

INDIANA

Native Plant and Wildflower Society

NEWS

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Spring 1997

Native Grass Sampler

by Barb Kaczorowski

I believe it was the great German plantsman Karl Foerster who called grasses "the hair of Mother Earth." That wonderfully apt description has always stuck in my mind as perfect. Just think of a warm June wind rippling through a meadow, sweeping the many-textured and colored grasses into a tapestry of graceful motion. Perhaps it's late afternoon and the last low sunrays burnish and backlight the grasses' flowers and seedheads. Clouds of insects among and over the grasses are pursued by birds. This beautiful picture gives you just an inkling of the rich lifeweb nourished by the hair of Mother Earth.

Over the past ten or fifteen years, American gardeners have come to "see" grasses for the first time as great garden plants, and as the backbone of the uniquely American landscape style pioneered by the landscape architects Oehme and Von Sweden. Rather than regimented borders and traditional shrubbery, they use sweeps of grasses and perennials to evoke the feel of the meadow—or prairie—we just imagined. Perhaps no landscape image is as purely American as that of the prairie. And Oehme and Von Sweden's style is to landscape what Frank Lloyd Wright's is to architecture.

Right about now, though, I'm getting a bit tired of all those miscanthus and penisetum knockoffs of the Oehme and Von Sweden original. I'm talking about

the ubiquitous ornamental grass landscapes proliferating across commercial sites everywhere. Those Asian grasses are attractive, stalwart, and serviceable plants, commendable especially for their ability to survive in the most miserable soil, and are not invasive in our area. But native plant enthusiasts and gardeners everywhere can move beyond these *Ornamental Grasses 101* into the subtle but not lesser beauties of the native grasses.

Bluestems. For me, the most outstanding of these is **little bluestem** (*Schizachyrium scoparium*), which at three feet tall is not all that little.

This narrowly upright, warm-season bunch grass is the most colorful of the native grasses. In the spring and summer, it is glaucous blue-green, and if you inspect the stems in mid- to late summer, you'll note a lovely overwash of rich burgundy, especially around the



nodes. (This exquisite color combination so entranced me one September that I spent the winter knitting a sweater in just those hues.) In September, the fuzzy ivory flowers arrayed along the topmost portions of the stems catch the light, but don't expect the flagrant plumes of a maiden grass. These little flowers are subtle embellishment of a grass whose main attraction is its palette of stem and leaf color.

This palette heats up in the fall, when the entire clump turns a fiery orange-red, lighting up the autumnal and winter landscape before finally fading out sometime in February. The cultivar "Blaze" has been selected for its exceed-

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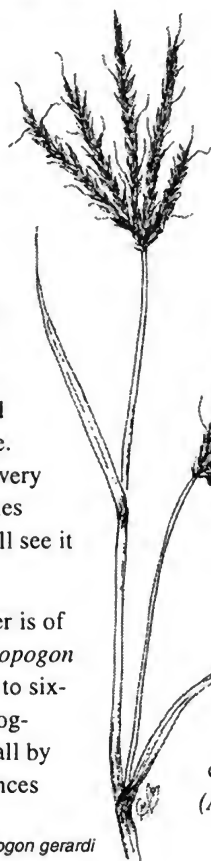
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ingly bright and long-lasting winter color. Clumps of it really resemble fires burning in the snow.

Little bluestem was one of the major constituents of Indiana prairies, and you can reinstate its beauty in your garden. Just don't site it in heavy soil or in a wet spot. It doesn't demand rich soil—just good drainage. And once established, it is very drought tolerant. In the dunes along Lake Michigan, you'll see it growing in pure sand.

Little bluestem's big brother is of course **big bluestem** (*Andropogon gerardi*). This robust, five- to six-foot tall prairie grass is recognized in late summer and fall by its "turkey foot" inflorescences



Andropogon gerardi

radiating from the tops of the stems. Like little bluestem, it goes through a color transformation from steely blue-green to orange in the fall. The cultivar "Pawnee" is especially colorful.

Big bluestem's growth requirements are identical to those of little bluestem: sunny and well-drained.

Even if you've never seen big and little bluestem, I know you've seen their poor cousin, **broomsedge** (*Andropogon virginicus*). Not a



Sorghastrum nutans

sedge at all, but a grass, this denizen of poor soils is reputedly an indicator of phosphorus deficiency. At any rate, I never notice it until winter, when their orangey-tan color marks the locations of colonies of broomsedge everywhere.

Indian grass. For a splendid, distinctive alternative to Asian feather reed grass (*Calamagrostis* spp.), try **Indian grass** (*Sorghastrum nutans*) in your garden or meadow. This warm-season bunch grass has leaves a bit wider than little bluestem's, that reach around 36 to 42 inches tall. The head-high, six-to-18-inch, graceful, arching inflorescences are narrow in early summer, before opening out in late June with a spangle of quarter-inch lemon-yellow pollen anthers. Then in late summer and into autumn, the seedheads turn the most beautiful burnished chestnut, and the increased

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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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Submission of articles

Information for the newsletter is supplied by Society members and others interested in sharing information about Indiana native plants. Articles or drawings should be sent to the Editor, Dan Anderson, 7412 Graham Road, Indianapolis, IN 46250, or e-mail wilson@hsonline.net.

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President's Message

by Carolyn Harstad

Development brings new homes, new jobs, new opportunities. However, it can also bring environmental problems as we continually change the land to suit our short-term needs.

My sister who lives in Tacoma, Washington, wrote in January '97 of the floods in the Pacific Northwest. "We have several new 'lakes' completely covering several blocks of main roads and highways, causing road closures and detours, and now mudslides bringing houses down onto the Interstate. All this flooding has just begun happening in the last few years, due I guess to all the new building and paving going on in the Pacific Northwest. We are growing at an amazing rate. And where there used to be undeveloped areas to help soak up the winter rains, there is now pavement. Therefore we are having major flooding problems. A friend lives about a mile away and has been stranded in his house for five days. The only access road to his development is closed because of a new 'lake' over the road so deep that a car trying to go through it is still stuck in the middle with water halfway up its windows. It has been getting progressively worse the last three or four years, and this year it is very bad. It will be interesting to see what the county does about the water problem."

Charles E. Little details another result of misuse of our planet in his book entitled *The Dying of the Trees*. He writes that environmental changes such as global warming, logging, and atmospheric pollution have caused "widespread deaths of forest-dwelling species...strongly suggesting an extreme ecosystem imbalance." Frogs and toads are experiencing problems. Little also reports a decline of mushroom populations, especially in

Europe, earthworms dying in Midwest forests, and giant cactuses dying in southwestern deserts.

Is it too late? Are our small efforts worthwhile? A man once walked along an ocean shore, stopping periodically to throw stranded starfish back into the water. Another man, seeing the beach littered with thousands of stranded starfish, asked "What difference will your effort make—there are so many," and the first man replied "It makes a difference to *this* starfish."

What can we do? Implement suggestions written by Ted Harris in his article on biodiversity. Work with children, our hope for the future, and teach them about the value of conserving our environment. Join with Dan and Sophia Anderson in encouraging young 4-H members to complete wildflower projects, and with Sue Nord, education chair, who is helping fifth-graders grow native plants. Attend a plant rescue certification workshop offered by Don Miller and Sue Dillon, plant rescue coordinators, who hope to organize digs in areas where development will destroy native plants. Come and help dig and plant.

Encourage developers to preserve the environment as they plan and build new areas. Perhaps the parks department in your area could use your help as a volunteer. In Indianapolis, Don Miller and Kevin Tungesvick have directed INPAWS volunteers in planting wetland plants near the Major Taylor Velodrome and prairie plants in a site off Westfield Boulevard for Indy Parks.

Submit articles on native plants, wildflowers, invasive exotic removal and preserving our environment to newsletter editors Dan Anderson and Anne Wilson. Offer to help set up the educational dis-

play garden using native plants and wildflowers that Hilary Cox and Mike Rian are designing and planting for Orchard in Bloom, May 2 through 4 at Holliday Park in Indianapolis. Contact Colletta Kosiba who matches speakers to events from her list of lecturers. Participate in our annual meeting held each year in November. Let the INPAWS board know about your talents, your interests, your willingness to participate. We need you!

Help to educate everyone you contact about the value of our precious environment—remember the message on my friend's sweatshirt. "We will conserve only what we love. We will love only what we understand. We will understand only what we are taught." Charles Little quotes William Wordsworth's *Tintern Abbey*, "nature never did betray the heart that loved her."

Hoosiers are blessed with a wide variety of natural areas. We are spotlighting five state parks for our field trips this year.*

In many of our parks, garlic mustard is rampant. As reported in our 1996 newsletters, this plant can totally destroy wildflower areas. Garlic mustard is an aggressive biennial which can outcompete and overtake natural areas and is just beginning to be found at Shades and Turkey Run State Parks. Here is our chance as members of INPAWS to explore two of our finest state parks at the peak of spring wildflower season, have fun and help in one small way to "make a difference." Join us! Become involved. Indiana needs your help.

* See complete program and field trip calendar on page 13.

Good for What Ails You?

I don't normally frequent health food stores, but an article in an early January *Wall Street Journal* on the uses of purple coneflower (*Echinacea purpurea*) attracted my attention, and caused me to look into the uses of native plants for health reasons. Among the displays of antioxidants, enzymes, accelerators and various rare elements was a large selection of pills, syrups, tinctures, decoctions and capsules made from various plant products, most of which, unfortunately, were of alien origin.



The first ones I noticed were pills made from **elderberry** (*Sambucus spp.*) stems and flowers. According to the labels, the capsules and syrup are used in the treatment of colds, flu and bronchial irritations. I personally prepare an infusion of elderberry juice, sugar and yeast, which is an effective tranquilizer if consumed in appropriate quantities. The principal side effect of overdosage is a headache, which can be treated by chewing willow bark, as Native Americans did, or by popping one or two Bayers.



There were several products made from the dried roots and rhizomes of **purple coneflower**. One is reported to stimulate the formation of white blood cells and fight viruses. Others are used for skin problems such as eczema, burns and rashes. Natives of the Missouri Valley would burn the leaves and inhale the smoke to alleviate headache, and would place a leafy wad next to an infected tooth to dull the pain.

Dried **pokeweed** roots (*Phytolacca americana*) are recommended by some herbalists for treating lymph-node related diseases such as mumps, swollen glands and tonsillitis. A note appended to the listing warns that the fresh plant is poisonous, and large doses of the root are emetic and cathartic. I can testify that, having eaten the sprouts on one occasion with insuffi-

cient changes of water, that poke is one of the most powerful and quickest-acting laxatives known!



Joe-pye weed (*Eupatorium purpureum*) is stated to be active in the urinary tract, helping to fight infections and dissolve kidney stones, and also relieve menstrual cramping.

By aiding in the elimination of uric acid from the body, it may be of some use in the treatment of gout and arthritis. The active principle is to be found in the roots and rhizomes. A tea may be made from the dried leaves of the closely related **boneset** (*E. perfoliatum*), which has been introduced to Europe and cultivated in many areas. The hot tea appears to induce sweating, which appears to be beneficial in treating colds, flu, and various kinds of fevers.

Tea made from the flowers of **golden-rods** (*Solidago canadensis et al.*) is said to be beneficial if one has urinary tract infections, kidney problems, or lower back pain associated with either one. (Throw away those Doan's Pills, folks!) Not having any of the above problems, I can't testify to its efficacy, but it surely tastes good!

Broadleaved plantain (*Plantago major*) has been a common weed (oops-herb) here for hundreds of years. Although it is probably an alien, Native Americans were using it when the colonists arrived, leading me to believe that it was introduced by Leif Ericsson, Cortez, or perhaps had been spread over the whole Northern hemisphere before Europeans arrived. Native people would heat a bunch of the leaves and bind them over a place in the skin where a thorn or splinter had become embedded. They believed the treatment would help draw the foreign body out of the skin. Recent herbals recommend poultices of fresh whole or crushed leaves for relieving the pain of bee stings or insect bites, or helping stubborn sores to heal. I remember, as a child, my parents being told by a couple in

Michigan to place the under side of the leaf against the skin for "drawing" and the upper side for healing. (I can't understand the logic behind that statement.) In an uncontrolled experiment, my mother applied a leaf to a boil on my leg, which broke in two days without any assistance from me. My wife claims good results with me, and with our kids when they were young.



Jewelweed (*Impatiens spp.*) was used by Native Americans in treating various skin rashes and eczema. Although many authors of books on edible plants mention its property of easing the discomfort of insect bites and poison ivy (with which I heartily agree), it does not seem to be mentioned in many of the modern herbals. One would think a beneficial lotion or cream could be made out of the sap or leaves.

Good News Department: If you have a sore throat, you may get relief by gargling with a tincture made from leaves and flowers of **purple loosestrife** (*Lythrum salicaria*). As you may know, a tincture is an alcoholic extract, so take care not to swallow! Let's get rid of all those sore throats and eliminate the pest from Indiana! Meanwhile, how about garlic mustard plasters?

Note: Any wild foods, beverages, or medicinal preparations listed in this column have been widely used by Europeans and/or Native Americans. However, humans have a wide range of allergies and/or incompatibilities with many substances, so we recommend sampling in small quantities before using any unfamiliar plant product. INPAWS and the author cannot accept responsibility for any digestive upsets or other side effects that may occur. Also, no claims are made for the efficacy of any herbal preparations.

Dan Anderson continues to be our newsletter editor and a wild-foods enthusiast.

THE **BIODIVERSITY** CRISIS IN INDIANA, AND HOW YOU CAN HELP

by Ted Harris

In the two hundred years since settlement of Indiana began in earnest, 80 to 90% of its natural areas have been converted to asphalt, concrete, mowed lawns and plowed fields. Most of what remains has been logged or otherwise disturbed, or threatened by exotic species. Indiana's high-quality natural areas are widely scattered. They are usually just a few, to a few hundred, acres in size—too small to support the continuing evolution of new species.

Indiana could be a "poster child" for the biodiversity crisis, which is the worldwide loss of genetic, species and ecosystem diversity. Gone from Indiana are the vast prairies, savannas and old-growth hardwood forests. Gone are the deep, clear, cold streams and rivers that had been formed by glacial runoff. By comparison, today's waterways are unbuffered, silt-laden, algae-covered, polluted channels. Gone are most of the wetlands, the glades and the barrens, with their overlapping assemblages of grasses, sedges and wildflowers. Gone, probably forever, is **Wild Indiana!**

Is it too late for you to make a difference? Yes, and no! Yes, because so much has already been lost, and because most people's value systems still favor economic development over natural area protection.

Pressures for highway building and urban expansion are as strong as ever. Wooded areas are being converted to subdivisions, which will be occupied by people who subconsciously miss nature and want to own a small piece of it, but who are untroubled by the long-term loss.

INDIANA COULD BE A 'POSTER CHILD' FOR THE BIODIVERSITY CRISIS, WHICH IS THE WORLD-WIDE LOSS OF GENETIC, SPECIES AND ECOSYSTEM DIVERSITY.

How can you possibly help? First, share your values with your kids, with your friends, and with your elected representatives. Let them know it hurts **you** to see natural areas consumed by road building and development. Join organizations such as the Hoosier Environmental Council, which opposes destructive trends. Write letters! Speak out at hearings!

Support restoration efforts. Nature heals herself—she just needs a little cooperation from us. Show up at Indy Park, Department of Natural Resources, and

Nature Conservancy workdays. Help with INPAWS' native plant rescues. Encourage wildflower planting in open areas and along roadways. Better yet, plant them yourself!!!

Recognize that Indiana's few remaining high-quality natural areas are precious.

You know where they are. But do you know if they have received long-term protection?

Two or three generations from now, a private landowner's special woods may be inherited by a grandchild who lives far away and can't afford to keep it. (Enter the developers!!) Don't wait—act today! Talk with the owners to see if they are aware of conservation easements and donations to land trusts. Or, contact the INPAWS'

Conservation Committee. We will assist the owners in protecting their lands.

Is the picture grim? Is the picture hopeful? Both—but the latter depends on each of us *doing something* to make a difference. By themselves, sympathetic thoughts will not save Indiana's biodiversity.

Ted Harris is chairman of the Conservation Committee of INPAWS. If you would like to be part of the committee, or would like more information, please call Ted at 317-362-1509.

TAX DEDUCTIONS FOR PLANT AUCTION DONATIONS

by Rolland Kontak

INPAWS is a not-for-profit 501(c)(3) corporation recognized as tax-exempt by the state and federal government, and is therefore entitled to receive unencumbered gifts which may result in a tax deduction for the donor.

With that in mind, a system is in place at our auctions to track your donations of plants or goods so as to document your donations and furnish you with the details of prices realized. These then, with the counsel of your tax advisor, can be used

to decrease your tax liability, if you choose.

The method is simple. Your registered "bidder number" is, at the same time, your donor number. This number is affixed to your donations and recorded, along with other sale data, in triplicate, by the auction clerk at the time of sale.

A few days after the sale this information is collated, and you will receive a letter of acknowledgement along with copies of

sale records for each of your donated items.

If you itemize deductions the above service may be of great value to you. Please confirm your individual case with your tax advisor.

Rolland Kontak is an INPAWS charter member, former president of the Indianapolis Museum of Art Horticultural Society, and official INPAWS auctioneer.

MULTIFLORAE

DNR ANNOUNCES 1997 FIELD TRIPS

The Indiana Department of Natural Resources is offering free field trips to four of its nature preserves. There will be two hikes each day, one from 9:30–11:00 AM and another from 1:30–3:00 PM. (Times will be per "Indiana" time, which changeth not through the year.)

April 26 • Shrader-Weaver, in Fayette County. Old-growth forest with outstanding wildflower display. Easy hiking.

May 17 • Twin Swamps, Posey County. A swamp cottonwood–bald cypress swamp and an overcup oak swamp, with southern flatwoods between. Good variety of plants and birds, many with southern affinities. Easy hike, with mud wading if you choose.

July 12 • Mongoquinong, which is within the Pigeon River Fish and Wildlife Area, in LaGrange County. It features a fen with surface seepages. Great variety of sedges with a variety of wildflowers. Very difficult walking, as there are no trails through the hummocks.

August 16 • This Jasper County preserve consists of a black oak savanna on rolling sand ridges. Many sun-loving herb species can be found growing in sunlit batches among the trees. Moderate hiking, as there are no trails.

