IOWA NATIVE PLANT SOCIETY

Erythronium

Newsletter of the Iowa Native Plant Society, vol. 27 no. 1 January 2022

Winter stems of woodland Apiaceae

by John van der Linden

Cryptotaenia (honewort), *Osmorhiza* (sweet cicely, anise root), *Sanicula* (snakeroot), and *Zizia* (golden alexanders) are four genera of similarly-sized native carrot family herbs readily found in the woods around my hometown of Decorah. They are perhaps most noticed by people while putting forth foliage, flowers, and fruits during the growing season. However, as part of my studies of their arthropod associates, I've learned to recognize these plants' dead stems that persist on the landscape during the dormant season. The "winter stems," as I prefer to call them[1], stand sentry in the forest through long months of snow and cold, and besides hosting all sorts of overwintering insects and spiders, they spread their kind through winter seed dispersal and add subtle elegance and texture to the landscape. It is this stage in the plants' yearly cycle that I would like to share with you in this article. To accomplish that goal, in early December I collected and photographed winter stems belonging to each of these four genera of umbellifers. The following is my attempt to showcase the stems' intricate architecture and demonstrate how to tell them apart from one another.

Useful Clue #1: Overall shape

First, I'll share portraits of each kind all lined up together, enabling comparison of their general forms. These individuals are reasonably representative of how their kinds typically appear, in my experience.

From left to right: Cryptotaenia canadensis; Osmorhiza sp.*; Sanicula* sp.*; Zizia aurea.*

In these photos, a few aspects of form stand out. The *Osmorhiza* example has a finely symmetrical branching pattern and reminds me of a bygone American elm boulevard tree. *Cryptotaenia* is somewhat similar, but noticeably less symmetrical. Its lowermost and second-to-lowest forks, exhibit a "clear winner" dominant branch that grew significantly longer than the other branch of the pair. *Sanicula* is also somewhat elm-like in profile, but on

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We would like to hear from you --
Questions or comments may be sent by email to any Board members at the addresses above or to the new INPS email account:
iowanativeplantsociety@gmail.com

Leaves of the President's Notebook

Hello, INPS members and fans! I'd like to introduce myself as the newly elected President of the Iowa Native Plant Society as of the annual meeting held on August 28, 2021. I have been an editorial assistant to Deb Lewis with the newsletter since fall of 2020. I am excited to be in my newly elected position.

I am originally from central Iowa and a graduate of Drake University. Currently, I am a Pollinator Conservation Planner and NRCS (Natural Resources Conservation Service) Partner Biologist for the Xerces Society for Invertebrate Conservation. I have a love and appreciation for all native plants thanks to my influential professors at Drake, who first introduced me to them. During my ornithology lab my professor often sternly joked that I spent too much time looking at plants and not enough at the tree canopy above. I thought I was a clever multitasker. I could study my plants while listening to bird songs. It didn't work and I'm still not very good with birds. The tallgrass prairie has been a staple in my life since my internship at Neal Smith NWR in the summer of 2011. I was also able to attend my first Iowa Prairie Conference that same summer. Since then the prairie has been a guiding light for me in my professional career. In my free time I enjoy running, fishing, hunting, hiking, kayaking, identifying insects, writing, and volunteering. I hope my passion and drive can help build upon the work INPS has already accomplished and I am looking forward to 2022.

As a team, we are very anxious to provide you with more field trip opportunities. Please take care as we move into colder months. If you're able, bundle up every now and then, and admire the wonders winter has to offer.

Be well,

Sarah Nizzi

Photo by Tom Scherer

Calendar of Upcoming Events and Activities

More events will be added to the INPS website calendar as new opportunities become available, including additional information about events already scheduled – www.iowanativeplants.org/calendar.php. The April issue of the Newsletter will also include more details and additional events.

Friday, February 11th, 9:00 am --4:00 pm
Iowa Women in Natural Resources Annual Conference, Henry A. Wallace Country Life Center, Orient (Adair County), on-site, see information at www.iwinr.com

Wednesday, February 16th to Saturday, February 19th -- virtual conference
The Prairie Enthusiasts -- Inspired by Resilience, see information at www.theprairieenthusiasts.org/2022_conference

Saturday, March 19th, 10:00 am -- 5:00 pm
Iowa Prairie Network Central Iowa Annual Winter Meeting -- Iowa Prairies: Educate, Advocate, Celebrate! Drake University, Des Moines (Polk County) -- on-site and virtual; see details and agenda in this newsletter (pages 5-6).

Saturday, March 26th, 8:00 am -- 4:20 pm
Day of Insects, Reiman Gardens, Iowa State University, Ames (Story County) on-site and virtual
Celebrate Reiman Gardens' annual Day of Insects. Enjoy a day filled with presentations from professionals, academics, advocates, and enthusiasts. From beginners to seasoned veterans, Day of Insects has something for anyone interested in or involved with insects. Watch for updates at www.reimangardens.com/events/

Saturday, April 9th, 11:00 am -- 12:00 pm
Hike the Prairie at the Prairie Heritage Center (O'Brien County) Registration required at www.prairieheritagecenter.org. Meet at the Prairie Heritage Center for the hike to look for pasqueflowers and other signs of spring.

Saturday, April 30th, 1:00 pm
Pammel State Park Field Trip, Madison County, led by John Pearson

Saturday, May 7th, 1:00 pm -- 2:30 pm
Wildflower Walk at Fowler Forest Preserve (Woodbury County)
Celebrate Iowa Wildflower Month by joining us for a walk through this woodland to view the diversity of spring wildflowers. Wear sturdy walking shoes. The trail is easy and well-maintained, and we will slowly walk up the hill, admiring the blooms along the way. Dawn Snyder, Education Programs Director at Dorothy Pecaut Nature Center, will lead this walk.
DIRECTIONS: Fowler Forest is located 1/2 mile west of Smithland on Hwy 141, (address: 3176 IA-141, Smithland). Co-sponsored by INPS, Loess Hills Wild Ones and the Woodbury County Conservation Board.

Thursday, May 19th, 7:00 pm -- 8:30 pm
Doolittle Prairie Walk (Story County), led by Tom Rosburg
Go to this website to register (free): http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0
The walk format is casual and informational, focusing on questions from participants and identification of both blooming and vegetative plants. This is a good opportunity to view the prairie as it changes during the summer. Insect repellent, long pants, and sturdy shoes are recommended. The site has potholes so be prepared for some wet spots.
DIRECTIONS: Doolittle Prairie is located north of Ames and south of Story City. From I-35 take Exit 123 (Roland and E18/130th St exit) and go west on E18 for ~ ½ mile until 560th Ave (a gravel road); turn south and go 1½ miles. There is a sign at the preserve entrance on the west side of the road - follow the lane back to the parking lot and prairie.
Additional dates are June 16th, July 21st and August 18th. Sponsored by INPS, IPN, and Story County Conservation.

Saturday, June 3rd to Sunday, June 5th
Loess Hills Prairie Seminar (Monona County): Theme - Breaking Dormancy
Come explore, learn, and relax in the Heart of the Loess Hills for the 45th Anniversary of the Loess Hills Prairie Seminar!

Thursday, June 16th, 7:00 pm -- 8:30 pm
Doolittle Prairie Walk, led by Tom Rosburg
Go to this website to register (free):
http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0
See additional information at the May 19th description.

