



INDIANA NATIVE PLANT AND *Wildflower Society*

Volume 8 Number 1 • Spring 2001

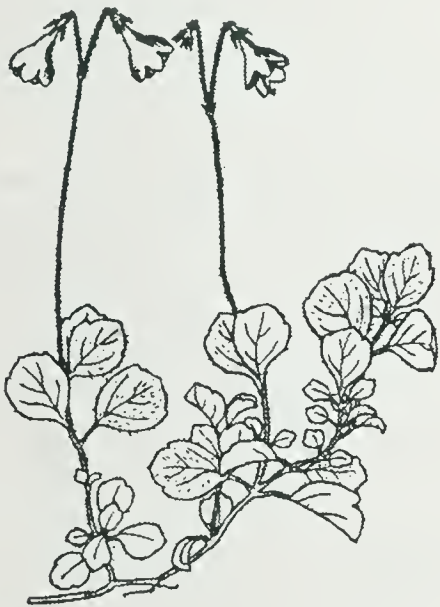
NEWS

Attention Plant Detectives

Challenge Plants of the Dunes

by Barbara Plampin

Of approximately 142 state-listed plants found in the Dunes, some, like **Dwarf Honeysuckle** (*Diervilla lonicera*) are locally “abundant.”



Twin Flower
(*Linnea borealis americana*)

Some, like state and federally threatened **Dune Thistle** (*Cirsium pitcheri*) are easily seen from the West Beach boardwalk. Others, such as **Golden Saxifrage** (*Chrysosplenium americanum*) have had their status downgraded as new sites turned up. Even better, welcome additions occasionally appear, among them Horsetail **Spike Rush** (*Eleocharis equisetoides*).

However all is not well. **Twin Flower** (*Linnea borealis americana*) seems to belong to history. Other rarities dwindle: **Blue bead** (*Clintonia borealis*) appears victimized by in-breeding. So, as a “plant detective,” I present these two challenges to concerned plant hunters.

In mid-June, search open spots in Black Oak Savanna for the perhaps still-surviving **Bristly Sarsaparilla**



Bristly Sarsaparilla
(*Aralia hispida*)

(*Aralia hispida*). Unlike the familiar **Wild Sarsaparilla** (*A. nudicaulia*), this plant has bristly lower stems, bi-pinnate leaves, and umbels attached to the stem. Bristly

Sarsaparilla, also known as Pigeon Berry, has dark purple fruits. This Hudson Bay dweller may find the Dunes too warm, and fire suppression may have wiped it out. A fall 2000 prescribed burn at a Porter County site may restore the plant. Report any finds to the DNR.

In late July and in August comes the greatest challenge: to locate a specimen of **Thismia** (*Thismia americana*) a tip-of-the-little-finger, whitey-blue (no chlorophyll), leaf-

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less orchid cousin, most of which grows below ground. *Thismia*, discovered near Chicago's Lake Calumet by University of Chicago graduate student Norma Pfeiffer, was observed only between 1912-1916. Then the site was destroyed. Although it has never been recorded in any other location in the world, *Thismia* is not a hoax. Dr. Robert Mohlenbrock passed around specimens at the first Illinois Native Plant Society *Thismia* hunt. Both habitat and associates exist in the Dunes. Begin by locating **Marsh Club Moss (*Selaginella apoda*)** in "calcareous springy places." (Marsh Club Moss resembles minute green zippers). Another associate is **Northern Adder's Tongue Fern**

(*Ophioglossum vulgatum pseudopodum*). Some lucky finder will achieve fame by spotting *Thismia* with its six-petaled flower, three petals touching in the center like little basket handles. Remember the decades-long dormancies of the



Golden Saxifrage
(*Chrysosplenium americanum*)

Australian underground orchids, and hope!

Note: Names are taken from Swink and Wilhelm's *Plants of the Chicago Region*, Fourth Edition. This "plant Bible" gives habitats and associates and contains an excellent bibliography.

Barbara Plampin is a member of INPAWS, a trustee of the Shirley Heinze Environmental Fund, and a member of Save the Dunes Council. She has a Ph.D. in English literature from the University of Michigan. Botany has been her avocation all her life.

The Newsletter of the Indiana Native Plant and Wildflower Society
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www.inpaws.org
The mission of the Indiana Native Plant and Wildflower Society is to promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity and environmental importance of indigenous vegetation.

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President's Message

by Carolyn Q. Bryson

There are reasons for the seasons. My native plant friends and their companions are resting beneath a blanket of leaves, gaining strength for the growing season to come. I wonder which of my natives will be first to wake up: will it be the Spring Beauties or the Hepatica or the minor bulbs that are their companions? I love working in the gardens and during the harsh days of winter I miss being outside. But, when I am outside I am always busy working and do not often stop to appreciate the beauty around me. The winter provides time to reflect on the past and plan for the future.

I miss my neighbor and friend, Juanita Graham. We did not see each other or talk to each other very often, but we both knew that we were only a telephone call apart. The corners of our properties touch, but we couldn't walk to each other's homes, as the stream between us is usually just a little too wide for jumping and just a little too deep for wading. Juanita's garden is the first wildflower garden that I ever visited and it served as an inspiration for mine. Juanita treasured all of her plants and walked through her garden almost every day, checking on their health and enjoying their beauty; I am sure that she spoke to her plants when observers were not around. Juanita was also generous in sharing her plants with others. I knew that I could call Juanita if I needed help with plant identification. One of my most vivid memories is of the day that I called her and described a plant that was blooming in my garden that I could not identify. Juanita replied that the same plant

was blooming in her garden and she had not yet identified it. So, I took a cutting from the plant and all of my wildflower books and drove over to Juanita's. Juanita brought out her books and we sat together on a bench in her garden, a pile of books between us, searching for clues. Finally, we identified it! The plant was Large-flowered Valerian (*Valeriana pauciflora*) and I do not believe that I will ever look at it in my garden without remembering Juanita and our "research project."

INPAWS had our first meeting of the year on January 20th and we are planning many other activities for the rest of the year. Our first meeting demonstrated that we have both talented cooks and talented photographers as INPAWS members. If you have not yet had the opportunity, I encourage you to visit the Holliday Park Nature Center; it is a wonderful facility and we are fortunate to be able to use it for some of our meetings.

On February 17th, Ken Collins presented a photography seminar for members who are interested in improving their skills, and on March 17th, a winter botany seminar and plant identification hike in Eagle Creek Park.

In April, we will focus on the eradication of Garlic Mustard. Ellen Jacquart will lead a Garlic Mustard Pull at Cedar Bluff, near Bloomington, on April 7th, and Gayle Moore will lead a Garlic Mustard Pull with Boy and Girl Scouts at Holliday Park on April 28th. INPAWS volunteers, armed with garden gloves, are needed for

both activities. Contact Ellen and Gayle if you can help.

Opportunities for volunteering are plentiful in May. INPAWS will have both a demonstration garden and an information booth at Orchard in Bloom, in Holliday Park, May 4th, 5th, and 6th. We will need volunteers to help set up and dismantle both the garden and the booth and to help staff both areas during the event. Orchard in Bloom provides a wonderful chance for us to educate the public about non-native invasive plants, desirable native plants, and the INPAWS organization.

Our plant auction and sale will be on May 12th at St. Pius X Church, near Keystone Avenue and East 71st Street. This is our primary fundraising event of the year and its success is dependent on the involvement of our members. I encourage members who are doing native plant rescues to donate half of the plants rescued to our plant sale, as we rely on plant donations. We also need persons to help organize the plants and to assist in writing up the sales.

We are seeking slides or computer files of native plants for our Speakers Bureau and for the educational materials that we will be developing. Please let us know if you have any slides or computer files available that you could give or lend to us for these projects.

Over the years I have found that the more I give to a group, the more I receive from it. I hope that you all will give of your time and talents to INPAWS; I am sure that you will also benefit from it.

How to Make Dried Plant Specimens

by Kay Yatskievych and Rebecca Dolan

Botanists have been making pressed, dried specimens from living plant material for hundreds of years. These are kept in specially designed cases in herbaria (singular: herbarium) under carefully controlled conditions to prevent damage from moisture, insects, rodents, and other potential hazards. An herbarium combines aspects of a museum and a reference library and is an irreplaceable treasure that botanists use for many different research activities.

However, there is no reason that an interested plant enthusiast can't also make plant specimens and keep them for decades in his or her home. There is a long history of people doing just that and eventually donating the specimens to an herbarium. Some of the most valuable specimens in herbaria have come to them in this way.

The simplest way to dry material for a specimen is to lay the plant inside a folded sheet of newspaper, being careful to place the material flat and to position it in the way that you want it to appear on the specimen. It's a good idea to put some leaves up and some down so that characters from both sides of the leaves will be visible. Flowers should be placed so they can be seen and if possible one of the flowers opened so the inside is visible. Put the newspaper between blotters (which can be ordered from the suppliers listed below or cut from desk blotters sold at office supply stores) and corrugated cardboard, place a heavy object of the same size on top, and put the whole

thing somewhere warm and dry. Arranging the plant while it's fresh is difficult, but do the best you can. After it's been in the blotters for a day, it becomes limp and you can rearrange parts of it if necessary. Check daily and replace the newspapers and blotters if they become damp. This is especially important with fleshy plants that can mold quickly if not kept dry enough. Small plants can often be successfully pressed in a used telephone book with weights. These should be checked daily and moved to dry newspapers if not drying well. Within a few days to a week or so the specimen should be dry enough to mount.

Pressing plants as soon as they're collected gives the best specimens. However, storing them in a plastic bag in a cooler works almost as well. Keep them in the cooler or put the bag in the refrigerator when you get home until you're ready to press the plants. If you plan to collect more than just a few specimens, you might want to make a plant press or purchase one from one of the suppliers listed below.

To make a press, cut two 12 by 18-inch sheets from half-inch plywood. These can be firmly tied together with the specimen and accompanying paper and blotters between them. Clothesline is an inexpensive material suitable for tying. Small presses (about 8 inches by 10 inches) can sometimes be purchased from specialty stores and are useful for pressing flowers separately. It is important that materials for

mounting the specimen be acid-free. The standard herbarium sheet size is 11.5 by 16.5 inches. Acid-free herbarium paper, paper for the labels, glue, presses, and other materials can be ordered from the following sources.

Pacific Papers
15703 119th NE
Bothell, WA 98011
800-676-1151
www.pacific-papers.com

Herbarium Supply Company
3483 Edison Way
Menlo Park, CA 94025
800-348-2338
www.herbariumsupply.com

The above sources have a 100-piece minimum order for herbarium paper. If you want only a few sheets to try your hand at mounting, contact Kay Yatskievych.

Paper with a high cotton or rag content purchased at an office supply store is an acceptable substitute for paper for labels. White glue (such as Elmer's) can be used for gluing down both the specimen and the label.

When the plant material is dry, lay it on a sheet of herbarium paper and arrange it in a pleasing way. Be sure to leave space at the bottom right-hand corner for your label. Dab white glue on the back of each piece of plant material and place it where you decided you want it. Lay waxed paper over it and put a light weight (such as telephone books) to keep it in position. Allow to dry thoroughly.

MISSOURI
BOTANICAL GARDEN
HERBARIUM

No. 5169043



SEE FRUIT SPECIMEN
In box at
head of family

PLANTS OF INDIANA, U.S.A.

PEDALIACEAE/MARTYNIACEAE
Proboscidea louisianica (Mill.) Thell. ssp. *louisianica*

HENDRICKS COUNTY: Ca. 5 air mi NW of Danville,
ca. 1 mi W of junction with State Highway 236, at 4124
W County Road 350 N; ca. 2000 ft N of road in a weedy
backyard patio area by a bird feeder, in well-drained soil,
will full sun; plant ca. 3.5 ft tall, 3 ft diameter; corollas
varying from light rose to medium lavender, with gold
"tongue" at bottom. T61N R02W S26.

15 September 2000

Wayne Coles, with Susan Eberhoff Coles
#0001
Friesner Herbarium of Butler University (BUT)

Specimen of *Proboscidea* collected by Wayne Coles
(Labels have been enlarged for readability.)

Sizes and contents of labels for specimens vary greatly. A convenient size is 1/8 of an 8 1/2 by 11-inch sheet of paper (4 1/4 inches wide by 2 3/4 inches tall). The title line, usually centered at the top, for specimens not collected for a particular institution is usually something like: *Flora of Indiana, Plants of*

Indiana, or Herbarium of Charles C. Deam (for collections kept in a private herbarium). Other information that should be on the label (see figure of label for suggested placement) is the name of the plant including the authors [for example: *Proboscidea louisianica* (Mill.) Thell. subsp. *louisianica*], the

county and location where collected, habitat, the name of the collector/s, the number of the collection, and the date collected. The color of the flowers should be noted, since this will not be apparent when the specimen has aged. For specimens that are only

Specimens continued on page 6

part of the whole plant, the size of the plant should also be noted. It's a good idea to number your collections as you collect them. This can be done in a field notebook, and information about collecting location, habitat, size of the plant, and who's with you when you collect the specimen can be jotted down so they won't be forgotten when you process your specimens. The number on your collection also serves to make it unique so that when it's cited, there's no doubt as to just which specimen is being referred to. The specimen on the label illustrated would be cited: *Wayne Coles and Susan Eberhoff Coles 1* (BUT, MO). The collector and collection number are usually italicized. The "BUT" and "MO" in the parentheses refer to the two institutions where copies of the specimen (referred to as duplicates) have been accessioned (BUT = Friesner Herbarium at Butler University; MO = herbarium of Missouri Botanical Garden). When Wayne made the collection, Kay asked him to make two specimens so that both institutions could have a copy.

After your specimens are dry, store them in a sturdy cardboard or wood box. Check every few months to make sure they're not infested or getting damp.

If you are collecting on your own land or on the land of another pri-

vate owner from whom you have permission to collect, there are no laws to prevent you from collecting anything on those private properties. However, to conserve the plants on your property, you should not collect an entire plant if it is the only one you have. If the plant is big enough, you can collect a small part of it to make a specimen and still leave enough so that the plant will continue to thrive and will set seed, but this should be done with great caution. Many botanists will not collect a plant unless there are at least 20 of them at the location. If you suspect that you might have a plant that's listed on Indiana's Endangered, Threatened, and Rare list (ETR list), please do not collect it. If possible photograph it and contact Mike Homoya of the Division of Nature Preserves, Indiana Department of Natural Resources, 317-232-4052.

Most public lands require that you obtain a collecting permit before you collect any plants on them. So if you want to collect on land other than private land, make sure that you have the necessary collecting permits.

It is possible that you might have a plant on your property that has not been found before in Indiana. If you think this is a possibility, please contact Kay Yatskievych who is working on a *Catalogue of the Vascular Flora of Indiana*. This will

be a complete listing of every vascular plant known to exist or to have existed in the state.

About the authors:

Kay Yatskievych is working at Friesner Herbarium through the end of April on a grant arranged by Becky Dolan, who is Director of the Herbarium.

Addresses:

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4344 Shaw Blvd.
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314-577-9524
Kay.Yatskievych@mobot.org

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To search the Missouri Botanical Garden's nomenclatural database

Tropicos

please visit the following website:

<http://mobot.mobot.org/W3T/Search/vast.html>

Challenge for the Future

by Charlotte Read

More than three years ago, Bethlehem Steel Company, state and federal regulators, environmentalists, and two union locals of the United Steel Workers of America representing plant workers, got together to craft a Community Advisory Committee (CAC). This was an experiment in improving communications among the company, the unions, representatives of neighboring communities, the local high school, and private citizens, about the company's impact on the environment.

As one of its first actions, the CAC came up with the following mission statement: "The mission of the Bethlehem Steel Burns Harbor Division Community Advisory Committee is to facilitate the improved environmental performance of the Burns Harbor Division, resulting in the enhancement of our community through a forum of open discussion and free exchange of information."

The CAC operates on a consensus basis, utilizing facilitators provided either by the company or by the union, or both. It develops its agenda under the umbrella of the

mission statement. A top-priority item for the CAC is to seek a long-term, environmentally positive use for 160 acres of company property south of and separate from its steel making facilities.

Part of this 160-acre area was used for storage of wastes from its water-treatment plant from the 1960's through the 1980's. The balance of the property has been transformed over time into wetlands, in part through the efforts of beavers. Named the Little Calumet Restoration Area (LCRA) by the CAC, it also supports a sizeable population of Great Blue Herons and other birds. Other surveys of the area have identified a surprising number of other flora and fauna living there. The south end of the property is bordered by the Indiana Dunes National Lakeshore which inspired the group to develop a plan to ensure that this area remain as open space.

The restoration area contains contaminated areas. This requires the company to assess the impact of the existing contamination on public health and the environment,

depending upon what the company decides about its future land use. The CAC membership supports preserving the restoration area as open space, and a subcommittee of the CAC is working with the company and the federal and state regulators to help resolve regulatory issues that could make open space a realistic land use choice. Right now, revenues for all steel mills throughout Northwest Indiana have plummeted, making use or sale of this property for industrial purposes another option.

However this and other environmental issues involving the CAC and the company are resolved in the future, I believe that the community advisory committee model can be an important link in bringing about environmental improvement in Northwest Indiana. It may work in other communities where the company and the community are ready to work together for agreed-upon goals.

Charlotte J. Read is Assistant Director of Save the Dunes Council, and has been a member of the CAC since its inception.

There is still time to order the following books about
native plants
written by INPAWS members and published by Indiana University Press.

contact Carolyn Harstad by telephone
317-257-9452 or email
pharstad@iupui.edu.

Field Guide to Indiana Wildflowers

by Kay Yatskievych
\$17.95, pub. October, 2000

Trees of Indiana

by Maryrose and Fred Wampler
\$49.95, pub. November 2000

Go Native! Gardening With Native Plants and Wildflowers in the Lower Midwest

by Carolyn Harstad
\$24.95, pub. September 1999

M U L T I F L O R A E

The INPAWS 2001
Plant Sale and
Auction
Saturday, May 12

St. Pius X Catholic
Church School
7200 Sarto Drive
Indianapolis

Sale starts at 10 AM
Auction starts at 11 AM

If you will be donating native plants for the event, please plan to dig and pot the plants about two weeks ahead of time and keep them watered so they will look their best during the sale. Please label the plants and take them to Ross Hall in the school on Friday evening, May 11, from 7 to 9 PM or on Saturday morning, May 12, from 7 to 9 AM. If you have any questions or would like to help in any way with this event, please contact me.

Also, this year we would like to use posters or notebooks, with photos and brief descriptions of the native plants, at the plant sale in order to give people a better idea of what they are buying. If you would like to lend any photos or slides for this project, please let me know.

Thank you.
Janice Gustaferra
(317) 596-0977
jan@iei.net.

INPAWS members to
give lectures at the
Indianapolis Zoo/White
River Gardens

Saturday, April 7
12:30 to 2:30 PM
Wildflowers of Indiana
Kay Yatskievych

Wednesday, May 2
6:30 to 8:30 PM
Perennials That Work
Coletta Kosiba

Wednesday, June 6
6:30 to 8:30 PM
***Getting Started With Your
Home Landscape***
David Gorden

Tuesday, June 26
6:30 to 8:30 PM
Native Plant Landscaping
Kevin Tungsevick
of *Spence Restoration Nursery*, and
Loretta Sawaski
of *Living Landscapes*

Zoo members - \$25
non-members - \$30
To register call 317-630-2000.



Blue Bead
(*Clintonia borealis*)

Nature Walks at Butler University

Every second Tuesday of the month at noon, Dr. Rebecca Dolan, Director of the Friesner Herbarium, leads nature tours on the Butler campus. We will visit seasonal points of interest around the campus. Meet behind Gallahue Hall near the greenhouse. Walks last about 50 minutes. We walk in rain, sleet and snow. There is no charge and all are welcome to attend.

If you would like to receive a monthly reminder of the walk, or wish to be dropped from the reminder list, please call Dr. Dolan at 317-940-9413, or email rdolan@butler.edu.

Visit the Friesner Herbarium website at

www.butler.edu/herbarium

www.inpaws.org

Visit our website for news and information about INPAWS and native plant issues, as well as links to a wealth of like-minded organizations.

We would like to update our site with **your** news, information, comments, ideas, opinions, suggestions. In short, anything of interest to all concerned with preserving native plants and their habitats.

**Please email Anne Wilson
wilson@hsonline.net**

Help Protect the Arctic National Wildlife Refuge!

The U.S. Senate's Energy Committee will soon be drafting major energy policy legislation. Encouraged by the Bush administration, this bill will contain a proposal to open the Arctic National Wildlife Refuge (ANWR) to oil drilling.

In April 2000, Indiana senators Bayh and Lugar both voted in opposition to opening ANWR. Senator Lugar was one of only eight Republicans who took that position. Now it appears he may change his mind. We cannot afford to lose his support in what will certainly be a very close vote.

The 1.5-million acre coastal plain of the Arctic National Wildlife Refuge is "Big Oil's" number one target.

This magnificent stretch of tundra is home to musk oxen, polar bears, grizzly bears, wolves, and millions of migratory birds. Each year the coastal plain fills with migrating caribou, creating a spectacle that has led to this area's being called *America's Serengeti*.

ANWR deserves to be permanently protected, not subjected to oil rigs, trucks and pipelines. Please send a short letter or post card to Senator Lugar right away. Ask him to vote for continued protection of ANWR, not for its exploitation. Address as follows:

Senator Richard Lugar
United States Senate
Washington, D.C. 20510

Thanks!
Ted Harris

Ted is a conservation activist who lives in Crawfordsville, Indiana. He served as INPAWS Conservation Committee Chairman from 1996 to 1999.

Peter and Carolyn Harstad will represent Indiana at a **National Wildlife Federation** rally in support of this legislation in Washington DC April 2-4.

Send email to pharstad@iupui.edu to voice your support of the ANWR.

106th Congress Votes Funds for Wildlife

Thanks to the hard work of many members of INPAWS and other groups in Indiana dedicated to wildlife conservation, the 106th Congress passed the **Commerce, Justice and State Appropriations measure P. L. 106-553**.

As a result Indiana is eligible for \$885,927 for one year. The funds can be used for the protection of wildlife, conservation education and wildlife-related recreation. The Division of Fish and Wildlife is currently working with the Executive Office to promote some ideas. As soon as the Division knows what is possible, you will be advised on what our next steps will be.