This is an excellent opportunity for INPAWS members to become acquainted with some of the lesser-known natural areas of the state. All hikes will focus on the native plant life to be found at each location. If you are interested in any or all of these activities, please write Roger Hedge, Heritage Ecologist, Division of Nature Preserves, Indiana Government Center South, 402 W. Washington St., Rm W267, Indianapolis, IN 46202, or call him at 317-232-4052.

The number of persons on each hike is limited, so please call or stop by the office if you would care to make a reservation.

The New England Wild Flower Society

has published its 1997 catalog listing almost 300 varieties of seeds and fern spores for sale, as well as a number of books and publications. Seed packets are sold for \$2.75 each (\$1.75 to members), with a minimum order of five packets. Shipping and handling is \$2.50 additional. Although this newsletter may reach you after the cut-off ordering date of March 15th, it might be worthwhile to obtain a copy before planning your 1998 garden. For a copy, send \$2.50 to:

Seeds
New England Wild Flower Society
Garden in the Woods
180 Hemenway Road
Framingham, MA 01701-2699.

CENTRAL INDIANA LAND TRUST

CILT's annual meeting and pitch-in lunch will be held at Holliday House in Holliday Park (64th and Spring Mill Road, Indianapolis) on Sunday, April 27, 1997, at 12 noon. Division of Nature Preserves Ecologist Tom Swinford will present a program on **dragonflies**.

INPAWS members are welcome to attend.
Please contact Ted Harris at 317-362-1509.

RITCHEY WOODS PROGRAMS

The list of activities at the Children's Museum at Ritchey Woods, in Hamilton County, continues to grow. The events below which may be of interest to INPAWS members have been scheduled for April and May:

April 19 • WOW-Wetlands—explore the new 300-foot trail through RW's wetlands and learn more about this fragile ecosystem.

May 10 & 17 • become acquainted with the many spring wildflowers which carpet this lovely woods.

The charge for the above events is \$4.50 for Children's Museum members, \$5.50 for non-members, adult or child. Reservations are necessary, and can be made by calling Robin Spearin, Environmental Education Specialist, at 317-924-5431, extension 3826.

For those who like to "do their own thing," admission is free to Museum members and only \$1 for non-members when not attending a special program or event.

❖ NATURE WALKS AT BUTLER UNIVERSITY ❖

Dr. Rebecca Dolan, Director of the Friesner Herbarium at Butler University, is offering the following nature walks for the spring months:

March 11	Early Signs of Spring
April 8	Ecology of White River Flood Plain
May 13	Spring Wildflowers
June 10	Wildflowers

The hikes are on Tuesdays, are free, and last about 40 minutes. Wear comfortable shoes and meet behind Gallahue Hall, near the greenhouse, at noon.

For information, please call Dr. Dolan at 317-940-9413.

Welcome to New Members

James Moore Anderson
Scott and Ruth Ann Sanders Bloomington
Joyce Landis Carmel
Hallie Orgel Chesterton
Hazel Clouser, Jo Clouser Darlington
Thomas Westfall Evansville
Aaron Lauster Fishers
Don Gorney Fort Wayne
Leland Shaum Goshen
Bryan Hanson Greencastle
Danny McDowell Hobart
Marybeth Crossin,
Jennifer Greulich,
Virginia Harmon,
Kevin Harmon,
Robin MacDonald,
Sarah Murphy,
Michael Rian Indianapolis
Herb and Barbara Buchanan,
Robert Mann Kokomo
Heather Struch Lafayette
Steve Shepherd Lebanon
Sharon Coons Mooresville
Phillip Tuttle Muncie
William Carlson Pendleton
Dan Young Plainfield
Donna Strole Rensselaer
Traci Gilland Roanoke
Marquita Manley Spencer
Ruth Hinkle Sullivan
Joyce Atcheson West Lafayette
Michael Kraft Washington, D.C.
Jim and Bonnie Carter,
John and Candace Ulmer Zionsville

Your editor is now on-line!

If you have news or a story you think should be covered in *INPAWS NEWS*, please e-mail Dan Anderson at danand@netdirect.net.

And please remember that we continue to solicit articles, art, commentary, etc. (on paper too) from anyone interested in native plant issues.

Send to Dan Anderson
7412 Graham Road
Indianapolis, IN 46250
or e-mail wilson@hsonline.net.

NATIVE PLANT WALKS

Native plant walks on the grounds of the Indianapolis Museum of Art are scheduled for April 12th and 13th. For additional information, please call Sue Nord at 317-782-0763(h) or 317-923-1331 extension 585(w).

Holliday Park Spring Programs

Tuesday, March 18, 6:30 PM

Volunteer Kick-off: In the three years of Holliday Park's existence, volunteers have logged in more than 8,000 hours. Find out what interesting volunteer activities are available, and enjoy desserts and liquid refreshments. Special gifts will be given to any current Holliday Park volunteer who brings a friend.

Saturday, April 12, 1 to 2:30 PM

Butterfly Gardening Workshop: View the favorite foods of local butterflies and learn planting tricks for larval and nectar foods. Next, learn the basic design method which will enable you to create your own garden at home. The class fee of \$35 includes a book on butterfly gardening, handouts, and a few plants to take home to get you started.

Saturday, April 26, 10 to 11:30 AM

Wildflower Folklore Hike: Hike the trails of Holliday Park and learn some fun and interesting folklore behind some of the native wildflowers of Indianapolis.

Saturday, May 17, 9 AM to 1 PM

Holliday Park Garlic Mustard Pull: Now that much of the invading Amur honeysuckle has been conquered, it's the turn of the invading garlic mustard, a plant so obnoxious that even the deer won't touch it! Learn of appetizing dishes which can be made from garlic mustard! For sensitive stomachs or taste buds, refreshments and snacks from other sources will be provided.

Registration is required for all programs unless otherwise noted. All activities above, except the Butterfly Gardening Workshop, are free. For information or registration please call the Holliday Park office at 317-327-7180.

Saturday, April 26, 9 AM to 1 PM

Broad Ripple Park Cleanup Day: Plant flowers, spread mulch, paint, restore riverbank or help pick up trash to beautify Broad Ripple Park, at 1450 Broad Ripple Avenue at 62nd Street.

All ages, groups or individuals are welcome.

4H PROGRAM ACTIVITIES

Coordinators Dan and Sophia Anderson have added a third-year activity to the 4H Wildflower project. The first year deals with the identification of species, the second with classification and ecological niches, and the newly added third with the wise uses of wild plants (with the focus on native species). Information has been sent to many counties throughout the state. Check to see if your county has the info on hand to start the wildflower project—if it does not please contact us and we'll see that you get it!

We would like this to be a state-wide project in the next two years!

Dan and Sophia Anderson • 317-849-3105

As spring follows winter,

and we begin to think about **adding** native plants to our landscapes, we ought to consider the importance of **subtracting** invasive exotic plant species. Many native plants are not lost through development, but are smothered, strangled and simply crowded out by invasive exotics. In past issues we have featured some of the worst in Indiana: **Garlic Mustard** (*Alliaria petiolata*), **Purple Loosestrife** (*Lythrum salicaria*) and **Amur Honeysuckle** (*Lonicera maackii*). Not to be outdone are **Multiflora Rose** (*Rosa multiflora*) and **Japanese honeysuckle** (*Lonicera japonica*).

Do you know of other problem plants? Do you have an effective method of eradicating them? Would you like reprints of the three articles we've published in INPAWS News? Contact Anne Wilson at 14701 Bellsville Road, Nashville IN 47448, 812-342-6838, or wilson@hsonline.net.

Vice President, Program Chairman and Oakhurst Chapter Representative Kevin Tungesvick recently gave a three-hour workshop entitled *Using Native Grasses and Restoring Wetlands* at the annual Trade Show of the Midwest Regional Turf Foundation, describing the uses of native grasses and wildflowers, as well as wetland vegetation, in golf course and commercial grounds management. He also gave a talk entitled *Restoration of Degraded and Fragmented Natural Areas*, detailing the removal of exotic plants, reintroduction of fire, and linking of fragmented natural communities, to the East Central Indiana Chapter of the Audubon Society.

For a list of publications on **just about every natural resources topic you could think of**, from fish and wildlife, forestry, conservation education, historic preservation, maps, nature preserves, Indiana's rare plants and animals, recreation areas, soil conservation, state parks, museums and historic sites, to water management and more, contact the

**Indiana Department of Natural Resources
Division of Public Information & Education
402 W. Washington Street, Room W255B
Indianapolis, IN 46204-2742
317-233-3046**

or order online: <http://www.ai.org/dnr/public/index.htm>

For Nature Photographers

The Limberlost State Historic Site is sponsoring a photo contest, to be exhibited at the Portland Center for the Arts during the month of August. For more information call 219-368-7428 or write

The Limberlost State Historic Site
Box 356, Geneva, IN 46740

MANCHESTER COLLEGE TRIP TO COSTA RICA

The Manchester College alumni association is sponsoring a trip to Costa Rica June 8-20, 1997. The tour is open to all with an interest in tropical natural history. It will use the facilities of the Organization for Tropical Studies, one of the premier research and teaching organizations in the New World tropics. The tour will depart from Chicago's O'Hare Airport on June 8 and return there on the 20th. Stops will include:

- Four days at La Selva Biological Station, located in a preserve of several thousand acres of undisturbed lowland forest.
- Three days at the Wilson Botanical Garden-Las Cruces Biological Station. This site is located at an elevation of about 3500 feet, and has several hundred acres of lower montane forest.
- Briefer stops at the Canopy Tramway for a glimpse of life in the rainforest canopy, at high-elevation sites including a dormant volcano, and at Lankester Gardens, well known for an excellent orchid collection.

At the field stations, tours with local naturalists will be available, and there will also be ample time to explore on your own. Accommodations will be comfortable, but not luxurious, with shared rooms planned at all sites. The cost is \$2095 per person, including air travel, all meals and entrance fees, but excluding local attractions of your choice. For further information, including a detailed itinerary, contact:

Gary Montel, Alumni Office, (219) 982-5222
gemontel@manchester.edu

David Hicks, Biology Dept., (219) 982-5309
djhicks@manchester.edu

Manchester College, North Manchester, IN 46962

Or check the college's Web site:

<http://www.manchester.edu/alumni/tours.html>

SECOND INPAWS CHAPTER!

Welcome to **Michiana**. Lynn Schelstraete, of Middlebury, has organized in northern Indiana the society's second chapter (*Oakhurst*, in Muncie, is the first). So far there are nine members, and interest is growing!

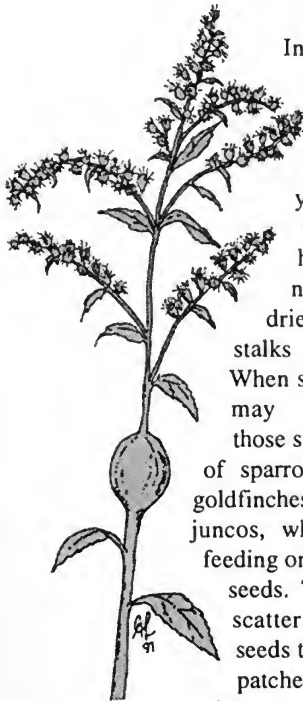
The Gardener's Guide to Plant Conservation

Learn what to buy and what to avoid to help protect fragile wild plants. Each of the four chapters in this 200-page book (on native North American wildflowers, bulbs, insectivorous plants, and terrestrial orchids) lists plants commonly available and categorizes each species as either wild-collected, artificially propagated, or a combination of both. Also included are reference charts, a glossary and bibliography. The cost is \$12.95 plus \$3.00 for shipping and handling. To order, call 410-516-6951, or contact:

World Wildlife Fund Publications
P.O. Box 4866
Baltimore, MD 21211

It Takes a Lot of Gall

by Karen Shrock



In autumn, the goldenrod plant brought us beautiful yellow flowers. On winter hikes you will no doubt see the dried, brown stalks of this plant. When snow falls, you may find around those stalks the tracks of sparrows, American goldfinches, or northern juncos, who have been feeding on the goldenrod seeds. The wind will scatter the uneaten seeds to produce new patches of gold, even in empty city lots.

Look closely and you will discover bulges and weird shapes on the stalks of the goldenrod. These deformed swellings are called "galls" and are a very common phenomenon. Galls are caused by insects that lay their eggs inside the goldenrod stems in the spring. A tumorous growth forms around the growing insect larva that uses the plant for food. The space

hollowed out by the insect is then used for wintering over while maturing.

The most common types of goldenrod galls found in the winter are the ball gall, the elliptical gall, the bunch gall and the blister gall.

The ball gall is the most easily seen. It is a round swelling about three-fourths of an inch in diameter. You may find two galls on one stem; they do not harm the plant. After the **gall fly** lays eggs on the stem and the gall forms, the larva eats a tunnel to the outer edge of the gall. It then returns to the middle of the gall, where it winters over as a pupa. When spring arrives, the adult fly crawls through the tunnel, makes a hole in the outer layer of the gall and emerges. The fly begins the circle of life again by finding a new goldenrod stem on which to lay its eggs.

The elliptical gall is almond-shaped and caused by the larva of a **gall-moth**. Because the eggs are laid in the fall, the insect won't be found in the gall in the winter. The egg hatches in the spring and the larva eats its way down the stem to a stopping place, where the gall forms. The moth evacuates the gall in late summer. Many other critters, such as bees, ants, beetles and spiders use the empty gall for shelter.

The bunch gall is located at the tip of the stalk, where it appears to be a flower with many woody petals. A **midge**, or tiny fly, lays an egg on a leaf bud, which stunts the stem growth. A single larva causes the plant to produce leaves around it, forming this easily spotted gall.

If you look closely at the leaves of the goldenrod, you'll discover the fourth gall. Various blister galls that look like a black drop of India ink can be found on many leaf surfaces. Inside each will be a light-colored larva which is a species of midge.

Just as the monarch butterfly chooses the milkweed on which to lay its eggs, the gall fly, moth and midge know instinctively that their young need the goldenrod to survive. So, in the 'dead' of winter, when the goldenrod looks dry and lifeless, remember that it holds deep within its galls the developing life of next year's insects!

Ms. Shrock is an interpretive naturalist at Salamonie Lake, Andrews, Indiana. Her article is reprinted with permission from the park publication In Depth, Winter 1996 issue.

Illustration of *Goldenrod with gall* by Cheryl LeBlanc.

SPEAKERS BUREAU GETS INTO HIGH GEAR

Interest in speakers representing INPAWS is on the rise. On March 10th, Dan Anderson gave a talk on edible mushrooms to the Marion County Master Gardeners. Carolyn Harstad and Kevin Tunesvick will speak at a meeting of state park naturalists on the 13th, and both Katrina Vollmer and Colletta Kosiba will appear at the Flower and Patio Show held at the State Fairgrounds March 14-23, making presentations entitled *From Seeds to Flowers, Tips and*

Tricks and You Can Grow More Than Moss in Your Shade Garden.

Katrina Vollmer will again be a hostess at the annual *Wildflower Foray*, April 25-27, at the T.C. Steele Memorial, located between Bloomington and Nashville.

INPAWS has arranged with the OASIS program for senior citizens to present a program called *Wild Plants in the Garden and the Kitchen* at four locations in the Indianapolis area, between May 19th and June 4th.

BY COLLETTA KOSIBA

The Speakers' Bureau is proud to welcome new volunteers Susan and Carl Douglas, Donald Fischer, Ellen Jacquart, and Greg and Clare Oskay. If you, too, would be willing to present a program, even just once a year, in your particular area of expertise, please write or call

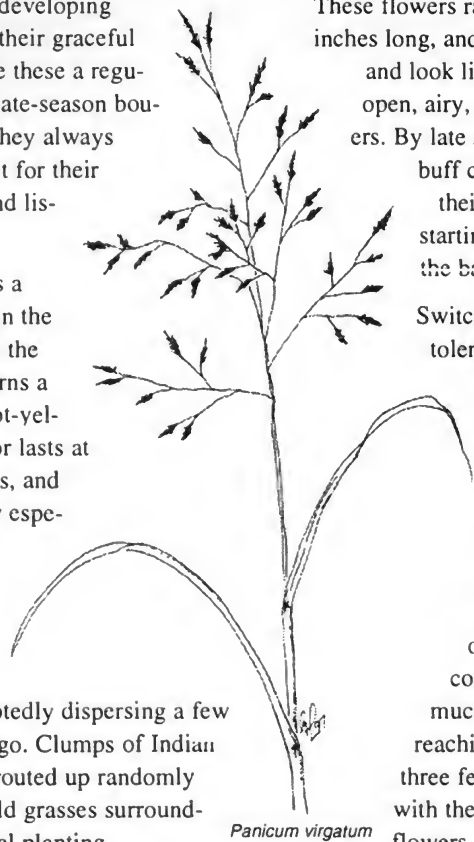
Colletta Kosiba
5430 N. CR 600E
Brownsburg, IN 46112-8941
317-852-5973.

weight of the developing seeds adds to their graceful swoop. I make these a regular feature in late-season bouquets, where they always elicit comment for their warm color and lissome form.

Indian grass is a real standout in the autumn, when the entire plant turns a striking apricot-yellow. This color lasts at least six weeks, and seems to glow especially under gray, leaden skies. Small birds feed on the seed-heads, undoubtedly dispersing a few seeds as they go. Clumps of Indian grass have sprouted up randomly among the field grasses surrounding our original planting.

Along with the bluestems, Indian grass is a major constituent of tall grass prairies. Like them, it is a rich forage grass. In garden conditions, it seems a bit more tolerant of heavier soil than the bluestems, but I still wouldn't plant it in heavy clay.

Switchgrass (*Panicum virgatum*) is common in central Indiana, and of the grasses we've discussed, the one you're most likely to have seen. This warm-season, sod-forming grass has blades nearly a half-inch across, wider than those of bluestem or Indian grass. The color of the leaves is blue-green, with the intensity of the blueness varying from colony to colony. Each leaf arches gracefully outward as it emerges from the stem, giving the grass an airy appearance, which is reinforced by the very delicate, purple inflorescences that emerge in June.



Panicum virgatum

These flowers range from two to 20 inches long, and about a third as wide, and look like much branched, open, airy, three-dimensional feathers. By late summer, they are a pale buff color, and because of their delicate structure, are starting to break down under the battering of wind and rain.

