

Iowa Native Plant Society Newsletter

July/August 1997

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Iowa's Newest State Preserve to be Named in Honor of Dr. Richard Pohl

*submitted by Deborah Lewis, Curator,
Ada Hayden Herbarium, ISU*

Governor Terry Branstad signed a proclamation in late May recognizing the Ames High School Prairie as a state preserve. This prairie had been leased to The Nature Conservancy from the Ames Community School District for the past 25 years. Following its designation as a state preserve, ownership of the prairie will be retained by the school and the TNC will continue to oversee its management. The state preserve designation confers the highest possible legal status for protection of the prairie into the future.

This prairie will be named in honor of Dr. Richard Pohl, Distinguished Professor of Botany at Iowa State University. Dr. Pohl was best known for his study of grasses. Perhaps you have a copy of *How to Know the Grasses* or a reprint of *The Grasses of Iowa*, both authored by Dr. Pohl. He also had general interests in systematics, teaching the plant taxonomy course and directing both the herbarium and the greenhouse during his tenure at ISO. He had a vast knowledge of plants, and could usually recognize plants that 'stumped' the rest of us; then he'd tell us about his earlier encounter with the species, often 30 or more years agop. Dr. Pohl passed away in 1993. His widow, Marjorie Conley Pohl, has made an endowment in his name to The Nature Conservancy to support the management and educational activities of the preserve.

A dedication will take place naming the preserve in honor of Dr. Pohl on August 18 at 3 p.m. All friends, colleagues and former students of Dr. Pohl, as well as anyone interested in prairies and the Iowa flora are welcome to attend the dedication. A second dedication of the prairie as a state preserve is planned for September 23 in conjunction with the 30th anniversary meeting of the State Preserves



Richard Pohl on the Ames High School Prairie with members of the London Symphony Orchestra. (Ames Tribune, 1975)

Board. All current and former members of the Preserves Board, as well as other interested individuals are invited to attend the dedication as part of the Board's annual meeting in Ames.

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Leaves from the President's Notebook

A few weeks ago, while my family and I were enjoying the flowers and butterflies on a recently restored prairie, the tornado sirens went off in our area for the third time, causing us to hastily return home. Now, just when I thought I would acclimate to this Iowa summer's tropical heat and humidity, it becomes twenty degrees cooler during one breezy evening. Each year I think the weather can't possibly be more strange, but, as usual, no matter what the weather, summer is passing quickly...

Soon it will be time for our annual meeting, which will take place at Camp Dodge, north of Des Moines. (The directions are in "On the horizon...".) This year's gathering will include a short business meeting for the purpose of officer/committee reports, introduction of the slate of nominees, and election of our 1997-98 officers. If you have nominations for next year's officers, call the nomination committee chair, Bill Thomas (319) 377-4109 before July 26. Our current "at-large" representatives are: LeRoy and Susan Anderson (Decorah), Brian Hazlett (Sioux City), and Sibylla Brown (Leon). If you would like to join them in gathering information and support for INPS from your area of Iowa, contact me by July 26 (319) 373-5405. We will have sign-up sheets available for those interested in helping on various other committees at the meeting.

The business meeting will be followed by a "wild plant bazaar," during which we will have the chance to view various displays of members' photos/slides of flora from their area. This will provide another fun way for us to meet other native plant enthusiasts.

Also, t-shirts bearing our new logo will be available. See the ad elsewhere in this issue for more information, and plan to pick yours up at the meeting.

After we mingle and have lunch (remember to bring lunch along) we will start the field trip on Camp Dodge property, which promises to be fantastic. I can't wait to get my feet wet!

*See you in Classroom 21
Christine Kirpes*

NOTE: We will be holding an officer/committee meeting after our July 19 Savannah/Slip Bluff field trip in order to prepare for the annual meeting August 2. I will be getting in touch with those people in regard to what we need to do for that meeting. Anyone else interested is welcome to attend, especially if suggestions for additional annual meeting agenda items are to be made. Contact me for more information before the Savannah/Slip Bluff field trip.

Iowa Native Plant Society Annual Meeting

Camp Dodge, Johnston, Polk County

Saturday, August 2, 1997

- 9:00 a.m. Spreading our Roots
Time for meeting new and old friends of INPS
- 10:00 a.m. Business meeting
Officer reports/Committee reports
New business (7)
Nomination/election of 97-98 officers
- 11:00 a.m. Wild Plant Bazaar/Brown Bag Lunch
Time for sharing photos and slides (Caramate tabletop projectors available for 35 mm slides)
- 12:30 p.m. Camp Dodge Field Trips
Led by Ruth Herzberg and Tom Rosburg

(Ed. note: See the May 97 issue of INPS for two articles on Camp Dodge.)

On the horizon...