Saturday, June 25th, 10:00 am
Kalsow Prairie State Preserve Field Trip, Pocahontas County, led by Mark J. Leoschke
Kalsow Prairie State Preserve is owned and managed by the Wildlife Bureau of the Iowa Department of Natural Resources. It occurs in extreme southern Pocahontas County. Kalsow Prairie is both a state preserve (dedicated in 1968) and a wildlife management area. The preserve consists of 160 acres of relatively level tallgrass prairie that in the past was cut for hay and a portion was also pastured. It was purchased by the Iowa Conservation Commission (now known as the Department of Natural Resources) in 1948. The prairie is one of the remnants that Dr. Ada Hayden evaluated as part of her 1944 state-wide tallgrass prairie inventory which she hoped would lead to the protection of some remnants.
The preserve ranges from mesic to wet tallgrass prairie and shallow pothole marshes typical of the historical landscape in this portion of the Des Moines Lobe. It has over 100 species of native vascular plants. The prairie is home to typical grassland birds such as the upland sandpiper (known for its "wolf whistle" call), very vocal male bobolinks and northern yellowthroats. The prairie also has smooth green snakes and regal fritillaries. We will see the early summer flora of the prairie in the company of Mark J. Leoschke, botanist for the Wildlife Bureau of the Iowa Department of Natural Resources.
DIRECTIONS: From the intersection of State Highway 3 and State Highway 4 in Pocahontas (the county seat) drive 10 miles south on State Highway 4 to the intersection of State Highway 7 and County Highway C66 (620th Street, a paved road). Turn left (east) onto County Highway C66 and drive 6 miles to the intersection of County Highway C66 and 280th Avenue (a gravel road). Turn right (south) onto 280th Avenue (a gravel road). Drive 1 mile to the intersection of 280th Avenue and 630th Street (a gravel road). The northeast corner of Kalsow Prairie State Preserve occurs at this intersection and we will meet in the prairie. Park along 280th Avenue or 630th Street (see the aerial photo of Kalsow Prairie State Preserve with local road names in the web link below):
https://www.iowadnr.gov/portals/idnr/uploads/wildlife/wmamaps/kalsow_prairie.pdf

Thursday, July 21st, 7:00 pm -- 8:30 pm
Doolittle Prairie Walk, led by Tom Rosburg
Go to this website to register (free):
http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0
See additional information at the May 19th description.

Sunday, July 24th to Thursday, July 28th
North American Prairie Conference, Lincoln, Nebraska, see information as it becomes available at http://www.northamericanprairie.org/

Thursday, August 18th, 7:00 pm -- 8:30 pm
Doolittle Prairie Walk, led by Tom Rosburg
Go to this website to register (free):
http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0
See additional information at the May 19th description.

Wolters Prairie field trip, August 28, 2021, led by Mark J. Leoschke. Photo be Deb Lewis

Iowa Prairie Network

Central Iowa Annual Winter Meeting

Iowa Prairies: Educate, Advocate, Celebrate!

March 19, 2022

Held at Drake University's Parents Hall, located on the upper level of the Olmsted Center Building
2875 University Ave, Des Moines, IA 50311

Or attend virtually on Zoom (link provided with registration)

You, your friends and family are invited to come learn more about Iowa's endangered prairie ecosystem and the plants and animals that rely on it.

REGISTER HERE!
(or: https://forms.gle/DiWiGHR7qTdhav8y8)

This seminar is free and open to the public.
Lunch will be provided with free will donations accepted (suggested $8).
Masks will be required to be worn by all attendees.
New this year: Attendance in person is recommended for full participation in the day, however, a free Zoom video conferencing link will be available for those unable to gather in person.

You're welcome to come and go as you need during the day:

- Parking permits are required - you will receive one with your registration prior to the event.
- Registration will open at 9:30am with the 3 morning programs running concurrently from 10:00 to 11:20.
- Vendor booths will be open throughout the day located in the common area of Parents Hall.
- Lunch break is from 11:20 until 12:15.
- The afternoon program starts at 12:15 and wraps up around 5:00. There will be 3 sessions with three breaks. During the breaks, attendees can bid on silent auction items, view displays and enjoy refreshments.
- The silent auction proceeds will support Bur Oak Land Trust to benefit a new 200-acre land acquisition. If you would like to donate an item for the silent auction contact Carman Rosburg at crosburg@prrcd.org. Items for the auction may be brought to the seminar site starting at 9:00 on the 29th

For more information contact: Iowa Prairie Network, iowaprairienetworkorg@gmail.com

Agenda for the Winter Meeting Click here to download a printable pdf of the agenda.

10am - 11:20 am: 3 concurrent morning sessions

Only option C will be available for viewers joining on Zoom.

A - Herbicide Application for Land Managers 101 - Room 312/313 with Lael Neal, Natural Resource Technician, Polk County Conservation

B - Sunflower Identification and Ecology - Room 310/311 with Dr. Tom Rosburg, Professor, Drake University and Deb Lewis, Ada Hayden Herbarium Curator

C - Practical Ideas for Successful Prairie Reconstruction - North Parents Hall with Carl Kurtz, land manager, author, photographer

11:20 to 12:15: Lunch break

12:15pm - 5:00pm: Afternoon sessions

All afternoon sessions will be held in North Parents Hall.

All afternoon presentations will be available virtually on Zoom.

12:15 - 12:25 Welcome Address, Tabitha Panas, IPN President

12:25 - 12:35 Silent Auction Fundraising Recipient: Bur Oak Land Trust, Jason Taylor, Executive Director

12:35 - 1:25 Engeldinger Marsh History and Protection, Loren Lown, Polk County Conservation, retired

1:25 - 1:55 Break - visit silent auction + vendors

1:55 - 2:10 Loess Hills Preservation Society Vincent Bluff State Preserve Update, Michelle Biodrowski

2:10 - 3:00 Saving Prairies from the Brink

1. The Armstrong Prairie Salvage Project, Dr. Daryl Smith, Professor Emeritus, University of Northern Iowa

2. The Science Behind the Van Oel Prairie Transplant, Dr. Tom Rosburg, Professor, Drake University

3:00 - 3:30 Break - visit silent auction and vendors

3:30 - 3:35 Tribute to Jimmie Thompson

3:35 - 4:15 Legislative Update and Natural Resource Advocacy, Joe McGovern, President, Iowa Natural Heritage Foundation

4:15 - 4:40 Break - last chance to visit silent auction + vendors

4:40 - 5:00 Prairie Photography Presentation, Larry Stone, nature photographer + writer 5:00 - 5:10 Closing remarks, Tabitha Panas, IPN President

INPS Annual Meeting Highlights August 28, 2021

First and foremost, we acknowledge the contributions by Lloyd Crim, including serving as INPS President since 2014; an avid participant in field trips, including leading the Doolittle Prairie field trips for more than two decades; and representing INPS at a number of activities led by other organizations. We are grateful for Lloyd's work on our behalf, and we wish him the best!

Membership is currently 107 members. The Society is doing very well financially, with more than $17,000 available. The amount made available for grants was higher this year, with $5500 provided for 2020 grant projects and $6775 in 2021.

INPS Newsletter: The November 2020 issue (10 pp) was emailed to 201 and mailed to 77 members, former members and friends of INPS. The May 2021 issue (16 pp) was emailed to 198 and mailed to 68 INPS members, former members and friends.

There is a new way for people to honor and memorialize others, and the website information has been updated. We received $500 so far in 2021. Connie also shared about a couple who have established an endowment in support of INPS that continues to grow.

Several INPS members were greatly involved in planning and facilitating the Iowa Prairie Conference, including board members Lael Neal, Sarah Nizzi, Loren Lown, Carl Kurtz and Dianne Blankenship.

Five grant projects were funded in 2021: three for inventory, restoration and management; one for land acquisition; and the Restore Iowa! grant to Jackson County Conservation Board.

INPS took the lead on two field trips this year -- the May field trip to Codfish Hollow Hill Prairie in Jackson County (led by Ray Hamilton and Tony Vorwold) and today's field trip to Wolter Prairie Preserve in Butler County (led by Mark J. Leoschke). We also continue to share in the support of field trips co-sponsored with other organizations.

Tom Scherer asked for nominations for INPS President. Sarah agreed to stand for election, with the motion made by Lael and seconded by Deb Lewis. The vote was unanimous. Tom will continue as our Vice-President, and we thanked him for his serving as acting-President for this meeting. Tom announced that Dianne has also agreed to continue to serve as Secretary and Bill Blankenship as Treasurer. We're grateful to all for this continuing service to INPS!

Sarah proposed that we work as an organization to officially de-list native thistles (*Cirsium* species) as noxious weeds. A small committee was formed to focus on this effort in 2022.

Next year's annual meeting will be hosted by Polk County Conservation Board.

The field trip to Wolters Prairie was outstanding! The prairie is very diverse, and the visit to it was made better by Mark's knowledge of the site and its history.