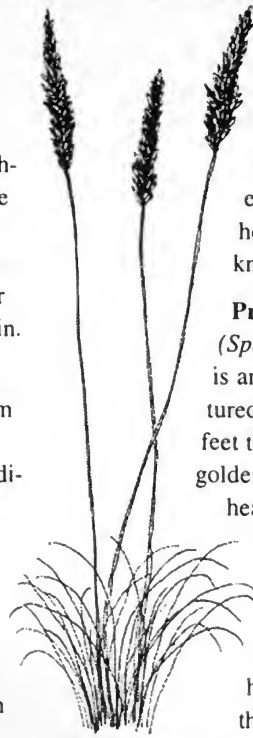
Switchgrass is far more wet-tolerant than either bluestem or Indian grass, and therefore a better candidate for heavy soils.

As a constituent of tall grass prairie, it can reach six or even seven feet to the tips of its flowers. In garden conditions it is usually much smaller, the leaves

reaching three feet, with the flowers

forming a haze above them.

Probably because it is so easy to grow, switchgrass has been the subject of much horticultural selection. The cultivar "Rehbraun" is a three-to-four-foot selection with outstanding red fall color. "Strictum" is a stiffly upright cultivar reaching six feet, with light blue-green foliage turning purple-red in fall and winter. "Heavy Metal," as you might guess, has been selected for its extremely glaucous, metallic blue foliage. But even the species is a satisfactory—if highly variable—garden plant with long-lasting orange-yellow fall and winter color.



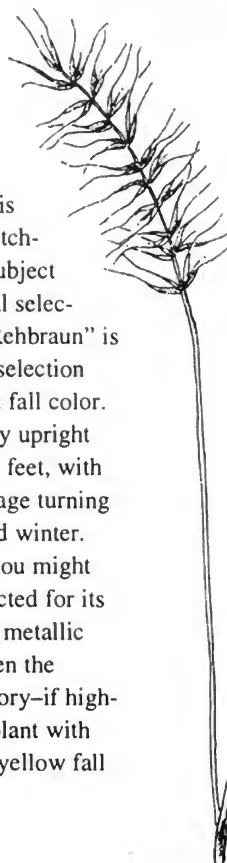
Koeleria cristata

June grass (*Koeleria cristata*) forms neat low tussocks topped with willowy, wand-like inflorescences in early summer, and is tolerant of partial shade.

Sweetgrass (*Hierochloa odorata*) is a rapid-growing, sod-forming grass redolent of vanilla, which was used by native Americans for incense, perfume, and weaving ceremonial baskets. It thrives in a wet soil.

And while true grasses are members of the grass family, Gramineae, the **sedges** (*Cyperaceae*) and **rushes** (*Juncaceae*) are grass-like plants that are especially useful in poorly drained soil, bogs, or at the water's edge. **Lurid sedge** (*Carex lurida*) has pretty, bottlebrush-like seedheads.

Woolgrass (*Scirpus cyperinus*) forms dense clumps in wet meadows or shallow water and has attractive fuzzy seedheads.



Hystrix patula

Further foraging in native grasses.

Don't let your interest in native grasses end here. There are hosts of others worth knowing and growing.

Prairie dropseed

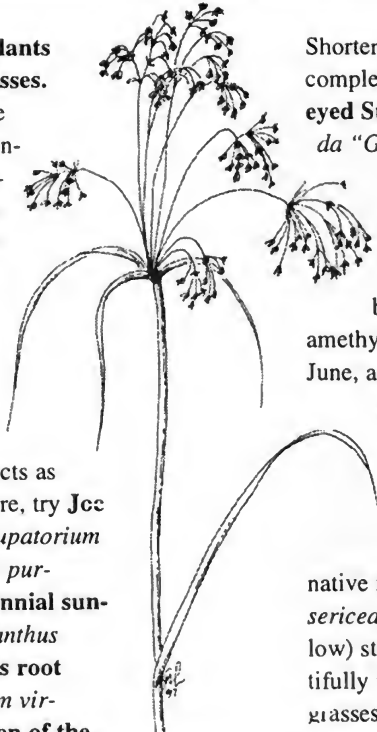
(*Sporobolus heterolepis*) is an extremely fine-textured grass only about two feet tall whose beautiful golden flowers and seed-heads have a maple syrup scent.

Bottlebrush grass

(*Hystrix patula*) has unique flower-heads three feet tall that are wonderful in arrangements.

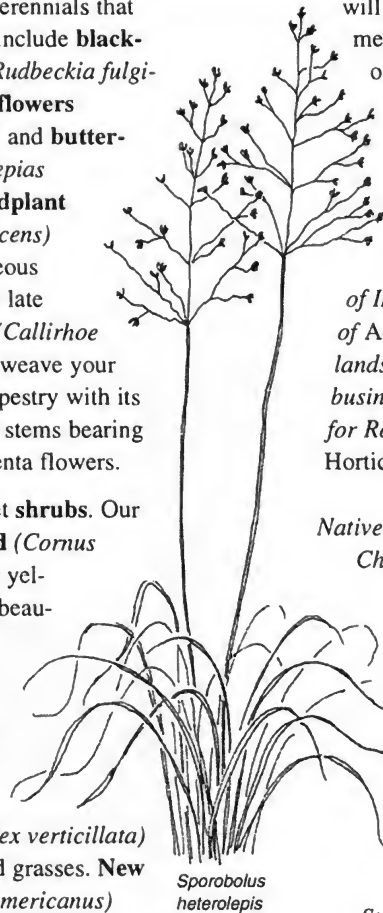
Companion plants for native grasses.

Hosts of native flowering perennials meld perfectly with the meadowy tone set by native grasses, and will attract droves of butterflies, birds, and beneficial insects as well. For stature, try **Jac Pye weeds** (*Eupatorium maculatum*, *E. purpureum*), **perennial sunflowers** (*Helianthus spp.*), **Culver's root** (*Veronicastrum virginicum*), **queen of the prairie** (*Filipendula venusta f. rubra*) in moist spots, **compass** and **cupplant** (*Silphium spp.*) and **New England asters** (*A. novae-angliae*). The bold foliage of some of these plants makes for exciting contrast with the fine-textured grasses.



Shorter growing native perennials that complement the grasses include **black-eyed Susan** (especially *Rudbeckia fulgida* "Goldsturm"), **coneflowers** (*Echinacea spp.*), and **butterfly weed** (*Asclepias tuberosa*). **Leadplant** (*Amorpha canescens*) blooms with gorgeous amethyst-violet spikes in late June, and **cups-of-wine** (*Callirhoe involucrata*) will weave your garden into a tapestry with its gently creeping stems bearing jewel-like magenta flowers.

And don't forget **shrubs**. Our native **redstem dogwood** (*Cornus sericea*) has deep red (or yellow) stems that contrast beautifully with the buffy grasses in winter. The coarse texture of **buttonwood** (*Cephalanthus occidentalis*) and the brilliant scarlet fruits of **winterberry holly** (*Ilex verticillata*) are naturals with wetland grasses. **New Jersey tea** (*Ceanothus americanus*)



will refresh your late summer garden with a froth of pure white flowers. The possibilities are endless!

Barb Kaczorowski is a charter member of INPAWS and co-owner of Accent Gardens, a local landscape and nursery business. She has written for *Rodale Press* and *Horticulture* magazine.

Native grass illustrations by Cheryl LeBlanc. An INPAWS member who lives in Muncie, she is a plant ecologist, freelance botanical and nature illustrator, and curator of the Wheeler Orchid Collection and Species Bank at Ball State University.

RAISING NATIVE PLANTS FROM SEED – A FEW COMMENTS

BY ROLLAND KONTAK

Trying to make plants grow is taking the majority of my time—winter and summer. Notice, I said *trying*. If it were only pelleted petunia seeds or radishes, *trying* could be replaced with a more positive word, but experience has taught that most of our wildflowers require trying, trying, and more trying.

In 1995 I waited anxiously to collect seeds from that jewel, Indian pink (*Spigelia marilandica*). Its flower is a magnificent red trumpet with a bright yellow interior. I learned that the seed capsules shatter and disperse their seeds before there is much chance of collecting them. The next year, I surrounded the developing seed capsules with nylon netting and succeeded in collecting several hundred seeds.

Now, more trying. I divided the precious hoard into several lots. Some seeds were sown in the ground last November. Some were sown in containers of soilless mix, covering some and exposing some. These were sown in November, and placed in a cold frame to over-winter. This February a few more were sown, after four months of dry storage. Part went into the cold frame and part were kept warm and moist indoors under lights. The rest will be sown directly in place in the spring.

So, what's the point? Some of these attempts will fail, but if I end up with even a dozen or so plants, these, added to the starting four, should provide sufficient seed for more attempts, (using the previously successful method), and also for sharing.

Notice the various methods tried: early direct and container sowing, mid-winter sowing and early spring sowing, each with some seeds covered and others exposed.

S. marilandica is only one of scores of tests being conducted using seeds of native grasses, shrubs, trees and flowering plants. The overall success rate is usually low, but by refining techniques each year, improvement will come, and successful methods can be published and shared.

Purchasing established plants is a much easier method of adding to your own collection, but should you be so inclined, the pursuit of propagation success can be personally gratifying, and will add to the general fund of knowledge, a noble achievement. Keep trying!

Wildflower Photography

by Tom Potter

“Light is everything”—how often we forget that famous dictum of photography! Without it, there would be no image on the film. Yet we seldom give much thought to how it affects the final image. This column explores that overlooked but obvious element—**light**.

First, we must understand that light affects the exposure of the film, which in turn, gives the image its final impact. All too often I see washed-out photos as a result of over-exposure. This situation is usually due to the photographer’s dependence on the camera’s built-in light meter. A camera’s exposure readings are often misleading. If your camera has manual settings, and I hope it does, you will get a more accurate exposure by using a Kodak gray card. I will explain that procedure in greater detail in the next article.

In addition to exposure, light affects the overall color of the scene. Throughout the day, as the angle of sunlight changes, and it travels through varying thicknesses of atmosphere and airborne particulate matter, its color changes. It also has a different rendering during periods of overcast skies and on the shadowed forest floor where our favorite subjects are often found. For this reason, the serious wildflower photographer uses a variety of tools besides the camera, macro-lens and **TRIPOD** to enhance the final image. (Notice that “tripod” is emphasized!)

There is a variety of warming filters that enrich the often colder tones found in shade and overcast. The most common ones are variously called skylight-1A, and the entire 81 series, A, B, and C. These filters add the warmer—red—end of the spectrum to the colder—blue—light found in most shade and overcast situations. In addition to these filters, a polarizer helps to saturate the image with the true color of the subject by removing the scattered light

reflected from it. But be advised, when using the polarizer, you need to add about one to one and one-half stops to the camera’s exposure setting. This is best done with the shutter speed indicator; otherwise you will lessen the depth of focus and the image will not be as sharp as you anticipated.

Cloth reflectors are helpful tools for enhancing available light. Some have a gold side and a silver side on one unit. The use of each will have different effects on the final image. The silver will give a

“The flower will jump out at you in the final image!”

strong directional light, often helping when the subject is just out of the line of sunlight. This reflector can direct light onto the subject and isolate it from the cluttered surroundings. The gold reflector will add a great deal of warm light to the scene. The gold should be used sparingly, for it may distort the colors in certain situations.

The convenience of these reflectors is that they coil into a handy pancake-sized object that can easily fit into your photo vest or jacket pocket. They are sold under the name of Photoflood and come in various sizes. The ones I carry are about five inches in diameter when folded, and are available at most better supply houses. Practice folding them before you use them in the field, or you may spend half your time getting them back into their pouches.

Other methods of light control include the use of a small mirror for very directional light, or a diffuser to place above the flower on bright days to soften the contrast and bring out the subtle pastel colors of the petals. The best diffuser is

an overcast sky. Many people think that a cloudy day is not the most advantageous time to photograph wildflowers. In fact, the color saturation is often at its best under these conditions.

Flash is another alternative to light control for wildflower photography. But, I must warn you that this method produces light of a harsher nature and often diminishes the subtle aspects of the plant colors. Add an 81A or 81B filter to warm the cold blue light of the flash. I, as do most serious wildflower photographers, prefer the use of natural light, with as little manipulation as possible.

The best times to take advantage of the light for wildflower photography are early and late in the day. At these times, the light is warmer, and thus richer. In addition, the wind is usually lighter, and in the early hours, dew can greatly enhance the delicacy of the image.

One of the problems with light and wildflower photography is that the light affects the material behind the subject, leading to a cluttered picture, with the subject flower lost in the scene. On sunny days, this problem can be overcome by casting a shadow across the background, while leaving the subject in direct light. The flower will jump out at you in the final image! This method of isolating the flower does not work on overcast days when you don’t have as strong a contrast in the field of view. At this time your only alternative is to use flash if you desire an isolated subject. But, remember the above caveat regarding flash!

In the next article I will discuss the subjects of sharpness, depth-of-field control, and the use of the Kodak gray card to achieve proper exposure. Get your gear ready, for I can already hear those cotyledons popping!

Tom Potter is an INPAWS member, and a professional photographer, living in Martinsville.

• 1997 INPAWS PROGRAMS AND FIELD TRIPS •

SATURDAY, MARCH 15, 1 PM

Native Plants for Your Garden, Sue Nord, Indianapolis Museum of Art's DeBoest Lecture Hall, 38th and Michigan Avenue, Indianapolis.

SATURDAY, APRIL 19, 1 PM

Garlic Mustard pull at Shades State Park, and wildflower hike, led by Roger Hedge of the DNR's Division of Nature Preserves. Make reservations for overnight stay at Turkey Run Inn.

SUNDAY, APRIL 20, 9:30 AM

Garlic Mustard pull at Turkey Run State Park, buffet lunch at noon at the Turkey Run Inn, and wildflower hike led by Tom Swinford of the DNR's Division of Nature Preserves.

SATURDAY, JUNE 7

Annual Plant Auction, time and location to be announced.

SUNDAY, JUNE 29, 1 PM

See the gardens that allowed the Indianapolis Zoo to become an accredited *Habitat Botanical Garden*. Tour will be led by Katie Booth of the Zoo's Horticulture Staff.

SATURDAY, JULY 26, 11 AM

Spring Mill State Park, lunch in the Oak Room and a hike, led by a park naturalist, to a glade above Donaldson Cave, and old-growth forest at Donaldson Woods.

SATURDAY, AUGUST 23, 2 PM

Tour of Spence Nursery in Muncie, followed by a picnic at Mounds State Park in Anderson. Activities will be led by Kevin Tunesvick.

SATURDAY, SEPTEMBER 13, 10 AM-1PM

Plant and seed sale and slide presentation of plants offered for sale, at Holcomb Gardens on the Butler University campus, followed by a tour of the gardens and the prairie planting.

SATURDAY, OCTOBER 4, 7:30 AM

A one-day bus trip to three Indiana Dunes sites, Ivanhoe Dune and Swale, Miller's Woods, and West Beach. Hikes led by Paul Labus with The Nature Conservancy and INPAWS member Barbara Plampin of the Shirley Heinze Environmental Fund. We will stop on the way home at Jasper Pulaski State Fish and Wildlife Area about sunset to see sandhill crane migration, and then have dinner at a West Lafayette restaurant.

SATURDAY, NOVEMBER 8

Fourth Annual Meeting at DowElanco, time to be announced.

FRIDAY, DECEMBER 5, 5-10PM

Annual holiday party at the home of Carolyn and Peter Harstad.

Notices will be sent in advance. For more information please call Kevin Tunesvick • 317-354-2775

Indiana Native Plant and Wildflower Society

MEMBERSHIP APPLICATION/RENEWAL

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

Student \$10 Individual \$18 Family \$25 Sponsor \$250 Patron \$100 Corporate \$500

NAME _____

TELEPHONE _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

COUNTY _____

NEW RENEWAL

How did you hear about us?

3/97

Gifts do help. INPAWS donors at the *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 the following committee(s):

- | | | |
|---|---|---|
| <input type="checkbox"/> Annual Meeting | <input type="checkbox"/> Auction | <input type="checkbox"/> Communications |
| <input type="checkbox"/> Conservation | <input type="checkbox"/> Fund Raising | <input type="checkbox"/> Governance |
| <input type="checkbox"/> Historian | <input type="checkbox"/> Hospitality | <input type="checkbox"/> Membership |
| <input type="checkbox"/> Native Plant Education | <input type="checkbox"/> Native Plant Rescue | |
| <input type="checkbox"/> Newsletter | <input type="checkbox"/> Programs/Field Trips | |
| <input type="checkbox"/> Publications | <input type="checkbox"/> Publicity | <input type="checkbox"/> Special Projects |
| <input type="checkbox"/> Speakers Bureau | <input type="checkbox"/> Volunteers Coordinator | |
| <input type="checkbox"/> Other | | |

Please complete this form and mail, along with your check made payable to:

Indiana Native Plant and Wildflower Society, or INPAWS

c/o Ruth Ann Ingraham • 6106 Kingsley Drive, Indianapolis, IN 46220.

Become a Certified Plant Rescue Team Leader!

The Plant Rescue Committee's philosophy is that while ideally, natural areas should be preserved intact, we recognize that plant rescue affords a wonderful opportunity to save selected plants from sites destined for imminent destruction.

Sue Dillon and Don Miller, Plant Rescue Committee Coordinators, have been very busy during the fall and winter months, developing guidelines for plant rescue operations which may be conducted by INPAWS members. These guidelines and procedures are intended to:

- Allow you to act as INPAWS plant rescue agents while allowing INPAWS to coordinate the rescue efforts.
- Allow INPAWS to have teams in many locations throughout Indiana that can respond in an efficient manner to situations in their own areas.
- Will assure that INPAWS plant rescue standards are met.

Some of the basic concepts are as follows:

- For safety reasons, teams of at least two persons are necessary.
- The team leader must be an INPAWS member certified for plant rescue.
- Arrangements for the rescue must be made ahead of time, so the landowner and/or construction foreman know when you'll be on the property. Try to get everything done the first time out, but if a return visit is necessary, it must be scheduled in the same manner as the first rescue attempt.
- The Plant Rescue Committee must be contacted before any work is done.
- You and your team members will be able to keep some of the rescued plants for your own collections. Some will be used for restoration projects and some will be sold at INPAWS auctions and plant sales.

The first Certification Workshop will be held at the DeBoest Lecture Hall at the Indianapolis Museum of Art on Saturday, March 15th, from 10:00 to 11:30 AM, and additional ones may be held as necessary. Please bring your favorite field book or reference.

