cherry, chokecherry, and pin cherry, the wild plum, and ninebark. The honey locust, coffee-bean, and false indigo are common in this region.

“There are three species of sumac—the poison ivy, the beautiful staghorn sumac, and the common sumac.

“There are some very fine specimens and many of them are hard maples or the black maple and the common hard maple, the silver maple, and the boxelder.

“The bladdernut is also frequent. The Virginia creeper and wild grape found everywhere as is the common bitter sweet; there are also many specimens of the burning bush or wahoo.

“The prickly ash is distributed everywhere along this stream.

“There are fine specimens of the basswood.”

He concluded with a few notes about the herbaceous vegetation at Backbone:

“The walking-leaf fern, spleenwort, maiden hair fern, and bracken are common in the region.

“Of other herbaceous plants, mention may be made of the moccasin flower, trillium, Jack-in-the-pulpit, violets, spring beauty, and other plants are abundant.”

In this same report, Pammel (1919b) presented an additional description of the Backbone flora which included a short plant list.

Just last year, while searching the online Iowa State University Special Collections and University Archives, I happened upon an undated partial checklist of the Backbone State Park flora compiled by ISU architect John Fitzsimmons (Fitzsimmons n.d.). He had been commissioned by the Iowa State Board of Conservation in the 1920s to prepare a plan for park development. Unfortunately, Fitzsimmons provided no background information regarding the source of the data, especially who (if anybody) conducted original field work as the basis of this checklist. Was this plant list merely a summary of his ISU



Interrupted fern fills the lush understory of Backbone's upland forests.

colleague Louis Pammel's 1918 botanical surveys of the park? I doubt that we will ever know.

The Role of Herbaria in Documenting the Backbone State Park Flora

Indisputably, the most reliable record of historic plants in the park are plant specimens collected, pressed, processed, and deposited in herbaria. Hence, we conducted exhaustive searches of herbarium collections at Coe College (COE), University of Iowa (IA), University of Northern Iowa (ISTC), Iowa State University (ISC), and Iowa Wesleyan College (IWC) for Backbone specimens. Note that the University of Iowa and University of Northern Iowa herbaria have both been transferred to the Ada Hayden Herbarium at Iowa State University since we began this study. Furthermore, the Iowa Wesleyan College Herbarium (>35,000 plant specimens) was liquidated several years ago after the institution closed in 2023. Unfortunately, these are tenuous times for the ultimate repositories of Iowa's botanical heritage.

Early 20th Century Plant Collectors

The earliest Backbone specimen we have seen was made by another Iowa botanical pioneer, Bohumil Shimek, who in 1917 collected rough penny royal (*Hedeoma hispida* Pursh) and continued to collect about 100 more specimens in the park (deposited in IA and ISC) through 1927. Pammel likewise collected about 100 plant specimens in the park (1918-1930), which are all deposited in ISC.

Farmer and naturalist David L. Savage collected more than 300 plant specimens in the park in the 1940s. Among these were specimens of Redroot Flat Sedge (*Cyperus erythrorhizos* Muhl.), Sessile-Leaved Bellwort (*Uvularia sessilifolia* L.), Meadow Parsnip (*Thaspium barbinode* (Michx. Nutt.), and Goat's Rue (*Tephrosia virginiana* (L.) Pers.), species that we have not personally seen in the park since we began this study. Savage was occasionally overzealous in his collecting efforts, as evidenced by his 14 specimens of



Large Twayblade (*Liparis lilifolia* (L.) Richard), 34 specimens of Fall Coralroot (*Corallorhiza odontorhiza* (Willd.) Nutt.) and 17 specimens of Shinleaf (*Pyrola elliptica* Nutt.) collected in Backbone. It is perhaps no wonder that we did not encounter the first two species during our study. Savage's specimens, many unmounted and often with limited collection data written in pencil on the margin of the newspapers in which they were pressed, were originally deposited in the Iowa Wesleyan College herbarium (IWC), but because that institution closed in 2023, these specimens (previously obtained by us on loan) will soon



be transferred to ISC.

Other notable Iowa botanists, including William A. Anderson (Iowa State University), Ada Hayden (Iowa State University), Martin L. Grant (University of Northern Iowa), and Robert F. Thorne (University of Iowa), collected plants at Backbone State Park in the 1930s through the early 1950s. Their specimens were deposited in IA and ISC.