In Memoriam: Jimmie D. Thompson (1939-2021)

The lead article in the Winter 2006 *Newsletter of the Iowa Native Plant Society* was entitled "Accolades for a Super-Volunteer", and it described the botanical survey work of Jimmie Thompson. Jo Hudson had written the article for the Winter 2005 issue of the *Central Iowa Sierran,* and she gave us permission to include it. Jo described Jimmie's first three projects -- the flora of Ames (1998-2000), of Hamilton County (2001-2004) and of Ledges State Park (2005-2008). Each of these projects resulted in publications in scientific journals, as listed below. Little did Jo -- and the rest of us -- know that Jimmie was just getting started!

But first, how did Jimmie's collaborations with us begin? He retired from the Ames Post Office in 1997, and this allowed him to spend more time outdoors. He had become friends with Mary Jane (MJ) Hatfield, who was impressed with his knowledge and passion for plants as she saw and admired his plantings while on her UPS route. Jimmie was shy, but MJ finally convinced him to visit the Ada Hayden Herbarium. When the two of them arrived in June 1998, William (Bill) Norris and I were working on the Ames flora project in the Herbarium. Jimmie was so excited by the project and the Herbarium that he asked if he could volunteer to help with the survey. We were happy to say "YES!"

Jimmie had a keen eye for noting differences in plants even before he learned to recognize or identify many of them. This, combined with his willingness to work 40 or more hours per week during the growing season, led to hundreds of new records for the Ames

flora project's species list. This was followed by his studies of the flora of Hamilton County, Ledges State Park, Boone County and a focused survey of the plants of the Ames High School Prairie/Richard Pohl Memorial State Preserve. Each of these studies resulted in a publication, and during the work for each, Jimmie found new Iowa native or naturalized plants to add to the state's list of vascular plant species. At the time of his passing, Jimmie was actively engaged in a study of the flora of Story County with colleagues Bill Norris, Tom Rosburg, Mark Widrlechner and me.

Jimmie's knowledge of Iowa's plants grew so that he became one of a handful of experts on the central Iowa flora. Researchers, including faculty and staff at Iowa State, and land-managers seeking information, seeds or plants turned to him for help in finding populations of which he was aware. His surveys also turned up populations of aggressive, noxious species that he could not ignore. He spent thousands of hours treating weeds and brush, especially at Ledges State Park and Ames High School Prairie. Recognition for his work included the conservation awards listed below.

Jimmie's three, long-term passions were plants (including conservation efforts), finding new archaeological sites and fishing. He reported more than 350 archaeological sites to the Iowa Office of the State Archaeologist. As a scholar, his interests continued to grow. He worked first with MJ, then other entomologists in listing and collecting samples (including living eggs, pupae, etc.) of plant-associated insects. Several of his records have been included in publications by leading entomologists, including as paratypes of new species. He also provided more than 50 records to BugGuide.net (https://bugguide.net/), an online community of entomologists and others who are interested in insects.

Jimmie's combination of shyness, helpfulness, appreciation and enthusiasm made him a great friend of those of us who knew and worked with him. He also had a delightful, humorous nature that sometimes slipped out. As an example, after Amy Yoakum left Story County Conservation to accept a new position with Conservation Corps, Jimmie wrote a letter to the editor of the *Ames Tribune* entitled "County Conservationist is missed". The first line, written tongue-in-cheek -- "What happened to Amy Yoakum…?" Jimmie was truly an unforgettable scholar and friend.

On 4 December 2021, Jimmie died while fishing along the Des Moines River. A graveside celebration of life service will be held on 30 April 2022 at 10 am at Story Memorial Gardens (3215 S. Duff Avenue, Ames). Memorial contributions may be directed to the Ada Hayden Herbarium through the ISU Foundation at www.isuf.info/gift or to the Iowa Native Plant Society (see Bill Blankenship's contact information on page 2.) He was a charter member of INPS.

Jimmie and I examining his Cyperus specimen, summer 2021. Photo by Bill Norris

Summary of Accomplishments -- Publications and Awards

Jimmie authored or coauthored six scientific publications on the flora of central Iowa:

Lessons from an Inventory of the Ames, Iowa, Flora (1859--2000), by William R. Norris, Deborah Q. Lewis, Mark P. Widrlechner, Jimmie D. Thompson and Richard O. Pope. *Journal of the Iowa Academy of Science* 108(2):34-63, 2001

More than a Century of Change in the Ames, Iowa, Flora (1859--2000), by William R. Norris, Mark P. Widrlechner, Deborah Q. Lewis, Jimmie D. Thompson and Richard O. Pope. *Journal of the Iowa Academy of Science* 108(4):124-141, 2001

An Inventory of the Vascular Flora of Hamilton County, Iowa (2001-2004), by Jimmie D. Thompson. *Journal of the Iowa Academy of Science* 114(1,4):1-27, 2007

The Vascular Flora of Ledges State Park (Boone County, Iowa) Revisited: Revelations and Recommendations, by Jimmie D. Thompson, William R. Norris and Deborah Q. Lewis.

Castanea: the Journal of the Southern Appalachian Botanical Society 74(4):390-423, 2009

The Vascular Flora of Boone County, Iowa (2005--2008), by Jimmie D. Thompson. *Journal of the Iowa Academy of Science* 117(1-4):9-46, 2010

The Role of an Urban Tallgrass Prairie Remnant in Conservation: A Case Study in Central Iowa (USA), by Jimmie D. Thompson, Deborah Q. Lewis and William R. Norris. *Journal of the Iowa Academy of Science* 121(1-4):27-50, 2014

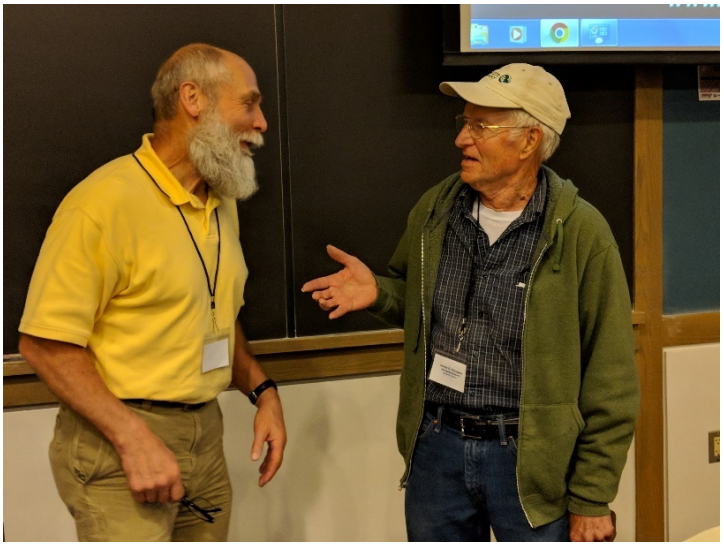
Jimmie received the following awards:

In 2007, he was the recipient of the **Olav Smedal Conservation Award** (Story County Conservation and the *Ames Tribune*). This award recognized his work in conservation and in improving the knowledge of the plants and habitats of Story County.

The Ledges publication, with Jimmie as the senior author received the **Richard and Minnie Windler Award** for the best paper published in *Castanea* in 2009.

In 2013, Jimmie was the recipient of the **Lawrence and Eula Hagie Heritage Award** from the Iowa Natural Heritage Foundation. The Hagie Heritage Award recognizes Iowans who demonstrate extraordinary personal service and commitment to improving the quality of Iowa's natural environment and who encourage others to do the same.

In 2019, Jimmie received a plaque from the **Iowa Chapter of The Nature Conservancy** in recognition of his conservation and habitat rehabilitation efforts at the Ames High School Prairie/Pohl Memorial State Preserve.



Jimmie meeting Tom Rosburg at the IAS Meeting in 2019. Photo by Deb Lewis

Jimmie was honored at the 2019 annual meeting of the Iowa Academy of Science as the first recipient of the **IAS Distinguished Iowa Citizen Scientist Award**. This award recognized his contributions to scientific knowledge in the fields of botany and archaeology, as well as his more recent interest in entomology (the study of insects).