Indiana's Members of Congress who supported wildlife conservation funding in the CARA bill were:

Representative Tim Roemer,
Representative Julia Carson,
Representative Mark Souder,
Representative Edward Pease, and
Representative Baron Hill.

Both Senator Richard Lugar and Senator Evan Bayh supported the legislation.

The new members of Congress from Indiana include Representative Brian Kerns (District 7, who replaced Rep. Edward Pease) and Representative Mike Pence (District 2, who replaced Rep. David McIntosh).

Now the Coalition for *Teaming With Wildlife* plans to return to the 107th Congress to ask for more long-term funding. Many leaders in the U.S. House and Senate plan to support

wildlife funding legislation for the states in a bipartisan way. The **International Association of Fish and Wildlife Agencies** in Washington continues its efforts on behalf of wildlife funding in Congress and the President's office. IAFWA updates are posted on the website www.sso.org/iafwa. For a look at the current **Annual Report of the Indiana Nongame and Endangered Species Program** visit the DNR's Fish & Wildlife website <http://www.ai.org/dnr/fishwild/nongame/nongame.htm>

Betsy Ingle
Teaming With Wildlife Coordinator
402 W. Washington St. W273
Indianapolis, IN 46204
Phone 317-233-6487
Email bingle@dnr.state.in.us

Work Days, Conferences, Workshops, etc.

Invasive Plants Removal Effort Continues

Broad Ripple Park Woods Restoration,

**Saturday, June 9, 2001
from 9AM to 12PM**

We will gather at Broad Ripple Park in Indianapolis again on Saturday, June 9th, to continue our project of removing **invasive Amur bush honeysuckle** from this popular city park's fine woods. Don Miller of Indy Parks will organize the work party. Don tells us we have already cleared the thickest infestation of honeysuckle, and we will be working further into the woods on more dispersed bushes this time.

Please bring work gloves. Preregistration is requested (but not required) to help us plan this event. Call Jean Roberts, 337-3126, to let us know you plan to participate. Volunteers will be treated to a pizza lunch.

There will be a **conference**
Saturday, March 24th
organized by the
**Fort Benjamin Harrison
Historical Society**

at the Garrison.
Details are available from the following websites:

<http://communities.msn.com/FortBenjaminHarrisonHistoricalSociety/>

<http://community.starnews.com/512/>

Workday at Cedar Bluffs

**Saturday, April 7, 2001
10 am to 3 pm**

Cedar Bluff Preserve,
Monroe County
**Garlic Mustard pull with Ellen
Jacquart**

Cedar Bluffs is a popular preserve southwest of Bloomington with scenic cliffs and streams. We will be pulling the dreaded invasive garlic mustard on the slopes and along trails in the preserve. We will also take time for a nice wildflower hike and a walk up to the bluff overlook to talk about our restoration efforts at the site. Bring lunch, water, and workgloves.

Directions: From Bloomington, take Walnut Street (Old Hwy. 37) south about 8.5 miles to Ketcham Road and go about 0.4 miles to where a powerline ROW crosses the road. (If you cross the creek, you've gone too far). Park along both sides of the road.

Ellen M. Jacquart
Director of Stewardship
Indiana Chapter of
The Nature Conservancy
1330 W. 38th St.
Indianapolis, IN 46208
317-923-7547



Garden Work Days

Holliday Park
Spring Mill Road
Indianapolis

scheduled for the following
Saturdays, 9AM until noon.

March 31	April 7
April 21	May 19
June 9	June 23
July 7	July 21
August 4	August 18
September 8	September 22
October 6	October 27

Refreshments, tools and gloves are provided. Please participate if you can and remember to log your hours on the INPAWS page of their volunteer notebook. Thank you! Let me know if you have any questions.
Thanks, Janice
jan@iei.net

The Hayes Arboreteum Envirofair, Richmond

is set for
**Saturday, April 21, 2001,
from 11:00 AM to 3:00 PM**

We had more than 1000 people attend last year and are expecting more this year.

Lindy Click
Hayes Regional Arboretum
801 Elks Road
Richmond, IN 47374

765-962-3745

More Events

Tom Potter will be teaching a **wildflower photography workshop**

at Holliday Park in Indianapolis on **Saturday, April 21.**

For more information, call Holliday Park at 317-327-7180.

Mavis Devoe will have a **photography exhibit**

at Holliday Park Nature Center from **June 1-July 31.** INPAWS members are invited to an opening reception Friday evening, June 1, at the Nature Center. Call Holliday Park 317-327-7180 for information.

Photographs

by **Carolyn Harstad**

will be on display at the Indianapolis Symphony Orchestra's Circle Theatre in downtown Indianapolis from June 4 until September 3.

Carolyn Harstad, Paula Jaeger, Lynn Jenkins, Joanne Mininger and Sharon Wiggins represented Indiana at the

Great Lakes Women in Conservation Leadership Training

held at Roscommon, Michigan, March 9-11. This conference, sponsored by the National Wildlife Federation, Washington DC, included five delegates each from Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. Other participants included Frankie Barker from the Alaska Center for the Environment, Judy Wagner from the Institute for Conservation Leadership, Boxford, MA, and National Wildlife Federation staff members.

Fort Harrison State Park, Indianapolis, is presenting a **wildflower day**

Thursday, April 21, 2001

covering everything from natives and exotics to basic ID skills to edibles and medicinals.

Jeannine Montgomery
Interpretive Naturalist
Fort Harrison State Park
317-591-0122
JMontgomery@dnr.state.in.us

The Second Annual Gardening and Landscaping Show

sponsored by the **Sycamore Land Trust**

will be held at the Bloomington Convention Center **Saturday, March 31, 2001 from 9 AM to 5 PM**

The emphasis is on gardening and landscaping with native plants. "This promises to be a real community event with booths, presentations, and activities for kids," says Tom Zeller, chairman.

Presentations and activities will include free soil testing, computer landscape design program demos, and booths sponsored by landscape architects, native plant people, nurseries and more.

Books and logo items will be for sale at the INPAWS booth. Authors Kay Yatskievych (*Field Guide to Indiana Wildflowers*) and Carolyn Harstad (*Go Native!*) will be present throughout the day for autographs. Membership information and INPAWS brochures will also be available.

INPAWS Volunteers Needed for Restore the Earth Day,

a partnership of **INPAWS** and **Holliday Park** in Indianapolis, on

Saturday, April 28, 2001, 9 AM – noon.

Who:

120 Girl and Boy Scouts will come together for a morning of native plant education and community service (**pulling garlic mustard**).

Where:

Holliday Park,
6349 Spring Mill Rd,
Indianapolis, IN 46260

Why:

- To learn how to identify Indiana's native plants,
- to go on a wildflower hike,
- to eat edible wild plants,
- to help rid the park of invasive garlic mustard

How you can help:

- lead/co-lead a wildflower hike
- help supervise scouts during the garlic mustard pull
- assist in set-up/clean-up/refreshments
- collate packets of materials to be distributed to scouts and leaders

To volunteer contact:

Gayle Moore
317-271-7566
email: gsmoore25@aol.com

For scout troop registration contact:

Holliday Park
317-327-7180

Letters

The Fire Pink Bill is Dead – *Long Live the Fire Pink!*

Who killed the Fire Pink bill? Senator Thomas Wyss, Fort Wayne, chairman of the Public Policy committee, by adamantly refusing to grant SB 57 a hearing.

From the editor

It is discouraging to think that one man—Senator Thomas Wyss—could singlehandedly kill Senate Bill 57, ignore 27,000 fourth graders and their Indiana History class, scoff at the democratic procedure that selected the Fire Pink, and scorn the educational benefit for our youngsters that this bill could have produced. What a disappointment that we were unable to get even a hearing.

But this may have been educational after all. When Hoosiers see the Fire Pink on a walk through the woodlands in May, perhaps they will recognize this bright red native wildflower and say “Oh—that’s the flower they wanted to make the official state flower of Indiana.” If we accomplished that much, then the campaign will have accomplished some good.

Carolyn Harstad

Dear Indianapolis Star:

I am writing in response to the editorial on Feb. 8th by Andrea Neal (Lawmakers wimp out on peony pitch) regarding efforts to change the state flower to the fire pink (Senate Bill 57/House Bill 2053). I

support efforts to change our state flower to a native species. Hoosiers should be embarrassed by the fact that our state flower has flip-flopped around for decades among a series of non-native species.

As a precursor to the participation of the state’s fourth graders, the Indiana Academy of Science enlisted the help of ecologists, botanists and naturalists to submit their nominations for a native state flower. By a preliminary vote, their suggestions became a “short list” of native flowers submitted to the fourth graders for their study and participation. This was not an ill-conceived project. Everything about it was inspired by careful, intelligent consideration.

There were important history and civics lessons to be learned by the fourth graders who participated in selecting the fire pink as the candidate for our state flower in 1996. The lesson they are learning now is probably creating a new generation of cynics with regard to politics and the legislative process. If the legislature can’t deal with such a simple, well-thought-out concept, how can they be expected to deal with matters of greater consequence in a professional manner?

It is true that the legislature has many important issues before it for debate and consideration. Changing the state flower to the fire pink doesn’t need to get bogged down in ridicule and hours of needless debate.

The Indiana Academy of Science and Indiana’s fourth graders did the hard part. For the legislature, the rest should be a simple, positive, righteous task.

Lee Casebere

To the editor

I’m angry and disheartened that the Fire Pink bill is dead. But I’m not surprised that the Indiana State Legislature has once again put the monetary interests of a few above a rational attempt to educate the children and citizens of Indiana about a part of its natural history.

Kay Yatskievych

Dear Senator Garton:

There is a great movement across the nation to return to planting of native vegetation in individual states. There are a variety of important environmental and practical reasons for this movement as you might be aware.

It does not seem important to me, or maybe a majority of Indiana voters, which flower was chosen to replace the peony, which is native to the Orient. It does seem important to have a plant that truly represents Indiana.

Native plants are not fleeting; they are STABLE and will always remain a part of our state.

Diane Stippler

Dear Senator Thomas Wyss,

As an Indiana citizen, I am disappointed that you decided not to hear the recently introduced State Flower bill.

It seems logical that an exotic flower from China (or any other country) never could represent all of the cultural backgrounds of people who live in Indiana. The past and present state flowers were likely conceived by one individual or a few people with very little forethought of why.

It would be logical that a flower native to the state could represent the majority of citizens, plus serve to honor the landscape and the past and present members of society who chose to live here.

The issue is not that you didn't support the bill, but why you chose not to hear it. This decision of yours, and possibly a few other lawmakers, will serve to further educate all ages about their legislative process here in Indiana.

What is the important issue here?

I believe that the Indiana government should nurture good educational initiatives. In representing the community, lawmakers should be responsive to opportunities that will serve to better educate its citizenry about cultural and natural environments.

I also believe it is important to celebrate the richness and diversity of our native flora. It should be just as obvious to the government how critical natural environment is for economic benefit and quality of life.

Maybe you and other fellow lawmakers may have another chance to be proactive in educational processes when similar issues arise.

Respectfully submitted,
Donald R. Miller

Dear Senator Garton:

I recently gave a talk to Mrs. Hill's 4/5th grade gifted class at Forest Dale Elementary in Carmel about the Indiana State Flower bill (SB57 and HB 2053). These bright young children are in the process of learning about how our government (both State and Federal) works. They have learned about the Constitution and about their rights as citizens.

I explained that we are one of only seven states that have a non-native flower to represent it. All the rest of the states in America have a flower that is commonly found throughout their particular state. Their response: "Why?" I had no answer for them. This makes absolutely no sense to them and to me.

I further explained that in 1996, more than 27,00 fourth graders participated in the State Flower project and 6,000 fourth graders just like them voted for the Fire Pink (*Silene virginica*) as the new state flower while studying Indiana's natural history. This flower can be found throughout the state naturally. We don't have to import it from China and put it in our state!

Mrs. Hill's class wanted to know if those fourth graders were heard. Were they? Those children are eighth graders in junior high school now.



This isn't the first time Indiana has had a non-native plant for its flower symbol. We've had the carnation from Europe and the zinnia from Mexico. Although I love all three flowers, I just don't see how a flower from a foreign country can have a claim to any of our states as a symbol.

It's like having the Queen on our dollar bill instead of George Washington, or using a parrot as our national bird. Why is it too much to ask to have the Fire Pink as Indiana's state flower?

Sincerely,
Carolyn Wright Vice President
Citizens For Greenspace
Carmel, IN

Would you support future efforts for legislation to change the official Indiana state flower from the Asian Peony to the native Fire Pink?

Or should we just request legislation to name the Fire Pink as the "state wildflower?"

Or should we give in to Senator Wyss and just forget it?

Let us hear from you. Send your letters and emails to the Editor.

Carolyn Harstad, Editor
5952 Lieber Road
Indianapolis, IN 46228
pharstad@iupui.edu

Botany 101 - eighth in a series

Twig Characteristics

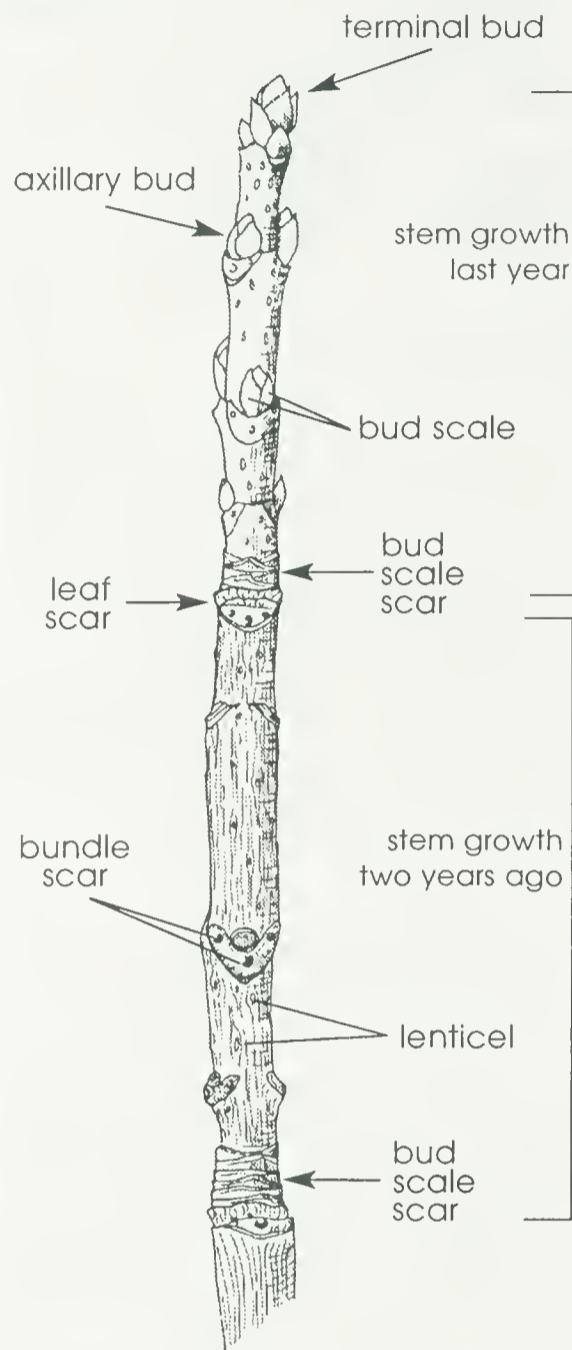
by Rebecca Dolan

Looking out my window reminds me that this is a good time of year to think about identifying trees using twig, or young branch, characteristics. It will be a long time before the leaves return. All twigs are all built on the same basic scheme, but different species have distinct characteristics. Study the diagram and match up the terms below, then scout out some common trees you have identified in summer and look for the specific traits that are displayed best in winter.

Twigs end in **terminal buds**. These contain the **meristem** that will provide more branch growth in the coming year. Buds are protected by **bud scales**. Terminal bud scales leave **bud scale scars** around the circumference of a twig when they fall off as new growth is initiated. These scars often remain visible on twigs, indicating where growth started the previous season. Three to four years' growth can often be seen on a twig.

Axillary buds are found appressed along the sides of twigs just above where the petiole of last year's leaves attached to the twig. These will develop into side branches. The spot where the leaf attached is referred to as the **leaf scar**. Some trees have obvious **bundle scars** within the leaf scars. These are the traces of the vascular system, the xylem and phloem that supported the leaf.

Other features of twigs are often used in winter botany identification. **Lenticels** are corky cracks in the bark that look like elongated dots scattered along the branch. The soft, central part of a twig, visible when



you cut a small branch, is called the **pith**. The pith may be chambered, having tissue that divides it into sections along the twig, and may be circular, or have another distinctive shape in cross section. **Thorns**, if present, are also easily seen in winter. The color of twigs is sometimes also diagnostic.

Distinctive twig features of some common trees:

Members of the **rose family**, including many fruit trees, often have **large lenticels**. Our common Black Cherry displays numerous long lenticels.

Oaks have distinctive star-shaped pith, clearly visible if the twig is cut cleanly, and buds clustered at the ends of the twigs.

Sycamores have leaf scars that completely surround the axillary buds, so next year's growth comes right out of the spot where last year's leaf attached, not below the point of attachment as in most trees.

Ohio buckeye has heart-shaped leaf scars that are very large, along with large terminal buds.

Maple twigs usually have three bundle scars and tend to be slender.

Black locust has buds that are hard to see; they remain underneath the leaf scars. It often, but not always, has thorns.

Ash twigs are stout and have many leaf scars.

American beech twigs have one-inch long, tan buds with many bud scales.

Mulberry twigs have many bundle scars and no terminal bud.

Redbuds have uneven fringing on the upper edge of their leaf scars with the axillary bud centered directly above the leaf scar.

Tulip poplar has flattened terminal buds.

That nasty, **invasive, non-native, Tree-of-Heaven** has brown pith with up to nine bundle scars along the lower side of each leaf scar.

Black walnut has chambered pith that is tan or light brown.

Becky Dolan is Director of the Friesner Herbarium at Butler University.

Illustration of Silver Maple (*Acer saccharinum*) by Jan Glimn-Lacy, botanical illustrator.

Indiana Native Plant and Wildflower Society (INPAWS) Small Grants Program Guidelines

INPAWS has a small grants program to support projects that are in line with the mission of the society. Toward that end, the Board voted in 1998 to allocate \$10,000 from the general fund to an endowment account. Interest from this account will be available for grants. The Awards Committee anticipates funding two grants of up to \$500 each this year.

We hope that these small grants will be used in conjunction with other sources of funding for project enhancement such as signage and brochures, special plantings or purchase of native seed stock.

The mission of INPAWS is to promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to

Indiana and to educate the public about the values, beauty, diversity and environmental importance of indigenous vegetation.

Applications are requested from groups or individuals and must be post-marked by **April 15, 2001**. They will be reviewed by the committee.

Application Procedures for the INPAWS Small Grants Program

Please submit the following:

1. Cover sheet including

- Name of project
- Amount requested
- Location
- Applicant/contact person name, address, telephone
- New or existing project
- Category that best describes the project: research, training, education, conservation and habitat, demonstration garden, etc.

- Who benefits from the project? How many? How do they benefit?
- Names of organizations involved, if any, with a brief description of each, including number of members
- Financial resources committed to the project from other sources, if any
- Anticipated starting and completion date of the project

Mail four copies of the grant proposal, post-marked by **April 15, 2001**, to Dr. Rebecca Dolan.

2. Text of proposal

(not to exceed 2 pages)

- a) A summary of the project, not to exceed fifty words
- b) A clear, concise description of the project which includes the following:
 - How does the project further the INPAWS mission?
 - Why is the project needed?
 - Specific objectives to be achieved
 - Specific information on how INPAWS grant funds would be used

3. Budget sheet showing:

- a) Labor, material and program costs
- b) Sources and amounts of funds already raised, if any
- c) Total cost of project

Fifty percent of funds awarded will be available at the start of the project, 50% upon receipt of a final report by the Awards Committee. In addition, successful awardees must prepare a poster or other presentation to share with the membership at the Annual Conference subsequent to completion of the project.

Larger Grant Awards

At the discretion of the Board and membership, larger awards may be made from time to time from the assets of the operating budget. Requests for funds for special projects may be made at any time to the Executive Committee. All requests must be made in writing with a clear statement of how the award would further the mission of INPAWS and benefit our membership.

**Dr. Rebecca Dolan
Friesner Herbarium
Butler University
4600 Sunset Avenue
Indianapolis, IN 46208**

**317-940-9413
317-940-9519 FAX
rdolan@butler.edu**

In Memoriam
Juanita Graham

April 1, 1909–November 17, 2000

Juanita graduated from Toledo University in 1932 and earned an MA in Social Work from Columbia University in 1939. She worked at the Child Guidance Clinic and later was the director of the Jewish Social Services in Indianapolis. She was the widow of Henry Graham. She is survived by her son, Henry Martin Graham Jr (Sandy) and two grandsons, Keith and Brandon. Juanita was a charter member of INPAWS, an enthusiastic traveller, and an avid naturalist. Her property is a wonderful example of a pristine Indiana woodland.

Sandy Graham is planning a *Celebration of Life* for his mother on the anniversary of her birthday, Sunday, April 1, 2001, from 1:30 to 4 PM.

He invites everyone to share memories, and to say a few remarks about Juanita. This will begin about 2:30 PM. If you would like to participate in this brief program let Sandy know. 317-873-3520

Juanita Graham generously designated INPAWS as the recipient of memorial donations in her name.

Thanks to Roger Hedge, Carolyn Bryson, Becky Dolan, Reta and Rob Rutledge, and Emily Featherstone, who have made contributions to INPAWS in her memory.

**Directions to the
Juanita Graham property
9170 Loveland Lane
Zionsville (bordering Indy)**

- I-465 to West 86th Street
- West on West 86th Street to Moore Road stop light
- North on Moore Road to West 93rd Street
- West (left) on 93rd Street
- Another left to Fanchon Drive. Juanita's property shares a driveway with two other houses at the intersection of Fanchon Drive and 92nd Street.
- Park on Fanchon Drive and walk up the driveway.

Personal Tribute to Juanita Graham

Juanita Graham, naturalist, environmentalist, wildflower enthusiast, social worker, humanist—she was all these characteristics in the best sense of the terms.