Late 20th Century Plant Collectors

The heyday of plant collection at Backbone was certainly the first half of the 20th century, but it continued, albeit at a slower pace, through the 1980s. In the early 1960s, University of Iowa graduate student Merlin E. Rickey carried out a floristic inventory of Delaware County, which encompasses Backbone State Park in its northwest corner (Rickey 1964). We have encountered about 50 plant specimens collected by him in the park during that study which were deposited in the University of Iowa Herbarium. University

of Northern Iowa botanist Lawrence J. Eilers, co-author of Iowa's only checklist of vascular plants (Eilers and Roosa 1994), conducted the definitive study of the Iowa Surface Landform flora (part or all of 20 Iowa counties) within which Backbone occurs early in his botanical career (Eilers 1964). During this regional study, he also collected several (<10) plant specimens in Backbone State Park.

Fern biologist Donald R. Farrar (Iowa State University) collected a small number of fern specimens in the park in the 1970s, including one of Slender Lip Fern (*Myriopteris gracilis* Fée) which we have not encountered during field work for our study. While on a return trip to Backbone more than four decades later, Don looked for this fern species on our behalf but without success. Botanist Mark J. Leoschke (Iowa Department of Natural Resources) has likewise explored the flora of Backbone State Park since the early 1980s. In 1986, he documented one of the only occurrences of Long-Bracted

Green Orchid (*Dactylorhiza viridis* (L.) R.M. Bateman, Pridgeon & M.W. Chase) in the park, which none of us had personally seen during the current study until a 2015 INPS field trip associated with the 20th anniversary celebration of this organization. Other prominent botanists, including Jeffrey C. Nekola (Coe College, University of North Carolina), David Niemann (Illinois Department of Transportation), Dean R. Roosa (Iowa Department of Natural Resources), and Douglas E. Soltis (University of Florida) each collected several plant specimens in the park in the 1970s and/or 1980s.

Current Study (1987-Present): “With A Little Help From Our Friends.”

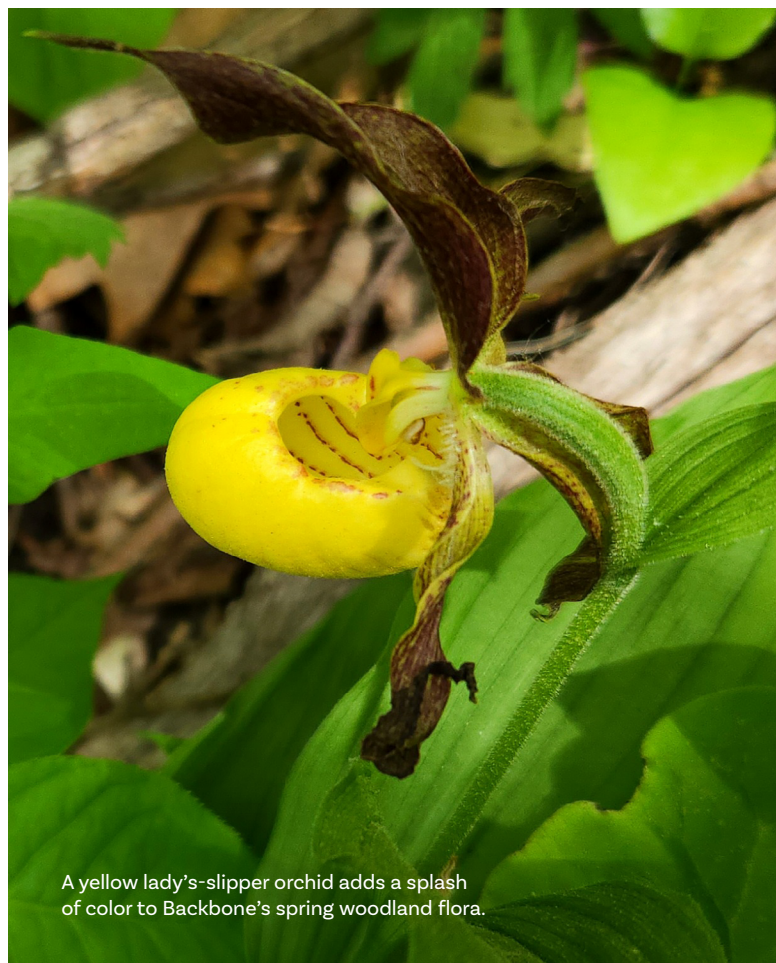
Despite all of our field work conducted in Backbone State Park over the past 30 years, we have greatly benefited from the knowledge of other plant enthusiasts who have made us aware of additional plant species in the park that we would otherwise have overlooked. The camaraderie and support for this project by fellow botanists and plant enthusiasts can not be overestimated. For example, in the 1990s, longtime park employee and plant enthusiast Charles (“Charlie”) Besler (now deceased) took me to a secluded ravine where he showed me the only population of Squirrel Corn (*Dicentra canadensis* (L.) Bernh.) that I have ever seen in the park despite being on the lookout for it in its typical moist forest habitats for the next three decades.