...1997 INPS Events

Field trips start at 10 a.m. sharp, unless indicated. Bring a sack lunch and beverages.

Saturday, July 19: Savanna Restoration/Slip Bluff Park (Decatur County).

Participants will have the opportunity to tour a diverse savanna owned and currently being restored by INPS member Sibylla Brown. Among the many plants we should see in flower is a rare lily, *Veratrum woodii*. Before touring the savanna, we will meet at Slip Bluff Park to explore the woodland flora there.

[Ed. note: Recent note from Sibylla said at least four *Veratrum* will bloom this summer, probably more. She will be waiting at the Slip Bluff shelter with coffee and sweet rolls. For lunch, she is providing iced tea; wine from her Decatur County Winery will be available]

Leader: Sibylla Brown

Directions: Meet at the shelter at Slip Bluff Park. From the north - - take Highway 2 east off of I-35 (exit 12); follow Highway 2 to Highway 69 (on west edge of Leon); take Highway 69 south to Davis City. About halfway through Davis City there will be signs for Slip Bluff; follow signs to the park. From the south (for Missourians) - - take exit for Highway 69 off of I-35 (just north of border); take 69 north to Davis City and follow signs.

Saturday, August 2: INPS ANNUAL MEETING: Camp Dodge (Johnston, Polk County).

This military installation has a surprising diversity of unusual habitats, including a sand prairie, extensive freshwater wetlands, and rich wooded bottomlands, where we should see cardinal flower in bloom. Over 400 plant species have been recorded on this property during a recent inventory of the flora. Field trips will follow the morning meeting. Several sites are being considered, the final choice may depend on attendance and interests of the group. Options include an authentic prairie pothole marsh, sand prairie, hillside seeps, restored wetlands, riparian habitats, and several others. BE PREPARED TO GET YOUR FEET WET!!

Leaders: Ruth Herzberg, Tom Rosburg

Directions: Take I-80/35 to the Merle Hay Road exit. Go north through Johnston until you get to NW Beaver Drive. Take a left and go west until you get to Camp Dodge's main entrance. Stay to the right and go to Des Moines Ave. Take a right and go to 13th St. Park behind building M-9. Classroom 2 is where we will be meeting.

Saturday, August 23: Buffalo Slough (Cerro Gordo County) - Co-sponsored by The Nature Conservancy (Iowa Chapter)

Participants will join forces to begin a floristic inventory of this recent TNC acquisition, which is known to possess a diverse fen community with plants like bog buckbean (*Menyanthes trifoliata*).

Leaders: Joel Hanes, Jerry Selby

Directions: Buffalo Slough is a wet slough area surrounded by residential areas. A gift of long time INPS member Lucille L. Minott, Buffalo Slough is a slough/channel fen with at least three species of rare plants including the largest population of bog buckbean (*Menyanthes trifoliata*) in Iowa. This site has an ecological rating of 2, and the community type of a poor fen. Rare or endangered species include: sedge skipper, baltimore, great angelica, swamp aster, fragrant false indigo, prairie bush clover, bog buckbean, bog bedstraw, sage willow, bog willow and bracted orchid.

Directions: From the intersection of Hwy 65 and 12th Street NE in Mason City, turn east onto 12th St. and go to North Carolina Ave. (the first intersection after the Winnebago River). Turn north for approximately 1.5 miles to 2319 N. Carolina Ave. You will be directed to a parking area east of the house at this address.

Saturday, October 4: Lacey-Keosauqua State Park (Van Buren County)

Details: Provided later, perhaps at the annual meeting.

Leader: Ellen Fuller

Directions: Meet at the Hotel Manning in Keosauqua (you can't miss it). Keosauqua is on the north bank of the river where Hwy 1 crosses the Des Moines as it runs north and south between Hwys 2 and 34. Hotel Manning is at the north end of the bridge; the entrance to the park is near the south end.

[Ed note: Lacey-Keosauqua was one of my favorite hiking, fishing, camping spots back in the late 70s, when I had time for such things. A trail winds through the woods and around a small lake built during the CCC days. This pond was "renovated" by beavers when they cleared the trees from a couple hillsides to dam one arm of the lake. At first this seemed like a terrible loss of the "natural" habitat, but that was before I understood the significance of the few old oaks in the forest with wide-spreading limbs. Like many areas in Iowa, this may have been more savanna habitat, rather than the dense woods we've seen in recent times. This is a great place for the whole family in the early fall. Come for the field trip, stay for the weekend.]

Field Trip Reports

Fish Farm Mounds Tour

submitted by Rosanne Healy

On May 3, about 50 people gathered in the parking lot at Fish Farm Mounds Wildlife Are. Those who looked skyward were treated to a chase scene between several immature bald eagles. The weather was perfect for sallying through the woods and up and down some rather steep terrain. Fish Farm Mounds, named for the previous owners, is chiefly known as a site for burial mounds of the Hopewell Indian culture.