I first learned to know Juanita through social work paths, but soon noted that this woman of substance was much more than a mere professional persona.

Our continuing associations turned to more elemental, organic, and life-sustaining issues. She was a true friend. Juanita taught me to revere all of life. She did it with her enthusiasm for plants and animals, particularly those native and wild. Self-taught, she could identify and recite botanical names with the best of the

scholars. But what was most important is that she genuinely cared for and about the environment.

She introduced me to strange-sounding plant names like *Hepatica* and *Anemone*, and also reawakened childhood memories of subterranean ant lions with their inverted-cone sand traps. She pointed out the barred owl, perfectly framed 30 feet up in a tree cavity. Its steady gaze guarded the Graham home. No doubt the most memorable day together was sitting on the front door bench, watching with amazement the aerial mating dance of the hummingbirds as the male traced a giant "U" in the sky.

And beyond her concern about the

natural realm, it was the way she genuinely cared about people, all of us. Being in her presence was a warm rush of emotional pleasure as she bathed you in delicious attention that, for the moment, made you believe you were the most important person in her life. I believe in those moments we were most important. I, for one, often lingered to bask in the rays.

Perhaps frail-appearing in body, but giant in spirit, Juanita Graham lived life responsibly and to the fullest. She enjoyed life, taught us to enjoy life, and we are all blessed to have been a part of living with her.

Donovan Miller

*Personal Tribute
to Juanita Graham*

Dear Lady Juanita,

How we will miss you . . . how I will miss you.

You . . . who shared some lovely Snow Trillium with me. They returned year after year and I called you each time. Now, no call. But I will remember.

You . . . who introduced me to Purple Flowering Raspberry, and surprised me with a large start. It responded by raising a small family, and your kindness will be remembered by all when I share the offspring with those whom you left behind.

You . . . who parted with several of your largest Ladies Slippers to enhance the auction, then sadly lamented when a thief took the rest of them a week later. Compounded when he later stole your ginseng plants. It made you very sad.

You . . . who had me stop the car to investigate a blue haze way out in the field. Your 89-year-old eyes had spotted a drift of Miami Mist. A first for me.

You . . . who toughed it out 'til your poor feet ached while on an INPAWs hike.

Yes Lady Juanita, you . . . who radiated at your 90th birthday party surrounded by friends whose lives you touched.

You . . . will be missed . . . and remembered.

Rolland Kontak



Opportunities for
Volunteering

INPAWS will have an information booth and a native plant microgarden at

Orchard in Bloom

**Holliday Park, Indianapolis,
May 4th, 5th, and 6th.**

We need volunteers to help set up and dismantle both the garden and the booth and to help staff both areas during the event.

Contact Carolyn Bryson to help with the booth

317-873-4205

quinnell@iquest.net.

To help Linda Bullard with the microgarden call 317-769-6643

Are you moving? Will you be away for a while?

We don't want you to miss a single issue of the newsletter. So if you have a change of address, or will be away only temporarily, please fill in the form below.

NAME _____

ADDRESS CHANGE _____

CITY CHANGE _____

STATE AND ZIP CHANGE _____

AWAY STARTING DATE _____

RETURN STARTING DATE _____

Mail this form to:

Katrina Vollmer
3134 Greenbriar Lane
Nashville, IN 47448

or email information to: katrinajo@bigfoot.net



INDIANA NATIVE PLANT AND Wildflower Society

MEMBERSHIP APPLICATION/RENEWAL

Annual dues pertain to the fiscal year January 1 - December 31. Dues paid after September 1 are applied to the following fiscal year.

Student \$10 Individual \$18 Family \$25 Patron \$100 Sponsor \$250 Corporate \$500
Supporter (Additional Donation) \$ _____ Total Enclosed \$ _____

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CITY _____
COUNTY _____

TELEPHONE _____
EMAIL/FAX _____
STATE _____ ZIP _____
 NEW RENEWAL

How did you hear about INPAWS?

3/01

Please complete this form (or photocopy first) and mail, along with your check made payable to:
Indiana Native Plant and Wildflower Society, or INPAWS
c/o Katrina Vollmer
3134 Greenbriar Lane
Nashville, IN 47448

I would like to help on these committees:

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Advisory | <input type="checkbox"/> Education | <input type="checkbox"/> Native Plant |
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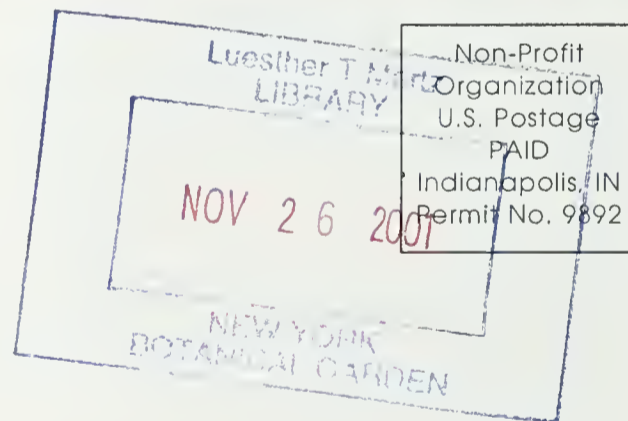
GIFTS DO HELP. INPAWS donors at the *Supporter, Patron, Sponsor* and *Corporate* levels will receive special recognition. All donations above *Student, Individual* and *Family* dues are most appreciated and can aid our mission. Donations are tax-deductible to the extent provided by law.



INDIANA NATIVE PLANT AND Wildflower Society

3134 Greenbriar Lane
Nashville, IN 47448

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INDIANA NATIVE PLANT AND *Wildflower Society*

Volume 8 Number 2 • Summer 2001

NEWS

Continuing the series: **Challenge Plants of the Dunes** the Grape Ferns

by Barbara Plampin

The **grape ferns** (*Botrychium spp.*) grow year round in the Dunes. The green or bronze fronds of cut-leaved grape ferns (*B. dissectum*) delight the eye in fall and winter, while summer's rattlesnake fern (*B. virginianum*) can be downright common.

At May's end comes a challenge: the approximately three-inch, variously named daisy-leaved moonwort, daisy-leaved grape fern, chamomile grape fern or just plain grape fern (*B. matricariaefolium*). [Ed. note: the specific epithet is a sufficient challenge by itself!]

Grape fern can be written as a single word.

Called a "weed fern" by the late Dr. Warren Wagner, the

daisy-leaved grape fern is, nevertheless, state threatened (six to ten known sites in Indiana, the southern end of its range). Its approximately eleven-day above ground appear-

ance (officially, May 23 to June 3) and its low stature make it hard to spot amid the surrounding leaf litter.

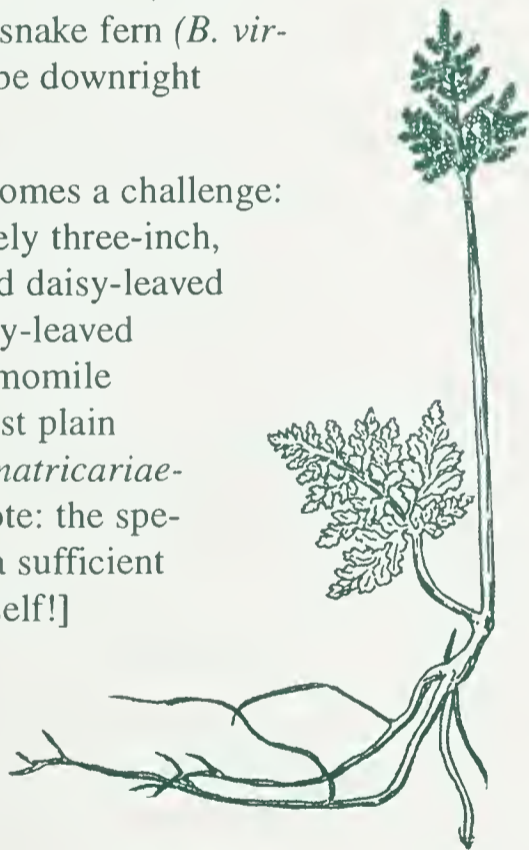
Furthermore, plants often appear singly or are scattered.

The common names offer identification clues: 'grape' indicates sporangia clustering around the fertile frond branches; 'chamomile' describes the single sterile leaf better than 'daisy.' The less useful 'moonwort' tells us that the small *Botrychium* leaf lobes are often almost moon-shaped. Whereas some chamomile lobes are oval, others are variable. The fertile and sterile components together form a 'V' atop a single stalk.

B. matricariaefolium plants can be found: I once found myself sitting next to one on a black oak slope. Other habitats in or near the Dunes include a boreal flatwoods; a

restored cornfield; and in red maple-spice bush woods, where companion plants include wild garlic (*Allium tricoccum*), woodland knotweed (*Polygonum virginianum*), and starry false Solomon's seal (*Smilacina stellata*). Perhaps it is the varied habitats of this species that caused Dr. Wagner to use the epithet "weed."

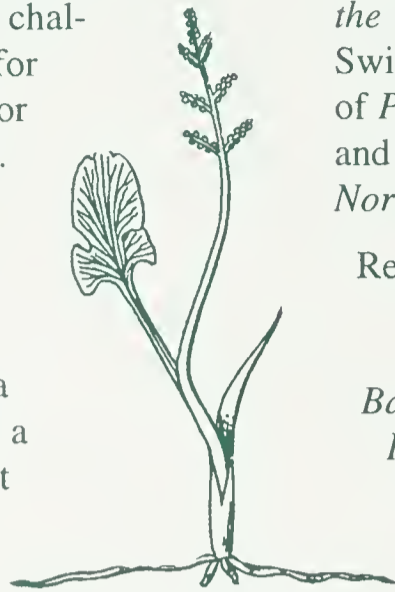
Challenge Plants continued on page 2



Daisyleaf Grape Fern
(*Botrychium matricariaefolium*)

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Having found the elusive chamomile grape fern, do you need a further challenge? Then hunt for the smaller dwarf or least grape fern (*B. simplex*). It last appeared in Indiana in June, 1990, sheltering under willows on a gentle slope above a Duneland marsh. It was found there by Myra Newgent.



Least Grape Fern
(*Botrychium simplex*)

Note:
Botrychium classification is fluid. Helpful books include

Deam's *Flora of Indiana*,
Lellinger's *Ferns & Fern-Allies of the United States and Canada*,
Swink and Wilhelm's fourth edition of *Plants of the Chicago Region*,
and Wiley's pocket-sized *Ferns of Northeastern United States*.

Report finds to the DNR.

Barbara Plampin is a member of INPAWS, a trustee of the Shirley Heinze Environmental Fund, and a member of Save the Dunes Council. She has a Ph.D. in English literature from the University of Michigan. Botany has been her avocation all her life.



Cut-Leaved Grape Fern
(*Botrychium dissectum*)

The Newsletter of the Indiana Native Plant and Wildflower Society
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Published quarterly by the Indiana Native Plant and Wildflower Society for members.

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We welcome opposing viewpoints.

Articles, letters, drawings should be sent to Carolyn Harstad, 5952 Lieber Road, Indianapolis, IN 46228.

www.inpaws.org

The mission of the Indiana Native Plant and Wildflower Society is to promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity and environmental importance of indigenous vegetation.

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Invasive Plant Removal
Dee Peine (317) 293-6282
Amy Kress (765) 489-3612
akress@mcc.mccoak.org
Newsletter
Carolyn Harstad (317) 257-9452
pharstad@iupui.edu
Programs/Field Trips
Ken Collins (317) 891-9804
Publicity
Jo Ellen Meyers Sharp (317) 251-3261
jemsharp@aol.com
Speakers Bureau
Colletta Kosiba (317) 852-5973
Website
Anne Wilson wilson@hsonline.net
West Central Chapter
(West Lafayette)
Chris Brewster (765) 463-7171
jim.chris.brewster@worldnet.att.net
North West Chapter
Jan Hunter (219) 772-0934
Past Presidents
Ruth Ann Ingraham 1998, 1999
rai38@aol.com
Carolyn Harstad 1996, 1997
Jeffrey Maddox 1994, 1995

President's Message

by Carolyn Q. Bryson

Orchard in Bloom

INPAWS again participated in Orchard in Bloom with both a microgarden and an information booth. Linda Bullard designed and installed the microgarden, with the able assistance of Wendy Ford, Nancy Hill, Ann Hathaway, Connie Douglas, Connie Williams, and Jo Irwin.

The microgarden featured a large *Cercis canadensis*, a medium-large *Lindera benzoin*, and two smaller *Aronia melanocarpa* as anchoring woody material. There were some native plants that are not commonly found in gardens, including *Aralia racemosa*, *Carex radiata*, *Hydrastis canadensis*, *Pachysandra procumbens*, *Tradescantia ohioensis*, and *Valeriana pauciflora*. Many familiar favorites were also present: *Aquilegia canadensis*, *Arisaema triphyllum*, *Asarum canadense*, *Iris cristata*, *Jeffersonia diphylla*, *Smilacina racemosa*, *Phacelia sp.*, *Polemonium reptans*, *Silene virginica*, *Stylophorum diphyllum*, *Uvularia perfoliata*, and several forms of *Trillium*, as well as many others. The hot weather stressed the plants, but with the frequent watering provided by our volunteers, they survived the weekend and represented their fellow natives quite well. Storm clouds gathered as Orchard in Bloom ended and the garden was dismantled in a downpour by some very dedicated INPAWS members: Linda Bullard, Wendy Ford, Katie Booth, Don Bryson, and Randy Royer.

The information booth featured our trifold display about non-native invasive plants. We also sold

Carolyn Harstad's *Go Native!*, Kay Yatskievych's *Field Guide to Indiana Wildflowers*, and Maryrose and Fred Wampler's *Trees of Indiana*. In both the booth and the microgarden we distributed our *Invasive Plants in Indiana*, *Landscaping with Plants Native to Indiana*, native plant rescue, and membership brochures and our Plant Auction/Sale information sheets. Thanks to the help of Mary and Robert Kraft, the booth was dismantled in record time and everything was safely packed into my car before the rain came.

Many thanks to all of the other volunteers who cheerfully staffed the microgarden and the information booth during Orchard in Bloom: Nancy Hill, Jo Irwin, Marian Harcourt, Sophia and Dan Anderson, Barbara Hamilton, Sallie and Tom Potter, Emily Featherstone, Nina Evans, Marilyn and Charles Spurgeon, Mildred and Rolland Kontak, Shirley and Jon Cain, Linda Haas, Janice Gustafarro, Jo Ellen Meyers Sharp, Kimberly Krull, Carol Ford, Mary Johnson, and Mary Kraft.

Orchard in Bloom provides us with an excellent opportunity to educate the public about non-native invasive plants, native plants, and our organization, and I trust that we will continue our participation next year.

Carolyn Q. Bryson



Nominations for INPAWS Officers for 2002-2003 are being sought

If you would like to nominate a candidate for an INPAWS office for the 2002-2003 term, please contact

Nominating Committee Chair
Carolyn Harstad
317-257-9452
email pharstad@iupui.edu

or members of the committee:

Clare Oskay
317-786-7529
email oskay@surf-ici.com

Lee Casebere
317-843-8379
email
lcasere@dnr.state.in.us

Offices to be filled are:

President
Vice President
Corresponding Secretary
Recording Secretary
Treasurer

The election of officers will take place at the annual meeting to be held November 10, 2001. Nominations may also be made from the floor at the annual meeting.

Focus on Native Forages: Cup Plant and Illinois Bundle Flower

by Rebecca Zych, Anna Bennett, and Paul Hammond

Cup Plant, (*Silphium perfoliatum*), ranges throughout the mid-western tall-grass prairies. It becomes more rare, like most prairie species, as you proceed east. The species prefers sunny, moist areas along prairie streams, in floodplains, or along the edges of woodlands. Cup Plant is a perennial that can reach heights of eight feet tall. It has yellow daisy-like flowers, but its more interesting feature is the leaves from which it gets its name. The large coarse leaves are borne opposite each other on the square stem and the leaves' bottoms fuse to form a cup, which holds rainwater. Cup Plant is not known to have many pest or disease problems. It is readily transplanted when young, but developed plants have an extensive root system that makes transplantation difficult if not impossible. Cup Plant has served many uses over time from chewing gum to alternate forage for livestock.

While Native Americans used the hardened sap from the plant for

chewing gum to freshen their breath, it is cup plant's usage as an alternate forage that is gaining wide interest. Farmers have begun to appreciate cup plant's ability to grow in wet conditions and produce good yields with high nutritional quality when other forages would do poorly. Its thick stems prevent it from being useful as a hay, however, and proper, measured drying techniques must be practiced in order to ensile cup plant correctly. Cup Plant's digestibility overall has been found to be comparable to

alfalfa. While the alfalfa might be digested faster than cup plant, cup plant maintains a higher amount of digestibility as it matures because of a slower increase in its indigestibility fraction.

The Illinois Bundle Flower, (*Desmanthus illinoensis*), is a legume native to the Midwest.

This warm-season perennial grows to a height of about three feet. It

grows in sand through wet prairies. The leaves are delicate pinnately compound. They resemble the mimosa, which gives it the name "prairie mimosa." It bears greenish white flowers from June to September. Illinois bundle flower produces clusters of seedpods that contain one to five seeds.

Illinois Bundle Flowers are nitrogen-fixing and nourish other plants in the soil. The seeds and the leaves are used as an alternative forage. They are an excellent source of nutrition. Plants flower profusely when not grazed and produce high yields of seeds if harvested before shattering. Roots contain exceptional insecticidal properties. The Pawnee Indians

used the leaves as a dermatological aid. The Paiute Indians made an eye medicine from the seeds. The plant can also be used to treat itching.

As cup plant and bundle flowers have gained more interest, research into the details of their germination requirements has become a higher priority. The first



Cup Plant
(*Silphium perfoliatum*)



Illinois Bundle Flower
(*Acuan illinoensis*)

Eighth Annual Conference of the Indiana Native Plant and Wildflower Society

Saturday, November 10, 2001 Gallahue Hall Butler University, Indianapolis

Scheduled speakers include:

Ellen Jacquart

of The Nature Conservancy and INPAWS Invasive Plants Chairperson.

Darrel Morrison, FASLA,

Dean of the School of Environmental Design at the University of Georgia and a nationally prominent authority on the restoration of prairies and other natural landscapes.

Connor Shaw,

owner of *Possibility Place Nursery* in Monee, Illinois, native plant grower.

Elizabeth Mueller,

founder of Zionsville, Indiana's community conservation effort, *Habitat C.P.R.—Creation, Preservation, and Restoration.*

Marion Jackson,

Professor of Ecology at Indiana State University, author of the recently reprinted *Natural Heritage of Indiana*, and currently working on a guide to Indiana trees.

Brett Rappaport,

attorney and president of *Wild Ones—Natural Landscapers, Ltd.*, an organization promoting biodiversity and environmentally sound practices at the “plant-roots” level and landscaping using native species in developing plant communities.

Further details and registration information will be sent in September.

Plan now to join your fellow INPAWS members and native plant enthusiasts for a day of information, inspiration and socializing.

David Gorden,
Chairman

(317) 926-0851
dgorden@gateway.net

two authors investigated cold moist stratification requirements for each species. Seeds were placed on moist sand in petri dishes. Fifty seeds per dish replicated four times for each treatment. Upon graphing the results, it was clear that under these conditions cup plant prefers a four-week cold moist stratification. Bundle flower does not have as strict a set of requirements.

Works Consulted

Han, Albrecht, Mertens, and Kim. “Comparison of In Vitro Digestion Kinetics of Cup-Plant and Alfalfa.” Department of Agronomy, University of Wisconsin-Madison. <http://www.ajas.snu.ac.kr/contents/abr/00-5-86.html>

Han, Albrecht, Muck, and Kim. “Moisture Effect on Fermentation

Characteristics of Cup-Plant Silage.” Department of Agronomy, University of Wisconsin-Madison. <http://www.ajas.snu.ac.kr/contents/abr/00-5-85.html> and <http://www.nal.usda.gov/ttic/tektran/data/000011/43/0000114378.html>.

Mallorn Computing, “*Silphium perfoliatum* L.” Mallorn Computing, Inc.

<http://www.mallorn.com/pom/Aug99/>

Paul Hammond is an INPAWS member, and a graduate student in agronomy at Purdue University in Lafayette, and was the head Teaching Assistant for this project.

Rebecca Zych is a junior, and Anna Bennett a sophomore, in animal science pre-veterinary medicine at Purdue.

Seeds used in this project were from INPAWS donations. Some of the extra plants were sold at this year's INPAWS plant auction/sale.

Paul is again requesting that INPAWS members send him seeds, especially from plants that will set their seed by early September. He will again donate plants to next year's sale.

Please contact him by email if you would like to participate in this project.

phammond@purdue.edu

Botany 101 – ninth in a series

Internal Anatomy of Plants

by Dr. Rebecca Dolan and Dr. Katherine Schmid

Last issue we looked at external twig structures. Now it's time for a look at the internal anatomy of plants. Unlike animals, plants grow from certain points of undifferentiated, unspecialized tissue known as **meristems**. In this column, we will concentrate on tissues produced by the apical meristems at the growing tips of plants. Cells generated by apical meristems give rise to leaves and all of the tissues of younger stems and roots.

A **tissue** is a group of different types of cells that work together. Plants are constructed of three main tissue types:

- 1) **dermal tissue** – the “skin” of the plant;
- 2) **vascular tissue** – the “plumbing” of the plant, responsible for conducting water and food; and
- 3) **ground tissue** – unspecialized tissue for support, storage and photosynthesis.

The cross-section of a young stem shows the typical distribution of cells derived from apical meristems. The dermal tissue is a thin layer of epidermis covering the stem. Much of the interior consists of nondescript ground tissue, in which the veins or bundles of the vascular system are imbedded. Within each vascular bundle,

xylem conducts water and minerals, while **phloem** transports sugar. Water and minerals always enter the roots and move up the xylem. The phloem transports sugar from where it is most abundant—usually the leaves, where it is produced by photosynthesis—to wherever it is needed—roots, flowers, meristems, etc. In young stems, the **vascular bundles** may be arranged in a ring or scattered around the ground tissue. In roots, the vascular tissue is more centralized, while in thin leaves, the branching patterns of the main vascular bundles are easily visible to the naked eye.