All INPAWS members are invited to become certified and take part in as many native plant rescues as they can. INPAWS members can help by notifying us of potential plant rescue sites in their communities, such as proposed sewer and construction projects, and other commercial development.

If you can help, please call

Sue Dillon • 317-844-3558
Don Miller • 317-327-7416 (days)

so that we can save more of our precious native species!

(Even if you miss this meeting, please still call Sue or Don).

INDIANA
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NEWS

Volume IV Number 2

Summer 1997

Wild Hyacinth

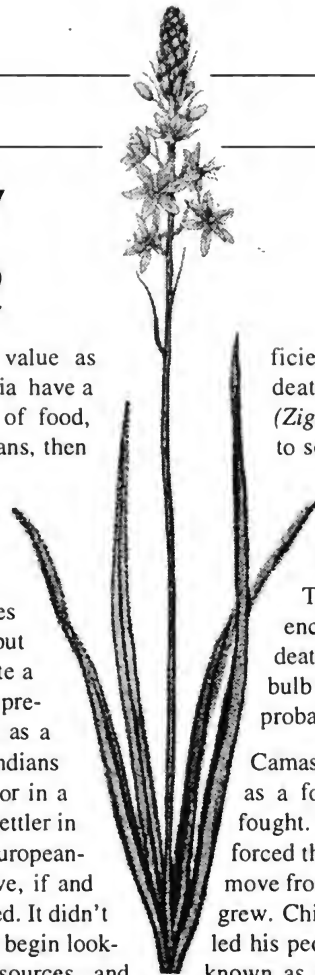
Wild Hyacinth (*Camassia scilloides*) has grown in my woodland garden, sited among large Hosta and deciduous shrubs, for over five years. When I first found the photo and drawing of the strap-like leaves and the tall spires of pale blue, delicate star-flowers in a wildflower guide, it made an immediate impression. My wildflower walks through the woods failed to turn up the single local species. Turning to catalogs, I located it immediately. Both wildflower nursery and bulb catalogs carried one or more of the species and cultivars. Three of the five species now grow in my garden, and I hope to add more this fall.

This spring, I was finally in the right place at the right time. In Crawford County, Indiana, I was blessed with the privilege of seeing the Wild Hyacinth in all its glory. As I stood in the middle of an old logging road, looking up a steep hill, the flowers were in bloom as far as the eye could see into the forest. They had formed dense mats, weaving in and out of the rocks, finding pockets of rich soil to multiply their bulbs. The pale blue, almost white blooms were accented by other families of flowers. The rich violet-blue of Dwarf Delphiniums, the yellows of the Wood Poppies and Merrybells, purple-red Trilliums, and the wine-colored stems and bright green lacy foliage of newly emerging ferns were companions. Mother Nature surely does design on a scale and depth beyond my comprehension.

Beside their ornamental value as flowers, species of *Camassia* have a long history as a source of food, first to the Native Americans, then to the first explorers, and finally to the people who settled this continent from abroad.

All five American species are supposed to be edible, but you would have to dig quite a few of the local species to prepare dinner for four, even as a side dish. The Native Indians used them raw, in a soup or in a kind of pie. If you were a settler in Oregon or California, European-type staples were expensive, if and when they could be obtained. It didn't take long for the settlers to begin looking for alternative food sources, and *Camassia* pie quickly became a favorite.

The outer covering was removed and the bulbs roasted, usually in a stone oven. Cooked down, they became a dark brown-black mass. The literature of the time stated that they tasted sweet and somewhat nutty. The mass could also be pressed, dried, and formed into thin cakes for storing. Before you are tempted to go out and experiment, be aware there are similar bulbs from another family that are suf-



by Gene Bush

ficiently poisonous to cause death. Death *Camass* (*Zigadenus sp.*) is easy enough to sort out when both types are in bloom. But the bulbs are gathered after blooming, so you need to know your *Camassia* bulbs. To quote, "the notable difference between a camas and a death camas is that if you eat the bulb of a death camas, you will probably die."

Camassia was important enough as a food staple for wars to be fought. In one, the Government forced the tribes of the Northwest to move from the lands where *Camassia* grew. Chief Joseph of the Nez Percé led his people to war in what became known as the Plateau Wars, and was defeated in 1877.

Wild Hyacinth continued on page 2

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The Bannock War occurred in 1878. Paiute and Bannock tribes, by terms of a treaty, were to retain their rights to dig bulbs on the Camus Prairie, Idaho. Nearby settlers brought hogs with them, who relished the bulbs even more than the Indians. Although the settlers were told to keep their hogs from the prairie, they disobeyed the order, and two hundred Indians from the two tribes went to war. The warriors were defeated, and placed in prison in September of that year.

As with most bulbs, Camassia should not be disturbed when growing actively. If the bulbs are to be divided or moved, do so after the foliage has died back, usually in June. Catalog orders are not shipped until September or October, so planting in fall is the appropriate time.

The bulbs enjoy deep, rich, well-drained soil. The three species I have grown do well in open shade resembling a wood's edge. They are on a slight incline to provide sufficient drainage. The soil can be improved by mixing sand and leaf mold with it, and I mulch generously with chopped leaves in the fall.

The Eastern Camassia or Wild Hyacinth (*C. scilloides*) is the local species. The leaves are long and linear, beginning upright and gradually arching over in a lax manner. They are about 1/2 inch wide, reaching an inch at maturity. All leaves come up resembling a small spray in a fountain. In the center of the arching spray rises a leafless stalk to about 18 inches. At the top of the stalk are closely spaced star-shaped flowers, colored a very pale blue or violet-blue approaching white, with yellow anthers. Flowers open from the bottom of the stalk upwards.

My plants have multiplied quite well, forming showy clumps. I know of no diseases or insects bothering the bulbs or foliage. I have read that field mice will eat the bulbs, but so far mine have not been on their menu.

I have also read of a variegated form that has cream-yellow striped foliage, but have not located the bulbs or seen photos. There are also vague references to "several botanical varieties."

I have successfully grown Western species including *C. cusickii*, *C. quamash* and *C. leichtlinii*. All three have white to blue flowers, and are hardy in our area. Several interesting cultivars are available as well.

Camassia may be grown in the border or in an open woodland setting. My preference is the latter, placing the bulbs among large Hosta that fill out as the Camassia becomes dormant. In the front, smaller plants such as Shooting Star (*Dodecatheon*), yellow violets, Dwarf Delphinium (*D. tricorne*), Wood Poppy or small ferns can be used. Wild Hyacinths also look great coming into bloom beneath the snow white of dogwood blossoms.

Gene Bush is the owner and operator of Munchkin Nursery, in Georgetown, Indiana, specializing in perennials, including many native plants and their cultivars. See MULTIFLORAE for more information. And, according to the membership report on page 7, Gene is a new member of INPAWS. Welcome, Gene!

Indiana Native Plant and Wildflower Society Newsletter

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

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 Harstad

Aliens are invading our state and city parks, our roadsides and even our private gardens. They are marching through areas once considered pristine and safe and causing incredible havoc as they aggressively outcompete natives for a place and a space. No, I am not referring to aliens from outer space, but alien plants and animals that we introduce with great regularity to our landscape and to our environment.

Indiana Native Plant and Wildflower Society members met at Shades State Park on Saturday, April 19, to pull garlic mustard and continued the task the next day at Turkey Run State Park. The problem was not severe in either park, not even within flood plain areas, but the campground area at Turkey Run yielded many garbage bags full of this invasive plant. About 25 INPAWS members enjoyed the weekend, the camaraderie and the satisfaction of having made a difference in these two parks. Since garlic mustard is a biennial, we need to schedule a return trip next spring to pull the little garlic mustard seedlings lurking beneath the leaf duff.

On our wildflower hike at Turkey Run on Sunday afternoon, thousands of Bluebells and False Rue Anemone created a fantastic visual treat. With diligence, we can save the wildflower populations in these two magnificent parks and keep them from being overtaken by the aliens.

In contrast, on Mother's Day weekend, I went to a conference at Pokagon State Park in northeastern Indiana and found garlic mustard stretching as far as the eye could see. In a veritable sea of this alien, only Mayapples and a few Virginia Bluebells proved that once upon a time wildflowers were present in the Pokagon woods. Fred Wooley, park naturalist, had valiantly marshalled volunteers and park staff to pull garlic mustard from around the Bluebells, but the task was overwhelming. Pokagon's wildflowers have also decreased in recent years due to the

overpopulation of deer which eat virtually everything from the ground up to their "browse height." Unfortunately garlic mustard, which overtakes and outcompetes native wildflowers, is not eaten by the deer.

Two years ago we saw an equally dismaying sight of garlic mustard at the Falls of the Ohio. If a method to curb this plant is not found, I fear we may face the extinction of wildflower woods as we now know them. Conventional methods of control are fruitless when an alien becomes this widespread. Only massive chemical or biological methods will exterminate the garlic mustard population at Pokagon—and unfortunately also at several of our other wonderful state parks.

Purple loosestrife is another alien invader. A biological experiment is underway to eradicate this strikingly beautiful plant that invades and destroys natural wetland areas. Fred Wooley has three pots containing purple loosestrife plants inside three tall wire cages. He told me that beetles will be placed on the plants, the cages will be covered with a netting to prevent the escape of the beetles and the plants will eventually be placed in the wetland area. The beetles will lay eggs on the introduced plants and then infest the entire area of purple loosestrife, hopefully eradicating this plant. These beetles defoliate the plants; others are root miners. They complete their entire life cycle feeding and surviving on a particular plant species. One can only hope that the treatment is successful and also that it does not cause unforeseen problems.

At a meeting last evening, a friend thanked me for my article on garlic mustard in our hosta newsletter. She told me she had only a small population in her woods, but without the article's description of the plant and the problems it causes, she would not have understood the necessity of getting rid of this pretty little plant.

In their own native habitats, plants and animals are generally controlled and well behaved. When they visit areas where they are not native, they sometimes overstay their welcome, multiply and become a grave threat to native wildlife and plants. In the *National Park Journal*, November/December 1996, author George Wuerthner writes: "The effect of exotics on native flora can be devastating to entire ecological communities." Lake trout, introduced to Yellowstone Lake as a game fish, is a very aggressive, fish-eating fish. Biologists fear that the introduction of this fish to Yellowstone Lake may lead to the decline and loss of cutthroat trout, which in turn would cause problems for "many of the park's cutthroat-dependent species such as white pelicans, grizzly bears, and bald eagles." The author goes on: "Exotics already have been implicated in the loss of more species than climate change or any other human-related factor except perhaps habitat alteration—to which non-native species invasions are closely linked."

The well-being of our gardens, our landscapes, our public places, our parks and natural areas is our responsibility. We need to educate ourselves, our friends and acquaintances, nursery owners, developers, landscape architects and anyone else who will listen about the value of using native plants in the landscape. Our world is a fragile place. Irresponsible use of alien species can destroy habitats, existing native plant and animal populations, and eventually lead to the demise of our environment. It is our responsibility to be responsible.

"We are what we repeatedly do. Excellence then, is not an act but a habit." Aristotle.

See related article on page 9.

Rooted in Mystery . . .

by Bill Cullina

How Does the Pink Lady's-Slipper Grow?

Few plants are at once as beloved and as enigmatic as the Pink Lady's-slipper, *Cypripedium acaule*. Its rare beauty belies the fact that it is actually one of our most common orchids, found growing in open, oak-pine forest in the company of lowbush blueberry and huckleberry.

Much has been written about the difficulties of transplanting Pink Lady's-slippers. They are indeed very difficult to transplant, and are best left to enjoy in their native haunts. Untold thousands of wild plants have been dug and sold with little or no chance of surviving more than a year or two; therefore NEWFS does not recommend any collection of these plants in the wild. In the past ten years, however, great strides have been made in research aimed at raising the plants to maturity from seed, and it is only a matter of time before nursery-propagated plants become commercially available.

THE ROOT OF THE PROBLEM

To understand why transplants usually fail; one must first look at the roots. Lady's-slippers store their vital food reserves in their root system. These roots can live for five years or more, but if the growing tip is damaged, a new tip will not be produced, and the root will stop growing. A mature, single-growth plant

will produce only 4-10 new roots per year. These spread horizontally from the crown of the plant and, if undamaged, weave 12-18 inches through the thin layer of

(unlike most of their cousins) are very drought-resistant plants. Even in a dry year, like the summer of 1995, their leaves will persist well into the fall.

When *Cypripedium acaule* is dug from the wild, many of its long, shallow roots may be cut or broken, stopping their growth and allowing root rots to enter the wounds. Further, unless the root system is spread out horizontally and covered with nothing more than a thin layer of leaf mold, the roots will suffocate and die. With damaged roots, the plant loses much of its energy reserves, as well as its capacity to accumulate new reserves. As a result, the plant will grow progressively smaller and weaker over several seasons and eventually die.

A SPECIAL RELATIONSHIP

The slow death of transplanted Lady's-slippers has been commonly attributed to the absence of certain fungi the plants may depend on for survival; however there are still many unanswered questions about orchid fungi and their importance to mature plants. Orchid seeds are unique in that they have evolved a symbiotic (meaning "to live together") relationship with certain groups of soil fungi. The seeds are adapted to wind dispersal, which means they are very light in weight and produced in



Cypripedium acaule

spongy humus and tree roots that lies above the mineral soil. The roots rarely leave this well-aerated, organic zone for the oxygen-poor soils below. In fact, Pink Lady's-slippers

Rooted in Mystery continued on page 11

CONSERVATION OPTIONS FOR PRIVATE LANDOWNERS

by Ted Harris

Like Indiana landowners in general, private owners of natural areas (forests, meadows, wetlands) value their property for many reasons. These reasons often include sentimental, utilitarian and economic elements. Some owners also see their natural areas as an answer to the need of future generations for scenic greenspace. Other owners recognize that natural areas are vital to the future health of Indiana's biological diversity. Landowners who want to provide long-term protection for their natural areas may not be aware of options that are available. This column will briefly describe some of the choices.

DONATING LAND BY WILL:

With advance planning and receipt of an agreement to maintain and protect, an owner may be able to arrange for a donation by will to a land trust, to a government agency, or to a favorite educational institution. This approach can be used to reduce estate taxes to the balance of the estate, and it allows the owner to retain full control during the remainder of his or her life.

OUTRIGHT DONATION:

In addition to reducing future estate taxes, an outright donation can provide a substantial income tax deduction immediately. Further, it can provide great satisfaction, recognition and appreciation while the owner is able to enjoy them. If the donated property is also the site of the owners' residence, an agreement called "remainder interest" can gain the benefits of donation while allowing the owners to live out their lives on the property.

BARGAIN SALE:

A bargain sale to the protecting organization can be made at less than fair market value. This can generate income for owners who need it, while still providing many of the tax benefits.

CONSERVATION EASEMENT:

The gift or sale of an easement transfers only the rights that have been specified. For instance, donation of development rights to a land trust through a conservation easement means that only the land trust can develop the land. Since development is not what the land trust wants to

do, the easement effectively prevents the land from being developed. The owners retain basic ownership of the property, the right to live there, and the right to transfer other rights or ownership by will or by sale. For a natural area, the potential development value can be a large part of the property value. Therefore, the gift of a conservation easement can provide significant tax savings.

WHAT TO DO:

If you want to look into protection options for your land, be aware that the options described above are only some of those that are available. Expert advice is available from the Nature Conservancy and from Indiana's regional land trusts. As part of its mission, INPAWS' Conservation Committee can help you get in touch with one of these organizations. Owners who wish to pursue a protection strategy should also get professional legal and tax advice before making a commitment.

Ted Harris is chairman of INPAWS' Conservation Committee.

NATURAL AREAS AT THE DOW VENTURE CENTER SITE

The Dow Venture Center, home of DowElanco and DowBrands (and now the Future Farmers of America headquarters), is fortunate to include several high-quality natural areas which allow employees to pursue their interests in native plants, birds, and other wildlife right in the northwest corner of Marion County.

More than three acres of open field near 86th Street was converted to a Midwestern prairie in 1996, by direct seeding with a mixture of short grass and tall grass prairie species. The prairie installation, performed by Spence Nursery and Landscaping, and supervised by Kevin Tungsveick of INPAWS, included seed of forty different forbs and five species of grasses. Through Kevin's efforts at Spence, Indiana native seed became available for some of the prairie species. 1997 will be the second year for the planting, which we will monitor over the years as it develops into a native plant community that supports diverse species of insects and birds.

The Dow Venture Center also contains a fine twenty-acre mature woods in which flowering dogwood, white baneberry and nodding trillium mix with other plants in a rich native woodland flora. A variety of trees is found in these woods, including beech, cherry, maple and several oak species. Because of employee interest in access to the woods, a trail system has been developed by a team of volunteers. Especially valuable plants, such as a dozen large white nodding trillium, were moved from the trail's path to nearby locations. Soon, plant rescuers will move interesting wildflowers found on the FFA building site to safer locations.

A series of wildflower walks along the woodland trails has been organized and conducted by Jean Roberts (also of INPAWS). Participants can easily view twenty or more species of wildflowers and other plants over their lunch break. Bird walks have been held to observe the migrating warblers which take refuge in this welcoming woods. The group plans

to view butterflies in the prairie later in the summer, and to study tree identification in the fall.

Other nature-related activities at the Dow Venture Center site include building, installing and monitoring 17 bluebird houses, and stocking fish in a retention pond. All these activities are driven by the varied interests and perspectives on nature of the Dow Venture Center employees, and their desire to interact actively with nature outdoors.

Jean Roberts is involved with plant research at DowElanco, and has been a member of INPAWS since 1994. She is also a member of the band Blackberry Jam, which has appeared at our last two annual meetings.

INPAWS continues to be grateful to DowElanco for making its excellent facilities available to us for our annual meetings, and we wish them great success in their outdoor projects—Ed.

MULTIFLORAE

GARLIC MUSTARD ALERT!

About 20 INPAWS members trekked to Shades and Turkey Run State Parks in April for nature walks, and the opportunity of ridding selected areas of the parks of garlic mustard before it has a chance to become established. Apparently it has only been found in a few areas of the parks to date, but those areas yielded us about fifteen 30-gallon trash bags filled with the stuff. Besides the work, we enjoyed nature walks, great fellowship, and excellent food! Thanks to all who came, and to Kevin Tunesvick for making the arrangements.