INPS field trip leaders Don Farrar, Bill Norris and Laura Jackson emphasized the botanical uniqueness of the area. The sandy, acidic soil supports plants more typical of Minnesota, Canada and the eastern United States. Highlights of our foray into the lower woods included ground cedar (*Juniperus communis*), three species of ground pine (*Lycopodium clavatum*, *L. digitatum*, *L. lucidulum*), several blueberry species (*Vaccinium angustifolium* and *V. myrtilloides*), rattlesnake plantain (*Goodyera pubescens*), and common polypody (*Polypodium virginianum*), the only species of this fern genus found in Iowa.

Don Farrar pointed out several interesting mosses during our hike, including several haircap mosses: Ohio haircap (*Polytrichum ohioense*) and juniper moss (*P. juniperinum*). *Polytrichum* species are called haircap mosses because of the hirsute (hairy) appearance of the capsule tip. *P. juniperinum*, commonly known as juniper moss, is transparent along the outer edges of the leaf which fold over the central green portion of the leaf, making a kind of greenhouse. Also seen was the pin cushion moss (*Leucobryum albidum*), which forms dense colonies of plants in light green, spongy cushions that rise above the forest litter as well as trap moisture when it is available.

Later that morning, we hiked to the top of the west-facing slope to see a goat prairie that had been cleared of red cedar (*Juniperus virginiana*), and paper birch (*Betula papyrifera*) the previous summer by Nature Conservancy interns. It was noted that all of the juniper-covered slopes in view from where we stood were potential goat prairies waiting to be released. In bloom were hoary puccoon (*Lithospermum canescens*), bird's foot violet (*Viola pedata*), and violet wood sorrel (*Oxalis violacea*). Several morels were fruiting on the slope as well.

After picnicking by the parking lot at Fish Farm Mounds, about 25 participants proceeded on to the Beverly and Loren Clark residence along Bear Creek in western Allamakee County. The Clarks have owned and cared for their acreage for 20 years. They have found a number of botanical treasures in their woods, wetland and prairie. One was yellow trout lily (*Erythronium americanum*) growing in the woodland edge along a creek running through the property. The other was jeweled shooting star (*Dodecatheon*

amethystinum) which grows along a cold-water trout stream under rock ledges of limestone bluffs. Also enjoyable were the many other spring ephemeral flowers in bloom along the walk to the interior of the property.

The day ended too soon, but was a delightful first walk of many the INPS has planned for this season.

Anderson Prairie Field Trip

submitted by William R. Norris

A small group of wildflower enthusiasts joined Bob Moats for a hike across the rolling terrain that is Anderson Prairie (Emmet County) on May 17. All male, young and old. Most sporting a wide-brimmed cap of some sort. A few in suspenders. At least one dipping into a pouch of chew. Bob surveyed our group, decided everyone had arrived who was going to, and declared "Well, let's go."

The prairie that Bob showed us on this spring day was not the colorful cornucopia of wildflowers that is featured in so many calendar photographs. Instead, we found ourselves bending over to enjoy a number of spring forbs close to the earth. Here and there we walked by diminutive prairie buttercups (*Ranunculus rhomboideus*), whose delicate leaves and tiny yellow flowers were in full view of the sun. Elsewhere, Bob showed us populations of kittentails (*Besseyia bullii*) and white prairie parsley (*Lomatium orientale*) that he has discovered over the years on exposed gravelly knolls. The sulphury blossoms of the kittentails were on full display, but we were too late (by several weeks) to see the parsley in flower.

All was not high and dry. Well out of sight of our parked vehicles, we dropped down to explore a small wetland dominated by sedges and fragrant sweet flag (*Acorus calamus*). Later, we passed by a cold creek where Bob pointed out a rare population of yellow monkey flower (*Mimulus glabratus*) in the water. Eventually, we emerged to another hilltop where we discovered the sun to be suddenly high and hot. Off came the sweatshirts, and down came the brims of our caps.

Our return hike across Anderson Prairie was a chance to look up from our feet and marvel at the view of rolling prairie meeting blue sky in all directions. We were tired and thirsty but thoroughly enjoyed ourselves. Friends new and old shared stories and compared notes as we walked across the inch-high carpet of grass. I suppose we looked like a band of pioneers to an onlooker a half mile away.

Anderson Prairie State Preserve exists today because of Bob Moats, who recognized its significance years ago and brought it to the attention of the right people. The next time you see him, thank him.

[Ed. note: See the species description of kittentails in the Feb. 97 INPS newsletter.]

Peterson Property Field Trip Report

by Jonathan Knott

On June 14, a beautiful Saturday, about 50 people gathered at the Peterson property in Muscatine County for a joint hike of the INPS and The Nature Conservancy (TNC). The goal was to help evaluate the property, so TNC can decide if it should be purchased and preserved.