Each tissue type is made up of cells. Ground tissue has three main cell types. **Parenchyma cells** come in various sizes and shapes and are generally thin-walled. Parenchyma functions in photosynthesis and storage.

Collenchyma cells function in support, and have thicker but flexible walls. Celery strings are an example of collenchyma.

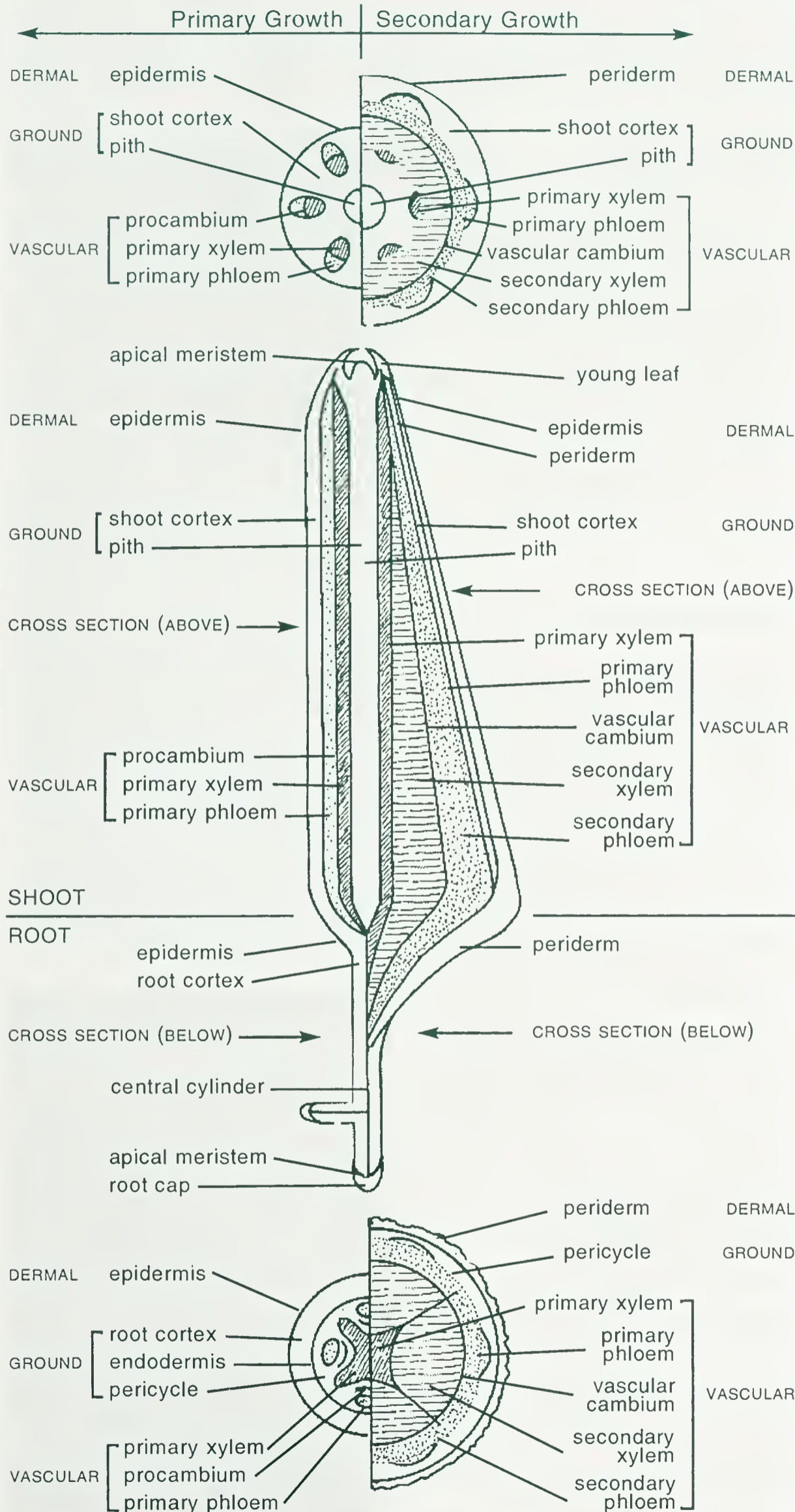
Sclerenchyma cells (my personal favorite name) have the thickest walls of all, and are dead at maturity. Long, thin sclerenchyma cells called fibers are super support cells. Hemp and other natural rope is woven from fibers.

Sclereids are shorter sclerenchyma cells. They may be roundish, rectangular, or show spiky protrusions. The gritty mouth feel of a

ripe pear comes from sclereids. Plants use sclereids to deter herbivores. Note that the cell types described here are not always limited to ground tissue. For example, fibers are common in wood, and sclereids may form tough seed coats.

Vascular tissue contains some unique cell types. The main cells of xylem, vessel elements and tracheids, are dead at maturity, with hollow interiors for rapid water transport. Vessel elements are connected to form actual tubes, while tracheids interlock to form a water transport network. In both cases, flow through the xylem is powered by evapotranspiration from the leaves. The phloem-transport cells, sieve tube elements, must be alive to transport food. These cells are named for the appearance of the cell walls between adjacent cells in a tube: the interiors of these cells are connected by so many tunnels that their end walls look like sieves. The phloem also contains companion cells, specialized parenchyma cells that load, unload, and maintain the sieve tubes.

The epidermis is usually a single layer of cells. In above-ground plant parts, epidermal cells help prevent water loss by secreting a waxy layer called the **cuticle** on the surface exposed to the atmosphere. Since the wax obstructs gas



exchange, epidermis of this type can open tiny pores called **stomata**. Each stoma is controlled by a pair of guard cells, which swell and change shape to open the stoma and obtain carbon dioxide as needed for photosynthesis, but shrink to close the pore during water stress. Other epidermal modifications include hairs and a reddish-purple pigment that helps screen plants from damaging ultraviolet radiation. In roots, the epidermis is specialized for absorbing water rather than conserving it. Root hairs extending from epidermal cells maximize the surface area available for water and mineral absorption.

Becky Dolan is Director of the Friesner Herbarium at Butler University, and a charter member of INPAWS.

Dr. Katherine Schmid is Associate Professor of Biological Sciences at Butler. Her specialty is plant physiology.

Illustration by Jan Glimn Lacy, INPAWS charter member and botanical illustrator, from her book Botany Illustrated.

Tissue Systems of the Plant Body

Native Plant Rescue Program

The Native Plant Rescue Program is continuing. If you are interested in participating in native plant rescues and/or if you know of any possible plant rescue sites, please contact Dee Ann Peine, 317-293-6282, email: wretch@indy.net. It is INPAWS policy that at least 50% of the native plants rescued must be placed in our Plant Auction/Sale, either the same year or the following year. This policy is one of the major reasons that we have had many more plants for our Plant Auction/Sale than in the past (in addition to Dee Ann's hard work). The other 50% of rescued plants may be placed in private gardens. We have relied on membership application/renewal forms to identify members who are interested in native plant rescues; we do not have lists from previous years. We must have written permission to be on the land and to dig plants; if you need plant rescue forms, please contact either Dee Ann or Carolyn Bryson, 317-873-4205, email quinnell@iquest.net. We encourage all of you to be on the lookout for rescue sites and to contact the land owners as early as possible so that appropriate arrangements can be made.



Congratulations

to Ellen Jacquart!

Ellen recently received a "Woman of Distinction" award for her contributions in the area of conservation in Indiana from Soroptimist International of Indianapolis. Soroptimist is a philanthropic group of professional women. Ellen has worked very hard on our non-native invasive plant program and it is great to see her efforts recognized by others.

Speakers Needed

We are developing a great need for speakers. If any of you would be like to speak at garden club meetings, please let me know what you would like to speak about and whether it is ok for group representatives to contact you. Most of the groups this spring want general garden tips or information about planting perennials. We have slides and handouts available to assist you in your effort.

Let me know as soon as possible. I need to line up three speakers right away and one for early next year.

Thank you,
Linda Iman
Horticulture Secretary
Marion County Extension

317-848-7351

linda@ces.purdue.edu

Nature Walks at Butler University

Every second Tuesday of the month at noon, Dr. Rebecca Dolan, Director of the Friesner Herbarium, leads nature tours on the Butler campus. We will visit seasonal points of interest around the campus. Meet behind Gallahue Hall near the greenhouse. Walks last about 50 minutes. We walk in rain, sleet and snow. There is no charge and all are welcome to attend.

If you would like to receive a monthly reminder of the walk, or wish to be dropped from the reminder list, please call Dr. Dolan at 317-940-9413, or email rdolan@butler.edu.

Visit the Friesner Herbarium website at

www.butler.edu/herbarium

www.inpaws.org

Visit our website for news and information about INPAWS and native plant issues, as well as links to a wealth of like-minded organizations.

We would like to update our site with **your** news, information, comments, ideas, opinions, suggestions. In short, anything of interest to all concerned with preserving native plants and their habitats.

Please email Anne Wilson
wilson@hsonline.net

M U L T I F L O R A E

Winner of the INPAWS small grants competition

INPAWS had five submissions for our small grants competition this year. All were very worthy of funding, but we had only enough assets to fund one. The successful application supports native plant plantings at the **Avon Outdoor Learning Center**. It was submitted by INPAWS member and volunteer at the Center, **Carol Ford**. The Center hosts more than 4,500 stu-

dents each year. The Avon Community School Corporation matched the grant.

The INPAWS Board recently voted to move an additional \$5,000 into the Grants Endowment. We should be able to support more projects next year.

Grants and Awards Chair
Rebecca Dolan

Biological Invasions Symposium

The **Missouri Botanical Garden's 48th Annual Systematics Symposium** will be held **October 12 and 13, 2001**. The subject of this year's symposium is Biological Invasions. Moderators will be Sarah Reichard, University of Washington, and Peter White, North Carolina Botanical Garden. Subjects of the papers to be presented are: The threat of invasive aliens to biodiversity; Molecular systematics and the control of invasives; Invasive ants: Unwanted partners in ant-plant interactions; Rise of the naturalized flora of the United States: 1660-1860; The promise and the peril of biological pest control; Estimating the global extent of disturbed land - the target area for introduced species; and Weeds in paradise.

Friday evening, 12 October, will be devoted to an informal mixer on the Garden grounds for all Symposium participants. All papers will be presented on Saturday, 13 October. Cost of the symposium is \$70.00 (\$60.00 for students) and must be

paid at the time of registration. This includes refreshments at the Friday evening mixer, and lunch, dinner, and cocktails on Saturday. Information on local motels will be sent to registrants. No refunds will be granted after 28 September. Space limits registration to 400, so please register early. For further information, contact P. Mick Richardson, tel: 314-577-5176, fax: 314-577-0820, e-mail: mick.richardson@mobot.org or download registration form: <http://www.mobot.org/mobot/symposium>



Garlic Mustard
(*Alliaria petiolata*)
by Jeanette Ming

An avid native plant and wildflower enthusiast, **Dr. James T. Wright** has passed away.

The following people have donated to INPAWS in memory of Dr. Wright:

Joseph and Mary Daly,
Mr. and Mrs. Robert Schilling,
Barbara Adler,
The Nicholls Family, Natalie,
Tom, David and Scott,
Carol P. Bates,
Mr. and Mrs. Lawrence E.
Millard,
Michael Timothy McCabe,
Kurt and Celeste Kleinhelter,
Mr. and Mrs. George W. Bates,
Jeanne C. Scofield,
Mr. and Mrs. David L. Young,
Mary, Alan and Anne
Golichowski,
Mr. and Mrs. Jeffery Sharp,
Marguerite and Hugh Hendrie.
Joanne Williams
Pat and Deb Williams
Michele Brost and Family
John and Susan Freeland and
Family
Tom and Karen Williams and
Family
Roger and Cindy Gretencord and
Family
Mark and Teresa Molter and
Family
Chris and Carmen Williams and
Family

INPAWS expresses our deepest sympathy to the family and friends, and thanks those who gave generously to the Dr. James T. Wright Memorial Fund.

2001 Plant Sale and Auction a Success

Thank you to all who helped make the 2001 Plant Sale and Auction a success. We raised about \$8000 by selling and auctioning approximately 1000 beautiful native plants.

First of all, many thanks go to Ron Greulich and the rest of the staff at St. Pius X for allowing us to use their facility which worked out so well for this event.

We had a wonderful selection of plants thanks to the generosity and hard work of many people. Dee Ann Peine organized a number of plant rescues again this year and potted and took care of many of the plants until the sale and delivered them on Friday evening. She was assisted by Marilyn and Charles Spurgeon, Barbara Hamilton, Betsy Wilson, Kim Krull, and Rich Peine. Dean Hill contacted nurseries for donations and delivered their donated plants. Donations were made by Altum's Nursery, Berg Warner Nursery, the Indiana Chapter of ASLA, Mark Holeman, Meadowwood Nursery, Munchkin Nursery, Spence Nursery, and Terratecture. Mary Gorrell contacted INPAWS members for donations. The following members donated plants: Sophia and Dan Anderson, Chris and Jim Brewster, Ken Brunswick, Carolyn and Don Bryson, Linda Bullard, Rob Day, Tom Esterline, Kathryn Goble, Sandy Graham, Marion Harcourt, Paul Hammond, Teri Hanson, Virginia Harmon, Ramona Heaton, Betsy Ingle, Ruth Ann Ingraham, Rolland Kontak, Kim Krull, Phyllis LaFeber, Carol Mavity, Judith McClure, Donovan Miller, Carol Neu-Frauman, Clare and Greg Oskay, Dee Ann Peine, Ray and

Rita Rust, Jeff Smith, Marilyn and Charles Spurgeon, Doris and Bob Thomas, Katrina Vollmer, Carol Watkins, Sally Weeks, and Teri Yount.

Many people also put a lot of time and effort into publicizing the plant sale and auction. Nancy Hill designed the fliers, John Ulmer mailed them, and Anne Wilson put the information on our website. JoEllen Myers Sharp sent announcements to newspapers and, along with Mary Welch-Keeseey, distributed the fliers and promoted the event at their many programs this spring. Carolyn Bryson sent out numerous e-mails reminding people of the event and the need for plants and volunteers. Thanks also go to INPAWS members for telling friends and colleagues about the plant sale and auction.

As part of our efforts to educate people about native plants, Lee Casebere, Rolland Kontak, Colletta Kosiba, and Gayle Moore lent photos and slides to be used for pictures to put on the walls and for a notebook for future INPAWS use. Many thanks go to them and to Becky Dolan and her student, Carla Ketler, for scanning the slides and to Carolyn Bryson for printing the pictures.

The following people made very helpful suggestions during the planning stages: Sophia and Dan Anderson, Carolyn and Don Bryson, Shirley and Jon Cain, Jo Clouser, Hillary Cox, Gil Daniels, Peggy Eminger, Mary Gorrell, Dean Hill, Nancy Hill, Rolland Kontak, Kim Krull, Kathleen Nussbaum, Clare Oskay, Charles and Marilyn Spurgeon, Diane Stippler, Mary

Welch-Keeseey, and Betsy Wilson. Their ideas helped make the set up and sale run more smoothly this year.

Much of the set up took place Friday evening thanks to the plant donors who were able to deliver their plants on Friday and to the hard work of the following volunteers: Sophia and Dan Anderson, Marilyn Berling, Carolyn and Don Bryson, Shirley and Jon Cain, Hillary Cox, Gil Daniels, Mary Gorrell, Sandy Graham, Barbara Hamilton, Ruth Ann Ingraham, Rolland Kontak, Kim Krull, Donovan Miller, Kathleen Nussbaum, Dee Ann and Rich Peine, Marilyn and Charles Spurgeon, Betsy Wilson, and Mary Ann Zoeller. All of their advance work made the day of the sale and auction much more relaxing for everyone.

Most of the volunteers who helped on Friday evening were back again early the next morning to finish setting up and were joined by Chris and Jim Brewster, Jo Clouser, Ken Collins, Ed Fleener, Rozi Furkin, Jill Garvey, Virginia Harmon, Dean Hill, Nancy Hill, Betsy Ingle, Brenda Kolker, Carol Mavity, Sue Nord Peiffer, Mary Jane Roberts, Rita and Ray Rust, Dianne Stippler, Kevin Tungsveick, Katrina Volmer, Mary Welch-Keeseey, and Kay Yatskievych along with Stan Curts, Chuck McCoy, Eric Schmitz, Gladys Thompson and Meilen Wong from Indianapolis Ambassadors.

Chris and Jim Brewster and Rozi Furkin took care of the education table. Nancy Hill and Diane Stippler

worked as the cashiers. Ruth Ann Ingraham and Kathleen Nussbaum checked in plant donors and volunteers. Virginia Harmon and Carol Mavity set up all the refreshments. Carolyn Bryson and Marilyn Berling sold books and logo items. Kay Yatskievych signed and sold her books. Katrina Volmer signed up new members. Mary Jane Roberts and Mary Ann Zoeller took care of bidder registration and handed out INPAWS fliers on upcoming events. Don Bryson gave directions and refreshments to people before the doors opened and Ruth Ann Ingraham directed people

to the sales tables when the sale began. During the sale, everyone else helped people by answering questions or filling out sales slips. Each person did an excellent job!

Special thanks for their great job with the auction go to Gil Daniels, our auctioneer, and to Kevin Tunesvick, Sue Nord Peiffer, Jo Clouser, and Marilyn Spurgeon, and to Rolland Kontak for auctioning one of Juanita Graham's plants.

And thank you everyone who purchased plants and to all who stayed to help people load plants in cars and trucks and to help clean up!

Additional thanks go to Carolyn Bryson for making signs, buying refreshments, and answering many questions throughout the year.

If I have omitted anyone's name, I sincerely apologize.

The Plant Sale and Auction was a success due to the efforts of everyone who participated. Thank you very much for your help. You did a great job and it was a pleasure to work with each one of you.

Janice Gustafarro

Regional Chapters

The fourth regional chapter of INPAWS is about to take root. The three in existence are East Central that radiates out from Muncie, West Central that radiates out from Lafayette, and Northwest that flares out from the Dunes area.

Members of INPAWS who live in Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan and Shelby counties will also be members of the Central Indiana Chapter. The initial meeting of this chapter is June 23, 2001, 11:30 am at Eagle Creek Park, Shelter F. Attendees are asked to bring a covered dish to share. INPAWS will provide the beverages.

On hand will be: Jo Ellen Sharp, co-author of *Indiana's Gardening Guide*; freelance writer Carolyn Harstad, author of *Go Native! Gardening with Native Plants and Wildflowers in the Lower Midwest*;

Bill Brink & Ruth Ann Ingraham—Native plants in urban gardens; Becky Dolan, Director, Friesner Herbarium, Butler University; Greg and Clare Oskay—Water Resource Design; Linda Oxenrider—Blue Plant Gardens; Chris and Jim Brewster—founders of the West Central Chapter and Volunteer Coordinators of Prophetstown's Nursery Beds.

Members statewide will be encouraged to attend programs sponsored by the Central Indiana Chapter as well as those sponsored by the other chapters.

INPAWS supports the formation of regional chapters until, eventually, all areas of Indiana are covered.

INPAWS members who served on the committee to consider the ramifications, both positive and negative, of the formation of a Central

Indiana Chapter were Ruth Ann Ingraham, Chair, Carolyn Bryson, Carolyn Harstad, Betsy Wilson and Becky Dolan.

Questions may be directed to Betsy Wilson, 317-255-3304, or Ruth Ann Ingraham, 317-253-3863.

Large daylilies will be sold for \$8 each on **Saturday, June 30**, from 8 until 11 AM at the Hamilton Co. 4-H Fairgrounds, 2003 East Pleasant St., Noblesville. When on the grounds, please follow the signs to the Master Gardener plant beds.

Proceeds will benefit Master Gardener community programs, including scholarships and Grow Labs.

Book Review

by Art Hopkins

Tinkering With Eden: A Natural History of Exotics in America

by Kim Todd.

W.W. Norton, \$26.95

The biota of modern America is very different from that found by the first European explorers. The plow, the dredge, firearms, fire, fire suppression, toxic waste, pavement—all contributed to the redistribution, and in some cases, to the extinction of species. As significant as any of these factors has been the introduction of non-native species.

Tinkering With Eden recounts the introduction of many such species, some brought here purposely with the intent to “improve” conditions; others released accidentally.

Honeybees, Asian mulberry trees, Queen Anne’s Lace, and

“Kentucky” bluegrass are introduced species with which we are familiar, and that seem to be benign additions to our landscape.

Other invaders give no pretense of benignity. Mosquitoes, for example, stowed away on whale ships and reached Hawaii for the first time in the 1820’s. They spread various avian diseases that have devastated those islands’ bird species. English starlings were purposely released in New York’s Central Park by someone who wanted to hear Shakespeare’s birds in the New World. Starlings are the birds whose huge, noisy flocks mob residential neighborhoods each spring. They out-compete many of our native songbirds, and prey upon the nests of some.

Garlic mustard, purple loosestrife, and other exotic plant species shade out or crowd out the native plant communities that they encounter, but the native plants—including many of our most beloved wildflowers—are not the only loss. Each plant co-evolved with insect pollinators and predators which depend upon it and which are, themselves, food for chains of higher species.

As Todd writes, “These tales of exotic species are steeped in sadness. While they appear tales of addition, subtraction is the underlying theme.”

Landscape architect and INPAWS member Art Hopkins has been associate editor of this newsletter since autumn 1998. He lives in Columbus, Indiana.

A Trip to Antarctica

by Bob Kern

Last January, 2001, I proceeded to Cape Horn to board a Russian ice-breaker for a trip to the Antarctic, South Georgia and the Falklands. I was accompanied by my two daughters, Dr. Patricia Holmgren and Shirley Needham, and their husbands, Dr. Noel Holmgren, and James Needham. The Holmgrens have been on the staff of the New York Botanical Garden for more than thirty years. The passenger list included 50 people from all over the world. Only seven were from the US.

We landed in Zodiac landing crafts because there were no docking facilities. The numbers of penguins and seals were unbelievable! They are very tame and unafraid.