G.M. (I hate to use dirty words) seems to be more prevalent in the Indianapolis area than I have ever seen it before. Holliday Park is heavily infested in many areas, and the well-tended Indianapolis Museum of Art grounds as well. (Although, I understand that our Treasurer Jean Vietor, with grim determination, eliminated most of it during one of her IMA volunteer days). For the first time, I found plants in Richey Woods, the Children's Museum nature preserve, and one plant even had the nerve to come up in our garden! Please tell everyone you know about this plant, and encourage them to yank out any they find in their yards.

Orchard in Bloom

Thanks to the great efforts of Hilary Cox and associates, a lovely micro-garden display of wildflowers was set up at Orchard in Bloom, which was held the first weekend in May at Holliday Park. For the fourth straight year, the weather refused to cooperate. On Friday, it was cloudy until noon, when it started raining on and off. Saturday morning the sun was out briefly before 8 AM, when it started raining, and didn't quit until late in the afternoon. Sunday, fortunately, was a beautiful day, and many more people were out. Hilary and her helpers answered many questions about the flowers, and INPAWS, and gave out a number of applications and a lovely little brochure describing the garden, which had been prepared by Chris Carlson. Thanks to Hilary, and all who helped her!

WILDFLOWER CATALOG AVAILABLE

Gene Bush, author of the *Wild Hyacinth* article, is offering a wide variety of native plants through his Munchkin Nursery, 323 Woodside Dr. NW, Depauw, IN 47115-9039. If you would like his *Woodland Wildflowers* catalog, please write, or e-mail genebush@netpointe.com.

OASIS PROGRAM

The first INPAWS class in the OASIS program (Older Adult Service and Information Systems) was held at Glendale shopping center on May 19th, with about 35 in attendance. Dan Anderson spoke and showed slides on wild edibles and using native plants in the garden, assisted by his wife Sophia and Lynn Jenkins. With the exception of one senior senior gentleman, who kept nodding off, there seemed to be a great deal of interest in the presentation and the handouts (prepared by Anne Wilson) which were gobbled up quickly.

Lynn gave the second talk at Greenwood mall, Dan the third, at Washington Square, and Colletta Kosiba will complete the cycle, at Eagle Highlands on Indianapolis' north-west side. We hope that the series will result in more new INPAWS members and new plant auction buyers as well as wider knowledge of native plants!

HOLLIDAY PARK NATURE CENTER

More than \$2.3 million dollars have been raised for the new Nature Center at Holliday Park in Indianapolis, and the three fund-raising committees are working hard to get commitments for the remaining \$2 million needed. The building will be located in the northeast corner of the park, and the present Holliday House will be torn down. The northwest corner of the park will become a prairie landscape edged with pine and hardwood trees, with a large open space covered with long-stemmed Indiana native grasses. Site preparation will begin later this year, with formal groundbreaking scheduled for the spring of 1998. Your help in publicizing the project is needed, but if you would like to make a financial contribution, you are invited to purchase a brick or paving stone for the entryway of the Nature Center, inscribed with your name or anyone else's you choose. Bricks 4"x8" are \$50, and 8"x8" paving stones \$100. If you are interested, or would like additional information, call Susan Sperry at 317-475-9482.

❖ NATURE WALKS AT BUTLER UNIVERSITY ❖

Dr. Rebecca Dolan, Director of the Friesner Herbarium at Butler University, will be leading tours of the Butler Prairie on the following Tuesdays at noon:

July 8
August 12
September 9

Meet behind Gallahue Hall, near the greenhouse. Tours will last about an hour. There is no charge, and all are welcome.

For information, please call Dr. Dolan at 317-940-9413.

Report of Membership Chairperson, Ruth Ann Ingraham

The Indiana Native Plant and Wildflower Society now has 463 members, representing fifty-five Indiana counties, plus the states of Illinois, Missouri, Ohio and the District of Columbia. That's 463, up from zero four years ago. Requests for membership information arrive almost daily in my mailbox; several have arrived recently from people who are joining through our newest chapter, Michiana, along our northern border.

INPAWS extends a cheery welcome to you new members:

Bedford: Mary and Lamar Peterson,

Carmel: Shirley Schaust,

Connersville: Donna Handby-Lynch, Charlene Witt,

Depauw: Gene Bush,

Fishers: Esther Linenberger,

Fort Wayne: Shannon Goings,

Geneva: Chris Newlund,

Granger: Harry and Joyce Kevorkian,

Greenfield: Lora Hawkins,

Greenwood: Carol Mavity,

Indianapolis: Marvin Brethauer, Patricia Cochran,

Evans Dallas, Liz Day, Link Krimendahl,

Sally McKnight, Ethel Ranck, Betty and Parke Randall,

Antony Veena, Mary Ann Zoeller,

Kewanna: Alan McPherson,

New Castle: Helen Steussy,

Rochester: Bob Kern, Laura Snipes,

St. Paul: Brenda Kolker,

Spencer: Richard Fields,

Syracuse: Tami Mohler,

Tipton: Michael Kendall,

Vincennes: Christine Thomas,

West Lafayette: James Klatch,

Wheaton, IL: Mary Ann Sweeney.

To all members: Please let me know if you have a change of address or comments and suggestions about INPAWS. Or if you would like to write an article for INPAWS News, contact Editor Dan Anderson or e-mail wilson@hsonline.net.

The need for INPAWS volunteers is growing exponentially – from manning booths to installing demonstration gardens to advising landscape designers about native plants to pulling garlic mustard to being a speaker. We need help. Please let me or another board member know if you have some time to share.

Ruth Ann Ingraham, 317-253-3863 or rai38@aol.com

NATIVE PLANT BOOK OF INTEREST

Fred Wooley, Interpreter at Pokagon State Park, has called to our attention a reissue of *American Plants for American Gardens*, by Edith Roberts and Elsa Rehmann. The book deals with the use of native wildflowers and grasses as specimen plants and attractors of butterflies and birds. It's available from the University of Georgia Press, and sells for \$27.95 cloth-bound. ISBN is 0-82003-1851-5.

Education is one of INAWS' primary goals. We are excited about Indiana's First Lady Judy O'Bannon's implementation of a mentoring program at the Governor's residence this summer. She has made a garden space available for neighborhood children in a Butler Tarkington/Extension Daycamp to help children learn gardening basics with the help of experienced gardeners. The time will be from 9-10:30 AM once a week for six weeks. If you are interested in participating as a garden mentor for this six-week series from June 23-August 1, please contact Mary Peters, Extension Educator, at (317) 848-7351 extension 109 for the appropriate application forms.

FIRST PLANT RESCUE CERTIFICATION WORKSHOP HELD

The first Plant Rescue training session, hosted by Co-Chairmen Don Miller and Sue Dillon, was held in the Horticultural Society meeting room at the rear of the Lilly Mansion on the grounds of the Indianapolis Museum of Art. The room was packed with about 60 people who received their certification at the end of the interesting and informative program. At last report, several sites were being investigated.

On Sunday, May 11th, the first official plant rescue was held at Cross and Crown Lutheran Church, 79th Street and Allisonville Road, Indianapolis. The church has approved an expansion program which will take the better part of a small unkempt area between the church and the church-owned house directly in back. Although it was overgrown with garlic mustard, poison ivy and honeysuckle, your sharp-eyed editor spotted a number of green dragons (*Arisaema dracontium*) poking up through the tangled mess. As a result of an announcement at both services, about fifteen folks from the congregation appeared and, led by Dan and Sophia Anderson, removed about 40-50 Dragons, 6 Jack-in-the-Pulpits, a like number of Solomon's Seals (*Polygonatum biflorum*) and a few Waterleaf (*Hydrophyllum sp.*). At the same time, the folks got a short course on taking care of native plants, and each helped make inroads on the large patch of garlic mustard that was in the same area. I hope that many of you will have the satisfaction this year of helping save some of our desirable native plants and enjoying the activity at the same time!

Indy Parks Eco-Tours

Saturday, July 12 – Sunday, July 13

Trip to Lincoln Boyhood Historic Site, Lincoln State Park, Col. Jones Historic Site, and surprises. Transportation, lodging, lunches, admissions, snacks and guides included. Cost \$150.

Thursday, August 21

Visit to Gene Stratton Porter's country and Indiana's Amish country. Transportation, lunch, snacks, guides, admission included. Cost \$40.

If you are interested in either or both of the above tours, call Vicki at Holliday Park, 317-327-7180.

If you would like to enjoy nature right here in Indy, join Holliday Park naturalists for a Saturday morning stroll, beginning at 10AM.

June 21–Wild Edibles

July 5–Folklore of Trees

July 19–Summer Bloomers August 2–Arboretum Tour

For more info call Vicki at above number.

"Lettuce and Tomatoes"

Among the less well-known salad and cooked greens are relatives of our commercial head and leaf lettuces (*Lactuca*). These plants of the sunflower family bear many small white, blue or yellow flowers resembling those of a dandelion or hawkweed, and when going to seed will form downy heads similar to those of dandelion, but flatter and less spherical.

Three of the species of *Lactuca* which can be found in Indiana are wild lettuce (*L. canadensis*) prickly lettuce (*L. scariola*) and hairy lettuce (*L. hirsuta*). Leaves may range from deeply-lobed to lance-head-shaped, and can be very variable among individuals of the same species. As the names indicate, the prickly lettuce has numerous small spines on the leaves and lower stem, while the hairy lettuce usually has numerous small bristles in those areas, and a reddish stem. All three species can be tall (up to ten feet) and have flower clusters which are widely spread out.

I have found the basal leaves of these plants, before the flower stalk begins to form, to be edible raw, with no more bitterness than young dandelion leaves. As the plants become older, a bitter milky sap gives the leaves a bitter taste, most of which can be removed by boiling for a total of fifteen minutes with one change of water. The cooked greens can then be served with a dash of vinegar and a butter sauce. As with mustard greens, there may be some bitter taste remaining, and some prefer mixing the greens with blander varieties.

The sow-thistles (*Sonchus*) are a closely-related group of plants, with flowers and growth habits similar to the above. They, however, have the added disadvantage of

possessing numerous prickly spines along the edges of the leaves. It is recommended in the case of both the spiny-leaved sow-thistle (*S. asper*) and the common sow-thistle (*S. oleraceus*) that the spines be trimmed off (presumably with a pair of scissors). Young leaves may be mixed cautiously into salads, but cooking similar to the procedure for wild lettuce is recommended.

Euell Gibbons, the famous wild edibles author, went even further with the sow thistles, sampling the stalks and roots as well as the leaves. He cut stalks that were about a foot high, removed the small cluster of leaves at the end

for boiling, and peeled them. After washing, he sliced them crosswise and boiled them for about twenty minutes, seasoning with salt, butter and herbs. He stated that both the stalks and cooked roots had a pleasant, artichoke-like flavor. The leaves were reported to be slightly bitter, like dandelion greens.

The so-called ground cherries (*Physalis*) comprise a small group of similar-appearing species which are widely distributed throughout eastern North America from Canada to the Gulf of Mexico. They are in the same family as the tomato and the potato, and a close rel-

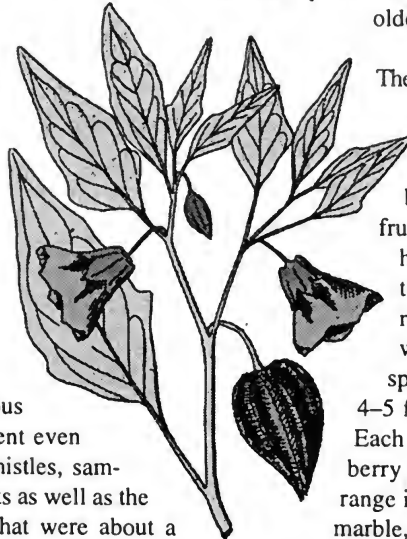
ative is often found in larger supermarkets under the name "tomatillo" or "husk tomato." Another relative is the "Chinese lantern" plant which is often found in older gardens.

The flowers are pale yellow, somewhat trumpet-shaped, with a darker purplish or brownish center. The fruit forms inside a green husk which gradually turns brown as it ripens. The plants have weak stems, and may sprawl for as much as 4-5 feet along the ground. Each husk will have one berry inside, which may range in size from a pea to a marble, becoming first yellow, then reddish, as it ripens. It has been reported that the leaves and the unripe fruit are

toxic. In the yellow stage, the fruit is sweet and tasty, with a few very small seeds. Although it can be cooked and made into pies or preserves, I don't find that many, and add them instead to salads for a colorful and tasty touch.

I wouldn't recommend ground cherry as a garden show plant, but if you have an untended or fallow area, you might spare it, in hopes of getting at least a few tasty morsels in the fall. On the other hand, I have been battling sow thistles in our yard for the last twenty years, and no matter how many I dig, there seems to be an inexhaustible supply of new ones. They're not rare or native, so go ahead and pull or dig away!

Dan Anderson is our newsletter editor and a wild-foods enthusiast. E-mail him at danand@netdirect.net.



Smooth Ground Cherry (*Physalis subglabrata*)



Spiny-Leaved Sow Thistle (*Sonchus asper*)

BIOLOGICAL CONTROL OF PURPLE LOOSESTRIFE

by Carolyn Harstad

Purple loosestrife is listed as a noxious weed in many states and the sale of this plant and even of its cultivars is banned in many states, including Indiana. Purple loosestrife "is an exotic wetland perennial responsible for the degradation of many prime wetland habitats throughout the temperate regions of the United States and Canada," according to a November 1993 article printed in *BioScience*, Vol. 43, No. 10, pp. 680-686. The article reports: "Large, monotypic stands reduce the biotic diversity of wetland systems by replacing native plant species...thereby eliminating the natural foods and cover essential to many wetland wildlife inhabitants, including waterfowl...and jeopardizing various threatened and endangered native wetland plants and wildlife." It has also caused agricultural losses since livestock prefer native sedges and grasses to purple loosestrife. "In North America this plant is a classic example of an introduced species whose distribution and spread has been enhanced by the absence of natural enemies and the disturbance of natural systems, primarily by human activity."

Purple loosestrife came to North America in the early nineteenth century, "both as a contaminant of European ship ballast and as a valued medicinal herb for treatment of diarrhea, dysentery, bleeding, wounds, ulcers, and sores (Stuckey 1980)." The spread of the plant was facilitated by construction of roads, inland waterways and canals and of course through horticultural distribution. An aggressive, invasive exotic, each plant is capable of producing more than 2.5 million seeds annually. Loosestrife seeds are viable for many years and are easily dispersed in wetland environments as well as on animals and humans moving through the area. Although diligent, regular removal of plants by hand can control loosestrife in small young stands, this method is impractical when the plant is widespread. Conventional herbicides, cutting or burning control methods have not proved effective on large stands since the plants have strong rootstocks serving as a storage organæ to help plants resprout.

Scientific advisory groups from the United States, Canada and Europe studied the possibility of using natural enemies of *L. salicaria* in Europe as control agents, "a practice applied in North America since the late 1880's (Dahlsten, 1986)." The *BioScience* report states: "Of 120 species of phytophagous insects associated with purple loosestrife in Europe, 14 species were considered host-specific to the target plant. From this group, six species were selected as the most promising for biological control." After several years of detailed and intensive screening studies by scientific experts in the United States and Canada, the US Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) approved three species for introduction in June, 1992. The species included a "root-mining weevil, *Hylobius transversovittatus* Goeze (Figure 1), which attacks the main storage tissue of *L. salicaria*; two leaf-eating beetles, *Galerucella californiensis* L. and *Galerucella pusilla* Duftschmid (Figure 1) which are capable of completely defoliating the plant." Stringent methods were employed before release of the insects, including screening under laboratory conditions in Europe to be sure all insects were free of parasitoids and disease. "Insects were released in New York, Pennsylvania, Maryland, Virginia, Minnesota, Oregon, and Washington state. Stocks of the three beetles were also sent to Canada, where their release was also approved." Predictions for the effectiveness of the experiment include a "reduction of purple loosestrife abundance to approximately 10% of its current level over approximately 90% of its range."

"Biological control of weeds is the human manipulation of a plant's natural enemies to reduce populations of the plant pest to an acceptable level...No introduced insect agents has ever exterminated either the target weed or a desirable plant (Harris 1988), nor have they ever switched hosts to become serious pests of crop plants (Crawley 1989)."



Swamp loosestrife *Decodon verticillatus* L. Ell. and Winged loosestrife *Lythrum alatum*, both native to North America and closely related to *L. salicaria*, were avoided by the three insect species. Large numbers of eggs of the three insect species were consumed at the field site by ladybird beetles, *Coleomegilla maculata* (M. Tauber and C. Tauber) and "predation of the *Galerucella* species by spiders was evident at all field sites in Europe."

The authors conclude: "...biological control of purple loosestrife focuses on an international environmental weed problem that cannot be controlled by conventional means. With support from federal and state agencies, we have brought together an international scientific advisory staff whose goal not only is to participate in and oversee the selection, screening, and introduction of an insect predator community to provide a long-lasting biological control mechanism for loosestrife, but also to develop a corresponding program of research and evaluation useful to the enhancement of future programs in this area. Only through increased visibility and credibility as a predictive science with proven implementation procedures based on rigorous experimental tests can we hope to integrate more successfully the practice of biological weed control into national and international efforts aimed at integrated pest management."

Article: *Biological Control of Purple Loosestrife—A case for using insects as control agents, after rigorous screening, and for integrating release strategies with research.*

Authors: Richard A. Malecki, Bernd Blossey, Stephen D. Hight, Dieter Schroeder, Loke T. Kok, and Jack R. Coulson.

Source: *BioScience*, November 1993, Vol. 43, No.10, pages 680-686.

Compiled by Carolyn Harstad from original article given to her by Fred Wooley, Naturalist at Pokagon State Park.

Wildflowers Poppin' Up for 4-H

"Oh, that's a pretty one!" exclaimed a young 4-Her rounding the trail in a local woods. What she had found was one of the over 300 varieties of local wildflowers that have started to pop up throughout the Owen County woods. Some of these are fantastic. Owen County 4-Hers who try this new project this year are in for a real treat. Collecting wildflowers is new for Owen County 4-H this year, but some Indiana counties have had successful wildflower projects done annually by 4-Hers for years.

Kendra Hart is a great wildflower hunter. Kendra is a member of the Willing Workers 4-H Club led by Teena Jennings. This is Kendra's second year in 4-H. Kendra takes bookmarks, foods and rabbits in 4-H, and additionally took the collections project last year. Kendra is the daughter of Ken and Lori Hart of Patricksburg.