The Peterson property lies in the floodplain of the Cedar River. There are many temporary ponds that hold water for various lengths of the year. Higher parts of the property, including some sandy ridges, have completely different vegetation. There is also a permanent creek that is fed by seeps from a hillside. This variety of habitats allows a great diversity of plants and animals to live here. Many reptiles and amphibians that are rare in Iowa have been found in the immediate vicinity. Efforts have also been made to identify unusual birds and dragonflies of the region.

Of course the INPS trip concentrated on the plants. Perhaps the most interesting plant community is the large fraction of the site that appears to be swamp white oak (*Quercus bicolor*) savanna. The only other protected example of this community is Accola Woods in Missouri. That TNC property is only 40 acres and has been overgrown by woody invader species. This community type is so rare that no plant list exists to help us evaluate the site. The soil is very sandy, which allows numerous uncommon plants to thrive. The site has numerous sedges that have not yet been identified. Some of the INPS's members concentrated on collecting and pressing specimens for identification. [Ed. note: several INPS members from the Departments of Botany at ISU and U of I collected voucher specimens for identification and deposit in the University of Iowa Herbarium, which is developing the species list for this site.]

I was drafted into leading the large group. The property has about 380 acres, so we only saw a small portion. I explained what makes a savanna different from a forest or prairie and pointed out that savannas were previously maintained by fire. The large oaks have thick bark and can survive a fire that will kill most other trees. Since we no longer have wild prairie fires today, an unmaintained savanna will be invaded by other tree species and the unique understory flora will be shaded out. Of course, most savannas were long ago converted to cropland.

Fortunately the Peterson property has been well managed. The Peterson family has owned it for over 50 years and used it as a cattle pasture. This necessitated some daring cattle rescues by boat in flood years such as 1993. The cattle keep the woody invaders in check, similar to the original prairie fires. Much of the savanna vegetation seems to be intact. One challenge the TNC will face if they purchase the property will be controlling the woody vegetation. This will require active stewardship, perhaps a combination of fire and grazing.

In the afternoon, we met at the TNC's Greiner Preserve, also in Muscatine County. This site has a restored sandy prairie, a large natural pond, and a surrounding woodland. Some of this woodland may have originally been a savanna. However the woody vegetation is now dense. Nature Conservancy summer interns have been cutting trees and trying to open the woodland to restore the savanna character. They are clearly beginning to succeed. We found for the first time dwarf dandelion (*Krigia virginica*). The area where these were flowering had previously been very shady. Perhaps they had survived for years under these adverse conditions waiting for enough sunlight to bloom.

I think these outings were a success from two perspectives. We introduced many visitors to these unique communities. It is important to share our enthusiasm and build support for preserving irreplaceable natural areas, such as the Peterson and Greiner properties. We saw many interesting plants on our hikes and had the opportunity to discuss why these plants are not common.

The other success was gathering information for TNC to help them decide if the Peterson property should be purchased and preserved. Many INPS members drove long distances to help. I want to thank all of them. I am a new member of the INPS, but I can see real potential for the organization. The INPS can make important contributions to preserving Iowa's natural heritage, by helping TNC and others evaluate the botanical quality of a site. Hopefully other dual purpose field trips can be scheduled.

Wearin Prairie Field Trip

submitted by William R. Norris

This year's INPS field trip in Iowa's far southwest corner took place on June 28 at the Wearin Prairie (Mills County), near Hastings. This field trip received perhaps the most fanfare of any INPS event thus far. After a press release announcing the field trip was distributed to all nearby newspapers, the Omaha World-Herald newspaper contacted trip leader Bruce Heyne and arranged a photo-shoot with him at Wearin prior to the field trip. This story was featured on the newspaper's front page on June 27, complete with colorful photographs of prairie phlox, Sullivan's milkweed, and wild white indigo (*Baptisia leucantha*) as well as another showing Bruce leaning on a "Native Prairie" sign.

Given this advance publicity, it was perhaps no surprise that at least 37 individuals showed up to tour the Wearin Prairie with Bruce on Saturday morning. Participants hailed from Boone, Council Bluffs, Cedar Rapids, Clarinda, Colo, Council Bluffs, Emerson, Hastings, Red Oak, Treynor and Walnut on the Iowa side, as well as from Gretna, Kennard, Lincoln and Omaha across the river in Nebraska. After a few

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introductory remarks by Bruce and a member of the Wearin family, participants quickly fanned out across the prairie in small groups to enjoy the wildflowers and visit.