The Antarctic continent, roughly the size of Africa, is two-thirds covered with ice and has very little precipitation. It is very mountainous with peaks over 13,000 feet. The only habitation is in the research stations maintained by several nations. Russia has the most stations with the U.S. second. Russia has discovered an underground fresh water lake as big as our Lake Erie. In 1961 the Antarctic Treaty was signed by 12 major nations limiting research.

There are only two flowering plants in Antarctica proper. These are **Antarctic Hairgrass** (*Deschamma antarctica*) and **Antarctic pearlwort** (*Colobanthus quitensis*).

South Georgia, a 100 mile long island of snow-capped peaks and glaciers is an extremely beautiful place. It is famous for Shackleton’s trip via small boat over 600 miles of some of the world’s most treacherous water. South Georgia was once the center of the whaling industry but the industry is all gone. South Georgia is uninhabited except for a small military base, more than two million seals and a relict population of reindeer introduced by Norwegian whalers 100 years or so ago.

Bob Kern owns The Bob Kern Christmas Tree Farms in Rochester, Indiana. He is a member of INPAWS.

Letters to the Editor

In my final President's Message written for our Winter 1999 newsletter, I promised to search my two properties, one in Broad Ripple (Indianapolis) and one in Brown County, and identify all exotic invasive plant species and to eradicate them. I encouraged everyone in INPAWS to do the same.

In Indianapolis, the most prominent invasive in my garden was purple winter creeper (*Euonymus fortunei*). This is a popular, widely-used ground cover and one that I deliberately introduced to grow in the deep shade of twin beech trees. Initially I was delighted when this hearty, evergreen plant grew in areas where other plants had failed. But shoots of winter creeper appeared where I had not intended for them to grow. And then I noticed in the wintertime that many forests in Marion County had vast, dark-green patches of winter creeper that had spread from neighboring gardens or started from seeds dropped by birds. Where spring wildflowers once bloomed, only dense, tangled mats of winter creeper grew. This is true in the old forest in Broad Ripple Park which INPAWS volunteers hope to restore

eventually to its original, natural condition.

With a garden fork, shovel, and my own hands, arms and whole being I removed the two islands of purple winter creeper. When I was through I had giant mounds of wiry, unruly plant material that I had to stuff into trash bags for removal. In the first cleared space I planted a mass of hostas. This week in the second I combined native plants, namely cinnamon fern, wild ginger and large-leaved waterleaf, with hostas.

I'm ever watchful in Indianapolis for seedlings of Amur bush honeysuckle. This spring I've pulled dozens.

Last fall in Brown County I cut down for the last time a graceful mass planting of *Miscanthus sinensis* and I'm treating fresh spring growth with herbicide. *Miscanthus sinensis* is a very popular ornamental grass and I can understand why. But this grass is an acknowledged menace to the south of us. Some Kentucky ravines are full of it. In Indiana the alarm has not yet sounded. However, last summer I found dozens of young

Miscanthus plants growing in the woods across the road from my property. This area is on the fringe of a youth camp. Hours were spent searching for it and digging it up. I knew then that the end had come for my non-native tall grasses and that I had to eliminate them. And I know that I will have to be vigilant for years to come on the minimally managed properties that border mine and watch for escaped seedlings.

Eradicating invasives is a never-ending process. On my few acres in Brown County I have Japanese honeysuckle and recently arrived Amur bush honeysuckle as well as multi-flora rose, crown vetch, burning bush (another *Euonymus*), vinca minor (periwinkle) and Asiatic bittersweet. There may be others. They all must go.

I'm sharing my experiences with you. It is hard to give up old favorites such as winter creeper, *Miscanthus*, vinca and burning bush. But I see how they behave and how they have changed environments. I am committed, like it or not.

Ruth Ann Ingraham

Re the Effort to Name the Fire Pink as State Flower

I was surprised to learn that of the 400 or so bills voted on in the House, only one was defeated and most were passed with overwhelming majorities. I believe the same held true for the Senate. This indicates that most of the decision making occurs in committee, with very little action on the floor.

If the leadership that assigns bills to committees and allows them to

come to the floor for a vote, is predisposed to be against a bill, it will be pretty tough going.

I did go to the legislature in a lobbying effort (my first time and very educational) and was overwhelmed by the numbers of folks milling about, especially a lot of kids. It might be good if we could get some support from the high school gov-

ernment classes, since some of the original students who voted for the state flower may be in these classes.

It really seems the committees are the key and we should concentrate on them and be prepared to attend hearings.

John Ulmer
remlu@tds.net

Drainage, Dirt and DNA . . .

My Love Affair With Native Plants

by Nancy Hill

I'm a city mouse with country tastes. I love wildflowers and native plants, but I have an urban cottage garden. I enjoy my old-fashioned and decidedly domestic bleeding hearts next to the incredible blue of Virginia bluebells. And sensitive fern bends itself gracefully over many of my hostas. But it wasn't that long ago when I didn't know celandine from celery. My love affair with native forbs, ferns, grasses, trees and shrubs came about because of drainage, dirt and DNA.

Drainage was a factor because of our desire to dig a wildlife pond on a weekend getaway piece of land my husband and I had outside Cataract, Indiana. When the dozer man arrived, he tested the soil and declared it too sandy to hold water. Our dreams of watching deer sipping at sunset were over. But all was not lost. It was on this land that I first really noticed wildflowers. One August I was amazed to see two dozen swallowtail butterflies on a clump of tall, mauve-purple, big-headed plants. Yep, Joe-Pye Weed. The next spring one of the hillsides turned white with Dutchman's breeches. I bought my first wildflower guide.

In the fall of 1992, we started looking for a piece of land with better pond-potential and stumbled across something richer than we had imagined. It was land in Owen County, by Patricksburg, with an established 4-acre pond. We were sold instantly. The property also had woods, a sandstone ravine (with bats!), a creek, and a wetland meadow. The realtor told us she had

seen unusual wildflowers on the property. The names didn't mean anything to me, but my interest was definitely piqued.

During our first winter there we worked on the cabin. It had been a fishing and hunting outpost and was in sore need of rejuvenation. Come spring, my field guides got a workout. I saw spring beauty, trout lily, rue anemone and bloodroot. We came to know eastern phoebes, spring peepers and our resident beaver. (There was a brief period of time when the beaver was cute. He had not yet taken down the service-berries.)

A couple weeks later I saw drifts of prairie trillium and Virginia bluebells and deeper in the woods was struck by a trail of golden-yellow flowers on plants with large round leaves. Marsh marigolds, I learned, growing contentedly in the runoff of a spring. Nearby was a deliciously scented mound of blue phlox.

Beginners like me are full of wonder and naiveté. In the front meadow I really liked the wash of white when the multi-flora roses were in bloom. Like the beaver, they enjoyed a narrow window of admiration before they were banned from my garden.

I found smooth Solomon's seal, cut-leaved toothwort and celandine poppy on the side of the ravine. Nearby, I discovered a nodding trillium. We have white turtlehead in the meadow, bottle gentian, rose pink, butterfly weed, and swamp milkweed. We have purple fringeless orchid, sedges and arrowhead around the pond and fire pink in the

woods. After eight years, I'm still seeing things I haven't seen before. I felt and still feel blessed by the abundance on this land.

During this time, dirt was working on me as well. In my 20's and 30's I gardened for the same reason someone paints her house: necessary maintenance. Tend the row of peonies, prune the yews, plant the bulbs. Thankfully, I managed to keep alive some hand-me-downs I now treasure—my Grandmother's pink phlox, her sweet-smelling hyperion daylilies and my mother's bearded iris. But I wasn't passionate about gardening.

Then slowly, the black, loamy soil around our 1906 house worked its magic. Everything I plopped in it thrived. I moved an ancient lilac and peonies to sunshine. I bought a few plants. My mother gave me several. You know how it goes. As I came to really feel like a gardener, my plants found fertile soil in me and wormed their way into my affections.

I confess I talk to plants. Both ones in my garden that I tend and natives at the cabin that I don't. It's not conscious or scripted. It's mostly a spontaneous "Well, look at you!" or "Aren't you just wonderful!" Gardening is like raising children. Our care and attention truly matter, but a big part of it is to sit back and enjoy what unfolds naturally.

During my growing love of gardening and wildflowers, the DNA factor kicked in. My mother is a gardener. Her plants glow in her attention and delight. But it goes back further—to her father, a man of many interests, who passed to us the

condition C.S.—Curiosity Syndrome. I can't walk through a nursery without buying a new plant. I can't see a flower or grass on our land without needing to know its name. On a recent visit to my uncle, he pointed out the old postage-stamp backyard of their childhood and said, "Would you believe my Dad planted 100 varieties of plants in here?" Yes, I would.

My grandpa was fishing and hunting well into his 80's. He died when he was 94. There was just too much going on to die any earlier.

When I come into the cabin after a walk, trying to remember and identify the several new plants I just saw, or when I spend an hour by the pond, watching the soft shell turtles nose to the surface, I feel Grandpa looking over my shoulder.

When I meet a new plant, I have fun learning a little of its past—its importance to pioneers and Native Americans and its colorful common names. Celandine or wood poppy had so many medicinal uses it is still found concentrated in areas where local healers and doctors lived years ago. Boneset leaves were tucked into splints in the hope that its perfoliate leaves would transfer their "growing together" power to a broken bone. Pussytoes really do feel like the soft-firm pads of a cat's paw on your cheek. How can you top names like hairy goldaster, fairy candles, turtlehead, doll's eyes, rattlesnake master, sneezeweed, and inside-out flower?

One summer our sixteen-year-old nieces from England lived with us. They loved being at the cabin, even though swimming with dragonflies, horseflies and water spiders was a new and testing experience. Even the "nice bugs," fireflies and butter-

flies, are rare to non-existent in urban Yorkshire. I can still see them standing in our front meadow circled by hundreds of tiger swallow-tails floating between the button-bush, milkweed and Joe Pye. We picked bouquets of blue vervain, jewelweed, monkey flower, boneset, sundrops and mountain mint. We watched the hummingbirds chatter at the feeders and a nest of baby phoebes on top of the front porch light. What a delight to see this world through young eyes.

Native plants have given me a connection to the world on both a small and large scale. My love of the flora in Indiana makes me keenly interested in wildflowers wherever I go. I buy field guides to a region's plants and seek out anyone who knows the flowers. I've gotten tremendous enjoyment in learning about seaside rosemary on gulf sand dunes, tillandsia and orchids in south Florida swamps, wild fox-glove and red valerian on the coastal paths of southwest England and bluebells in the highlands of Scotland. I've already purchased "Wildflowers of Southern Europe" by Davies and Gibbons, for this summer's trip to Italy.

Finally, I love wildflowers for their predictability and stability. They occupy and adorn their piece of earth year after year, bending (but rarely snapping) with adversity. They are the life force. Our front meadow is a fifteen-acre, low-lying patch that some would call a wetland. To me, it's a miracle of nature. When the snow melts and is closely followed by torrential spring rains, Fish Creek spills over its banks in the blink of an eye and the entire meadow becomes a rushing river. The brown stalks of last year's grasses and forbs are flattened, laid

out west to east under the strong current.

After a week of this hydropower the meadow looks awful. It's a muddy, deeply furrowed wasteland. You can't believe anything could grow there again. But one March day you walk through and see one sprig of growth; in April it's a soft, low carpet of green; then by June you're waist-high in grasses, reeds and dozens of wildflowers. The red-winged blackbirds and marsh wrens have settled in and summer is well in hand.

By late August the meadow is six feet tall, awash in purples, mauves and yellows, with sunflowers, evening primrose, blue vervain, wild bergamot and Jerusalem artichoke. The Joe-Pye weed, ironweed and bull thistle are nearly 8 feet tall. Every year I see it and every year I can't believe it.

In later fall, most of the forbs are spent and the meadow begins to pull on its drab winter coat. A few spots of color remain—the cobalt-blue bottle gentian peeks out from behind the brown grasses. There are nodding ladies' tresses, purple gerardia, great lobelia, asters and goldenrod. I sit on the porch, listening to cicadas and smelling fall. A bit sad to say goodbye to green, but content to accept the cycle. Perhaps this is the greatest gift wildflowers give us—loyalty to a clock our hectic world can't change.

Nancy Hill is an INPAWS member and a Master Gardener. She and her husband John have a cabin in Patricksburg, Indiana. She lives and gardens in Broad Ripple, Indianapolis.



INDIANA NATIVE PLANT AND Wildflower Society

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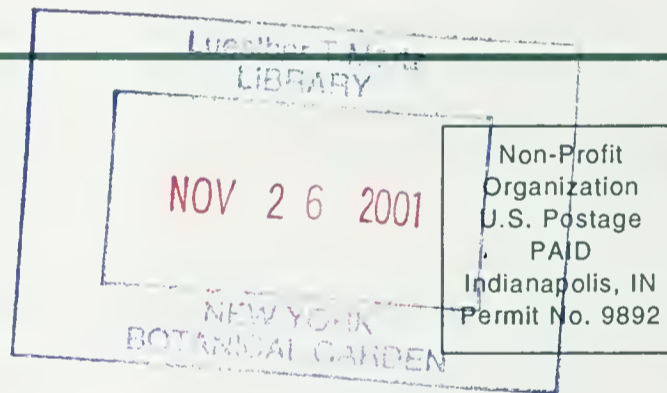
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INDIANA NATIVE PLANT *and Wildflower Society*

Volume 8 Number 3 • Autumn 2001

NEWS

New England Aster (*Aster novae-angliae*)

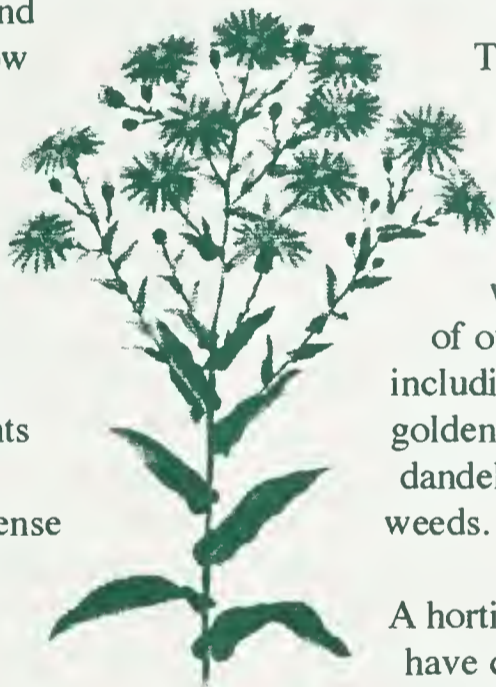
Autumn is a wonderful time of year

by Tom Swinford

A Sunday drive through the Indiana countryside offers rich vistas of blazing red-yellow maples, wine-colored oaks, and burnished gold tulip trees. Old fields filled with New England asters and Canada goldenrod glow in the late afternoon sun as buzzy nectar and pollen-greedy insects careen from flower to flower. It is a time of universal unease, a certainty in uncertainty. Cool nights and shortened days trigger a period of intense activity as organisms convene the season's business and urgently prepare for the long, dark months ahead. Humans are not immune, as the state parks and nature preserves fill up with cars and visitors hurrying to celebrate, and remember, the passing of yet another summer in our lives. Things may never again be the same. Change is sweeping our world.

Perhaps as a gift of comfort and appreciation, a plant of unmatched beauty, yet familiar form, accompa-

nies us nearly everywhere our outdoor activities may take us. This plant is the New England aster, common in sunny, open habitats throughout much of Indiana.



New England Aster
(*Aster novae-angliae*)

True to its name, the New England aster belongs to the aster family of plants, that mega-family which includes many of our most familiar plants including sunflowers, asters, goldenrods, daisies, thistles, dandelions, and joe-pye weeds.

A horticulturist could not have created a more showy plant than the New England aster, a large robust plant of graceful form and abundant large flowers of a gorgeous deep purple hue arranged in a spray as if presented as nature's own bouquet.

Preparing this article I reviewed several old wildflower guides. There were the typical, vague accounts of use of the New England aster for "food, medicine" by the pioneers and Native Americans. In one battered old hardcover I found a

more satisfying account of the use of the New England aster by the Native Americans as a "charm." I have known the attraction and delight of this aster and the magic of a golden fall day.

Thomas O. Swinford is Regional Ecologist for the Division of Nature Preserves, Indiana Department of Natural Resources. He was INPAWS Conservation Committee chairman, and is now the nominee for INPAWS VP/Program Co-Chair, with Roger Hedge, for 2002-2003.

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President's Message

by Carolyn Q. Bryson

Thank you, thank you, thank you to all INPAWS members who have been working diligently to insure that our INPAWS projects are successful. We need the help of all of you to grow as an organization and to increase our impact on the preservation and cultivation of native plants in Indiana.

Ken Collins arranged a wonderful weekend bus trip to northern Indiana; I wish that more INPAWS members were able to enjoy it. Tom Swinford led our walks through the Miller Woods and Pinhook Bog and Ken led our walks through the Biesecker and Hoosier Prairies. The temperature was high, but our interest remained just as high. We

can look forward to a seed workshop by Kevin Tungesvick in September and a wetland workshop at Eagle Creek Park in October.

Mark your calendars now so that you will be able to attend our Annual Conference on Saturday, November 10th. David Gorden is contacting speakers and arranging informative sessions for us. Becky Dolan has arranged for us to meet this year at Butler University in Indianapolis. Our biennial elections will be held during the Business Meeting and our new officers will be seeking volunteers for committees, so think about what you would like to do to help our organization in 2002 and 2003.

Linda Bullard organized another beautiful native plant demonstration microgarden at Orchard in Bloom in Holliday Park, Indianapolis. The event is very well attended and the microgarden is one of our best "advertisements" for the use of native plants in landscapes; it is a shame that it must be dismantled after only a few days. It would be wonderful if there were more permanent native plant gardens throughout the state. We also had an information booth at Orchard in Bloom.

Janice Gustaferro orchestrated another record-setting Plant Auction/Sale. The St. Pius X School cafeteria was an excellent venue

*The Newsletter of the
Indiana Native Plant and Wildflower Society*
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We welcome opposing viewpoints.

Articles, letters, drawings should be sent to Carolyn Harstad, 5952 Lieber Road, Indianapolis, IN 46228.

www.inpaws.org

The mission of the Indiana Native Plant and Wildflower Society is to promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity and environmental importance of indigenous vegetation.

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and we hope that we will be able to use the facility again in the future. Dee Ann Peine again led a number of native plant rescues that produced many, perhaps most, of the plants for the Auction/Sale. Thanks to the donations of growers and nurseries we had more native woody material available than in the past. Gil Daniels served as auctioneer (although Rolland Kontak treated us to the chanting sale of a special plant). Becky Dolan arranged to have computer files made of numerous slides that were lent by members and Rolland donated some of his prints so that we could have pictures and cultural information available on some of the plants; we hope we will have more pictures available in the future. Chris and Jim Brewster manned a reference table to answer questions and Kay Yatskievich was available to sign her books for us. Our efforts to increase the educational aspects of the sale were successful. On both Friday evening and Saturday it was a joy to see so many members working so well together. If you have any suggestions for future plant auctions, please contact either Janice or me.

Gayle Moore led an educational program on non-native invasive plants and plant identification for Scouts at Holliday Park. The program was developed specifically for children and we hope that it will serve as a model for similar education events in the future.

Chapter development is continuing. Dan Anderson, Kimberly Krull, Mark Outcalt, Dawn Stelts, and Betsy Wilson are spearheading the development of a Central Chapter,

which will serve Marion, Boone, Hamilton, Hancock, Shelby, Johnson, Morgan, and Hendricks counties. Ray Rust, Marijean Stephenson, Russell Boulding, Nancy Frass, Phyllis Schwitzer, Gayle Moore, Marc Evans, Mary Ann Crismore, and Tom and Sallie Potter are organizing the development of a South Central Chapter. The South Central Chapter will serve Monroe, Owen, Lawrence, and Brown counties and near areas of Green, Bartholomew, Jackson, and Morgan counties. Contact these members if you live in the areas mentioned and you are interested in joining a chapter. We hope that the chapters will promote activities in their regions and facilitate more involvement by our members.

Our efforts to educate the public about non-native invasive plants and to eradicate them from public parks are continuing. Jean Robertson has worked with Don Miller to coordinate our efforts to remove Amur honeysuckle in Broad Ripple Park in Indianapolis. We hope that this program will serve as a model for similar activities in other parks. All of the Master Gardener program leaders throughout the state have been contacted and have been sent copies of our brochures and a sample newsletter. We have offered to provide the Master Gardener leaders with a complimentary subscription to our newsletter and with copies of our brochures for students in their programs. Ellen Jacquart and Colletta Kosiba are presenting slide programs about the environmental dangers of the non-native invasive plants. Our trifold Alien Invasive

Plants display has been used by several organizations.

Although we were unsuccessful this year in our legislative efforts to have the native Fire Pink named as the Indiana state flower, we may try again next year.

Becky Dolan is continuing to head our Small Grants and Awards Program. We are encouraged by the increasing number of applications and hope to be able to offer more small grants in the future.

I am continuing to run the INPAWS email list. If you are not receiving email from me, please contact me at quinnell@iquest.net with your electronic address. If you are receiving email from me and would prefer to be removed from the list, please let me know. And, if you have suggestions for improving the email service, pass them on to me, and I will adopt them if I can. At this point, I am unable to subdivide our group into geographic areas, so the email is an "all or none" affair.

At the Annual Business Meeting, we will be discussing some structural changes in INPAWS which require changes in our Bylaws. As we have become more active in projects, the size of our Executive Board has grown and has become inefficient. We also need to modify our dues collection procedures.

Again, thanks to all of you for all of your efforts on behalf of INPAWS.

Our success is dependent on the efforts of our members.