Since the beginning of this century, new records have continued to add to the growing list of Backbone plants due to the shared knowledge and field work of others. As an example, longtime park ranger Dave Sunne (now retired) made us aware of a population of Stiff Gentian (*Gentianella quinquefolia* L.) he had found in a remote park region. Dave graciously found time to revisit the site to photograph this plant and thus document its occurrence in the park. Likewise, renowned Illinois botanist Wayne Schennum (now deceased) led John to small, isolated populations of Puttyroot Orchid (*Aplectrum*

hyemale (Muhl. ex Willd.) Torrey) and Three-Birds Orchid (*Triphora trianthophoros* (Sw.) Rydb.) allowing us to document their occurrence in the park for the first time. Within the past 15 years, veteran Iowa botanist William (“Bill”) C. Watson went out of his way to collect specimens of a number of inconspicuous plant species in the park that had eluded us, including Upland Bentgrass (*Agrostis perennans* (Walter) Tuck.), Nodding Stickseed (*Hackelia deflexa* (Wahl.) Opiz.) and Rock Sandwort (*Minuartia michauxii* Loefl.).

Piecing Together the Flora of the Backbone State Park Flora: Past and Present

When all of the above detective work was complete, we decided to only supplement the Backbone plant list with unique historic



A yellow lady's-slipper orchid adds a splash of color to Backbone's spring woodland flora.

plant species for which a voucher specimen exists—42 species in all—bringing the grand total to 681 species. To be clear, Pammel's 1919 anecdotal descriptions of the park flora mention some additional woody plant species that we have not found ourselves and for which we have encountered no historic plant specimen collected in the park, in particular several hickory (*Carya* sp.), hawthorn (*Crataegus* sp.) and willow (*Salix* sp.) species. That Pammel was an outstanding botanist is not in question, but ultimately it is impossible to validate his reports of the above difficult-to-identify species without supporting herbarium specimens. Similarly, we excluded plant species in Fitzsimmons undated list of Backbone plants.

We also supplemented the plant list with several species collected by others within the time frame of the current study: Meadow Horsetail (*Equisetum pratense* Ehrh.) collected in 1992 by Nekola on sandy terrace along Fenchel Creek, and Curveseed Butterwort (*Ceratocephala testiculata* (Crantz) Roth) collected in 2006 by Leoschke on crushed limestone over mineral soil in the South Lake Campground. Even though we did not personally observe these two species in the park during our own fieldwork, we have no hesitation considering these to be components of the modern park flora because Nekola and Leoschke collected voucher specimens of these two species which we were able to inspect and thus verify their original species determinations.

Summary

If someone had told me back in 1994 that I would be wrapping up work on the flora of Backbone State park more than 30 years later, I would have laughed heartily. But here we are! What fun it has been, both the field work and sleuthing described in this article. Many thanks to all the botanists who have contributed to our knowledge of the historic and modern flora of this flora through their field work and making us aware of these discoveries via historic technical reports, plant collections, and personal

communications.

We (Deb, John, and I) have written and are now putting the finishing touches on a more formal article about the Backbone State Park flora for submission to a peer-reviewed scientific journal by fall of this year. In this article, we will present an annotated plant list of the flora with multiple summaries (total number of species, proportion of the flora that is native, significant finds—e.g., Iowa's first record of Swan's Sedge (*Carex swanii* (Fern.) Mack.)—and comparisons of its composition with that of floras available for more than 20 other northeast Iowa vegetation remnants. We also plan to prepare a brochure summarizing this flora in a more general format for distribution to park visitors who wish to learn more about the plants of Iowa's first state park.

Floristic projects such as this one, formerly the basis of graduate theses (e.g., Rickey 1964, Eilers 1964), are currently not considered to be “acceptable” by most botany professors supervising graduate student research projects (exception: McMurchie and Weeks 2020). This is unfortunate. Such “boots on the ground” projects provide young botanists with valuable plant identification skills and training in standard plant collection protocol. Extensive field work in a focus area usually reveals previously undiscovered plant species of conservation concern as well as invasive plant species needing attention by land managers. Such projects conducted by young, enthusiastic botanists are frequently featured in local and regional media, thus serving a role in educating the public about the significance of native vegetation remnants. The data collected during such projects capture a “snapshot” of a region facilitating longitudinal comparisons of that flora between widely separated time periods (e.g., Norris et al. 2001).