As described by Tom Rosburg in his article about Wearin in the last INPS newsletter, this prairie is unlike any other in Iowa. Forty acres of intact, virtually undisturbed prairie was seen in the floodplain of the Nishnabotna River. In fact, at least half of the prairie was bounded by a large curve of the "Nishna." It's hard to believe that such a large acreage of rich soil has been spared the plow over the years. The Wearin family should be commended for having the foresight to withhold this native grassland from cultivation so that Iowans (and Nebraskans) might come here and experience a large, native prairie.

Though Bruce noted that the Wearin Prairie was not at its peak of color, we had no trouble finding purple prairie petunias (*Ruellia humilis*), yellow fringed loosestrifes (*Lysimachia ciliata*), pink prairie phlox (*Phlox pilosa*) and many other prairie forbs. Sullivan's milkweed (*Asclepias sullivantii*) was prominent on the prairie, some in blossom, some with flower buds ready to burst. One dedicated group combed a corner of the prairie known to possess the rare western prairie fringed orchid (*Platanthera praeclara*), but failed to relocate it. Although most of us moved slowly through the grass on this hot, steamy morning, many butterflies (mostly orange monarchs and fritillaries) were on the wing and seemed not to notice the heat.

I couldn't help thinking throughout the morning and early afternoon that the great French painter Claude Monet would have been inspired by this scene of people bobbing up and down in the colorful prairie to render it on canvas for all time.

THEY'RE HERE!...almost.

T-shirts bearing the Iowa Native Plant Society logo will be available for purchase at the Camp Dodge annual meeting and fieldtrip.

T-Galaxy in Ames is providing four-color reproductions on natural (cream, off-white?) cotton t-shirts made mostly from recycled materials. We will have green leaves and grass, rosy pink turtlehead, orchis, and lettering, yellow coneflowers (of course), with outlines in black. In addition to the logo on the front, INPS will appear along one sleeve.

The stock available at the meeting will be adult sizes: XL (20) L (20) M (10)

(The 'ecofiber' shirts are not available in adult small.)

What if... ...we sell-out...
 ...you need another size...
 ...you want children sizes...
 ...you are interested in sweatshirts...
 ...you want a different type of shirt...
 Not to worry!

Information on ordering/reordering will be presented at the meeting.

What if... ... you can't attend the meeting.
Send a check made out to the INPS for \$15 per shirt to:
Rosanne Healy
2427 Waterford Dr.
Ames, IA 50010

State the size you require AND how you would like you order filled. Members attending the meeting get the first chance for the new shirts. Mailed orders will be filled following the meeting if sufficient supplies are available. If a reorder is necessary, it will take several weeks. If you wish your check returned instead of waiting for the reorder, let us know. Also, if you are able to pick up your order at a later field trip, it will save INPS postage expense. Maybe the best thing would be to just come to the INPS Annual Meeting, meet your friends or make new ones, pick up your shirt, and wear it proudly.

Anyone for just \$15!



Hidden Beauty in Iowa's Few Remaining Prairies

submitted by Liesl Kelly

As we are all too aware, Iowa's remaining prairies are few and far between. Some of the really interesting species may go unnoticed because they exist solely in these special habitats. Two such species are a prairie butterfly, the regal fritillary (Lepidoptera: Nymphalidae, *Speyeria idalia*) and a prairie endemic plant, the blue prairie violet (*Viola pedatifida*). The regal fritillary prefers open grassland habitat with nectar plants as sources of food for the adult butterflies. The prairie violet is one of the more common violet plants found on high-quality prairies. The regal fritillary is adapted to eat only leaves of violet plants in its larval stage, so it is not surprising that both this insect and violet plant species are found together on some of the best Iowa prairies.

During late spring and early summer, the prairie violet makes its appearance on Iowa prairies. It can be found flowering about a month after the last frosts. The leaves persist and grow throughout the summer, although dieback may occur during a drought. The prairie violet is found primarily in habitats which have not been plowed. We noted in our estimates of population density that burned or grazed grasslands often have more of the plants. Prairie violet is not the only violet species found on Iowa prairies, but this species is found exclusively on prairies.

Physical description

The inconspicuous prairie violet has an unusual dissected leaf pattern, more or less in the shape of a hand. The leaves all arise from the thick, cylindrical root which looks like a blunt pencil and seldom bears more than a few root hairs. Often, but not always, the leaves are small (about 5 cm in width), and thin with small veins and a few hairs. In some areas, like Sheeder Prairie State Preserve in Guthrie County, the prairie violet has much larger leaves (10 cm) with thick veins. We noticed larger leaves and accompanying roots in areas where the soil is rich in organic matter, such as the Stephen's State forest, Reichelt Unit Gasper County), where prairie violets were nearly 40 cm tall and average leaf area was almost 1 square decimeter.