In 2019, Jimmie was also presented with a **Supporters Award** from Story County Conservation (SCC). Amy Yoakum, SCC Natural Resource Specialist, stated, "Jimmie has provided SCC with plant lists which contain over 1,500 plants in various locations across the county. He has taken staff out to show them rare species, serves as a resource for plant populations and history in the county, and has been vital in locating aquatic invasive species. Jimmie helps SCC wisely manage natural resources by providing plant inventories which are costly and timely to obtain. Jimmie is a true supporter of Story County Conservation."

Bringing a Historic Fen Back to Life

by Sarah Nizzi

On one of the chilliest nights thus far in December, 87 individuals gathered virtually to learn about the history, restoration, and research efforts taking place at one of Iowa's largest known fens (the initial data collection was funded by an INPS Research Grant). Partnerships are critical to conservation success. We at the INPS were happy to be able to share this work with a wide audience interested in conservation. We hosted three speakers, John Pearson (Iowa DNR Ecologist), John Paulin (Iowa NRCS Wetlands Restoration Specialist), and Rebecca Kauten, PhD (Iowa Lakeside Laboratory Scientist in Residence) via Zoom to speak about their unique experiences with Neppl Fen, once known as "Big Fen".

Neppl fen is a private property located in northwest Iowa in Emmet County. The site has been well known for many generations, dating back to the early 1900s. Many iconic botanists throughout Iowa history have contributed to the site's botanical record, while also documenting the condition of the site. Visits were made on a near yearly basis for decades. Although Neppl fen was home to many rare plants, it was not able to defend itself against the plow. The site became degraded by the 1950s and visited less frequently. Many years went by before other botanists made their way up to the site, assuming it was a total loss.

Thankfully, to their surprise, not all was lost. A very small remnant had survived and in 2016 the Neppl family decided to protect the remnant and restore the converted acres back to their original state through a NRCS wetland reserve easement.

In 2020 construction on the restoration began, and together the Iowa NRCS, Iowa DNR, and Lakeside Laboratory worked to revive the fen to its original state and monitor the restoration along the way. In no time at all the groundwater, no longer tiled and drained elsewhere, was apparent on the surface. Fortunately, and unfortunately, the 2020 and 2021 growing seasons both suffered drought. Vegetation did appear to be popping up on its own from the native seed bank (bulrushes and sedges), but could there have been more abundance of those species and perhaps a diversity of other species with more precipitation? The upside is that the inevitable weed pressure was kept relatively at bay, unable to be as dominant in drought conditions.

The regrowth of native vegetation at Neppl Fen post construction in August, 2021. Photo by Rebecca Kauten

Data has been collected from the site pre and post construction, with more field research to come in the future. The main focus of the research is answering the questions of; how much of the native fen vegetation will establish in a reconstructed fen over time, how is the hydrology restored, and what management strategies are appropriate to ensure success well into the future? So far, we have some encouraging results. It is exciting to think about what is possible and what will be discovered this next growing season and for (hopefully) years to come. The INPS board and many others will anxiously be awaiting forthcoming results and updates.

In closing I'd like to share a few words from Rebecca Kauten, "Thank you again for helping make this all possible. I feel very fortunate in these uncertain, chaotic times to have projects like this underway that truly bring joy to all around us – and we learn a bit in the process. It's nice to be able to send a little 'Light from Lakeside' out to the world."

To listen to a recording of the webinar, see the link under "Recent Webinar" at www.iowanativeplants.org.

Mid-Summer Botanizing at Mossy Glen State Preserve (Clayton Co., IA)

by William ("Bill") R. Norris, Professor of Ecology and Evolutionary Biology, Department of Natural Sciences, Western New Mexico University, Silver City, NM

Mossy Glen State Preserve, a small forest remnant (ca. 80 acres) in northeast Iowa's Paleozoic Plateau, is frequently visited in the cool early spring months by local residents seeking to enjoy newly emergent spring ephemerals, such as spring beauty (*Claytonia virginica*), Dutchman's breeches (*Dicentra cucullata*), squirrel corn (*Dicentra canadensis*), cut-leaf toothwort (*Cardamine concatenata*), white trout lily (*Erythronium albidum*), sharp-lobed hepatica (*Anenome acutiloba*), bloodroot (*Sanguinaria canadensis*), false meadow rue (*Enemion biternatum*), blue violet (*Viola sororia*), yellow violet (*Viola pubescens*), and other colorful spring wildflowers. When leaves begin to turn color and the air becomes crisp in autumn, Mossy Glen is again frequented by outdoor enthusiasts in search of fall wildflowers - zig-zag goldenrod (*Solidago flexicaulis*), elm-leaved goldenrod (*Solidago ulmifolia*), blue wood aster (*Symphyotrichum cordifolium*), calico aster (*Symphyotrichum lateriflorum*) – ghostly white Indian pipe (*Monotropa uniflora*), mushrooms, and perhaps

ghosts(!) long rumored to haunt this pocket of forest surrounded by crop fields.

As a botanist who has studied forest floras in northeast Iowa for almost 30 years, I view Mossy Glen as a particularly special forest remnant within an array of other special forest remnants protected in this corner of the state. Indeed, Mossy Glen was the location of the very first field trip sponsored by the Iowa Native Plant Society way back on April 29, 1995! Through years of study (since 1994) of this preserve with Deborah Lewis and other botanists, I have documented more than 350 vascular plant species to occur within its boundaries. That said, several years ago I realized that much of my botanical exploration at Mossy Glen has occurred in the same field season bookends that I described above (i.e., spring and fall). With generous financial support from the Iowa Native Plant Society, I was able to visit the preserve twice in the middle of summer in 2021 (once in mid-June, once in late July) with the goal of filling in some of the gaps in this plant list for the preserve.

Anyone who has visited Mossy Glen knows accessing the preserve involves a bit of walking. One must park the vehicle in a small, designated parking area south of the preserve at the top of a hill and adjacent to a farmhouse, pass through a gate, and then walk down a rutted road (hopefully dry, otherwise a muddy quagmire) passing between crop fields until reaching the south edge of the protected forest looming like a dark green blot on the landscape. This farm lane continues downhill through privately owned forest where one soon encounters the official brown "Mossy Glen State Preserve" sign indicating a good place to step into the preserve. Over the years, I have frequently been accompanied on this hike by friendly farm dogs, including last summer with wagging tails, hanging tongues and boundless energy to provide me with good cheer and encouragement during the sweltering "dog days" of summer.

During my June visit, a particularly hot and humid day, when already covered in sweat I hiked under continuous canopy cover provided by red oak (*Quercus rubra*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*) and American basswood (*Tilia americana*) across rolling green forest floor and around massive dolomite outcrops down into a broad valley in the interior of the preserve. I spent the next several hours walking back and forth in the shade of large trees - black walnut (*Juglans nigra*), green ash (*Fraxinus pennsylvanica*), bitternut hickory (*Carya cordiformis*), boxelder (*Acer negundo*), American elm (*Ulmus americana*), red elm (*Ulmus rubra*), more sugar maple and American basswood - within an extensive bottomland forest straddling Mossy Glen Creek. I was looking for new woody and herbaceous plant species that may have eluded me during the previous *27 years* of this botanical study. And I was in luck! I encountered a tall oak tree, branches beyond my reach, which with my Smart Phone pointed skyward I photographed. After consultation with Iowa tree expert Dr. Donald Farrar, we determined it to likely be the first record of swamp white oak (*Quercus bicolor*) at Mossy Glen. Further wandering in this bottomland forest turned up several hawthorn trees, which I collected for later examination by another Iowa tree expert, Dr. Mark Widrlechner, who determined these to be dotted hawthorn (also called white haw, *Crataegus punctata*) representing another new woody plant species documented for the preserve.

Vertical cliff face, photo by Bill Norris

It was time to leave this impressive bottomland forest and walk south along Mossy Glen Creek which

over millions of years has carved a deep, narrow protected canyon. At its head it is bounded by vertical rock walls that provide a favorite habitat of bulblet fern (*Cystopteris bulbifera*). The streamside near the head of this canyon is favored by another assortment of plant species that require persistent cool, moist microhabitats. Indeed, as I crossed back and forth across the creek, the gurgling water almost deafening, I realized that I was comfortably cool and sweat-free even though I knew that temperatures along that farm lane that I had walked down had by this time (late morning) reached the high 80's or low 90's. I was pleased to re-encounter Goldie's fern (*Dryopteris goldiana*) and silvery glade fern (*Deparia acrostichoides*), uncommon fern species growing in rich loamy soil adjacent to the creek, where I had first seen them in the mid-1990s. Near the head of this narrow canyon, I collected several riparian grass and forb specimens growing on thin moss mats on top of boulders in the splash zone of Mossy Glen Creek that I am confident will represent additional new plant species for the preserve when I identify them.