Our state herbaria in Iowa are in a state of flux. As stated above, two of Iowa's three flagship institutions have shut down their herbaria, sending valuable collections (total: more than 200,000 specimens) to the

overwhelmed curator and limited staff of the Ada Hayden Herbarium at Iowa State University. Integrating these three collections will take years. Furthermore, the liquidation of the Iowa Wesleyan College Herbarium collection, which preserved much of Iowa's botanical heritage, is a tragedy. Perhaps 1,000 of these specimens, out on loan to me and several other researchers at the time of that herbarium's demise, are all that remain of that collection. These too will be added to the ISC collection.

It is also clear to me, having spent more than a month conducting exhaustive searches of four major Iowa herbaria for this (and related) floristic studies, that it is time for label data on plant specimens housed in Iowa herbaria to be entered into an online database (e.g., SEINet, <https://swbiodiversity.org/seinet/index.php>) for easy access by botanists who wish to access this data for their respective research projects. For those botanists rightfully concerned about making sensitive location data for rare plants available to unscrupulous collectors, rest assured that it is standard practice by database managers to screen access to such information.

Final Thoughts

The flora of many of Iowa's state parks have received limited, and in some cases, no attention. I hope that the description of this nearly completed floristic study of Backbone State Park, which has been ongoing for about half of my life (!), inspires some of you to undertake a similar plant inventory of a natural area near you. Be aware that such a project should reasonably take you about 3-5 years to complete (e.g., community scientist extraordinaire Jimmie D. Thompson's monumental floristic study of Ledges State Park (Thompson et al. 2009). No need for you to plan on the 30+ years of field work that I have devoted to this project due to my having moved away from Iowa in 2000, leaving brief annual spurts of time for me to explore Backbone for the next quarter century.

Let the field work begin! ■



A basswood (*Tilia americana*) specimen collected at Backbone State Park in 1980 and preserved in the Morton Arboretum Herbarium.

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Upcoming Events

Establishing Native Historical Prairie Through Targeted Seed Selection

Date: Tuesday, September 1

Time: 9:00 am–11:00 am

Location: Diversity Farms, Coon Rapids, IA 50058

This event is hosted by Practical Farmers of Iowa and sponsored by Golden Hills Research Conservation and Development.

Visit www.practicalfarmers.org/events to learn more.

Codfish Hollow Hill Prairie Walk

Date: Wednesday, September 2

Time: 6:00 pm–8:00 pm

Location: 35th Street and 288th Avenue, IA 52060

This prairie walk is sponsored by Iowa Native Plant Society, Iowa Prairie Network, and Jackson County Conservation.

Visit www.iowanativeplants.org/calendar to learn more.

Ames High School Prairie Walk

Date: Wednesday, September 9

Time: 7:00 pm–8:30 pm

Location: Ames High School, 20th Street and Ridgewood Avenue

Visit www.iowanativeplants.org/calendar to learn more.

INPS Field Trip: Kauten Fen

Date: Friday, September 11

Time: 10:00 am–12:00 pm

Location: Kauten Farm, 9573 110th Street, Fayette County

Visit www.iowanativeplants.org/calendar to learn more.

INPS Field Trip: Ciha Fen

Date: Saturday, September 12

Time: 10:00 am–12:00 pm

Location: Ciha Fen, Johnson County

Visit www.iowanativeplants.org/calendar to learn more.

INPS Field Trip: Squirrel Hollow County Park

Date: Saturday, September 12
(Rain date: October 3)

Time: 10:00 am–12:00 pm

Location: Squirrel Hollow County Park, Greene County

Visit www.iowanativeplants.org/calendar to learn more.

INPS Annual Business Meeting

Date: Saturday, September 19

Time: 9:30 am–2:00 pm

Location: Story County Conservation Center, McFarland Park, 56461 180th Street, Ames, IA 50010

Agenda:

- 9:30 am–11:00 am: INPS Annual Business Meeting
- 11:00 am–12:00 pm: Lunch (bring your own)
- 12:00 pm–2:00 pm: Explore the oak savanna and woodland habitats

Please register in advance.
Visit www.iowanativeplants.org/calendar to learn more.

Renew Your Iowa Native Plant Society Membership for 2027!

Iowa Native Plant Society (INPS) members receive the biannual newsletter, updates on all native plant happenings across the state, and discounts on INPS merchandise.

Dues are payable on a calendar year basis (from January 1 to December 31). Annual contributions beyond the basic membership level are tax deductible (marked with * below).

**Please complete and mail this form along with your dues to:
Iowa Native Plant Society, 4486 88th Street, Urbandale, IA 50322**

Your information is *never* distributed to other organizations or companies.

For questions, please contact membership.inps@gmail.com.

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