Parents will find it very relaxing to walk through the woods with their children on wildflower hunts. Just about every 20-50 yards or so in a local woods you will find some kind of wildflower growing. On a sunny spring day you can stretch out with a book of wildflowers at every "find." By the time you help identify all the wildflowers your child will find, you will have a relaxing time where you can real-

ly unwind. Kids love finding these wildflowers—they are easy to find, but sporadic enough to make it interesting. Most of all they will love the time you spend with them as a parent doing something together.

Besides dandelions, the most common wildflower you will find now is the common blue violet or meadow violet. These are everywhere. If acid conditions are present, it can also invade lawns. Rumor has it that violet leaves can be cooked as spring greens or used in salads. The flowers are sometimes made into candies or jellies. Blue phlox will be found now on wooded banks along roadsides or along creek banks.

A plant that has a long mottled leaf and a fancy yellow flower is known as the fawn lily or trout lily. It has also been called adder's-tongue or dogtooth violet. One of the neatest wildflowers up now is called squirrel corn and its cousin Dutchman's breeches. Both of these are related to the cultivated old-fashioned bleeding heart. They look like bleeding heart, but are white with faint light blue or yellow at the bottom of a heart-shaped flower.

The new 4-H wildflower project lets 4-Hers find and collect 15 varieties. They can choose to draw these flowers if they

are artistic or easier still take pictures of the 15 flowers they find. This keeps the flowers in the woods where everyone can enjoy them. Of course another method of collection can be the old-fashioned pressing and drying method. The camera method might be the best one for the woods and for the 4-Her, but use the method you prefer. If you have questions about the 4-H wildflower project call me at 829-5020. You have until May 15 to join 4-H; contact us today.

The above article, written by 4-H coordinator Dave Schenck, appeared in the Spencer Evening World on the front page of the April 22nd issue. The 4-H wildflower project was originally written by President Carolyn Harstad several years ago, and was updated and promoted by Sophia and Dan Anderson. Information was given to Owen County 4-H last year, and it is encouraging to learn of increasing interest in this INPAWS program. It is now a three-year activity, with new sections added this spring. If you would like to get the project started in your county, please call Dan or Sophia Anderson at 317-849-3105, and we will see that you get the latest manual. We are hoping to make this a state-wide project in the next two years—Ed.

Top Ten Reasons Why I Am An INPAWS Member

by Diane Stippler

10. Sharing a common bond with members of other state plant and wildflower organizations.
9. Getting to meet some of the nicest and most knowledgeable "plant persons" in the state of Indiana, including other members of the Mike Homoya Fan Club.
8. Participating in hikes, trips and tours to gardens, fields, woods, bogs and dunes all over Indiana.
7. Receiving the extraordinary, professionally prepared, and informative newsletter.
6. Buying unusual and often hard-to-locate native plants at the World's Most Famous Plant Auction (my opinion) "commandeered" by our own Rolland Kontak.
5. Getting to sample Sophia Anderson's excellent wild edible delights at INPAWS functions.
4. Being privileged to educate other groups about activities impacting Indiana in areas of plant rescue and conservation, and being one member in a large organization which can make a difference when one alone cannot.
3. Attending the outstanding annual meeting in November, featuring nationally recognized plant and wildflower specialists and artists.
2. Going to the December Christmas Party at the home of gracious Carolyn and Peter Harstad.

And the No. 1 reason I continue to be an INPAWS member:

1. I can wear blue jeans to the meetings!

Diane Stippler, as you can see, is a very active INPAWS member, and her ten reasons listed above contain an excellent summary of our activities. Incidentally, Mr. Green Jeans would be welcome also.

huge numbers. The typical Lady's-slipper seed pod contains between 10,000 and 20,000 seeds! Orchid seeds are light because they lack the endosperm or food reserves that most seeds rely on for initial growth, much as the egg yolk nurtures developing bird embryos. Without endosperm, orchid seeds cannot germinate unless they become "infected" by certain soil fungi, which the seedlings actually digest to obtain the sugars, hormones, and other nutrients necessary for growth. Once a seedling is old enough to have leaves and roots, it can begin providing those substances for itself, and gradually becomes less dependent on the fungus for survival. Research on mature Yellow and Showy Lady's-slipper roots reveals very little fungus infection, so it appears that, for these species at least, the fungus becomes much less important as the plant grows older. It seems likely that root damage, not a lack of fungal partners, is primarily responsible for the decline of Pink Lady's-slippers under cultivation.

This summer we began an experiment along the lines of one described by Don Jacobs in *The Rock Garden Quarterly*, the bulletin of the North American Rock Garden Society. *C. acaule* plants rescued from a development site were carefully excavated—roots intact, and moved to several locations at Garden in the Woods. We receive many requests to rescue Pink Lady's-slippers from construction sites, but usually decline due to the expense and high failure rate. This time, however, volunteers actually removed the plants barerooted and carefully replanted them by laying them out on a bed of rotted leaves and lightly covering them with more leaves.

We are always hesitant to publicize such a project because we do not want to encourage wild-collecting. For this reason, and because if will be five years before we will know for sure if this method was successful, we have avoided going into too much detail, but we will

keep you posted. Once we are more confident that it will work, we may be more detailed about our methods. We hope that this knowledge will make long-term cultivation of Pink Lady's-slippers feasible when seed-grown, nursery-raised plants start to become available in a few years. (Part two of this article, describing the unusual reproduction and growth of the Pink Lady's-slipper, will appear in a subsequent issue of *New England Wild Flower*.)

Bill Cullina is propagator for the New England Wild Flower Society's Garden in the Woods in Framingham, Massachusetts. The article with references can be found in the Spring/summer issue of their journal/catalog. INPAWS thanks the author and NEWFS for permission to reprint. The second part of the article will be reprinted in INPAWS NEWS after it becomes available—Ed.



MEMBERSHIP APPLICATION/RENEWAL

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

- Student \$10 Individual \$18 Family \$25 Sponsor \$250 Patron \$100 Corporate \$500

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6/97

Gifts do help. INPAWS donors at the *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 the following committee(s):

- | | | |
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Please complete this form and mail, along with your check made payable to:
Indiana Native Plant and Wildflower Society, or INPAWS
 c/o Ruth Ann Ingraham • 6106 Kingsley Drive, Indianapolis, IN 46220.

still to come in 1997. . .

SUNDAY, JUNE 29, 1 PM

See the gardens that allowed the Indianapolis Zoo to become an accredited *Habitat Botanical Garden*. Tour will be led by Katie Booth of the Zoo's Horticulture Staff.

SATURDAY, JULY 26, 11 AM

Spring Mill State Park, lunch in the Oak Room and a hike, led by a park naturalist, to a glade above Donaldson Cave, and old-growth forest at Donaldson Woods.

SATURDAY, AUGUST 23, 2 PM

Tour of Spence Nursery in Muncie, followed by a pitch-in picnic at Mounds State Park in Anderson. Activities will be led by Kevin Tunesvick.

SATURDAY, SEPTEMBER 13, 10 AM-1PM

Plant and seed sale and slide presentation of plants offered for sale, at Holcomb Gardens on the Butler University campus, followed by a tour of the gardens and the prairie planting.

SATURDAY, OCTOBER 4, 7:30 AM

A one-day bus trip to three Indiana Dunes sites, Ivanhoe Dune and Swale, Miller's Woods, and West Beach. Hikes led by Paul Labus with The Nature Conservancy and INPAWS member Barbara Plampin of the Shirley Heinze Environmental Fund. We will stop on the way home at Jasper Pulaski State Fish and Wildlife Area about sunset to see sandhill crane migration, and then have dinner at a West Lafayette restaurant.

SATURDAY, NOVEMBER 8

Fourth Annual Meeting at DowElanco, time to be announced.

FRIDAY, DECEMBER 5, 5-10PM

Annual holiday party at the home of Carolyn and Peter Harstad.

Notices will be sent in advance • Kevin Tunesvick, program chairman • 317-354-2775



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Native Plant and Wildflower Society

Volume IV Number 3 • Autumn 1997

News

Free for the Picking

by Dan Anderson



Spicebush
(*Lindera benzoin*)

Although most of the wild flora covered in past articles have been used for vegetables, spices, baking or desserts, there is a number of species which furnish tasty beverages, some hot, some cold.

During the warm weather, the berry clusters of smooth sumac (*Rhus glabra*) or staghorn sumac (*R. typhina*) can be collected when they are ripe, and used immediately or dried for later use. (Staghorn has hairy twigs; smooth has hairless twigs). Berries of both have a waxy coating composed of malic acid, the acid in apples, which dissolves in cool water after soaking for fifteen minutes. Strain out the hairs and any microscopic insect life present, then sweeten the pinkish liquid to taste and serve as you would lemonade. On one Elderhostel we attended, the leader picked some of last year's berries in May, and attempted to make a drink by pouring boiling water over them. The liquid was brown but tasteless. The leader stated that this was the method the Indians used, but I suggested they most likely picked the berries and stored them indoors all winter, so the tasty coating would not be



Smooth Sumac
(*Rhus glabra*)

washed off by the many rain- and snowstorms during the winter months.

Sassafras (*S. albidum*) is well-known to most of us, and was commonly used in earlier days as a spring tonic. Lately, it's gotten bad press from experiments in which laboratory rats were fed the equivalent of gallons per day, and some developed cancer. To prepare tea, dig some roots, wash and clean thoroughly, and steep in boiling water until the liquid turns a rich brownish-red. Sweeten to taste, or as some folks do, add a little milk or cream as well.

One of our favorites is tea made from the spicebush (*Lindera benzoin*). This attractive bush is quite common in our Owen County woods, from its fuzzy yellow flowers in spring, to its red berries in fall. In spring, the young leaves and twigs can be steeped in hot water for 15 minutes; in fall the berries, twigs and bark can be used. The aroma and taste are similar-pleasant



Sassafras
(*Sassafras albidum*)

but slightly medicinal. It has been reported that the berries, when dried, make a good substitute for allspice.

Mullein (*Verbascum thapsus*) has long been known to furnish a satisfactory tea, when the basal leaves

Wild Drinks continued on page 2



Sweet Goldenrod
(*Solidago odora*)

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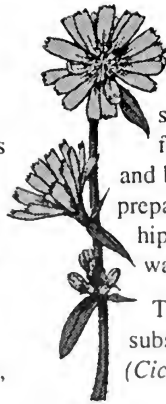
are thoroughly dried, then steeped in boiling water for 5–10 minutes. My wife Sophia has a bunch drying at the present time, and we'll report the results in a future issue.

Last year we tried sweet goldenrod tea (*Solidago odora*) for the first time, and were delighted with the results. We used unopened flower buds, although flowers and fresh or dried leaves can also be used. The taste resembled anise, but was delicate, and would probably not be apparent if milk and/or sugar had been added.



Stinging Nettle
(*Urtica dioica*)

We have eaten nettles (*Urtica spp.*) several times, but have not yet tasted nettle tea. The young shoots and leaves can be boiled for several minutes and the liquid run through a strainer, sweetened and served as a vitamin-rich tea.



Chicory
(*Cichorium intybus*)

Other candidates for tea-like beverages include several members of the mint family, rose hips, strawberry and blackberry leaves. For these preparations, dry the leaves or hips, and steep in boiling water for 10–15 minutes.

The most common coffee substitute is chicory (*Cichorium intybus*). Dig up the entire plant, and roast the roots in an oven until they become dark brown

and brittle, then grind them to a powder. About 1.5 teaspoonsful are recommended for each cup of water. Brew as you would coffee. This drink is popular in some parts of the South, but is a little too bitter for my tender palate. Dandelion roots have been processed in the same way, probably with similar results.

For the record, ripe seeds of the Kentucky Coffee-tree (*Gymnocladus dioica*) can be roasted, ground and brewed. However, this tree seems to be

rare in central Indiana, and I have never found one old enough to bear seedpods. **Caution: unripe seeds and surrounding pulp are reported to be poisonous.**

There are other plants which have been used in preparing teas for pleasure and medicinal use—those listed above are but a sampling. So, if your taste buds are tired of coffee, tea, or cola, why not give one of our excellent wild beverages a try?



Kentucky Coffee Tree
(*Gymnocladus dioica*)

Dan Anderson is our newsletter editor and an inveterate wild-foods enthusiast. Reach him at 7412 Graham Road, Indianapolis, IN 46250, or at danand@netdirect.net.

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

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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Information for the newsletter is supplied by Society members and others interested in sharing information about Indiana native plants. Articles or drawings should be sent to the Editor, Dan Anderson, 7412 Graham Road, Indianapolis, IN 46250, or e-mail wilson@hsonline.net.

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ILLUSTRATIONS:

Willow seed, page 5, Jan Lacy
Prairie, page 8, Cheryl LeBlanc
Photo, page 9, Anne Wilson

President's Message

by Carolyn Harstad

What's in a name? People occasionally ask why our organization is called the "Indiana Native Plant and Wildflower Society." When we had our initial organizational meeting at the Marion County Extension Center in the spring of 1993, there was a lively discussion about what to call this new group. We all agreed that since this was designed to be a state-wide organization, "Indiana" should preface any title we chose. Some suggested "Indiana Wildflower Society," others preferred "Indiana Native Plant Society." A few were concerned that "Wildflower Society" may not command enough respect. Others suggested "Native Plants" stressed mainly trees and shrubs and might sound too technical.

Webster's Dictionary describes wildflowers as plants which grow without cultivation. Plants which were present when the Europeans arrived are generally considered native plants. Are native plants wildflowers? Some are and some are not. Native plants include trees and shrubs as well as flowering plants (technically referred to as forbs). Are wildflowers native plants? Some are and some are not. Many plants which are not native have

naturalized here and are considered wildflowers.

After a long discussion about the pros and cons of the two names, I suggested naming our organization the "Indiana Native Plant and Wildflower Society," reasoning that this name might encourage both those who are knowledgeable about native plants and those who simply enjoy beautiful flowers growing uncultivated in the wild, native or not. After I expressed concern that our group needed to welcome non-professionals as well as professionals, Kay Yatskievych also spoke in favor of the combined name and it was adopted by the group.

We all agreed that it was important to appeal to a broad spectrum of plant enthusiasts, so that both experts and laymen would want to join this new organization to learn about native trees, shrubs and forbs, as well as non-native wildflowers. Some non-native wildflowers cause problems, others are well behaved. Some wildflowers are native to other states, but not native to Indiana. As the Indiana Native Plant and Wildflower Society, we can learn about natives and non-natives, so that as better-informed citizens of our state, we can help eradicate invasive exotics

and work together to preserve and conserve our native plants and desirable non-native wildflowers.

Is our name redundant? No, I don't believe it is. Has our name choice been successful? Our current membership of nearly 500 members state-wide includes people from all walks of life. Interests, concerns and expertise of our members encompass gardening, environmental issues, conservation, preservation and education. We have professionals, including botanists, horticulturists, teachers and professors, state agency employees, landscape architects and designers as well as a host of non-professional members.

After four years, the Indiana Native Plant and Wildflower Society has established a viable reputation, is a strong state-wide organization and continues to be a group which encourages participation from people in all walks of life. We are asked for advice by professionals and non-professionals alike. Reaching out to citizens all over Indiana, we can help to increase awareness of the heritage we need to preserve and protect. We can all be proud to be members of INPAWS—our Indiana Native Plant and Wildflower Society.

Now is the time to renew your membership for 1998!

Enclosed with this newsletter is a membership envelope. Unless your mailing label shows a "98" to the right of your name, please renew your membership now using this envelope. Dues received this year will extend your membership through the end of 1998, and ensure your inclusion in the 1998 member directory.

For more information please call Ruth Ann Ingraham, Membership Chair, at 317-253-3863, or e-mail rai38@aol.com.

Over this past summer of 1997, thirty-nine new members joined INPAWS. Welcome to all of you.

Albany
Angola
Bloomington

Carmel
Cloverdale

DeMotte
Fishers

Fort Wayne
Greenwood
Indianapolis

Diana Torke
Daniel Haffner
Paula Baumgartner
Suzanne Schwartz
Julie Whiting
Gerald and
Kathleen Bates
Sharon Siefert
Steve and Michelle
Arfman
John Guild
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Mavis DeVoe
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Strodtbeck
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Cecil Fenio
Theresa King
Nicole Kalkbrenner
Ellen Smith
Alan Atkinson
Katharine
Fulkerson

Endowment Fund Established

An Indiana Native Plant and Wildflower Society Endowment Fund was established in August 1997, following approval by the Official Board. The initial amount is \$10,000.00.

Interest from this fund will be used to provide modest grants, sponsor workshops targeting professionals and students, and make awards for creative and educational use of native plants in the landscape.

Private donations and corporate matching funds will be encouraged so that the effectiveness of the endowment may increase.

Becky Dolan, INPAWS Recording Secretary, and Director of the Friesner Herbarium at Butler University, has agreed to chair the Grants and Awards Committee.

Ruth Ann Ingraham
Ad hoc Endowment Fund Chairperson

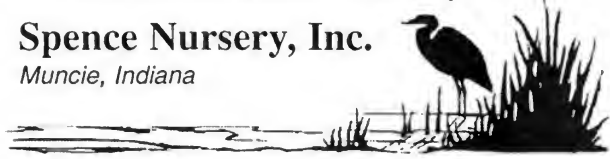
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Spence Nursery, Inc.

Muncie, Indiana



DUTIES

- Manage propagation of more than 100 species of native plants.
- Continue development of native seed nursery
- Prepare literature for sales
- Prepare orders for shipping
- Harvest and process seed

QUALIFICATIONS

- four-year degree in natural history, horticulture or related field
- Knowledge of native flora and plant communities
- Knowledge of propagation techniques
- Basic computer skills including word processing
- Ability to manage people

*Please contact Kevin Tungesvick
at Spence Nursery • (765) 286-1740.*

ROADS: NUMBER ONE ENEMY OF NATURE

by Ted Harris, INPAWS Conservation Chairman

Human exploitation of nature, whether for resource extraction, for recreation, or for residential and industrial development, nearly always begins with the construction of a road. Road building represents the greatest single threat to biological diversity in the United States.

Roads interfere with normal hydrological processes. They contribute to stream sedimentation. They are the access paths for development, for pollution and for the invasive exotic species which follow human-caused disturbance of natural areas.