My late July trip to Mossy Glen was just as hot and humid and, from a botanical perspective, just as productive. I again spent much of my time further exploring the floodplain forest and streamside habitats along Mossy Glen Creek, where I had a brief, memorable and painful encounter with yellow jackets. Nonetheless, I was able to collect voucher specimens of several mid-summer mint species in flowering condition which had previously eluded me, including purple giant hyssop (*Agastache scrophulariifolia*), blue skullcap (*Scutellaria lateriflora*), smooth hedge nettle (*Stachys tenuifolia*) and (of all things) American germander (*Teucrium canadense*). I estimate that, by the time I finish doing necessary herbarium work to identify all of the specimens I collected at Mossy Glen during these two mid-summer trips in 2021, I will have added 12-15 new species to the Mossy Glen State Preserve vascular plant list.

As I prepare to write up a paper focused on the Mossy Glen State Preserve flora for publication in the scientific literature, I am contemplating how to explain the importance of these baseline floristic data for this forest remnant. Certainly, it is important to document the occurrence of plant species in Mossy Glen known to be of "conservation concern" via designation as an Iowa Endangered, Threatened or Special Concern Species and/or assigned high Iowa Coefficient of Conservatism values. These findings will inform preserve managers charged with developing and implementing management plans for this preserve. Furthermore, even though the flora of this preserve is impacted by surrounding human activity (e.g., habitat fragmentation, agricultural runoff from surrounding farm fields, occasional ATV traffic, the occasional tree stand, etc.), it represents one of the best examples of "natural" forest habitat in Iowa's unique Paleozoic Plateau and thus provides a reference point for public and private land managers seeking to improve the quality of other forests in their charge. Certainly, published floras of vegetation remnants provide a baseline for future botanists who may wish to repeat this study and analyze for change in this flora due to human activity, climate change, etc. on forest floras in northeast Iowa.

I thank the Iowa Native Plant Society for providing crucial financial support of this nearly completed floristic inventory of Mossy Glen State Preserve. I also acknowledge the contributions of fellow botanists William ("Bill") Watson, Deborah Lewis, John Pearson, Donald Farrar, Mark Widrlechner, Michaeleen Gerken, Brian Gibbs and others who have each accompanied me during field work for this project, helped with plant identification, and/or helped me better understand the natural and cultural history of the preserve. Finally, I thank Scott Gritters, Kevin Hanson and Karen Osterkamp, former and current managers of the IDNR Guttenberg Fish Hatchery, who have graciously facilitated my use of the fish hatchery bunkhouse as headquarters for this and other projects for more than two decades.

Native Plant Spotlight – *Iris virginica*

by Thomas Rosburg

By all accounts, Henry Wadsworth Longfellow was a legend among poets. He was also an academic, a translator, a traveler, and a romantic. But a naturalist not so much. Still, he must have had a good eye for plants, especially spectacular plants. In the "Iris" section of the poem *Flower-de-Luce*, Longfellow wrote:

Thou are the Iris, fair among the fairest,
Who, armed with golden rod
And winged with the celestial azure, bearest
The message of some god.

Thou are the Muse, who far from crowded cities
Hauntest the sylvan streams,
Playing on the pipes of reed the artless ditties
That come to us as dreams.
O flower-de-luce, bloom on, and let the river
Linger to kiss thy feet!
O flower of song, bloom on, and make forever
The world more fair and sweet."

That is a description of *Iris* species you will not find in any flora. Nonetheless, I really like it. It captures a sense of the excitement and marvel I feel when I find a population of irises. Although Flora of North America (FNA) recognizes 34 species in the flora (and 6 of those are non-native), there is only one native species in Iowa – *Iris virginica* (southern blue flag), formerly known as *Iris shrevei*. If there is another species of native *Iris* in Iowa, it is likely to be *Iris versicolor* (northern blue flag). It occurs just to our north in Minnesota and Wisconsin. Because southern and northern blue flag can be difficult to distinguish, it's not too far-fetched to think there could be a northern blue flag population somewhere along the northern border. There is a population just across the border in one Minnesota county.

The spectacular flowers make recognition of *Iris* species fairly easy. They have also made irises popular as an ornamental garden flower, which has resulted in a robust horticultural business. Irises are strongly rhizomatous and capable of vegetative growth, a feature that is ideal for propagating hybrids and has indubitably contributed to the naturalization of the six non-native species. The usually large and colorful flowers resemble those in another monocot family – the lilies. However, irises have 3 stamens and inferior ovaries (the ovary is located below the attachment point of the sepals and petals), while lilies have 6 stamens and superior ovaries. Within the Iris family, the genus *Iris* is distinctive in three ways: 1) the sepals and petals are different in size, shape or direction (but both are colorful), 2) the lower portions of the sepals, petals, stamens, and styles are fused together forming a tube above the ovary, and 3) the style divides into 3 style branches that are recognizably petal-like, a characteristic that botany professors find handy to help demonstrate that all of the flower parts (sepals, petals, stamens and pistils) are modified leaves. In Iowa, the only other native species in the Iris family are two species of *Sisyrinchium* (blue-eyed grasses). One non-native Iris family species – *Belamcanda chinensis* (blackberry lily) is naturalized and occasionally found across the southeastern half of Iowa. Several other genera in the Iris family are cultivated in flower beds (*Gladiolus*, *Crocus*, *Freesia*).

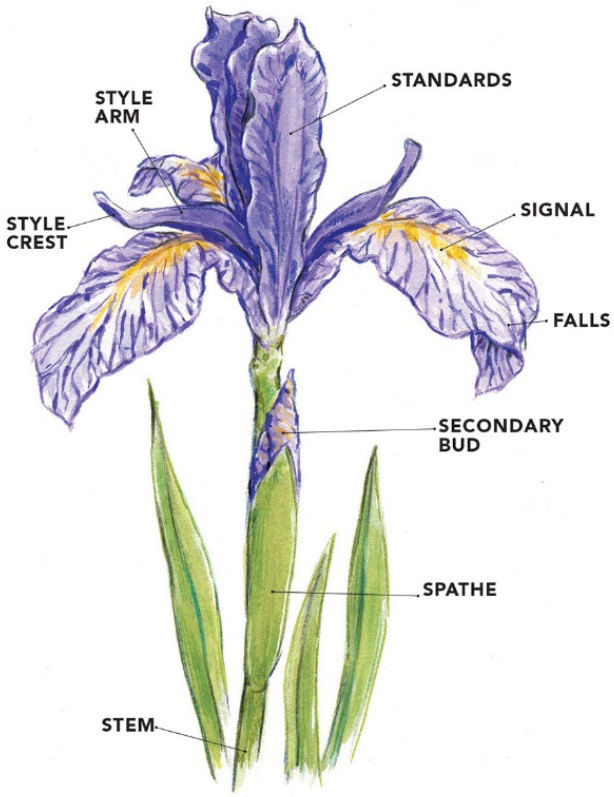
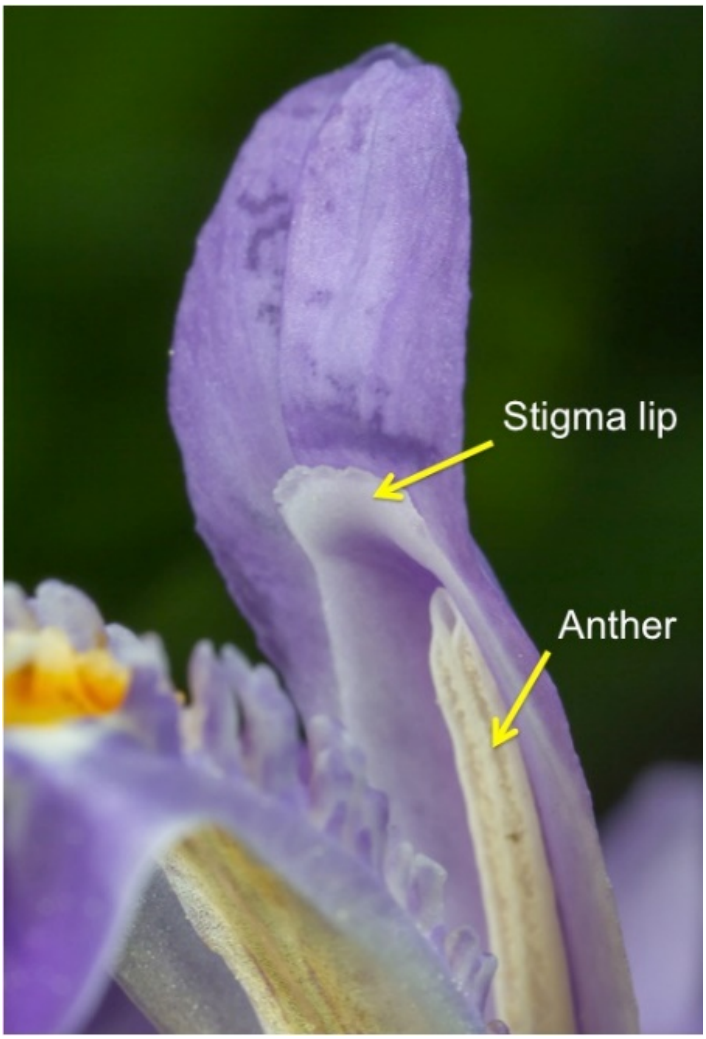