Internal Anatomy of Plants—Growth in Girth

by Dr. Rebecca Dolan and Dr. Katherine Schmid

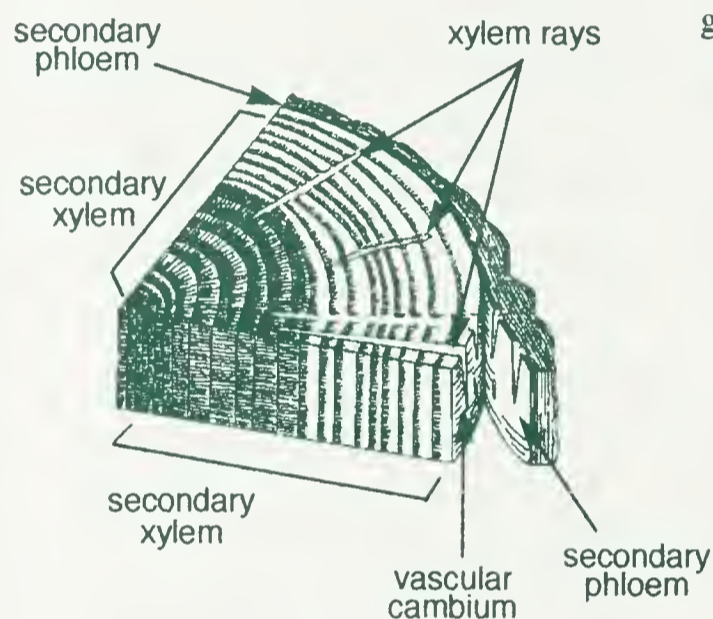
The last column featured the dermal, vascular and ground tissues produced by apical meristems. The apical meristems are involved mainly with growth in length, and the tissues they produce are known as primary tissues. However, some plants also have meristems specialized for growth in girth, or width. Tissues produced by these meristems are known as secondary tissues. Secondary growth is a requirement for all woody plants, and even occurs in some plants we consider herbaceous.

Plants whose stems have scattered vascular bundles perform only primary growth. However, in those with a ring of vascular bundles, each vein contains a narrow band of cells known as **vascular cambium** between its xylem and phloem. As the stem matures, these vascular cambia are connected to form a complete circle of vascular cambium only a few cells thick.

This cambium is a meristem that produces new xylem toward the inside and new phloem toward the outside. The new xylem is known as **secondary xylem**, or **wood**, while the **secondary phloem** becomes the **inner bark** of the plant. When bark is stripped from a tree, it is usually the delicate vascular cambium that gives way.

Every year, the vascular cambium adds a new ring of xylem to a tree. In temperate areas, annual rings are easily distinguished due to the contrast in density of large diameter water transport cells laid down in spring, and smaller diameter transport cells or fibers produced during the summer. The fact that xylem cells are

dead at maturity explains how large old hollow beeches, sycamores, and other trees can survive. Only the more recent layers of xylem closer to the bark are needed for water transport. Those at the heart of the tree have generally become clogged and function as support elements rather than for transport; as they rot away, the tree lives on without them.



The vascular cambium also adds new phloem every year. However, since phloem is part of the bark and the tree grows larger each year, older layers of phloem are ultimately outgrown and shed rather than accumulating as wood does. The newest phloem next to the cambium is the most important for sugar transport. It is the loss of phloem that most often kills trees that have been girdled either intentionally or by lightning.

The expansion of stems during secondary growth also means that the epidermis is rapidly outgrown. In stems and roots that have performed secondary growth, an outer bark made of cork replaces epidermis as the dermal tissue. Cork cells, which

are dead and relatively waterproof at maturity, are produced by a meristem called the cork cambium. Whereas a plant has only one vascular cambium throughout its life, a plant may have multiple cork cambia. In smooth-barked trees, a cork cambium may be a ring of cells resembling the vascular cambium. Other plants have many arc-shaped cork cambia. Each time old cork and cork cambia are outgrown and peel or flake from a tree, they are replaced from within. The lenticels you observed on woody twigs allow oxygen to penetrate the outer bark.

Woody stems and roots have annual rings of xylem, plus inner bark phloem, for a vascular system, and cork for a dermal tissue system, but lack a ground tissue system. However, they still require some living parenchyma cells for functions such as storage and transport between xylem and phloem. Most of the parenchyma in woody stems and roots is found in **rays**. In cross-section, these appear as rows of cells connecting the wood and inner bark, often widening as they cross the vascular cambium and enter the phloem.

Becky Dolan is Director of the Friesner Herbarium at Butler University, and a charter member of INPAWS.

Dr. Katherine Schmid is Associate Professor of Biological Sciences at Butler. Her specialty is plant physiology.

Illustrations by Jan Glimm Lacy, INPAWS charter member and botanical illustrator, from her book Botany Illustrated.

Proposed Slate of INPAWS Officers for 2002-2003

The following proposed slate of INPAWS officers (January 1, 2002 through December 31, 2003) will be presented for approval at the Eighth Annual Conference, Saturday, November 10, 2001, at Gallahue Hall, Butler University, Indianapolis. Additional nominations may be made from the floor with a written letter of consent from the nominee.

President

Linda Oxenrider

Linda Oxenrider has a Master's Degree in mathematics and taught high school math for 15 years, before returning to Purdue for a degree in Landscape Architecture. Since 1999, she has owned and operated a small landscape design/build company, Blue Planet Gardens. Linda comments "I design with native plants and strive to educate my clients about providing wildlife habitats on their property. Most of my clients end up certifying their properties with the NWF. My professional goal is to work with developers and contractors to design housing additions within a continuity of woods, thickets, prairies and meadows, linking remnant wildlife refuges and corridors to create a mosaic ecosystem such as Sara Stein describes in *Noah's Garden*." Linda serves on the Zionsville Parks and Recreation Board in an effort to preserve and create greenspace in her community for the benefit of wildlife and the enjoyment of future generations.

Co-Vice-President

Roger Hedge

Roger Hedge is Heritage Ecologist with the Division of Nature Preserves' Natural Heritage Data Center. He has a B.S. from Ball State in Natural Resources and Biology and has worked with DNR for more than 20 years. His interests include conservation biology, botany, and birds. Roger is the current INPAWS Corresponding Secretary.

Co-Vice-President

Tom Swinford

Thomas O. Swinford is Regional Ecologist for the Division of Nature Preserves, Indiana Department of Natural Resources. He says, "I am deeply committed to sustaining Indiana's biological diversity and have lived and worked as a conservation biologist in many of the most biologically significant regions of the state. I am a firm believer in the need to increase awareness of Midwestern natural history through the education of people in all walks of life."

Recording Secretary

Nancy Hill

Nancy Hill is a master gardener. She lives in Broad Ripple with her husband and teenage son and retreats as often as possible to their cabin in Owen County. She worked in the field of social service for 10 years and in the restaurant business (the Corner Wine Bar and the Broad Ripple Brewpub) for 19. She admits she'd rather be in the country than in the kitchen.

Corresponding Secretary

Jo Ellen Meyers Sharp

Jo Ellen Meyers Sharp is co-author of *The Indiana Gardener's Guide*, and a contributing writer to *1,001 Ingenious Gardening Ideas*, (Rodale Press, 1999), and *The Garden Tourist* (Lois G. Rosenfeld, 1998, 2000, 2001). She is founder and president of JEMStone Communications, a free-lance writing firm. Jo Ellen was a newspaper reporter for 20 years, and since 1989 has freelanced a weekly garden column for The Indianapolis Star. Several of her articles are available at www.net19.com/hoosiergardener. Jo Ellen is an Advanced Master Gardener and the current INPAWS publicity chairman.

Treasurer

Carolyn Q. Bryson

After working as a psychologist and family mediator Carolyn retired in 1997 to pursue other interests, primarily related to plants and birding. A charter member of INPAWS, Carolyn is the current INPAWS President and has also served as INPAWS Recording Secretary. She comments, "Clare Oskay has done an exceptional job as Treasurer; I hope that I can follow in her footsteps without falling."

New Prepared Program from the Speakers Bureau

The Speakers Bureau now has a program prepared for you to present at your garden club, plant society, or whatever organization you choose. All the work has been done for you!

This first program is on invasive plants. It includes slides and a written script for each slide. We will also provide handouts on invasives, and natives for landscaping. Soon there will be more programs available in this same format.

Please contact Colletta Kosiba, Speakers Bureau Chairman, if you would like to present this program to a group of your choice. (317) 852-5973



The Central Chapter of INPAWS

will hold its first meeting on Saturday, October 13, 2001, from 10 AM until noon, at Cool Creek Park.

Our inaugural meeting will feature Rolland Kontak speaking on the collecting and storage of seeds. In addition there will be a short organizational meeting.

For more information call: Betsy Wilson (317) 255-3304 or Dawn Steltz (317) 867-2906 or e-mail Kim Krull at ponderkim@aol.com.

Directions: Cool Creek Park is one block east of U.S. Route 31 on 151st Street behind McDonald's. The entrance is past the fire station.

Nature Walks at Butler University have been discontinued.

www.inpaws.org

Visit our website for news and information about INPAWS and native plant issues, as well as links to a wealth of like-minded organizations.

We would like to update our site with *your* news, information, comments, ideas, opinions, suggestions. In short, anything of interest to all concerned with preserving native plants and their habitats.

Please email Anne Wilson wilson@hsonline.net

Are you moving? Will you be away for a while?

We don't want you to miss a single issue of the newsletter. So if you have a change of address, or will be away only temporarily, please fill in the form below.

NAME _____

ADDRESS CHANGE _____

CITY CHANGE _____

STATE AND ZIP CHANGE _____

AWAY STARTING DATE _____

RETURN STARTING DATE _____

Mail this form to:
 Katrina Vollmer
 3134 Greenbriar Lane
 Nashville, IN 47448

or email information to: katrinajo@bigfoot.net

INPAWS Calendar of Events

Seed Workshop

Saturday, September 22, 2001
Spence Nursery, Muncie

Kevin Tungesvick will explain seed collection, seed storage, and germination methods for various native species. Additional information will follow.

Directions:

Take I-69 to exit number 34 (State Road 67 North) turn right onto 67 North. Go approximately 12 miles toward Muncie. As you pass the State Road 3 interchange get in the left lane at your first opportunity which is Meeker Avenue. About 150 yards, turn left again onto Fuson Road. There is a large cell phone tower at Meeker and Fuson. Spence Restoration Nursery is the first drive on your right.

Please note that Spence Restoration Nursery is open by appointment only.

Wetland Workshop at Eagle Creek Park

Saturday, October 20, 2001
at Eagle Creek Park.

Sponsored by the Indiana Natural Resources Conservation Service (NRCS) in cooperation with INPAWS.

The workshop will be from 9:00 AM to 11:30 AM. There is a \$3.00 per vehicle park entrance fee. Meet at Shelter D.

NRCS wetland specialists will discuss federal wetland criteria and lead a walk to view wetland sites at the park. Soil samples will be available for observation along with discussion about wetland plants and wetland hydrology.

If you are interested in attending the workshop please register by contacting Ken Collins at (317) 290-3200 extension 356 or via email at kenneth.collins@in.usda.gov.

Eighth Annual Conference

Saturday, November 10, 2001
Gallahue Hall, Butler University
Indianapolis.

Scheduled speakers include:

Ellen Jacquart

of The Nature Conservancy and
INPAWS Invasive Plants
Chairperson

Darrel Morrison, FASLA,

Dean of the School of
Environmental Design at the
University of Georgia

Connor Shaw,

owner of *Possibility Place Nursery*
in Monee, Illinois

Elizabeth Mueller,

founder of Zionsville, Indiana's
community conservation effort,
*Habitat C.P.R.—Creation,
Preservation, and Restoration*

Marion Jackson,

Professor of Ecology at Indiana
State University, author of the
recently reprinted *Natural Heritage
of Indiana*

Brett Rappaport,

attorney and president of *Wild
Ones—Natural Landscapers, Ltd.*

Details and registration info will
be sent in September.

David Gorden, Chairman
(317) 926-0851
dgorden@gateway.net

native plant books

written by INPAWS members and
published by Indiana University
Press are available for sale.

Contact Carolyn Bryson
(317) 873-4205
email.quinnell@iquest.net

Field Guide to Indiana Wildflowers

by Kay Yatskievych
\$17.95, pub. October, 2000

Trees of Indiana

by Maryrose and Fred
Wampler
\$49.95, pub. November 2000

Go Native! Gardening With Native Plants and Wildflowers in the Lower Midwest

by Carolyn Harstad
\$24.95, pub. September 1999

An avid native plant and
wildflower enthusiast, Dr.
James T. Wright has passed
away.

John M. and Angela M.
Wright, of Bettendorf, IA,
have generously donated to
INPAWS in memory of Dr.
Wright.

INPAWS expresses our deepest
sympathy to the family and
friends, and thanks all those
who gave generously to the Dr.
James T. Wright Memorial
Fund.

Chicago Wilderness began in 1996 as an alliance of 34 public and private Chicago Region organizations working to protect, restore and manage the Region's natural riches. The *Chicago Wilderness* region includes the seven northeast Illinois counties, one Wisconsin county and all but the southernmost portions of Lake, Porter and LaPorte Counties in Indiana. The alliance has grown to 131 organizations with 12 of them in Indiana. What is most unusual about this alliance is just that—it is an alliance. It has not yet incorporated as a not-for-profit corporation and remains a diverse group of federal, state and local agencies and land managers and many not-for-profit organizations. Recently, permanent staff members have been hired and housed at several member organizations. With funding from federal grants and private foundations, and in-kind donations of service, The Chicago Wilderness Biodiversity Recovery Plan has been developed and many local projects supported.

The current Indiana member organizations are:

- The Indiana Department of Natural Resources Nature Preserves Division
- The Indiana Dunes National Lakeshore
- The Indiana Dunes Environmental Learning Center
- Indiana University Northwest
- Illinois-Indiana Sea Grant
- The Grand Cal Task Force
- The Lake County, IN Department of Parks and Recreation

- The Northwest Indiana Regional Planning Commission
- NiSource Challenge Fund
- The Northwest Indiana Forum Foundation, Inc.
- The Save the Dunes Conservation Fund
- The Shirley Heinze Environmental Fund

As early as 1909 when the "Burnham Plan," Chicago's early urban plan, was published it included a vision of a preserved lakefront and a wide network of natural landscapes preserved as public parklands. Illinois created its system of county forest preserves and Illinois, Indiana and Wisconsin preserved natural areas such as the Indiana Dunes National Lakeshore and Indiana Dunes State Park. More recently, the growing list of Indiana Nature Preserves has expanded the areas where native plants and animals can persist in northwest Indiana.

But even as new preserves have been created, northwest Indiana's human population growth and urban sprawl have continued. Our knowledge of the ecological implications of this growth instructs us that what we do to guide this growth today will determine whether our rich natural heritage, our native plants and animals, will persist into the future.

The Chicago Wilderness Biodiversity Plan was published in 1999 with these goals:

1. Foster a sustainable relationship between society and nature in the region.

2. Involve the citizens, organizations and agencies of the region in biodiversity conservation efforts.
3. Strengthen the scientific basis of ecological management.
4. Protect globally and regionally important natural communities.
5. Restore natural communities to ecological health.
6. Manage natural communities to sustain native biodiversity.
7. Develop citizen awareness and understanding of local biodiversity to ensure support and participation.
8. Enrich the quality of the lives of the region's citizens.

Development of the biodiversity plan is but one step in the process to preserve our natural heritage. The plan has been endorsed by the Northwest Indiana Regional Planning Commission and has been presented to the Indiana Natural Resources Commission for its endorsement. Endorsements will follow; however, much more is needed. An outreach effort is needed. In Illinois, a manual, *Protecting Nature in Your Community* was published in March of 2000. Northeast Illinois Planning Commission staff showing communities how to become informed about the natural resources in their areas and what mechanisms, and there are many, are available to preserve our local heritage of native plants and animals.

A similar effort is beginning in northwest Indiana. With the aid of a Chicago Wilderness grant, the

continued on next page

Biodiversity and Nature Preserves

by John Bacone

The Division of Nature Preserves was established in 1967 by an Act of the Indiana General Assembly, and charged with finding and permanently protecting natural areas for "the common benefit of the people of present and future generations." The Division strives to identify, protect, and manage an array of nature preserves and natural areas in sufficient numbers and sizes to maintain viable examples of all of Indiana's natural communities. We also hope to protect viable populations of endangered, threatened and rare species. Nature Preserves are an important component of the efforts under way to preserve Indiana's native biodiversity.

So, how much progress has been made in the efforts to protect Indiana's native biodiversity? Since 1967, working with a variety of partners, we have dedicated nearly 180 nature preserves, encompassing almost 24,000 acres. Populations of many of Indiana's rarest plants are included in these nature preserves. Of the 257 plants considered endangered (known from five or fewer sites), 215 live in nature preserves. And of the 99 plants considered threatened (known from 10 or fewer sites), 91 are found in nature preserves.

However, since populations of almost 20% of our endangered plants have yet to be protected, there is much to do. Someday, we hope to protect populations of plants such as green milkweed, black hickory, prairie blazing star, and running buffalo clover within the nature preserve system. In addition, 59 plants that once called Indiana home are now considered extirpated. As inventory efforts continue, perhaps some of these, such as the northern mountain ash and Hooker's orchis, can be located and protected as well.

Protecting rare species is only one facet of the strategies involved in protecting Indiana's biodiversity. Ideally, by protecting examples of all of our natural communities, the vast majority of our native plants and animals would be protected as well. Indiana has an incredible array of natural communities, ranging from dry chert barrens and wet cypress sloughs in the south, to prairies and dunes in the northwest, lakes and fens in the northeast, and caves, flatwoods and forests in between. In general terms, nearly 60 natural community types are recognized in Indiana, and at least 1 example of each is included in the nature preserve system. However,

since there are major differences between natural communities depending upon their location in the state, we strive to protect examples in all natural regions whenever possible. For example, the black oak sand savannas found in Lake County are quite different from those found in Jasper County, and the flood plain forests found along the Elkhart River are quite different from those found along the Muscatatuck River.

As we continue to work with our partners such as conservation groups and land trusts, other DNR Divisions, federal agencies, and private landowners, we hope that more examples of Indiana's natural communities will soon be protected.

John Bacone has been with DNP since 1977. Prior to that, he was the Central Illinois Ecologist for the Illinois Natural Areas Inventory (1974-77) and Naturalist at Turkey Run State Park (1973-74). He has a BS in Botany and Zoology from Eastern Illinois University, and an MS in Forest Ecology from University of Illinois.

Northwest Indiana Regional Planning Commission will develop a manual called *Chicago Wilderness, Northwest Indiana—Protecting Nature in Your Community*. Outreach to communities in the three counties will then follow.

To learn more about *Chicago Wilderness* activities in northwest

Indiana you can contact Ms. Reggie Korthals at the Northwest Indiana Regional Planning Commission, 6100 Southport Road, Portage, IN 46368 telephone (219) 763-6060 email rkorthals@nirpc.org.

To learn more in general about *Chicago Wilderness* you can contact

Ms. Catherine L. Werner
Program Director
8 South Michigan Avenue
Chicago, Illinois
312-346-2540 x 53
or preferably by email at
cwerner@tnc.org.

Mark Reshkin is Director of Environmental Affairs, Northwest Indiana Forum Foundation, Inc.

Plant detectives . . .

Challenge Plants of the Dunes – third in a series

Fame Flower

by Barbara Plampin

Tom Post's article, *Fameflower* (*Talinum rugospermum*), July/August, 2001, *Outdoor Indiana*, locates this state-threatened purslane at Willough Slough and Jasper-Pulaski and suggests that it might also be seen at the Indiana Dunes National Lakeshore. Indeed, Fame Flower (local spelling) does flourish here and elsewhere in the Dunes.

In 1983, Emma Pitcher suggested that I, as an amateur, adopt just one of the "Lost Plants" which the Lakeshore was trying to re-locate using historical records. I adopted Fame Flower which had not been seen here for fifty years.

Newcomb's *Wildflower Guide* pictured diminutive, pink star-shaped flowers branching from a stiff leafless stalk rising from stiff, fleshy, slender, leaf-fingers. Oops! Neither Newcomb's nor Peterson's Guide portrayed the correct species! Britton and Brown, however, showed the right one—it's very similar—and indicated a ten inch or shorter height, and late afternoon opening.

Lakeshore records cite an August, 1935, collection "0.5 mi N of B & O RR, just E of Lake County Line, open sand," probably now the Lakeshore's Inland Marsh. Swink and Wilhelm's *Plants of the Chicago Region*, Third Edition, describes a former site as "a kind of sand savanna," gave blooming dates June 10 to August 29, and listed associates including Early Low Blueberry, Butterfly Weed, Bracken,

Black Oak, Horse Mint, Prickly Pear, and Slender Knotweed.

Repeated failures east of the county line in Inland Marsh almost caused me to give up, but I kept on reviewing pictures and data. On



Fame Flower
(*Talinum rugospermum*)

August 21, 1985, knowledge plus serendipity blessed Emma and me when we explored "a kind of sandy savanna" about half a mile north of the B & O but west of the county line. Amid sand and sparse leaf litter, we began to spot short, stiff, fleshy, slender green fingers. About 11:00 AM, long before what turned out to be its 3:00 to 7:00 PM opening, we found Fame Flower—after its fifty year "absence"—largely because we had memorized published descriptions

of the plant both in and out of bloom. At four o'clock, I returned with my husband and saw the tiny pink stars.

New sites have since turned up. Most Dunes populations appear on south-facing Tolleston Dune slopes between US 12 and US 20. The most frequent associate is slender knotweed (*Polygonum tenue*).

Note: More recent literature includes Kay Yatskievych's *Field Guide to Indiana Wildflowers* (photograph), Swink and Wilhelm's Fourth Edition, and *A Congenial Fellowship: A Botanical Correspondence Between Charles C. Deam and Floyd A. Swink, 1946-1951*, ed. Peg Mohar.

Barbara Plampin is a member of INPAWS, a trustee of the Shirley Heinze Environmental Fund, and a member of Save the Dunes Council. She has a Ph.D. in English literature from the University of Michigan. Botany has been her avocation all her life.

To order the book
A Congenial Fellowship: A Botanical Correspondence between Charles C. Deam and Floyd A. Swink, 1946-1951,
edited by Peg Mohar, published by the Heinze Fund, send a check for \$18 plus \$3.50 shipping, payable to
Shirley Heinze Environmental Fund
444 Barker Road
Michigan City, IN 56360

Garlic Mustard Control

by Rich Dunbar

If you have been fighting the spread of garlic mustard across your local woods there may be hope on the horizon. The search in Europe for a biological control for garlic mustard is going well. [Editors' note: garlic mustard is native to Europe, where it is grown as a potherb, and where it does not spread rampantly and destructively through shady areas as it does on this continent.] They have found five weevils in



Garlic Mustard
(*Alliaria petiolata*)
by Jeanette Ming

the same genus, *Centorhynchus*, that look promising. Different weevils within this same genus specialize in feeding on the roots, stems and flowers. One lays eggs on roots in the fall, through the winter under the snow, and into the spring. Researchers are making good progress on learning to raise these insects so they will have enough to work with.