The flowers of the prairie violet are similar to those of the common blue violet (*Viola papilionacea*) except that the prairie violet flower is termed "bearded" in reference to the hairy structures present on the lower petal in the series of five. Compare this trait with the often confused bird's foot violet (*Viola pedata*) found in wetter or woody areas, which has no hairs on the inside of the petals.

Variation in Iowa

Since 1994, Dr. Diane Debinski, other Iowa State University researchers and I have searched for this plant across most of the prairies in Iowa. We found impressive physical variation in its size and leaf morphology, as well as the soil types we find it in. In the Loess Hills, for example,

prairie violet has rather small leaves and roots, but impressive plant density in some locations. Prairies with rich soil types generally have larger leaves and many more leaves per plant, if light competition from other plant species still permits prairie violet growth. Generally, we noticed less disease such as root rot and defoliation in prairie violet found in the better drained soils, although we can offer no reason for this at this time. The important point is that the appearance of this plant species can vary tremendously from one location to another even only one county away. Also, a few other prairie plant species also have a similar dissected leaf pattern, and can be mistaken for prairie violet.

Distribution in Iowa

The distribution of the plant in Iowa is limited primarily to prairie areas. The plant seems to tolerate shade poorly, in contrast to other violets such as the common blue violet. We found that areas which have many other species of prairie plants but lack prairie violets often have a history of being plowed, or some other soil disturbance. However, we found prairie violets in a variety of habitat types ranging in size from a few to over 1200 acres in such areas as the Loess Hills in western Iowa and swampy areas such as Doolittle State Preserve (Story County). We have not found a strong pattern between the soil moisture of the prairies we surveyed and the presence or abundance of prairie violets.

Cultivation

Of course one option to increase populations of this rare plant in Iowa is through cultivation and transplantation. Many Iowa roads which are being widened from two to four lanes in the name of progress, have valuable plant species on the sides of the road which will ultimately be lost when the shoulders are graded for construction. Therefore, many conservationists in Iowa have found small populations on roadsides and railroad right-of-ways, and have at least spared some of these prairie violets from destruction by physically removing the plants. Even the leaves of this plant can take the punishment of transplantation, especially if the roots are not damaged extensively, they will generate new leaves quickly in ideal growing conditions.

This species has several characteristics challenging to its cultivation by seed. First of all, after the flowers of prairie violet (and all violets, for that matter) have finished blooming, the fruit takes on the inconspicuous form of a small shriveled peanut, except that it has three lobes, which contain about 15 seeds. We have noted from our greenhouse adventures that many of the seeds are infertile, perhaps from insufficient cross-pollination. Also, in order to harvest violet seeds, one has to locate these inconspicuous pods after seeds are mature, but before the ripe, brown pod explodes in a spectacular dispersal effort.

Iowa's Prairie Fringed Orchids

submitted by Bill Watson

With their striking floral displays of numerous creamy-white flowers, the prairie fringed orchids may symbolize the essence of the tallgrass prairie in Iowa and throughout the Midwest. These high-profile species represent the rare and tenuous nature of the native plant communities they inhabit. The eastern prairie fringed orchid (*Platanthera leucophaea*) is known as far east as Maine growing in sphagnum bogs, while the western prairie fringed orchid (*P. praeclara*) reaches only as far east as the Mississippi River. In Iowa, these orchids occur in the rich mesic soils, sedge meadows and swales of the tallgrass prairie. *Platanthera leucophaea* is known from southern and eastern Iowa, while *P. praeclara* has a statewide distribution.

While these species may tolerate some disturbance and occasionally act as colonizers, they are more typically found in high quality prairie habitats preferring full sunlight. Here, they are often associated with the more common and well-known species such as leadplant (*Amorpha canescens*), blazingstar (*Liatris aspera*), compass plant (*Silphium laciniatum*) and prairie phlox (*Phlox pilosa*).

Changes in the nomenclature (scientific names) of these taxa have occurred over the past two decades. Prior to 1975, *P. praeclara* and *P. leucophaea* were considered a single entity: *Habenaria leucophaea*. To separate closely related tropical species, Luer recognized the generic name *Platanthera* for North American orchids of this group. A decade later, *Platanthera leucophaea* was split into two distinct species by Sheviak and Bowles. This split was based mainly on floral characters which reflect the larger flower size of *P. praeclara*. Not all botanist agree with this treatment, however. Gleason and Cronquist describe the prairie fringed orchid taxa at the varietal level under the retained generic name of *Habenaria*: *H. leucophaea* var. *leucophaea* and var. *praeclara*. The final determination may be dependent on additional scientific research.

Confused yet? The bottom line is the prairie fringed orchids are presently in peril in Iowa and throughout their range. Under the authority of the Endangered Species Act, threatened status at the Federal level was granted in 1989 to both *P. praeclara* and *P. leucophaea*. Currently, *P. leucophaea* is listed as endangered and *P. praeclara* as threatened in the state under the Iowa Administration Code.