Illustration: Elara Tanguy; www.finegardening.com/article/preview-the-other-irises

Iris flowers are sufficiently specialized that specific terminology is used to describe them. The downward, colorful sepals are also called the "falls", while the vertical, smaller petals are called the "standards". In the lower central area of the falls, there is a "signal," usually an area of contrasting color and/or very short hairs or papillae (small bumps). In some irises, a "beard" is present instead of a signal. A beard is a distinctly fuzzy strip of long hairs. All of the bearded irises that occur in North America are non-native, including three species present in Iowa (*Iris germanica*, *I. pallida, I. pumila*). All native irises in North America are beardless, as well as the three other non-native irises, one of which occurs in Iowa (*I. pseudacorus*). The tips of the style branches are flared and usually split into two rounded or triangular lobes that are often fringed – these are the style "crests." Finally, there is a stigmatic "lip", an outward and downward directed broad rim or flap of tissue on the

underside of the style branch at the base of the style crest. Only the top surface of the lip is sticky and receptive to pollen.

The flowers are your only bet for separating southern and northern blue flag. The falls of southern blue flag are usually lighter blue to bluish-violet, with less contrast in color between their more narrowly colored margin and the central throat. The signal is bright yellow, sharply defined, and more likely to be thinly covered with short hairs. Northern blue flag is darker bluish-violet, with a distinct contrast between their more broadly colored margins and the central throat. The signal is pale yellow to greenish-yellow, less defined, and more likely to be covered with very short papillae. The standards of southern blue flag are proportionately longer, about 70-100% of the length of the falls. In northern blue flag the standards are 50-65% of the length of the falls. Individual variation in these traits and subjectivity make some plants difficult to pin down.



https://roadsendnaturalist.com/2013/04/17/crested-dwarf-iris/

Flower specialization is always aimed at pollination, and an iris flower is a great example of what evolution can accomplish. The three falls are closely associated with the three style branches. Style branches arch outward so that most of the bottom surface of a style branch is positioned directly above the top surface of the lower portion of a fall. A stamen is located between each fall and style branch pair, appressed to the bottom side of the style branch. Thus, a single iris flower is composed of three flower units, each unit represented by a combined fall/stamen/style branch structure that mimics a single bilabiate (or 2-lipped) flower.

Pollinators are attracted to iris flowers by their bright colors and fragrance. The outer half of a fall is used as a landing platform. Nectar guides (colored lines) and the signal direct the pollinator into the passageway or "tube" formed by the close connectivity of the fall and its associated style branch. Pollinators must crawl into the tube to access the nectary located deeper in the flower at the base of the style and stamen. As they enter and pass under the style crest, they come in contact with the stigmatic lip and evert it so the top surface comes in contact with the pollinator's back. Pollen on the the back of the insect gets deposited on the stigma. As the pollinator crawls deeper into the tube, it's back contacts the stamen and collects pollen. As the pollinator exits the tube, it pushes the stigmatic lip upward and only comes in contact with the non-receptive lower surface of the lip, thereby preventing self-pollination.

Because a successful pollinator must force a fall and style branch apart to get access to the nectary, large bodied insects, such as bumble bees and long-horned bees, are considered the most effective. In a study of the pollinators of *Iris douglasiana,* a blue-colored iris inhabiting coastal regions of northern and central California and southern Oregon, the most common pollinators were long-tongued, nectar-collecting bees of three genera – *Emphoropsis* (now *Habropoda*, mountain diggers), *Bombus* (bumble bee), and *Anthophora* (digger bees). However, a plant with the amount of nectar, pollen and saliency as irises will certainly be on the menu of many insects. A much earlier paper, published in 1900, reported on the reproductive biology of northern blue flag populations in northeastern Illinois. Intensive observations of

pollinators revealed that the best pollinators were *Anthophora terminalis* (orange-tipped wood digger) and *Osmia distincta* (mason bee). The author, James Needham, says "they visited very many flowers in rapid succession, securing the transference of the pollen with superior precision." Next on his list was *Parhelophilus laetus,* a species of hoverfly that visited the flowers for pollen only, since its probiscis is too short to reach the nectar glands. Needham reported observing *Bombus griseocollis*, the brown-belted bumble bee, but he considered it an inferior pollinator, even somewhat ill-adapted to northern blue flag flowers. The insect is too large, causing it to enter the flower with difficulty. Needham witnessed a bumble bee tear the stigmatic lip from the style for half its length. A very small bee that took only pollen was *Lasioglossum disparile (sweat bee). Needham reasoned it likely accomplished some pollination, but it was very wasteful of pollen and was inefficient in that it would forage for a long time on a single flower to gather its large load of pollen. Two insect groups were important nectar thieves and were commonly observed throughout the season. These were skippers that visited the flowers by day and two moth species that visited in the evening. They were able to stand outside the passageway at the entrance and reach the nectar with their long proboscis.*

Other insects are effective herbivores on blue flag. Weevils in the genus *Mononychus* will use their beak to puncture the tissue surrounding the nectary and consume nectar. Moreover, they make numerous borings into the nectary that results in nectar flowing from many pinholes which attracts all manner of other hungry insects. Needham observed over 20 different insect species feeding on the nectar flows caused by the weevil. Needham also observed adult weevils, noctuid moth larvae and grasshoppers feeding on the petals and sepals, sometimes destroying the entire flower. Larvae of the picture-wing flies (*Chaetopsis* sp.) bore into the pedicels at the base of the flower buds destroying the embryonic flower. Two notorious seed predators are the larvae of *Endothenia hebesana* (verbena bud moth) and larvae of *Mononychus vulpeculus* (flag weevil).

Clearly insect herbivory is a challenge for irises; but that is not the case for vertebrate herbivory. *Iris* species produce iridin (or irisin, irone, or irisine), an isoflavone and toxic compound present in all parts of the plant, with highest concentrations in the rhizomes and bulbs. Ingestion can cause severe illness and death in cats, dogs, horses and cattle. Symptoms of poisoning will vary due to the plant organ and amount ingested and could be manifest as increased salivation, diarrhea, vomiting, decreased appetite, and sores on the animal's muzzle. Internal bleeding from the stomach and small intestine is also likely. Not surprising, iridin is very effective in deterring mammalian herbivory.