The next step is to make sure they cannot feed and reproduce on plants other than garlic mustard. Biologists in North America have been sending native wildflowers to the lab in Switzerland so they can be tested.

We are still a long way from having controls to release here in Indiana. Even if the insects continue to do well there will still need to be a number of years of testing to make sure they will only feed on garlic mustard, and not harm the native plants we are trying to protect. So don't stop pulling garlic mustard yet. But take heart that help may be on the way.

Rich Dunbar is Northeast Regional Ecologist, IDNR Nature Preserves reprinted with permission from Natural Area News, Winter 2001, No. 11

INPAWS has contributed \$2,000 toward this research.

It Only Hurts When I Laugh

by Art Hopkins

I recently read through a ten-page glossy color brochure that came in my packet at last fall's INPAWS annual meeting. It was printed by the American Society of Landscape Architects, and is entitled "Landscape Architecture: Shaping Indiana." Page 4 caught my eye. Under a picture of Pleasant Lake Access Site in Lakeville, Indiana, I read:

"...These lakes contain some of the most intact natural wetland communities native to Indiana...Landscape architects bring a unique understanding and set of skills to the management of wetlands...Through an understanding of...the wetland ecosystems, and an acute understanding of wetland plant mor-

phology, landscape architects provide valuable skills in delineating, preserving, mitigating wetland areas, and are knowledgeable in the proper functional management of such wetland communities. With a strong understanding...landscape architects are uniquely qualified..."

What hurts is the photograph. It shows a lakeshore overrun with the lovely though destructive, non-native plant, Purple Loosestrife (*Lythrum salicaria*). Purple loosestrife provides no food value to our native



Purple Loosestrife
(*Lythrum salicaria*)

insects, birds, and other wildlife, while choking out the native plants that do. It is so bad, there is actually a law against selling or planting the stuff in Indiana.

All that unique understanding and skill, shot down in a burst of purple prose ... By the way, "morphology" refers to the form and structure of a plant.

Ruefully submitted,
Art Hopkins, Registered
Landscape Architect.

Art is Associate Editor of INPAWS News, and lives in Columbus, IN.

Regional Chapter News and Notes

West Central Chapter

Chris Brewster, President
(765) 463-7171
jim.chris.brewster@att.net a

Everyone is invited to see the prairie of Museums at Prophetstown at any time. Self-guided tours should be in place by September. For "formal" visits with a guided tour, people should come on Friday, Saturday or Sunday at either 10 AM or 2 PM.

Tours start from the Living History (Sears) Farmhouse on Swisher Road in Battleground.

From I-65 (Delphi Exit), take State Rd 25 N a few miles to State Rd 225. (It will be a left turn.) Cross the Wabash River on the one-lane bridge and continue a short distance to the first paved left turn. That will be Swisher Rd. The entrance road to the 1918 Sears Roebuck Catalog Farmhouse will appear shortly on the left.

To visit our nursery beds, now totaling 80 species, turn left off State Rd. 225 just after crossing the river. Park anywhere in the property manager's farmyard and the "upper" flower beds will be on the right just beyond the first farm shed. An even more extensive set of "lower" beds is located a short distance down the lane that continues past the first beds. The "lower" set is larger, younger, with more species, and is bordered by a black oak savanna that is still in the process of being developed.

From I-65, Brookston/West Lafayette Exit, turn south and take the first left onto Burnett Rd. At the end of the short road, turn right onto North Ninth St. Rd. and then first

left onto Swisher Rd. After a mile or so, the entrance to the Sears Farmhouse will be on your right. To reach the nursery beds, continue to the end of Swisher Rd, turn right onto State Rd. 225 and shortly right into the property manager's farmyard.

The prairie itself can be reached from the Sears farmhouse or the nursery beds. There are no gates and no entrance fees since the state park is years from being open officially. The only rules are: no smoking, and pets must be on a leash.

We are out there every morning from about 8 AM to noon. (It has to be an unusual circumstance to keep us away!) If people want to make extra sure we'll be there, they could contact us a day or two before.

Northwest Chapter

Jan Hunter, President
(219) 395-9786
tephrosia@hotmail.com

May and June brought members together in Starke County for weeding, planting, general maintenance and erecting our INPAWS sign at the park in Knox. Our native garden incorporates well over 50 species of grasses, forbs and shrubs. The original planting took place in April 2000 and has been supplemented over the past year and a half with many wonderful plants indigenous to the northwest part of the state. Local citizens, Boy Scouts, members, family and friends have taken part in the dazzling array of bloom.

The garden was vandalized in August 2000 and then the state highway department tore up 500 feet of the garden. Fortunately we dug the plants and potted them before the heavy equipment arrived, and we'll replace them when INDOT has finished. A nice hiking trail passes the garden and the locals are very inquisitive about the planting, which encourages interest in home native plantings. We will weed the garden a few more times this year, replace the potted plants and expand the garden along the highway leading into town.

In July, the group was delighted to attend a tour of J.F. New nursery in Walkerton. There, we walked the seven-year-old prairie restoration, greenhouses, learned about the wetland reclamation project and had the opportunity to purchase many native plants.

Later in the month Save The Dunes invited us to assist in their wetland erosion control project in Gary at Marquette Park. A boardwalk was constructed at the lagoon, and we helped plant a native garden along either side of the walkway. NW Chapter donated more than 230 plugs of grasses and forbs, and several potted plants and shrubs for the project.

We feel that this is a wonderful way to cooperate with conservation groups, public agencies and the local citizens, not to mention getting our name out there!

All in all, the chapter is growing with interest from more than 10 counties in this corner of the state!

Letters to the Editor

East Central Chapter

Marcia Johnson, President
(765) 288-5629
marciaj50@aol.com

East Central Chapter (Muncie) went on a field trip on Saturday, August 25, to COPE environmental center in Centerville. Our trip leaders were Stephanie Haves-Mussoni and Stephanie Angie.

Central Chapter Forming

Counties will include Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, Shelby

For more info contact
Betsy Wilson
(317) 255-3304
geobet@iquest.net

South Central Chapter Forming

We are proposing to include the counties of Monroe, Brown, Owen, Lawrence, and the near counties of Greene, Bartholomew, Jackson and Morgan.

For more information contact
Ellen Jacquart
(812) 876-9645
hankandellen@att.net



Goat's Rue
(*Tephrosia virginiana*)

ANWR and the Energy Bill

The Bush Administration's energy program, passed by the House of Representatives, sets the stage for a struggle for the nation's conservation future.

The legislation passed by the House:

- Authorizes opening the coastal plain of the Arctic National Wildlife Refuge to oil development.
- Rejects having SUVs meet within five years the fuel efficiency standards that have applied to cars since 1985. (The measure would have cut U.S. emissions of global warming

pollution by 220 million tons annually by the end of this decade.)

- Provides the fossil fuel industry approximately \$20 billion in tax breaks and subsidies.

The American people must now call on the Senate to choose the path that respects our national environmental treasures, gives conservation and efficiency the chance to show their true value and strikes a balance that will earn support all across the nation.

Mark Van Putten, President
National Wildlife Federation
Washington, DC

Botrychium in Tippecanoe County

I read the article on Botrychium species in the Dunes with great interest since the genus is a particular favorite of mine. I did want to make one comment. On page 2 when discussing Least Grape Ferns, the author states, "It last appeared in Indiana in June, 1990, sheltering under willows on a gentle slope above a Duneland marsh." What I think she meant to say was "It last appeared in the Indiana Dunes area in June, 1990 . . ."

We discovered this species on our property in Tippecanoe County some years ago. At that time there were several hundred plants along with a couple of Matricary (Daisyleaf) Grape Ferns in an area under what was primarily young (30-40 year old??) Red Maples and Flowering Dogwoods. Mike Homoya came and took a sample for a Botrychium specialist in Michigan. At that time the colony

was the southernmost colony known in the Midwest (it may still be). Since then the number of Least Grapeferns has slowly decreased. I noticed about a dozen plants this year. A more thorough search would probably turn up more—they are so small they are easily overlooked. My description for people is to look for a two-inch piece of spinach spaghetti with a flake of oregano stuck on one side (my love for Italian food is showing).

The area where the Least and Matricary Grape Ferns were found also has two other Botrychium species, Rattlesnake Fern and Cut-leaved Grape Fern, including the "dissected" variety. White-tailed deer nibble off quite a few plants to the detriment of the overall population.

Susan Ulrich
Otterbein



INDIANA NATIVE PLANT and Wildflower Society

MEMBERSHIP APPLICATION/RENEWAL

Annual dues pertain to the fiscal year January 1 – December 31. Dues paid after September 1 are applied to the following fiscal year.

- Student \$10
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 Sponsor \$250
 Corporate \$500
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 Total Enclosed \$ _____

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 COUNTY _____

TELEPHONE _____
 EMAIL/FAX _____
 STATE _____ ZIP _____
 NEW RENEWAL

How did you hear about INPAWS?

9/01

Please complete this form (or photocopy first) and mail, along with your check made payable to:

Indiana Native Plant and Wildflower Society, or INPAWS
 c/o Katrina Vollmer
 3134 Greenbriar Lane
 Nashville, IN 47448

GIFTS DO HELP. INPAWS donors at the *Supporter, Patron, Sponsor* and *Corporate* levels will receive special recognition. All donations above *Student, Individual* and *Family* dues are most appreciated and can aid our mission. Donations are tax-deductible to the extent provided by law.

I would like to help on these committees:

- | | | |
|--|--|--|
| <input type="checkbox"/> Annual Conference | <input type="checkbox"/> Education Grants and Awards | <input type="checkbox"/> Native Plant Rescue |
| <input type="checkbox"/> Auction Plant Sale | <input type="checkbox"/> Historian | <input type="checkbox"/> Newsletter Programs/Field Trips |
| <input type="checkbox"/> Conservation | <input type="checkbox"/> Invasive Plants | <input type="checkbox"/> Publicity |
| <input type="checkbox"/> Demonstration Gardens | <input type="checkbox"/> Membership | <input type="checkbox"/> Speakers Bureau |



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INDIANA NATIVE PLANT *and Wildflower Society*

Volume 8 Number 4 • Winter 2001

NEWS

Wildflowers: Beauty, Persistence, Hope

by First Lady Judy O'Bannon

Wildflowers. What examples of beauty, persistence and hope. In these uncertain times the glimpse of a precious plant in its growth pattern of stem, leaves, flowers and then seed is reassuring.

Who hasn't felt that leap of joy at finding the first green sprouts pushing out of late winter's snow or marveled at the determination of a small bright flower amidst a hot summer drought.

Flowers built to endure. Programmed to succeed. Wildflowers are living

lessons to us that provide us with inspiration.

When the Indiana Chapter of the World Organization of China Painters said they would like to donate a set of china to Indiana's

Governor's Residence, we said "yes." And, when they asked what we would like to have adorning the china, we suggested native Indiana wildflowers.



First Lady Judy O'Bannon, at right, accepts a wildflower-decorated plate from Phyllis Gladden, 2001 President of the Indiana World Organization of China Painters

I admit that I was expecting four plates, four cups and four saucers as I headed to the china painters' annual meeting in May. What I experienced was the excitement of community building in all its aspects, accompanied by a 250-piece set of exquisite hand-painted china.

Each of the 65 artists who participated had volunteered time, talent and materials to produce either a seven-piece place setting of china or a large serving piece. With trained hands and eyes they painted dif-

ferent wildflowers on each piece. A common robin's egg blue band with gold rim was then applied to each piece by three of the most skilled artists. The artists painted alone or in small teaching groups in their hometowns all over Indiana.

The artists never saw their creation as part of the total set until the night of the annual meeting. Needless to say, the air was filled with excitement as we all reviewed the enormity of the project.

Wildflowers continued on page 2

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We took pictures and smiled amidst thank you's as artists introduced others to their teachers with pride. Master painters glimmered like proud parents at their work. Beginning artists showed enthusiasm for their early accomplishments. They had come freely together, joined their talents and created a whole greater than each individual piece.

This is not simply a "set of dishes." It is a beautiful story of linking of human resources and natural resources. It is a story of nurturing each other so we all flourish. It is a story of creating together as communities and reaping a bountiful harvest.

Years ago I had a coffee cup that was decorated with the saying,



Teapot decorated with Fire Pink (*Silene Virginica*) by the Indiana Chapter of the World Organization of China Painters

"Grow where you are planted." I add to that by saying, "Be proud of what you are. Persevere, but do not try to go at it alone."

We are at our best when we reach out and join with others and the world around us. That's when real growth takes place.

It is so appropriate that our new china at the Governor's Residence tells this story. It will be on these pieces that we will provide food when our community comes together in ways that nourish both our bodies and our spirits. In a quiet but powerful way, the story of the china painters and meaning behind their effort will come to all who dine on this spectacular creation.

*The Newsletter of the
Indiana Native Plant and Wildflower Society*
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Published quarterly by the Indiana Native Plant and Wildflower Society for members.

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We welcome opposing viewpoints.

Articles, letters, drawings should be sent to Carolyn Harstad, 5952 Lieber Road, Indianapolis, IN 46228.

www.inpaws.org

The mission of the Indiana Native Plant and Wildflower Society is to promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity and environmental importance of indigenous vegetation.

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President's Message

by Carolyn Q. Bryson

Congratulations to Linda Oxenrider, our new State President, and to all of the other newly elected state officers. INPAWS is growing and changing, validating that it is a dynamic organization, and Linda will appreciate the support of all of you. I certainly have appreciated the support of the officers and committee chairpersons who served with me, as well as other members; no one of us can do the job alone.

The past two years have been busy ones, and I hope that all of you perceive them to have been productive in advancing the mission of INPAWS. In response to the desire of INPAWS members to have programs and projects closer to their homes, the number of chapters is growing. Three chapters have been formed, serving North West, West Central, and East Central areas. Two chapters are in the process of forming, serving Central and South Central areas. And one additional chapter may be formed in the North East area. I intend to work with the chapter leaders to incorporate the chapters under our not-for-profit tax-exempt status; the bylaws were revised in order to facilitate the process.

Although we are at war and the preservation of our native plants may seem insignificant to others in the context of current world events, as INPAWS members we know the importance of improving and maintaining the quality of the environment in which we live. The beauty of our native plants and trees can raise our spirits when the news of world events threatens to dishearten us. If each of us does just one thing to preserve our native plants, just imagine how many things can be

done. And if we work together we can accomplish even more.

What can you do?

- Don't wait to be called. If you see or hear of an INPAWS project of interest to you, call the committee chairperson and volunteer. If there is no current project in an area of interest to you, contact a committee chairperson or officer and discuss your interest and ideas.
 - Volunteer to help staff an information booth at an event in your area. You are in a better position than a state chairperson to know what events are taking place in your area. If you are aware of an event at which a speaker or an information booth would be appropriate, contact your chapter officers or a state chairperson. Many communities have Earth Day events, or Master Gardener events, or garden shows at which an INPAWS information booth would further our mission to educate the public. I have found that the trifold invasive display usually draws persons over to the booth or table. We have our two brochures that can be discussed and given to interested persons. We have the wildflower notebook to stimulate interest in our native plants. Hopefully, in the near future, we will have a list of books about native plants to distribute. With advance notice and organization, it is possible to sell recently published books about native plants as a fundraising and information-sharing activity. And, of course, you can discuss membership in INPAWS.
- Volunteer to present a slide program; we have the invasives script and slide program available.

Contact the INPAWS Speaker's Bureau chairperson to find out if other scripted slide shows are available. Or develop your own slide program and offer to present it.

Visit your park nature center and talk with the naturalists to see what information would be helpful to them. The trifold invasives display is currently in two nature centers and we can make more displays. Perhaps they would like copies of our brochures to hand out to interested persons. We ask that sample brochures be placed on display, with brochures offered if persons are interested, rather than being left out unattended.

- Check with your parks to determine whether an invasive plant removal program would be helpful. You don't need any equipment other than garden gloves and garbage bags to pull up garlic mustard.
- Check with your parks to determine whether a display garden of native plants would be possible.
- Watch your area for developments in locations where native plants exist.
- Organize a native plant rescue to remove the native plants before they are destroyed. We have a form for you to use to seek written permission from a developer or owner before any digging is done. INPAWS has a policy that at least half of the rescued plants are to be placed in our annual plant sale while the other half may be placed in private gardens or, possibly, parks.

President's message continued on page 9

Botany 101 – eleventh in a series

Internal Anatomy of Plants – Roots

by Dr. Rebecca Dolan and Dr. Katherine Schmid

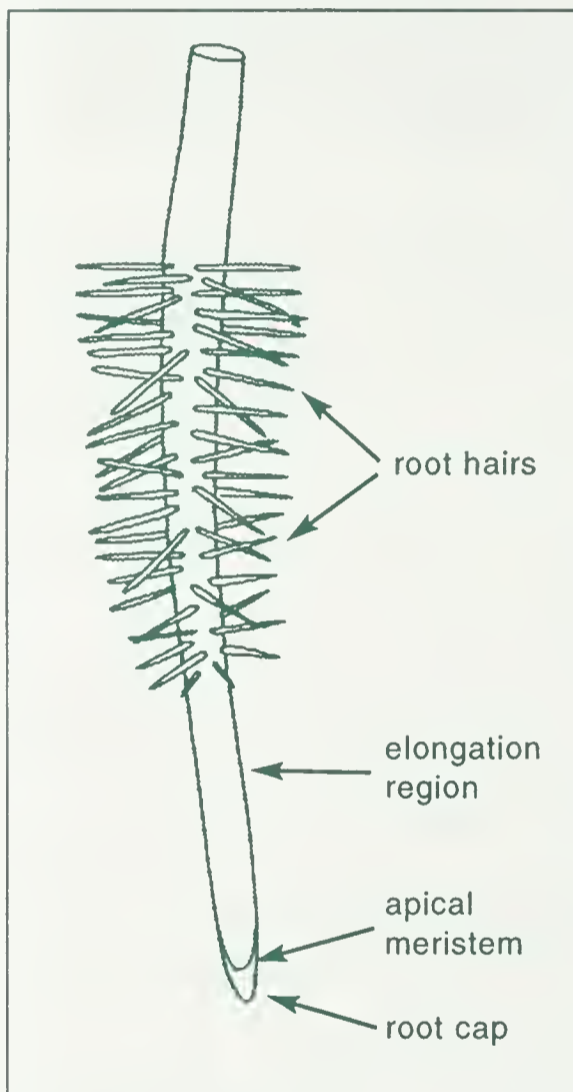
Roots are mostly composed of the same cells and tissues that we introduced for shoots, but with a few specializations for their role in absorbing water and minerals.

Again, growth in root length is due to an **apical meristem**, which produces cells that divide and develop into epidermis, ground, or vascular tissue depending on where they are located. Primary tissues of the root are arranged in this order: epidermis on the outside, then ground tissue, and then vascular tissue in a cylinder at the core of the root.

The root apical meristem is at the root tip. In longitudinal section, the apical meristem can be seen to be protected by a **root cap** of cells that are constantly sloughed off and replaced from within, as the root grows through the soil. Root cap cells exude a slimy material to help the roots grow past rough soil particles. The root cap is also the location of gravity-sensitive starch grains that trigger hormones to induce cell elongation such that the root grows with gravity, that is, down into the soil.

Above the meristem, an emphasis on cell division gives way to a zone in which cell expansion and elongation is emphasized. Still farther from the meristem, cells mature and take on their normal functions. Only in this zone of maturation do epidermal cells have the extensions known as **root hairs**; fully mature regions beyond this zone have lost their root hairs. The root hairs make the zone of maturation the most active in water and mineral uptake. Since only newly mature epidermis

has root hairs, roots must constantly grow in order to keep up their absorptive capacity. That is one reason why pot-bound plants and street trees don't grow well.



Two cell layers found in young roots are absent from most stems. The vascular cylinder is bounded by an **endodermis**, a layer with precisely located deposits of a waxy substance called **suberin**. Strips of suberin prohibit water and minerals from getting into the vascular cylinder between cells. Instead, they must at minimum go through the selective membranes of the endodermis. Recall that xylem cells are dead and cannot themselves choose appropriate materials for transport. The endodermis ensures that only

properly selected substances are available to the xylem. In older roots that serve more as pipelines than as absorptive surfaces, the endodermis cell walls may become entirely suberized. The suberin may then serve to keep water in the vascular cylinder.

Just inside the endodermis is the **pericycle**, which gives rise to branch roots. Usually branching begins when the root is very young. The branch, or lateral, roots must puncture the endodermis, ground tissue and epidermis before reaching the soil. This pattern of branching is very different from that of stems. Stem branches develop from lateral buds at the stem surface. Lateral buds, like leaves, are produced by the shoot apical meristem.

In woody plants, roots as well as stems use vascular cambium to produce wood (secondary xylem) and inner bark (secondary phloem), and cork cambium to produce outer bark (cork). This process does not begin until the section of root in question has lost its root hairs and ceased to be absorptive.

Becky Dolan is Director of the Friesner Herbarium at Butler University, and a charter member of INPAWS.

Dr. Katherine Schmid is Associate Professor of Biological Sciences at Butler. Her specialty is plant physiology.

Illustration by Jan Glimn Lacy, INPAWS charter member and botanical illustrator, from her book Botany Illustrated.

Report of INPAWS Eighth Annual Conference, held at Butler University, Indianapolis, November 10, 2001

“Put down the axe and pick up the shovel” instructed Bret Rappaport as he presented his inspiring message of “why natural landscaping is important.” His opening keynote address was a most appropriate way to commence the Eighth Annual Conference of INPAWS held on November 10, 2001 in Gallahue Hall on the campus of Butler University in Indianapolis.

Mirroring the diverse membership of INPAWS with its wide range of knowledge and passion, Bret and the rest of the day’s lineup of speakers represented an equally diverse collection of backgrounds, experience and areas of expertise.