In Midwestern states such as Indiana, roads and subsequent development have fragmented native plant and animal habitats into very small pieces. Some species have learned to co-exist with people. However, many native plants and most native mammals, reptiles, amphibians and birds have declined in population because of their isolation into small habitat patches.

Many animal species are reluctant to cross roads. Those that do suffer high levels of mortality. An estimated one million vertebrate animals per day die on our streets and highways. For plants, there are no estimates of mortality, but soil compaction, exhaust fumes, runoff of oil and antifreeze (and deicing salt—Ed.) each take a major toll of native species which evolved under less stressful conditions.

People who love nature may want to remember this line: "Road is a four-letter word." While we need roads for efficient travel, we don't need roads to be everywhere. At this point, all new road building should be seriously questioned, especially if it affects any healthy natural area, whether forest, wetland or prairie.

Roadways that are seldom used should be evaluated for removal, with priority given to closing roads that fragment the natural landscape. Pavement should be removed and the roadbed revegetated.

Very few actions can have a more positive effect on nature's biological diversity than the act of permanently closing a road.

The opinions expressed above are those of Mr. Harris and the Conservation Committee. However, at the July INPAWS Board meeting, the Board voted its approval of Mr. Harris' letter to Governor O'Bannon, expressing opposition to the proposed extension of I-69 to Evansville, and suggesting that the combination of I-70 to Terre Haute and an upgraded U.S. 41 to Evansville would make more sense economically and do much less environmental damage than a completely new road. Ted has also written the Indianapolis Star in answer to their editorial complaint about lack of mowing, pointing out that many states are planting and growing native vegetation along their roadsides.—Ed.

INPAWS SEED PROGRAM

by Rolland Kontak

For several years, I and several others have collected and packaged wildflower seeds, and sold them at various INPAWS events. The sale proceeds, amounting to several hundred dollars, have gone to INPAWS.

To reach those members who have not had the opportunity of seeing the offerings, we would like to expand the service and try mail order. A list of seeds available and ordering instructions will be published in the next newsletter. To expand our supply and add as many specimens as possible, your cooperation in collecting and supplying seeds of Indiana native plants is solicited.

Here are a few important rules:

- 1 Collect only mature seeds.
- 2 Clean the seeds!!! Remove all chaff, using a magnifying glass, tweezers, sieve, or whatever else is necessary. Unclean seeds will be added to mixtures.
- 3 Identify by botanical name, genus definitely and species if possible. Common names are useful but not mandatory. Use references—you will be pleased to add to your knowledge.
- 4 Include tips on germination and planting, if you have any personal experience. Example: "Cardinal flower (*Lobelia cardinalis*): Don't cover seeds."
- 5 I may need help. Please mention it with your donation, or e-mail me at rekontak@juno.com.
- 6 Hard-to-find species are especially desired. Red baneberry, gentians and trilliums are exceptional candidates. Clean pulp from seeds as described in Sue Dillon's article.
- 7 Seeds will sell for \$1.00 per package plus a small shipping charge.
- 8 Send donations by Postal Mail (not UPS) to:

Rolland Kontak
2403 S. Emerson Avenue
Indianapolis, IN 46203.

FALL IS SEED COLLECTION TIME

by Sue Dillon

Who hasn't experienced the strong urge to "poach" wildflowers? You're following a lovely woodland path, and all at once you spy a real gem - a particularly beautiful specimen of a species you don't have in your collection. Even the most honest of us are tempted to sin and dig it up. Unfortunately, if the plant isn't in an approved rescue area, you would be poaching.

Propagation from seed is an alternative that is smiled upon as being very ethical, and late summer is a great time to gather seeds. The most informative book I've found on the subject is *Growing and Propagating Wild Flowers* by Harry R. Phillips, curator of native plants at the North Carolina Botanical Gardens, University of North Carolina. It's fascinating reading for wildflower lovers.

Among the most noticeable seeds are the large red seed heads from the Arums, which include Jack-in-the-pulpit and Green Dragon. The seeds can be gathered as soon as they turn red. To clean, separate the berries from the cluster and place them in a sieve. Run a steady stream of water over the berries

until the pulp loosens, and the white seeds can be removed. Plant lots of seeds in a four-inch pot filled with a soilless medium, cover them with 1/4 inch of the same material, dampen the mixture lightly, seal it in a Ziploc bag and refrigerate for 60 days. By then, the seeds will be fooled into thinking it is spring, and will germinate within two weeks after removal from the refrigerator. It will take them about three months to go through a growth cycle on your counter top. You can then return them to the refrigerator for their second "winter" of another 60 days. It should be springtime when you remove them, and you can plant them in your garden. Plants should flower the third year.

For trilliums, a similar, but trickier, process is followed. Seeds often mature before the berries begin to split, making regular inspection essential. Five to six weeks after the plant flowers, pinch open a berry and note the color of the seeds. If they are dark, or beginning to darken, collect the berries. It is best to plant the seeds immediately after collection, if possible. Once they dry out, germination will be reduced and

uneven. One gardener reported germination of trillium seeds eight years after sowing seeds she received in the mail. My giant white trillium seeds are in the second warm cycle on the countertop without showing germination, so I'll keep playing the game of in and out of the refrigerator until something finally happens!

If you don't have a good book on propagation, common sense and an understanding of nature will give you clues. Seeds maturing in early summer, such as columbine, should be sown immediately, and will be small plants by fall. Such seeds held over the winter will be much more difficult to germinate. In nature, seeds that mature in the fall wait until it is safe in the spring to germinate. They require a period of cold treatment, either outdoors or in the refrigerator, to break their dormancy.

It's fun to propagate wildflowers from seed. Gathering the seeds in fall adds another dimension for fun with wildflowers.

Sue Dillon is co-chairman of INPAWS Plant Rescue Committee.

MULTIFLORAE

A SELDOM-SEEN MILKWEED

In her article *The Milkweed Family in Indiana* (INPAWS News, Summer 1995) Dr. Kay Yatskievych listed among the endemic milkweed species *Asclepias hirtella*, with a common name of Tall Green Milkweed. I have seen this species twice—in Vigo County three years ago and just recently, a solitary individual on our Owen County property (in a dry situation). Deam lists the range as encompassing scattered counties in the western two-thirds of Indiana, but Kay stated she has also seen specimens in the Dunes area. Since most wildflower guides don't seem to list it, here is a layman's description: plant 2.5-3.5 feet in height, flower clusters greenish to white, florets small, leaves about 1/4 by 3 inches protruding from stem in all directions, but not in whorls. The leaves appear similar to those of the better-known Butterfly Weed, *A. tuberosa*. Perhaps several of you may have seen this species and have not been able to identify it. I'd appreciate hearing from any of you who have come across it.

Congratulations to Ruth Ann Ingraham, INPAWS membership chair, who has won honors in the Thirteenth Annual Nature Photo Contest sponsored by the Limberlost State Historic Site, home of author and naturalist Gene Stratton-Porter.

Her photo of the mushroom Scarlet Waxy Cap won **first place** in the *color flora* category, and her image of a goldenrod spider preying on a bumblebee won **second place** in the *color fauna* category.

The first-place photo in each category will appear in *Outdoor Indiana*.

Speakers Bureau Activities

During the month of May, Lynn Jenkins presented *Native Plants in Your Garden* to the Master Gardeners of Boone County; Colletta Kosiba led a *Wildflower Wander* at Indianapolis' Southeastway Park for *Environment Adventure Day*. In June, Colletta appeared briefly on WISH-TV with *Plants to Avoid*, and spoke on *Wildflowers and Native Plants* to a meeting of the Central District of Garden Clubs. The Speakers Bureau welcomes Sally Weeks of Lafayette to our list of speakers. If you can do a program in your area, please call me or write. It is great fun to share our plant knowledge with the general public and get them interested in saving and using native plants.

Colletta Kosiba, Chairperson, Speakers Bureau, 317-852-5973

BORED WITH EXERCISING?

Acrobics classes getting tiresome? Weary of looking at grass, evergreens, concrete and asphalt while you walk in your neighborhood? Having trouble making yourself get on the exercise machine? Jean Viotor has a great idea. Start a regular trail-hiking/exercise group at the new Fort Ben State Park (or Eagle Creek, Skiles Test or other parks) perhaps three times a week for about an hour on one of the several trails. During the summer, because of long daylight and hot weather, start at 6:30 AM; other seasons at 11:00 AM. You could pull garlic mustard, pick up trash, and give INPAWS regular reports on what's happening and/or growing there—all the while getting needed (for lots of us) exercise. If you are interested, please call Jean Viotor at 317-823-1542.

Jean, our Treasurer, suggests that if you choose to make a donation to INPAWS, check to see if your employer has a matching funds program, as INPAWS, being not-for-profit, may qualify for an employer contribution!

More than 50 people attended

the August 23rd field trip to view the wholesale production of native herbaceous plants at Spence Nursery. Kevin Tungsveick led the attendees through the various stages of nursery production from seed cleaning to marketable plants. The participants also got to witness the early stages of seed nursery development, as well as a restoration area at the nursery.

An unexpected treat at the nursery was the sighting of an uncommon Milbert's Tortoiseshell butterfly (*Aglais milberti milberti*) feeding on a Spotted Joe Pye Weed in a two-gallon nursery pot in an uncovered coldframe!

The group then traveled to Mounds State Park where Kevin led a tour to view upland and floodplain woods, riverside groundwater seeps, and ancient Indian Earthworks. Kevin identified many of the characteristic plants of each of these communities and also spoke about oak woodland restoration efforts in a portion of the park. Finally, the group enjoyed a pitch-in cookout at the park, a pleasant end to a beautiful day.

NATURE WALKS AT BUTLER UNIVERSITY

Dr. Rebecca Dolan, Director of the Friesner Herbarium at Butler University, will be leading tours on the Butler campus on the following Tuesdays at noon:

October 14

Butler Prairie

November 11

Late fall in the Butler Woods

December 9

Evergreens on campus

Meet behind Gallahue Hall, near the greenhouse. Tours will last about an hour. There is no charge, and all are welcome.

For more information, please call Dr. Dolan at 317-940-9413.

Wildflower Photography Exhibit at Eagle Creek

An exhibit of breathtaking photographs will be on display at Lilly Lodge in Eagle Creek Park on the weekend of November 14th. **Mavis DeVoe** has been photographing wildflowers and scenes from a wide range of habitats over the past two years in preparation for this show.

High-quality images of subjects such as yellow ladyslippers, jack-in-the-pulpits, numerous composites, and other flowers and scenes, have been gathered from many places including the Smokies, Texas, New Mexico, the Four Corners area, and central Indiana wildflower gardens. Mavis has been working with Tom Potter in preparation for the exhibit. Together, they have produced seventy high-quality images on the finest Ilfochrome paper and placed them in acid-free mats, guaranteeing archival stability.

Mavis has been studying photography for many years, during which she has participated in numerous nature photography workshops and classes. The most recent was a field trip with Tom

Potter's group to Texas for the spring wildflowers. Through these seminars she has enriched her knowledge of both photographic fundamentals and field techniques. These skills are dramatically demonstrated in the exhibit.

All wildflower enthusiasts and photographers will want to see this stunning display of artistry and skill. There will be an artist's reception on Friday, November 14th, from 6:00 PM to 8:30 PM, to which INPAWS members are invited. The exhibit will be open to the public on Saturday and Sunday, November 15th and 16th, from 10 AM to 4 PM. Mavis will be present during all exhibit hours to talk about her work and answer questions. Her work will be for sale.

This exhibit will be sponsored by the friends of Mavis DeVoe, Joe Ashby of Artistic Designs, and Tom Potter of Images and Chronicles. For additional information, please call the Eagle Creek Park Nature Center at 317-327-7148.

Don't miss it! – Tom Potter

Holliday Park Events

On Saturday, September 27th, from 9 AM to 1 PM, a trail workday is scheduled. Many volunteers are needed to repair trails, block off non-trail paths, do maintenance under bridges, and perform maintenance on the playground. For information call Lucy or Vickie at 327-7180.

Holliday Park is located at 6349 Spring Mill Road on Indianapolis' northwest side.

Several free Holliday Park events may be of interest to INPAWS members. These include a visit to the **native trees in the arboretum** and their panoply of fall colors, October 18th, 10 to 11:30 AM, and a session on **winter tree identification**, November 1st, 10 to 11:30 AM.

For those interested in making holiday ornaments from natural materials, there will be sessions on **Holiday Decorations from the Wild** on Saturday, November 22nd, from 10:00 to 11:30 AM, or Tuesday, November 25th, from 6:30 to 8:00 PM. The cost is \$8.00 and includes all materials.

For more information, call 317-327-7180.

BUS TRIP TO MISSOURI BOTANICAL GARDENS

The Greenhouse of the Indianapolis Museum of Art is sponsoring a one-day bus trip to the Missouri Botanical Gardens, located in St. Louis. The gardens include the Climatron, a geodesic dome containing plants and trees of the tropics and rainforests, and a large Japanese strolling garden with lake. There are also acres of flower beds, a research station for propagating rare native plants, a herbarium and library.

The trip will be on Monday, September 29th. The cost will be \$65.00 for IMA members and \$75 for non-members. (Lunch is not included, although a continental breakfast and a wine-and-cheese party are provided.) Reservations are requested by September 12th. In the event this newsletter does not reach you in time for registration, please call the Greenhouse for further information, 317-923-1331.

The 4H wildflower project

had five entries in this year's Marion County Fair, one at the second level and four at the first.

For more information about this program, call Dan or Sophia Anderson • 317-849-3105.

Central Indiana Butterfly Club

For those of you who are interested in attracting butterflies to the garden, and helping to increase their numbers, the Central Indiana Butterfly Club has scheduled its next meeting at the Nora Library on October 14th at 7 PM.

President Don Fisher is also planning a quarterly newsletter to begin after the first of the year. For more information, please call Don at *Wild Birds Unlimited*, 317-251-5904.

SPRING AUCTION REPORT

by Rolland Kontak

Sixty Dollar Jack-in-the-Pulpit!!!

That's the price paid for a huge, in-bloom Jack, well potted, in an appropriate-sized clean container, and perfect in flower, foliage and presentation. This item was just one of many, many donated plants and objects sold at auction at the Marion County Extension Center on June 8th.

Lynn Jenkins captained a group of willing members of Marion County Master Gardeners Number 1, who ably assisted with a variety of necessary tasks. And, as usual, a seasoned cadre of INPAWS members manned the registration, refreshment, setup, pricing, clerking, and many other functions. I extend special thanks to those who rose to the

challenge of breakneck preparations in the hour before the sale, especially when pressed by donations arriving at the last minute. Ideas to alleviate these special problems are very welcome.

I was surprised by the great response to a large group of water and wetland plants. Spence Nursery, a loyal donor, brought a wide variety of aquatics. There were many bidders on each lot, and it seems as if ponds are an "in" thing.

Fine arts donations were led by Treasurer Jean Viotor's watercolor *Fire Pink*, which brought \$250. Four antique art prints by the Welsh firm of Gladstone and Elwyn-Jones found new owners for sums ranging from \$80 to

\$150. (Just a casual plea for donations from this firm by the writer has resulted in \$600 return to INPAWS over the last two years—and I don't even like to request donations!)

The growth of our plant auctions has been very gratifying. The number of participants, and the volume of donations, have made this event a great happening in the Indiana world of horticulture. Thanks to all of you—and it's been fun!!!!

Rolland Kontak is a charter member of INPAWS. We are grateful to him for the considerable amount of money he has raised as auctioneer for the benefit of this society and its mission. —Ed.



One-day bus trip to the Indiana Dunes, Saturday October 4

Call Kevin Tungesvick for reservations • 765-354-2775

The Saturday, October 4th trip to the Indiana Dunes will feature a full day of fascinating sites for participants to enjoy. These sites include Ivanhoe Dune and Swale, Miller's Woods, and the West Beach trail. The trip home will feature stops at Jasper-Pulaski State Fish and Wildlife area to see migrating Sandhill Cranes, and dinner at Ryan's Steakhouse in Lafayette.

At Ivanhoe Dune and Swale, Paul Labus of the Nature Conservancy's Southern Lake Michigan Conservation Initiative will explain how the Nature Conservancy saved this globally rare inland dune and swale site. He will go on to explain the restoration efforts underway at the preserve, including removal of invasive plants and brush. Many gorgeous fall wildflowers will be

in bloom at this time, including numerous fringed gentians, ladies'-tresses orchids, and a variety of asters and goldenrods.

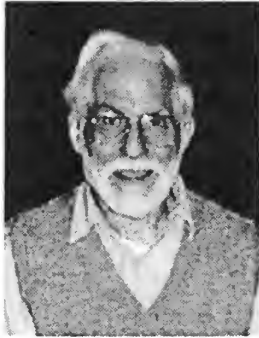
The next two stops will be within the confines of the Indiana Dunes National Lakeshore. Miller's woods contains one of the most beautiful sand savannas in the state of Indiana. Frequent fires have maintained a lush herbaceous understory beneath the oak canopy. A boardwalk leads across a shallow interdunal pond where Kevin Tungesvick will identify a variety of emergent plants, including Pickerel Weed, Burreed, Arrowhead, and various bulrushes. The final site in the dunes will be the West Beach Trail where veteran Botanist and INPAWS member Barbara Plampin will lead a hike across the foredunes

adjoining Lake Michigan. Many plants such as Arctic Bearberry, Jack Pine, Marram Grass, and the beautiful Dune Goldenrod are confined to this habitat in Indiana. This trail also offers spectacular views of the open dunes and adjacent Lake Michigan.

The trip home will feature a stop at Jasper-Pulaski State Fish and Wildlife area to view the Sandhill Cranes at their traditional migratory stopover. Although we will be there several weeks before the cranes reach peak numbers, several thousand should be present. Finally we will end the day with a stop at Ryan's Steakhouse in Lafayette for dinner. Please join us as we explore these new sites not seen on our 1996 dunes trip.

In Memoriam

Joe Ingraham looked at the natural world with wonder and was charmed by its mystery and beauty.



One of the founding members of INPAWS, Joe died August 19th in Indianapolis after a long illness. Our heartfelt sympathy goes to his wife, Membership Chairperson Ruth Ann Ingraham, and family.