Photo by Thomas Rosburg

Southern blue flag is the most widely ranging iris in North America, occurring throughout most of the eastern half of the lower 48. It is replaced by northern blue flag above the 43.5° north in the Midwest, and above 40° north in the eastern U.S. There is convincing evidence that northern blue flag arose as an amphidiploid hybrid between southern blue flag (to the south) and beach-head iris (*I. hookeri*), which occurs to the north from Quebec and Maine northward to Newfoundland and Labrador. An amphidiploid

(also known as allopolyploid) results when an offspring from an interspecific mating between two parents with different numbers of chromosomes (different 2N number) is first viable. Then a chromosome doubling event occurs so that the plant has 2 copies of each of its parent's chromosomes. This restores fertility and provides a measure of reproductive isolation from the parent species. There is no doubt that hybridization has been an important evolutionary force in the diversity of the Plant Kingdom. In fact, the *Iris* genus has been an important research model for studying and understanding introgression and hybridization in plants.

Southern blue flag can be found throughout Iowa in the appropriate habitat, although western Iowa is at the western limit of its range. It is an obligate wetland species on the National Wetland Plant List, meaning it is predicted to occur in a wetland almost all the time (99% or more). In Iowa it occurs in shallow marshes, sedge meadows, wet prairies, riparian and shoreline habitats, fens, wet seeps, open floodplain forests and wet swales. It needs good light to bloom, which happens from late May through June. The large fruits, a 3-lobed, oblong, leathery capsule, can contain 20 to 60 seeds. The blocky, angular, corky seeds are 4-8 mm long and can be dispersed by water. From my experience, plants are fairly easy to start from seed. Once established, plants can spread and increase through rhizomatous vegetative growth.

Southern blue flag is a highly valued member of our wetland communities. With a Coefficient of Conservatism of 6, its presence in native plant communities indicates a medium to high level of ecosystem quality and integrity. Perhaps Henry Longfellow sensed this. He apparently understood that irises have a special place in Greek mythology. Iris was the goddess of the rainbow, the minister and messenger for the Olympian gods Zeus and Hera. Rainbows were seen as the descent of a celestial messenger, the way that Iris communicated messages from heaven to earth. Iris, visible to mere humans as a rainbow, was also seen as a godly companion to female souls on the way from earth to heaven. Even today, Greek mourners plant purple irises on women's graves so that Iris will guide them to their resting place in heaven. So, the next time you find a patch of native southern blue flag, take a moment to appreciate its beauty and wisdom. And thank it for its contribution to wetland diversity and function. It's a gift from the heavens.

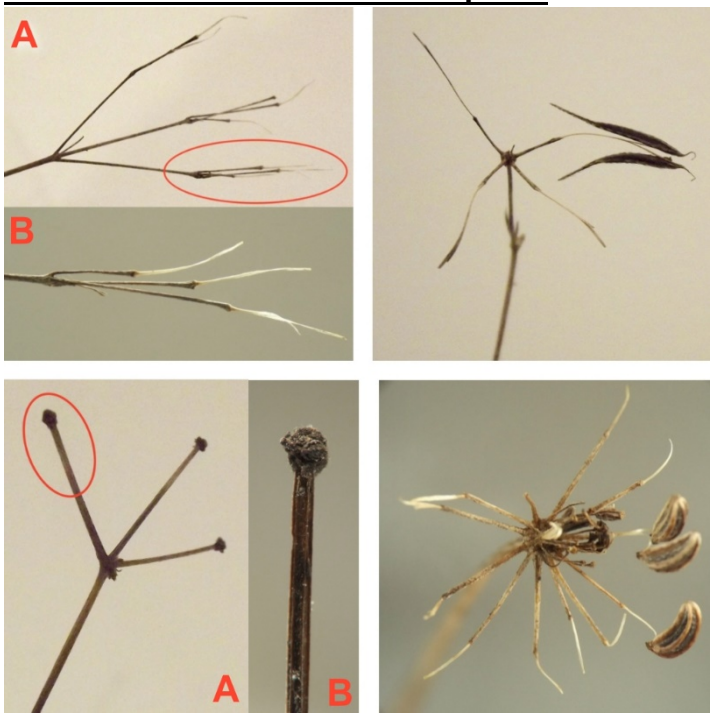
Winter stems of woodland Apiaceae

continued from page 1

this individual and the other three I collected, the darkened, dried stem leaves are still attached (unlike the *Cryptotaenia* and *Osmorhiza* examples). *Zizia* has what I think of as a "classic" umbel form to the seedhead, with many stalks radiating from a central point.

By themselves, the preceding characters would not be enough for us to confidently distinguish these plants from all the other herbs whose winter stems linger in the dormant season woods. Add in some other key features, however, and the plants' identities begin to crystallize.

Useful Clue #2: Fruit attachment points



Clockwise from upper left: Cryptotaenia canadensis, Osmorhiza sp.*, Zizia aurea, Sanicula* sp.

In these photos I've zoomed in on places of the winter stems that once held fruit (some examples have a fruit or two still present). At this scale there are some helpful things to notice. In panel B for *Cryptotaenia*, note the three fruit stalks are arranged at very small (acute) angles to one another; in this case, they're roughly parallel. Compare to the four fruit stalks in the *Osmorhiza* image (one with fruit still attached), which are at relatively wide angles to one another – in this case, approximately 90 degrees. In

the *Sanicula* example, note the distinctive knobs on the end of the stalks (panel A). On the stems I examined, each knob had up to three fruits attached to it. When the fruits become detached, as has happened here, the bare knob is left behind (panel B). Finally, the *Zizia* umbellet has a relatively large number of fruit stalks clustered together and joined centrally, like spokes in a wheel.

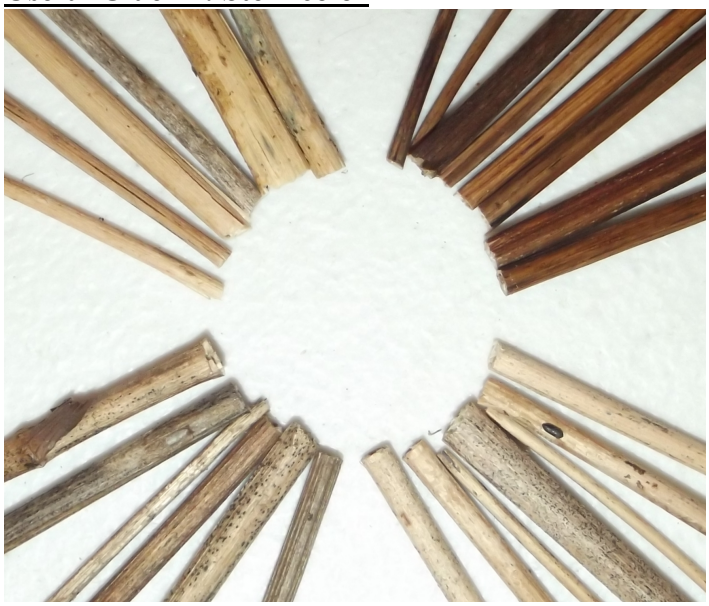
Useful Clue #3: Fruits

Clockwise from upper left: Cryptotaenia canadensis; Sanicula sp.*; Zizia aurea; Osmorhiza* sp. *Scale bar for all = 2mm*

Over the course of fall and winter, the winter stems of these plants become increasingly bare as their fruits fall off or hitch a ride on animals. If you can catch the stems at the right time, their fruits can be very helpful in identification. I think the clingy fruits of *Sanicula* and *Osmorhiza* are particularly distinctive with their modifications for latching onto pant legs, fur, shoelaces, or sweaters. Also notice how one of the *Cryptotaenia* fruits has split into two parts that are tenuously attached to the stem via pale wispy filaments (the halves are called mericarps, and their stringy connectors are carpophores[2]). Deep in winter, many of the remaining mericarps on *Cryptotaenia* stems will have become partly detached like this and, dangling from the fruit stalks, they quiver and jiggle merrily when you brush up against the stem.

Sometimes, if the individual winter stem I'm trying to identify doesn't have any fruits remaining, I'll use the other clues described here to find nearby stems of the same kind, and usually at least one of them will have a fruit or two.