A Chicago attorney, he is an advocate of natural landscapes and immediate past National President of Wild Ones, Ltd., an organization promoting biodiversity and environmentally sound practices at the “grass roots” level and landscaping using native species in developing plant communities. Citing examples ranging from neighborhood schools to small Midwestern communities to his own property, Bret heralded the cause of the “land ethic defeating the lawn ethic” and promoted the changes we need to make individually as well as a society in accepting and promoting natural landscapes. His unbridled enthusiasm was contagious and left his attentive audience eager to play their role in the “cause.”

With an interesting mix of speakers scheduled for morning and afternoon concurrent sessions, attendees faced the difficult decision of which presentations to attend.

“Ranking the Invasive Plant Species of Indiana” was the topic of The

Nature Conservancy’s Ellen Jacquart. As the chair of the Invasives Committee of INPAWS, she has been at the forefront of promoting the invasive dangers of certain species and she shared her current involvement with numerous concerned agencies and organizations in adopting methods for determining the degree of severity of our state’s “problem plants.”

Connor Shaw, owner of Possibility Place Nursery in Monee, Illinois shared his observations and suggestions on native woody shrubs for landscaping. From buttonbush to elderberry, he discussed some familiar and many underutilized species with insightful accounts of their cultural requirements and landscape potential. His presentation was a must for those who wanted to diversify the plant palette of their own landscapes.

INPAWS member Elizabeth Mueller has been a vital part of many environmental efforts in Zionsville, Indiana. Perhaps most notably, she led the effort toward Zionsville’s being named by the National Wildlife Federation as the nation’s second *Community Wildlife Habitat*. Elizabeth shared her inspirations and strategies in creating wildlife habitats, both on the community and backyard level.

Longtime professor of Life Sciences at Indiana State University, Dr. Marion Jackson is currently putting the finishing touches on his soon to be published book, *Trees of Indiana*. He shared some of his field research and observations of Indiana’s natural tree communities in his thorough talk that also touched upon some elements found in *The*

Natural Heritage of Indiana, which he edited.

INPAWS was fortunate to have Darrel Morrison as one of its featured speakers at the conference. Early in the day he discussed the value and use of the tall grass prairie in the landscape. A professor in the School of Environmental Design at the University of Georgia, he is a nationally prominent authority on the restoration of prairies. A fellow of the American Society of Landscape Architects, he is often called upon to contribute to notable projects involving natural landscapes. He demonstrated his ability to merge creative and functional design elements with native plants—both existing and planned—in the several projects he described. And like Bret Rappaport earlier in the day, he was proud to show off his own property as a wonderful example of what he preached.

It was a sunny pleasant day, so lunchtime dining outside was the choice of many conference attendees, some of whom also explored Butler’s attractive campus. The University’s Friesner Herbarium, located on the lower level of Gallahue Hall, was also open for informal touring during the lunch break. Herbarium director, Dr. Rebecca Dolan led groups through the impressive facility and also organized a display of Indiana ferns.

A standard part of every Annual Conference is the Society’s Annual Business Meeting conducted by INPAWS President Carolyn Bryson. It included reports from committee chairs and a general recap of the

Annual Conference continued on page 6

INPAWS Small Grants Program Report for 2001

Becky Dolan, Grants and Awards Chairman

This year we had five very good submissions to our small grants competition. Each year the program offers grants of up to \$500 to support projects that promote the INPAWS mission. Proposal submission information is printed in the newsletter with a submission deadline in March or April.

The **Avon Outdoor Learning Center** was the 2001 grant winner. INPAWS member Carol Ford submitted this proposal for money to cover the purchase of more native plants to enhance native plantings at

the Center. More than 1,500 students use the facility as an outdoor lab.

INPAWS gives an award through the awards program of the Indiana Chapter of the American Society of Landscape Architects for a project that features native plants. Winners receive a plaque. This year's winner was **Schmidt Associates** for their design for a prairie labyrinth garden in a Hamilton County Park. INPAWS member Sue Dillon was actively involved in development and implementation of the project.

Annual Conference continued from page 5

events of the past year along with a look ahead. The slate of officers for 2002, including President Linda Oxenrider, was approved, and a general challenge made to the members of INPAWS for greater involvement in the organization and activities of the Society.

INPAWS is fortunate to have not only many actively involved members, but also a number of generous benefactors who lend their support financially. The 2001 Annual Conference was made possible through the sponsorship of:

- Indiana Chapter of the American Society of Landscape Architects
- Spence Restoration Nursery
- Tiffany Lawn and Garden Supply

Also to be thanked for their efforts in planning and conducting the day's proceedings is the INPAWS

Annual Conference Committee, chaired by David Gorden and consisting of Dean Hill, Barry Fisher, Karen Hartlep, and Rebecca Dolan.

More than a quarter of the nearly 120 Conference attendees were participating in their first INPAWS Annual Conference, an encouraging figure, and representative of the Society's ever expanding exposure, base of membership and participation. The Annual Conference is a great way to welcome new members and gather together old for a day of learning, socializing, and being inspired by discussion of what the organization is all about—native plants and wildflowers. As incoming president Linda Oxenrider commented, a day like this provides good momentum as we head into a new year of protecting and enjoying our beautiful Indiana plant life.

Jo Ellen Meyers Sharp, the incoming INPAWS corresponding secretary, was recently elected as a Regional Director for the Garden Writers Association of America. She is a regular gardening columnist for the *Indianapolis Star*, co-author of *Indiana Gardens*, and a freelance writer.
Congratulations Jo Ellen!

www.inpaws.org

Visit our website for news and information about INPAWS and native plant issues, as well as links to related organizations concerned with preserving native plants and their habitats.

Send us your news, questions, comments, ideas, suggestions.

Please email Anne Wilson
wilson@hsonline.net

NEWLY ELECTED INPAWS OFFICERS for 2002-2003:

President Linda Oxenrider
317-873-5390
goxen@iquest.net

Co-Vice-President
Roger Hedge

Co-Vice-President
Tom Swinford

Recording Secretary
Nancy Hill

Corresponding Secretary
Jo Ellen Meyers Sharp

Treasurer Carolyn Q. Bryson

Native Plants Online is live on the website of the **Lady Bird Johnson Wildflower Center**

This highly anticipated online resource is packed with free native plant information. Visit <http://www.wildflower.org/npin/index.html>

to find information such as:

- An online database of more than 1,000 native plant species, with color photographs, growing information, and more
- A national directory of more than 2,000 landscapers with experience using native plants
- A national directory of native plant and seed suppliers
- Downloadable fact sheets from the Wildflower Center's Clearinghouse, including regional Recommended Species lists, Native Plant Bibliographies, and Native Plant Organizations lists.

If you select "Indiana" in the database, you get a list of 354 native species suitable for planting.

Another first for the Wildflower Center's website is an area for success stories from members and friends across North America. Learn how individuals, companies, and others are saving natural resources and helping to preserve or restore biological diversity by using native plants:

http://wildflower.avatartech.com/Plants_Online/Success_Stories/success.html.

The Lady Bird Johnson Wildflower Center website can also be accessed from the INPAWS website inpaws.org.

New Speakers Bureau Programs Available

The Speakers Bureau would like to thank all those who have given programs throughout the year 2001. You are helping spread the good word about natives.

New: Starting this year three slide programs with written text to go with each slide. The program lasts 45 minutes.

- 1 • Invasive Plants
- 2 • Spring Native Wildflowers (new)
- 3 • Summer Native Wildflowers (new)

I have put together two new slide programs for you to borrow and present to interested organizations. The spring and summer wildflowers programs are full of interesting stories and great information on growing the plants in your garden.

It is easy: show the slide and read the text. I hope INPAWS members will take advantage of these programs to educate people in your area. Your library is a good place to give these programs.

All you have to do is contact me and I'll send you the slides. After you have given the program, return them to me.

This is another great opportunity and an INPAWS member benefit.

Please contact
Colletta Kosiba
Speakers Bureau chairman
5430 N 600 E
Brownsburg, IN 46112
317-852-5973
k_colletta@hotmail.com

native plant books

written by INPAWS members and published by Indiana University Press are available for sale.

Contact Carolyn Bryson
(317) 873-4205
email_quinnell@iquest.net

Field Guide to Indiana Wildflowers

by Kay Yatskievych
\$17.95, pub. October, 2000

Trees of Indiana

by Maryrose and Fred
Wampler
\$49.95, pub. November 2000

Go Native! Gardening With Native Plants and Wildflowers in the Lower Midwest

by Carolyn Harstad
\$24.95, pub. September 1999

Renew Your Membership for 2002

In this issue you should find an inserted membership application/renewal. Note that beginning this year, if you would like to belong to a chapter as well as the state organization, part of the dues to INPAWS will go to the chapter of your choice. If the form is missing from this issue, use the one on the back page.

Contact Carolyn Bryson for more information.
(317) 873-4205
quinnell@iquest.net

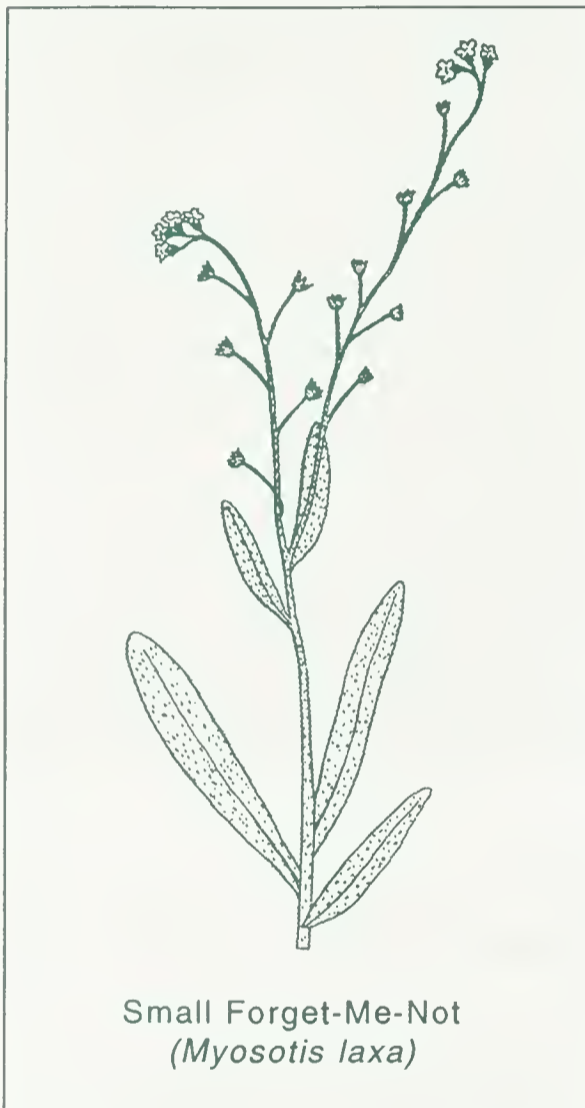
Plant detectives . . .

Challenge Plants of the Dunes – fourth in a series

Small Forget-Me-Not

by Barbara Plampin

Rare plant exploration can be dangerous. Once, on a rash solo visit to the Cowles Bog tamaracks, I mired up to the crotch in an attempt to reach some enticing basal rosettes matting the center of a murky pool.



Immobile, through the trees I could hear the happy chatter of children on the trail. Yelling “Help!” would only frighten them; besides they could never reach me. Was I doomed to disappear like the villain in *Lorna Doone*? What to do? I prayed, and then, without thinking, sat down on the muck. This redistributed my weight, and so I scrambled out to safety.

So, what were those basal rosettes? Comparison to similar rosettes nearby indicated the endangered

Small (Smaller) Forget-Me-Not (*Myosotis laxa*), official blooming dates 31 May-15 September. Small Forget-Me-Not boasts delicate pale blue flowers up to 6 mm wide. Stems of this annual or short-lived perennial “relax” but may reach 40 cm. The nearest look-alike, the wide-spread garden escapee, **Common Forget-Me-Not** (*M. scorpioides*), has brighter blue 6 mm plus corollas. Apparently, our plant is confined to Lake, Porter, and perhaps, La Porte Counties.

Small Forget-Me-Not enjoys several less perilous habitats. Unfortunately, several accessible sites are threatened. Before the boardwalk, trampling kept grasses and Jewelweed from shading out the Cowles Bog population. Either cattail shade or reconstruction may destroy plants along the Calumet Bike Trail. A new water main seems likely to displace the plants in a neighboring Buttonbush-edged ditch, and storms threaten a mysterious clay seep at the foot of a Lake Michigan fore-dune.

Best bets: Join a **guided** hike to the Cowles Bog Cedar Mound. Gloves will help protect from Poison Sumac. Better: Celebrate a winter thaw when visibility is greatest by hunting basal rosettes in one of the Speckled Alder-Blue Joint Grass transition zones in the Great Marsh. Confirm any finds in summer. Check ditches and banks of brooks too.

Note: For more associates, consult Swink and Wilhelm, *Plants of the Chicago Region*, Fourth Edition. Yatskievych, *Field Guide to Indiana Wildflowers*, is also helpful.



Barbara Plampin is a member of INPAWS, a trustee of the Shirley Heinze Environmental Fund, and a member of Save the Dunes Council. She has a Ph.D. in English literature from the University of Michigan. Botany has been her avocation all her life.

Author's Note:

How glad I am to be wrong about Least Grape Fern (*Botrychium simplex*). That it is alive and well in Tippecanoe County is cause to rejoice. But what has made the number of plants dwindle? Does deer browse contribute? Increasing shade? Susan Ulrich's place sounds really interesting.

[Ed. note: see letter to editor in INPAWS News, volume 8 number 3, autumn 2001.]

Looking to Nature for Solace and Hope

The recent, horrifying images seen on TV and newspaper pages have left our country with a heavy heart, not knowing where to turn to relieve the pain. At times like this, taking a moment to re-connect with nature can provide a solace unmatched by any man-made escape. Now more than ever, we need the prescription described by Henry David Thoreau as “the tonic of wildness.” Immersion in nature’s wonders can be the best distraction from the reality of our pain.

Famed writer Wallace Stegner wrote that as human beings we need wild places available to us as a way of reassuring ourselves of our sanity as creatures. Calling this sense of connection to the natural world part of the “geography of hope,” Stegner evoked the eternal rhythms of which we are all a part.

We often focus on protecting wildlife and those natural places we love. Now those wild places can come to our rescue, giving us the strength and hope we need to face an uncertain future. I strongly believe we can feed our soul by stepping outside to hear the sound of water as it ripples down a creek bed or rushes against the shore, lifting our eyes to behold the serenity and stability of an aging tree, feeling the wind in our face, watching a butterfly flit from flower to flower.

There is comfort in knowing that the soothing sights and sounds of nature will always be there to embrace us, steering our nation toward whatever “normal” might mean for us in the months ahead. As events unfold, take the time to get outside and experience your own

special place. Let nature’s healing hand lift up your heart and your spirit.

Every time we set out seeds for birds we trust to return, watch in awe as salmon return to their birth-place to spawn, plant a seed in a garden, or gaze at the stunning beauty of Monarch butterflies as they migrate as much as 2000 miles every Fall, we affirm our confidence in the future—for these are acts of faith, the same faith that empowers our country to rise anew in the wake of tragedy.

Reprinted with permission from *The National Wildlife Federation Volunteer Newsletter*, October/November 2001, Volume 10, Issue 5, page 1.

President’s message continued from page 3

- Work with your local schools to determine their needs with respect to educating the students about native and non-native invasive plants. Perhaps the school already has a native plant garden and you can help by providing plant culture information. Or, perhaps the school would be interested in planting a display garden of native plants.
- Visit your local nurseries in the spring to see what plants they are offering. If you see *Lythrum salicaria* (Purple Loosestrife) for sale, the nursery owner should be contacted and, perhaps, the nursery should be reported. If you see other non-native invasive plants for sale, try to speak with the owner or sales

persons and give them copies of our invasive brochure.

- Watch our newsletter for information and an application for our Small Grants and Awards program. Perhaps you might like to apply for a grant, or you might know a school, park, or other entity that might wish to apply.
- Offer to write an article for our newsletter.
- Help with our annual conference; there is always much to be done.
- Help with our state annual plant sale and auction. This is our primary fund-raising activity and is necessary in order to support our other programs. In addition, it serves as an educational event.

- Help prepare mailings for the state or chapter; stuffing envelopes can be fun when you are with a congenial group.
 - Serve on a state or chapter committee.
 - If you have a garden, prairie, or woodland with native plants, invite members for a walk through your property. Or help to plan an “open day” tour through several properties.
 - Refer persons to our website www.inpaws.org for up-to-date information on INPAWS programs and activities and hyperlinks to related areas.
- Be involved. You are the INPAWS organization.

INPAWS Chapter Reports

Central Chapter

by Betsy Wilson

The inaugural meeting of the Central Indiana Chapter of INPAWS was an entertaining and informative blend of magic and practical information for the home gardener. Rolland Kontak's wizardry changed what looked like a pile of chaff into a pan of minute cardinal flower seeds in less than three minutes. Foam insulation became a bird house and a cold frame. Slides and an entertaining narrative covered preparing beds, mulching, collecting seeds, composting, weed control and using "found" materials to create garden hardware. Examples of everything from labels to various

stages of compost allowed participants hands-on experience and gave us ideas for recycling "freebies" and discards. Rolland raised \$13.65 for the chapter from the sale of ginseng seeds and garden aids. A big thanks to Rolland and to all who came to the meeting.

Our second meeting will on January 19, 2002, at Cool Creek Park Nature Center from 10:00 to 11:30. Betsy Wilson will present a program entitled *Starting Wildflowers from Seed for the Home Gardener*.

There will be a demonstration, a handout on basic techniques, a bibliography and a chance to start a pot of wildflowers or grass for those who wish to try it. If you have seeds to share, please bring them to the meeting.

Directions: Cool Creek Park is located one block East of Route 31 on 151st Street (entrance is just beyond McDonald's and the fire station).

For more information call Betsy Wilson at 317-255-3304 or Dawn Stelts at 317-867-2906.

West Central Chapter September 2000 to November 2001

by Chris Brewster, President

The chapter sponsored two field trips: (1) Clegg Gardens to see spring wildflowers, and (2) A fall mushroom hike in Happy Hollow Park (West Lafayette) which was very well attended by the public.

We helped to celebrate Earth Day at Columbian Park Zoo with a display and pamphlets that encouraged people to landscape with native plants. We also sponsored the education table at the INPAWS annual plant auction and sale.

We tried to participate in River Fest 2001—a celebration of all the potential attractions of the Wabash River. However, no shelters were provided for the displays and after only two

hours, an approaching thunderstorm forced us to pack up and run just before the heavens opened up in a tremendous downpour.

We sponsored a book signing and sale of Kay Yatskievych's *Field Guide to Indiana Wildflowers* and this included a slide-lecture given by Kay on native plants.

In the spring, we pulled Garlic Mustard in West Lafayette's Michaux-Sinniger Nature Preserve. In cooperation with the Tippecanoe County and West Lafayette Park and Recreation Departments.

There are many service opportunities available and our members volunteer for work projects with the

Division of Nature Preserves, The Nature Conservancy, the Museums at Prophetstown, Celery Bog Nature Preserve, the Battlefield Nature Center, and NICHES, (a northern Indiana land conservancy group).

There are currently 42 members in the West Central Chapter.

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Kankakee Mallow

by Laura Wells

Kankakee Mallow, (*Iliamna remota*), is a rare plant with only three known populations. The only naturally occurring population is on Langham Island in the Kankakee River. This island is in Kankakee County near Altorf, Illinois. The Kankakee Mallow was discovered growing on a gravel substrate on June 29, 1872. Two other colonies have since been discovered. The Elkhart County, Indiana, population was discovered on July 4, 1944. The plants were growing along the Elkhart River, near the railroad crossing. On June 28, 1964, a population of *Iliamna remota* was discovered along the James River. This population, near Glen Wilton, Virginia, was also growing near a railroad crossing. It is believed that Kankakee Mallow seeds were scattered from the windows of trains to help spread this rare plant.

The Kankakee Mallow plant is a perennial dicot. These plants produce red-violet flowers during the months of June and July. The typical habitat of *Iliamna remota* is a prairie or savanna scattered with bur oak, (*Quercus macrocarpa*), and bitternut hickory, (*Carya cordiformis*). The three known populations are all established near rivers. A well-drained substrate, such as gravel, is important for the Kankakee Mallow. Frequent natural disturbances are necessary to keep large shrubs from taking over the Kankakee Mallow's habitat. These disturbances could be fire, ice-scour, or erosion. Fires and freezing are especially important for *Iliamna remota* germination. Kankakee

Mallow's seeds will not germinate, if they are not frozen or scarified in some manner. A small percentage of seeds will germinate when only frozen. More than half of the seeds will germinate when they are only scarified. When the seeds are both scarified and frozen, nearly all of



Kankakee Mallow
(*Iliamna remota*)

the seeds will germinate. Fire is needed to scarify the Kankakee Mallow seeds in the wild. A hard freeze will occur at least once during the winter in the locations of the three populations.

Kankakee Mallow is very rare and has endangered status in both Illinois and Indiana. However, it is not listed on the Federal Register of Endangered Plants. Care must be taken to keep this plant from vanishing. In the past, private collections have been used to renew the wild population in Indiana.

It is also important to manage the existing populations by making sure the plants receive periodic controlled burns. Also, care should be taken to inform the people living around the Kankakee Mallow populations of its endangered status.

Interested botanists could continue to help prevent the loss of wild populations by keeping small populations in their private collections.

An experiment was performed on Kankakee Mallow seedlings to determine if plug size would affect the seedlings. Four different plug sizes were tested: short stowie, 105 ml, 90 ml, and 60 ml. After six weeks, the dry weights of the seedlings were obtained. There was very little difference in the weights of the plants across treatments. This shows that Kankakee Mallow can be started in almost any available size of plug tray.

Therefore, plant enthusiasts should have no problems growing these endangered plants based on space requirements.

Potted Kankakee mallow plants are scheduled to be available at the spring plant auction held by INPAWS.

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Laura Wells is an undergraduate in biology at Purdue University.



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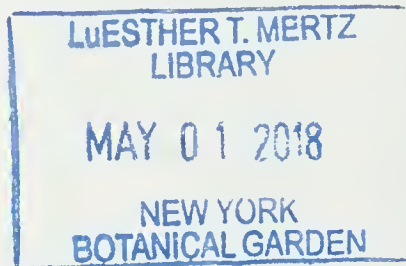
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