Iowa lies at the heart of the range of these two species. It is probably the only state that contained a historical population of the orchids within every county during presettlement times. Each summer the orchids bloom during June and July, depending on seasonal conditions and the region of the State in which they occur. After flowering, the orchids go to seed with each fruiting capsule holding perhaps a million microscopic seeds. It may seem odd the

orchids could be threatened, given their potential reproductive ability. However, with the wholesale destruction of their habitat for agriculture, exotic species expansion, woody encroachment, the potential lack of pollinators and pesticide use, the precarious status of these orchids may be understandable.

Not only are the orchids endangered/threatened, rare and scattered around the State, they also hold an additional mystery making them even more elusive. Populations of the prairie fringed orchids have been noted as sporadic bloomers since the 1800s in Iowa. Whereas a large number of flowering individual plants may be located at a site one year, a visit the following year may yield none. The previously flowering individuals may now be dormant or vegetative. Several possibilities for this behavior have been suggested over the years, including fire and rainfall amounts. This potential dormancy makes locating these orchids even more difficult. Not only do you have to be in the right place at the right time, but you have to be lucky, too.

My first professional botanical field experience involved researching the prairie fringed orchid under the direction of Paul Whitson, Professor of Ecology at the University of Northern Iowa, more than a decade ago. I feel privileged to have been involved in the project which led to much additional work on Iowa's rare flora. It is still a joy to observe these regal plants on the native prairies of Iowa's landscape. I marvel at the prairie fringed orchids which to me represent the hope that not only will the species survive, but the aboriginal ecosystem to which they belong will not disappear in Iowa's future.

The Plight of Preparation Canyon State Forest

submitted by Glenn Pollock

The Loess Hills of western Iowa are commonly known for their short grass prairie ecosystem on the southwest-facing slopes. But like an old 45 rpm record, there is a flipside to the Hills, the northeast-facing slopes. These slopes support an eastern deciduous forest ecosystem, while the transition to it was a prairie savanna.

The Loess Hills State Forest, Preparation Canyon Unit, announced a timber sale of 200 mature trees from a three-acre tract: 115 bur oak (*Quercus macrocarpa*), 36 basswood (*Tilia americana*) and various other species. This spring, I inspected the area and found it to be the highest quality eastern deciduous woodland I have seen in the Loess Hills. It is comparable to the quality of eastern Iowa forests without garlic mustard plants. Among the typical woodland plants, I found lilies that were either Michigan or Turk's cap; ginseng was found in June. The trees consisted of mature bur oaks and basswood at least 24 inches in diameter. Interspersed were small trees less than 6 inches in diameter. Soil on the steep slopes of the tract is loamy and very fragile.

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In a Nutshell . .

.. other activities of interest to INPS members.

TNC: The Nature Conservancy; CIPN: Central Iowa Prairie Network; IPN: Iowa Prairie Network.

Call numbers provided for further information.

July 15: Polk City Cemetary Prairie, Polk County (CIPN). 7:00 p.m. (515) 984-6928.

July 19: Sixth Iowa Prairie Conference. Walnut Creek National Wildlife Refuge and Prairie Learning Center, Prairie City. For more information, contact Daryl Smith. Phone: (319) 273-2238. Fax: (319) 273-7140.

July 24: Doolittle Prairie Preserve, Story County (CIPN). 7:00 p.m. (515) 432-5026.

July 28-29: "Pastures to Prairies: Native Plants and Wildlife for Rotational Grazing Systems" workshop, Cresco (Howard County). For more information, contact Laura Jackson. Phone: (319) 273-2705. E-mail: jackson@uni.edu.

July 30-August 2: The Midwest Oak Savanna and Woodland Conference, Madison, Wisconsin. For program information call The Nature Conservancy at (608) 263-1672.

August 6: Polk County Sand Hill Prairie, CIPN (Polk County). 6:00 p.m. (515) 999-2557.

August 11-15: Natural History Week at Iowa Lakeside Lab. Seven special courses are being offered to anyone wanting to learn more about Iowa's natural history and resources. Contact the Lakeside Administrative Office: (515) 294-2488. [See brief description of offerings in Feb. INPS newsletter: Ed.]

August 18: Ames High School Dedication in honor of the late Dr. Richard Pohl, Story County (TNC). 3:00 p.m. (515) 244-5044.

August 19.:Ames High School Prairie, Story County (TNC). 8:30 p.m. (515) 244-5044.

August 21: Doolittle Prairie Preserve, Story County (CIPN). 7:00. (515) 432-5026.

August 23: Big Sand Mound Nature Preserve Field Day, Muscatine County (Mid-American Energy, Monsanto and Muscatine and Louisa Co. Conservation Brds.). 8:00 a.m. to 3:00 p.m., with optional early morning birding walk. (319) 333-8163. Registration limited to 250.