Useful Clue #4: Stem color



Clockwise from upper left: Cryptotaenia canadensis; Sanicula sp.*; Osmorhiza* sp.*; Zizia aurea*

Sanicula winter stems often seem to be considerably darker than those of *Cryptotaenia* or *Osmorhiza*. (I've paid less attention to color on *Zizia*, so I won't comment on that.) The difference is apparent in the above photo. While perhaps less reliable than some of the other features I've discussed, this pattern holds true often enough I feel it's worth mentioning. Can you spot the fly puparia overwintering on these stems? (A puparium is a hardened structure, shaped rather like a miniature pill capsule, that encloses the pupa of a true fly - order Diptera.) Two puparia are visible here – one on *Osmorhiza* that's black in color, and one on *Zizia* that's whitish. The *Osmorhiza* fly was recently described as a species new to science from individuals I collected and reared to adulthood.[3]

Useful Clue #5: Stem leaves, rehydrated

In the image for the first clue (overall shape), you may have noticed that both *Sanicula* and *Zizia* still had some stem leaves attached to their winter stems. Obviously, a clear look at a leaf can make a significant difference when trying to identify a mystery plant. But dried stem leaves tend to be fragile and curled in upon themselves and will often crumble into pieces if you try to open them up and flatten them out in the field. One solution is to carefully harvest a leaf, place it in a hard-sided container, take it home, and soak it in water. For the image above, I soaked the *Zizia* leaf for only five or ten minutes, and after that time it was pliable enough to handle. Leaving it in the water, I then unfurled the leaf with insect pins. Since I used the bottom of a paperboard half gallon milk carton as my container, I could press the tips of the pins into the floor of the carton, holding the leaf in place. The leaf could then be visually examined and photographed.

Useful Clue #6: Basal leaves

Plants in all four of these genera may produce long-stalked leaves arising from ground level[4]. These leaves can often be readily found in autumn after fruiting stems of the same plants have already dried down. To the extent that basal leaves remain intact through the winter (in varying stages of frozenness), they can also help reveal a plant's identity. Simply follow the winter stem down to the ground and search the area around the base of the stem. (It may take a little practice to distinguish the leaves you're looking for from the leaves of other, unrelated plants growing in the same area.) You might have to paw through a little snow to get to these plant parts, but when other methods fail or are inconclusive, it's useful to have this option.

Finally, I should mention there are plenty of other Apiaceae species (native and introduced) that may co-occur with these four genera in wooded areas[5]. (I almost included cow parsnip winter stems in this writeup, but they're so big and coarse that they seem to be in a different class.) You probably have some carrot family herbs in your area I rarely or never see here in Winneshiek County (and vice versa). All I can say is, the more "dirt time" we accumulate in wild places, the more easily we can recognize different creatures and follow their progress through the seasons. I still have much learning to do – for instance, I'd like to be able to distinguish confidently between the two species of *Osmorhiza* or the several species of *Sanicula* around here.

I wish you joy, wonder, awareness, and discovery in your time with nature this season.

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NOTES

1. MJ Hatfield once said to me, "It's hard to call them dead stems when they're so full of [invertebrate] life." Since then I try to refer to them as winter stems instead.
2. See https://www2.palomar.edu/users/warmstrong/termfr3.htm
3. See https://bugguide.net/node/view/1339535 and https://www.biotaxa.org/Zootaxa/article/view/zootaxa.4661.1.1
4. This statement comes from my own personal observations, supported by information from the Minnesota Wildflowers website, https://www.minnesotawildflowers.info.
5. A list of carrot family genera in Iowa is available from The Vascular Plants of Iowa, online at http://uipress.lib.uiowa.edu/vpi/GeneraMatches.aspx?family_name=Apiaceae%20(Umbelliferae)

Thank you to subscribers of the Iowa Native Plants listserv who helped me initially identify *Zizia aurea* growing in woods around Decorah.

Promoting Enthusiasm for Native Plants

by Dianne Blankenship

The Loess Hills chapter of Wild Ones was established in 2017 in the Sioux City area. We strive to educate people about native plants and their value and to motivate them to make changes in their own spaces, large or small.

Native forbs, grasses, sedges, shrubs, and trees are available through our annual plant sales. We share the benefits and growing conditions needed for each plant, and help people figure out what to plant in their gardens. We've introduced over 10,000 plants to our area in the last five years! Jon Judson of Diversity Farms is growing our plants for this spring, and we also plan to offer more plants later in the season. Last year we discounted plants for public gardens and hope to do that again this year.

We promote natives at the Siouxland Garden Show and help secure speakers aligned with our cause, notably Douglas Tallamy, Heather Holm, and Benjamin Vogt. Because the garden show and most of

our programs have been offered virtually the last two years, the good word about native plants has spread beyond our own region.

We organize tours of nearby native gardens, but we don't stop there. We also have field trips to remnant and planted prairies and an annual spring walk at a high-quality woodland. Prairie seed-collecting events are held each fall, and seed exchanges help people add new species to their areas at no cost.

Visit our website to subscribe to the weekly *Wild Wednesday!* to learn more about our projects through our "Grow Wild With Us!" program, which is a local interpretation of the HOMEGROWN NATIONAL PARK^{tm} initiative, which promotes regenerative biodiversity and ecosystem function.

Many LHWO members are INPS members because we share appreciation of native plants and recognize the importance of returning nature to our yards. We promote "chem-free lawns" to support animal and plant diversity. Many plants and animals need each other, and the decline of insects and birds is regularly in the news. "Butterfly Gardening" is often a first hook to get someone interested in planting natives. The rest follows.

Subscribe to receive notifications about our upcoming events and programs at https://bit.ly/LHWO-E-blast.

Wild Ones has 65 chapters and 12 seedling chapters in 23 states. Two seedling chapters in western Illinois serve very eastern Iowa, but Loess Hills Wild Ones is the only chapter in Iowa. We know there are interested individuals throughout the state; contact me if you are interested in starting a chapter where you are.

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https://homegrownnationalpark.org/

Thank You to Our 2021 Contributors!

We wish to thank all INPS members who joined or renewed their membership in 2021! We hope you will continue your support in 2022! We are especially grateful to those who chose to be contributing members. The following members made donations of $50 or more in 2021:

Allendan Seed Company -- Kelly Hayes, Alice Atkinson, Margaret Bailey, Janine Bennett, Pegi and Mike Bevins, Bill and Dianne Blankenship, Bob Bourne, Sibylla Brown, Mary Damm, Bruce and Marlene Ehresman, James Fluck and Julie Scott, Beverly Foote, Gerald Ford, Elizabeth Garst, Mary Jane Hatfield, Beth Henning, Joe Holland, Joyce Hornstein, Johnson County Conservation Board, Christine and Roger Kirpes, Jake Landers, Steve and Karen Laughlin, Laura Leben, Richard Lutz, Leesa McNeil, Marlene Michel, Lael Neal, Donald Nelson, Thomas and Carman Rosburg, Steve Schomberg, Karen Stiles and Michael Schaffer, Marybeth Slonneger, Bill Watson, Mark Wetmore, Bill and Dotty Zales, Elisa Zappacosta, and two anonymous donors.

INPS 2022 Dues Now Being Received

INPS Treasurer Bill Blankenship will be happy to receive your 2022 dues! The membership form is available on page 20 or can be downloaded from the INPS website: http://www.iowanativeplants.org/docs/membershipform.pdf. Make checks payable to INPS.

Photo by Tom Scherer

Membership Form for Iowa Native Plant Society

Name:_____

Address:_____

City, State:_____ Zip code: _____

Phone:_____ Email Address:_____

I wish to receive newsletters by ___ U.S. Mail ___ Email

___$15 Basic Membership, please add $5 if requesting newsletters by Mail
___$5 Student (one-time payment while a student - provide your college/school email address; see below ◊)

Please consider, if you can, these Contributing Membership levels (includes the choice of mailed or emailed newsletters or both):

___$25 Anemone*

___$50 Botrychium*

___$100 Calamagrostis*

___$150 Dodecatheon*

___$200 and up Erythronium*

___ If donor, prefer to remain anonymous.

Make check payable to INPS. Send form with your dues to: INPS, 737 Buckwalter Dr., Sioux City, IA 51108

The INPS mailing list is never distributed to other organizations or companies. Dues are payable on a calendar year basis from January 1 to December 31. Please use this form for changes of address.

* Annual contributions beyond basic membership are tax deductible. Iowa Native Plant Society is a 501(c)(3) non-profit organization.

◊ Students may pay a one-time membership fee of only $5 that provides membership until they are no longer a student. Write a note about your student status on the membership form. Provide your student email address.