September 6: Field Day at the Kurtz Prairie, Marshall County (TNC). (515) 244-5044.

September 19-21: The Iowa Prairie Network Prairie Celebration and Annual Meeting. Field trips to Knapp's Prairie, Five Ridge Prairie, Broken Kettle Grasslands, Sioux City Prairie, and more. Contact Glenn Pollock: (402) 571-6230 or Rex Rundquist: (712) 255-3136.

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The Department of Natural Resources (DNR) sold the 200 mature trees for \$1800 to a private contractor who will remove them this summer. The DNR plans to plant back bur oaks and green ash (*Fraxinus pennsylvanica*) to replace the trees removed. The reason given by the DNR was to improve the forest. The DNR Forestry Division states that since no endangered species are present that this type of management is within their authority and that public input is not needed. When the rains come and the erosion starts, when the suns dries out the moist understory because the mature trees that protected the fragile plants are gone, the DNR's one size fits all management will destroy one more piece of Iowa's endangered ecosystems. One more piece of our history. One more piece of our heritage. One more piece of ourselves.

Membership/Change of Address Form and Survey:

Your Input and support of the Iowa Native Plant Society are important:

Please complete and send with your 1997 dues of \$10 to Mary Brown. 330 Windsor Dr., Iowa City, IA 52245.

Name: _____

Address: _____

Phone #:(_____) _____

E-mail address _____

New or renewing membership Change of address only

Additional information or special interests for member directory entry: _____

Program ideas?:(Skills or knowledge to share with other INPS members, field trips you are willing to lead or would like offered, workshop or discussion topics) _____

Mark this box if you DO NOT wish this information published in the INPS member directory.

Parsnips in the Noon-day Sun

by Richard Pope, Program Specialist, Iowa State Extension

One of the nearly ubiquitous members of the Iowa roadside and oldfield areas is the wild parsnip (*Pastinaca sativa*). Come mid-June, and then through the summer, its bolting stalks add a distinct yellow, and later cinnamon brown, backdrop that even the most non-botanically trained people can relate with. Originally a native of Europe, the parsnip has been used as a vegetable since ancient times. In the early 1800s, gardeners slowly improved them by selection, and "improved" vigorous parsnips apparently rode across the ocean to the new world with early European settlers. Since then, wild types have become thoroughly established across the American landscape through escapes from cultivation. The wild type we see across Iowa is not used as food, being bitter and relatively unpalatable. But boy, does it grow!

Gleason and Cronquist (in *Vascular Plants of Eastern United States and Canada*) describe wild parsnip as a tap-rooted biennial (occasionally annual) in the family Apiaceae, growing to 1.5 meters, having compound leaves with 5 to 15 oblong to ovate leaflets, 5 to 10 cm long that are serrate or lobed. In robust plants they are divided even more. Flowers are in double umbels 1 to 2 dm wide (4 to 8 inches).

One further "identifying" characteristic is the plant's affect on some humans. Parsnip dermatitis is a condition afflicting some, but not all, people who have had contact with the sap. The sap apparently sensitizes the skin of susceptible people, so that subsequent exposure to the sun will cause lesions to erupt that are quite painful and last for as much as 2 to 3 months. From my personal experience with both, the parsnip dermatitis lesions initially may

resemble those of poison ivy (*Toxicodendron radicans*) dermatitis, with reddening of the skin and initial itchiness. However, parsnip dermatitis quickly progresses overnight to painful burn-like lesions that take much longer to heal than poison ivy dermatitis.

Control of parsnip in native and public use areas is often a problem. The plant is quite a successful weed that fits its niche well. As a biennial, it tends not to occur in regularly cultivated land where tillage disrupts and controls the plant during its vegetative year. In areas with permanent vegetation, parsnip seed can quickly germinate in breaks in the plant cover. Once growing, the bolting second-year plants compete with other plants to maintain the open spot, providing favorable sites for the seed of the next generation. Weak stands of permanent vegetation can allow the parsnip entourage to slowly encroach into the established vegetation after several years.

The first step in management is to maintain existing favorable vegetation, and to encourage the re-establishment of the favorable plants when an area is disturbed. Hand weeding (watch the sap!), mowing, and occasionally intervention with a selective herbicide are all potential methods to help the favored plants establish. Cultural control methods are first choices because they can be targeted to small problem areas and can be reasonably selective for parsnip and other non-favored species. Herbicides may be used in some situations. Amine formulations with four pounds of active ingredient per gallon of 2,4-D, Weedone LV4, and Telar are labeled for wild parsnip control. The Weedone and 2,4-D amine products can drift from the target site and may damage favorable forbs present, so care should always be exercised when using herbicides.

Iowa Native Plant Society

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