Joe embodied the mission of INPAWS, and indeed shaped and steered the society from its beginning. Although not a board member or committee chairman, and perhaps unknown to many members, Joe worked quietly in the background. He left his mark in substantive ways, from helping determine the image of the society, through its logo, to recently contributing ideas on the society's new endowment. In fact Joe

was willing to help in any way, and on quite a few occasions found himself dutifully applying labels and stamps to member mailings, and expertly proofreading the newsletter on a moment's notice.

Preserving the integrity of his land in Brown County was very important to him. He championed all plants and animals, mainly by letting them go their ways, and quietly observing. He seemed always to delight in small creatures.

We mourn for Joe, who won't see the next season, for Ruth Ann's loss, and for the world's loss of a gentle conservator. Joe was an intelligent steward of the land and will leave that legacy.

In a certain way he'll remain with us, for the flowers and insects we observe will be there in part because Joe nurtured those creatures and allowed them to be. He truly lived the good life.



MEMBERSHIP APPLICATION/RENEWAL

Annual dues pertain to the fiscal year January 1 through 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 \$ _____

NAME _____
 ADDRESS _____
 CITY _____
 COUNTY _____

TELEPHONE _____
 STATE _____ ZIP _____
 NEW RENEWAL

9/97

How did you hear about INPAWS?

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.

Please complete this form and mail, along with your check made payable to:
Indiana Native Plant and Wildflower Society, or INPAWS
 c/o Ruth Ann Ingraham
 6106 Kingsley Drive
 Indianapolis, IN 46220.

I would like to help on the following committee(s):

- | | | |
|---|--|--|
| <input type="checkbox"/> Annual Meeting | <input type="checkbox"/> Hospitality | <input type="checkbox"/> Programs/
FieldTrips |
| <input type="checkbox"/> Auction | <input type="checkbox"/> Membership | <input type="checkbox"/> Publications |
| <input type="checkbox"/> Communications | <input type="checkbox"/> Native Plant
Education | <input type="checkbox"/> Publicity |
| <input type="checkbox"/> Conservation | <input type="checkbox"/> Native Plant
Rescue | <input type="checkbox"/> Special
Projects |
| <input type="checkbox"/> Fund Raising | <input type="checkbox"/> Newsletter | <input type="checkbox"/> Speakers
Bureau |
| <input type="checkbox"/> Governance | | <input type="checkbox"/> Volunteers
Coordinator |
| <input type="checkbox"/> Historian | | |
| <input type="checkbox"/> Other | | |

still to come:

SATURDAY, OCTOBER 4, 7:30 AM

A one-day bus trip to three Indiana Dunes sites, Ivanhoe Dune and Swale, Miller's Woods, and West Beach. Hikes led by Paul Labus with The Nature Conservancy and INPAWS member Barbara Plampin of the Shirley Heinze Environmental Fund. We will stop on the way home at Jasper Pulaski State Fish and Wildlife Area about sunset to see sandhill crane migration, and then have dinner at a West Lafayette restaurant. See page 8.

FRIDAY, DECEMBER 5, 5-10 PM

Annual holiday party at the home of Carolyn and Peter Harstad.

*Notices will be sent in advance.
Call*

*Kevin Tungesvick
program chairman
765-354-2775.*

INPAWS Fourth Annual Meeting

will be held at
DowElanco, Indianapolis

Saturday, November 8, 1997

The meeting will feature the *election of officers for 1998-99*, workshops, displays, dinner, and keynote speaker

Andy Wasowski,

gardening and environmental writer, whose books include *Gardening with Native Plants of the South* and *Requiem for a Lawnmower*.

He will give two slide presentations:

The Landscaping Revolution

The writer humorously traces the history of "the typical American landscape" with its overly pruned shrubs and well-manicured lawns, and explores all the reasons why there has been a significant upsurge in interest and enthusiasm for native plants and natural landscaping.

Building Inside Nature's Envelope

With this new building technique of putting the land first, new homes look as if they had been gently set down into the natural landscape.

Watch for detailed information, including registration form, etc., which will follow soon by mail.



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Indianapolis, IN 46220

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INDIANA

Native Plant and Wildflower Society

NEWS

Volume IV Number 4

Winter 1997

Walking in a Winter Garden

by Gene Bush

Nature rests in near-nudity, cloaked under the heavy gray of gloomy clouds. From December until February, the Indiana landscape becomes almost monochrome. Why would I even think of a garden during winter, much less want to be outside, during months almost devoid of sunlight and warmth?

Lack of light affects my moods. I don't have sunlight deficiency disorder, but the lack of color makes it hard to stay upbeat and cheerful. I'm an active outdoors person, and remaining inside too long

causes cabin fever to creep up on me. Except when the weather's so bad I couldn't, with a clear conscience, force a polar bear outside, I usually take a daily garden walk.

Sometimes I see my garden; other times it's simply a place to be. As I sit on a big rock beneath an old cedar at the garden's center, I clear my mind and feel my connection with the earth. The old thoughts are banished and I feel a strengthening and new serenity and sense of purpose. Entering the garden with observing eyes during the dead of winter is a quiet joy, lifting the gloom of overcast skies. My garden is arranged so that I can find a fresh clean green, color in foliage, bark textures,

and colorful berries, along with blooms, twelve months of the year. There are always little surprises to greet me as I walk the paths in my woodland garden.

Some of my favorite finds are the ferns.

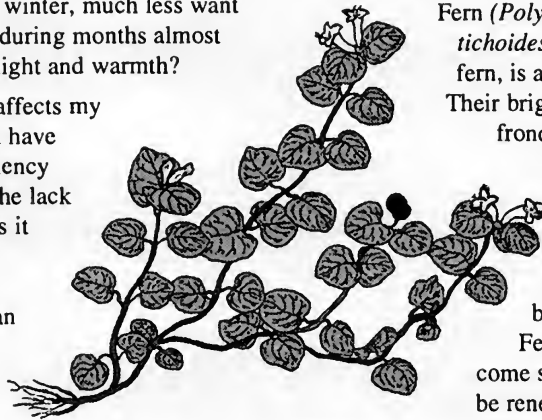
The old standby, Christmas Fern (*Polystichum acrostichoides*), a steadfast fern, is always there. Their bright shiny-green fronds lighten up their corner of the woods, as well as my spirits.

They'll get beaten up by February, but, come spring, will soon be renewed. The Hairy Lipfern (*Cheilanthes lanosa*) is great for a

dry, rocky area. The fronds have a fuzzy appearance because of their soft, rusty-colored hairs, and the plants spread into tight clumps less than twelve inches high. If I haven't shaved in two or three days, I feel a real affinity with this species. I like best its ability to take whatever Mother Nature has to deliver and still stand upright. Grape Fern (*Botrychium obliquum*) and its frilly sister Cutleaf Grape Fern (*B. dissectum*) display single fronds about six inches long, and belong near my path in groups of three to six. One of our more colorful natives, it emerges a pinkish-mahogany, turning to a deeper pink- to red-bronze as winter progresses. These ferns need a symbiotic fungus, so get a large ball of earth with them when you

get your specimens from a friend's garden or a nursery.

Orchids have fascinating foliage in winter. Showiest is the Rattlesnake Plantain (*Goodyera pubescens*). Each downy, bright-green leaf has a white stripe down the midrib, and is overlaid with a distinctive green and white netted pattern. The two-inch leaves form a basal rosette. The Cranefly Orchid (*Tipularia discolor*) sends up a single spotted, warty-appearing leaf which is blackish-green on top and rich purple underneath. The leaves appear in autumn and are long gone before the blooms appear in August. Putty-root (*Aplectrum hyemale*) always makes me think of pleated and pin-striped seer-



Partridgeberry (*Mitchella repens*)

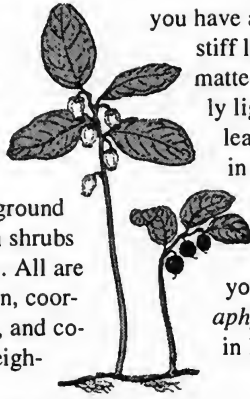
Walking . . . continued on page 2

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sucker suits. The single leaf emerges in fall. It is larger than that of the Cranefly (six to seven inches) but lacks the purple underside and has lighter veins.

There are three great native ground covers which belong beneath shrubs and small trees in my garden. All are attractive regardless of season, coordinate well with other plants, and co-exist peacefully with their neighbors. Partridge-berry (*Mitchella repens*) is a tiny ground-hugging creeper which forms a bright waxy-green mat. Its fuzzy white paired flowers, which appear in June or July, are followed by red berries which last through fall into early winter. It can be used for a background and to cover the bare area left when your Jack-in-the-pulpit and trilliums go dormant in summer. Winter-green (*Gaultheria procumbens*) is a miniature shrub with underground connections. (Nothing sinister—just shallow runners which send up four-inch shrubs at intervals, until



Wintergreen
(*Gaultheria procumbens*)

you have an open ground cover). The stiff little stems bear lustrous matte-green leaves with prominently lighter veins. The leathery leaves take on a bronze-red tone in winter, forming a background for the red berries. Plant where you can pick a leaf or berry to chew on as you pass. Galax (*Galax aphylla*) isn't often found in local woods or nurseries, as collectors nearly caused its extinction. Better hotels, until

recently, used the leaves in holiday greenery and to decorate plates. Once seen, it is easy to understand why it was so prized. The large heart-shaped leaves, with saw-toothed edges, have a glossy sheen over their bright green, and turn a bright coppery color when cold weather comes. Trailing Arbutus (*Epigaea repens*) is a three-inch tall creeping shrub with wide three-inch leaves, which lie on the



Galax
(*Galax aphylla*)

ground. The foliage is heavily veined and textured—a light bright green with a glossy sheen. The quiet beauty of this plant, along with the heavenly scent of its flowers, has almost been its undoing, because many people want a mat of it in their gardens, and take it home, only to have it die slowly, because they don't understand its needs.

When cabin fever strikes you this winter, think about having an all-year garden. In a well-planned garden, there is no "dead of winter." Your place of peace, where you can connect to nature without using the car, will always be there for you.

Travel is not necessarily a matter of physical distance.

Gene Bush, INPAWS member, owns and operates Munchkin Nursery, which specializes in woodland wildflowers. For his January 98 catalog, send \$3 to 323 Woodside Dr. NW, Depauw, IN 47115-9039. For info, e-mail genebush@munchkinnursery.com.

Indiana Native Plant and Wildflower Society Newsletter
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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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Information for the newsletter is supplied by Society members and others interested in sharing information about Indiana native plants. Articles or drawings should be sent to the Editor, Dan Anderson, 7412 Graham Road, Indianapolis, IN 46250, or e-mail wilson@hsonline.net.

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• Photos, page 10, Jonathan Wilson

President's Message

by Carolyn Harstad

Golden leaves fell like rain a few days ago and my *Arborvitae* looked like a giant Christmas tree decorated with gold. Naked sugar maple trees now stand as dark skeletons against the gray wintry sky. As I write, the snow is falling, turning everything into a glistening wonderland and depositing a frosting of white over the *Arborvitae*'s golden decorations. Cars covered with heavy wet snow slog the streets looking like rotund snowmen. The snow hits the bottom of the cars and the sound reminds me of Minnesota where I grew up. It is early for this much snow in Indiana.

I am thankful that the snow didn't arrive last weekend when we held our annual meeting at DowElanco. Last year we had several cancellations because of an unexpected snowfall. Each year we ask if we should change our date and each year the questionnaires come back, "negative." People enjoy the stimulating lectures and displays at a time when nature is winding down. Gardens have been put to bed for the winter, and although the leaves are still tumbling down, the outside temperatures entice us to stay indoors.

Our 1997 annual meeting speakers brought a great diversity of information. Floyd Swink, a man of incredible knowledge and wit, delighted us with a lively presentation of beautiful slides of the flora of the Indiana Dunes.

"Set your house gently into the landscape" advised Andy Wasowski as he discussed building within nature's envelope. We have all witnessed the ravages of the giant bulldozers and wept for the land after builders and developers have finished their work. Wasowski showed methods to protect the precious landscape during construction.

Panel moderator Bill McKnight, Indiana Academy of Science, orchestrated a lively discourse with Floyd Swink, Morton Arboretum; Fran Harty, Illinois Department of Natural Resources; Mike Dana, Purdue University; and the audience. The time was up before we were ready to stop. In order to protect our fragile environ-

ment, we all need to be aware of the dangers of invasive exotics.

This year's annual meeting differed from the past three in that we actually conducted some business! INPAWS mission statement includes the words "preservation, conservation and scientific study" and the assemblage voted to support two projects embodying these concepts—a research project for the eradication of garlic mustard and our financial support to CILTI in the preservation of Burnett Woods.

Another directive in our mission statement, "to educate," was addressed by Education Chair Sue Nord. INPAWS has agreed to become a partner with the U.S. Fish and Wildlife Service, the Indianapolis Zoo, Audubon, Oakhurst Gardens and Purdue University in planning and preparing a prairie curriculum for grade school children. It is exciting to be asked to participate in this important educational endeavor.

In keeping with "preservation, conservation, utilization" from our mission statement, Sue Dillon explained how we can define "plant rescue" in several ways. INPAWS has helped to rescue wildflower areas through diligent removal of invasive exotics as well as by rescuing and relocating wildflowers from sites destined for degradation.

Our awards chair, Rebecca Dolan, presented special awards to Spence Nursery and to Don Miller, Indy Parks, for promoting the use of native plants. Don, with help from INPAWS volunteers, planted over 27,000 native plants in Indianapolis parks last year. We extend our special thanks to Doug Spence and Kevin Tungsveck of Spence Nursery for all their contributions to our auctions and plant sales and for their personal support of our organization.

Rolland Kontak received the Outstanding Contribution Award for 1997 in recognition of his leadership and generous contributions to the annual auction and plant sale and his vision in developing the native plant seed project. Thanks, Rolland—our auctioneer par excellence!

Awards also went to Dan and Sophia Anderson in recognition of their leadership developing the Wildflower Project for 4-H in Marion County and the state of Indiana. This project has blossomed since they assumed responsibility for it.

Anne and Jonathan Wilson have recently designed an incredible web site for INPAWS, so note the internet address when it appears. This will put INPAWS on the map nationally!

It is amazing how our organization has grown and increased in stature since March 1993 when Founders Bill Brink, Ruth Ann and Joe Ingraham, and Carolyn Harstad began the organizational process to form INPAWS. The first meeting, April 1993, took place at the Marion County Extension Service in Indianapolis, and those who joined the four founders at that meeting were honored with "Founding Member" certificates. These included Lee Casebere, Michael Dana, Rebecca Dolan, Peter Harstad, Becky Lomax, Jeffrey Maddox, Bill McKnight, Sue Nord, Chris Turner, Jean Victor, Anne Wilson and Kay Yatskievych. These people laid the foundations for this organization and they built well.

Certificates of appreciation were given to each of the board members. I extend my personal thanks to each of them. It has been a joy to work with them during the past two years.

I have enjoyed being your president. I congratulate the newly elected officers and thank each member of INPAWS for your willingness and desire to uphold the mission of our organization: "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."

By promoting this mission, we will assure the survival of our native plants and of our environment for future generations of Hoosiers.

Report of Fourth Annual Meeting

by Dan Anderson

The fourth annual meeting of the Indiana Native Plant and Wildflower Society was held November 8th, 1997, at DowElanco on Zionsville Road in northwest Marion County. About 150 INPAWS members and guests were present.

The foyer was graced with lovely paintings by Jean Vietor, Cheryl LeBlanc, Dorothy Chase, Pam Newell and Dr. James Hamaker. Stunning photographs by Mavis DeVoe, Darryl Jones, Ruth Ann Ingraham and Martha Allis were also on display.

Exhibitors included Indiana Division of Nature Preserves, Indiana Department of Transportation, Indianapolis Parks Dept., Central Indiana Land Trust, INPAWS 4-H Program, Spence Nursery, and United Plant Savers.

A variety of books was on sale by the Indiana Academy of Science and by Janice Glimn-Lacy. Two new issues or re-issues, *Plants of the Chicago Region* and *The Natural History of Indiana* were attractively priced, and sales appeared brisk. Many attendees took advantage of the presence of authors or contributors to the book to have their copies signed. Rolland Kontak had a wide variety of seed packets for sale at \$1.00 each, with the funds realized going to INPAWS. 400 were sold! (An insert in this newsletter will offer a complete listing of those available, ordering information, and planting tips). INPAWS sweatshirts and bottle holders were also on sale.

President Carolyn Harstad opened the program at 12:45 with a welcome to all members and visitors, then introduced Bill McKnight, who reported on the state flower project. As many of you are aware, our present state flower is the Peony, a Chinese import. About two years ago, Indiana schoolchildren were given the task of electing a candidate for the new state flower from pictures of twenty native flowers. The Fire Pink (*Silene virginica*) was chosen. Since that time, many efforts have been made to interest our legislators in the

project. Due to controversy and ridicule concerning the naming of a state insect, no action was taken by the legislature in 1997. Bill is appealing to all INPAWS members to contact their Indiana senators and representatives, to support the introduction of a bill in 1998, making the fire pink our new state flower.

Tom Potter announced the exhibit of Mavis DeVoe's photographs at Eagle Creek Park on November 14th and 15th, and exhibits of nature art and photography on December 6-7, 13-14, also at Lilly Lodge in the park.

Rolland Kontak, our interlocutor and master of the duck call, introduced our first speaker, Dr. Floyd Swink, co-author of *Plants of the Chicago Region*. Dr. Swink showed a great variety of slides of plants found in the Dunes area. Unfortunately, after intermittent static, the speaker's mike gave up the ghost, but our speakers turned up their voice volumes a few notches, and the audience was generally able to hear.

Dr. Swink was followed by Andy Wasowski from New Mexico, who presented the well-illustrated talk, *Building Within Nature's Envelope*. Andy has written several books advocating the careful setting of a new home on a plot of ground, with minimum disturbance to the existing vegetation. Through the use of slides, he demonstrated that existing vegetation may have a significant financial value, and clear-cutting and replacement by artificial-looking grass and landscaping may detract from the beauty of the property and lower its financial value.

Following a half-hour break, Bill McKnight introduced the panel of Mike Dana, Purdue, Dr. Floyd Swink, Morton Arboretum, and Fran Harty, Illinois Dept. of Natural Resources, who discussed the problem of controlling exotic invasive plants, and fielded questions from the audience.

The annual meeting of INPAWS was called to order by Carolyn Harstad at 4:30 PM. Board members were intro-

duced, reading of the minutes of the preceding meeting was waived, and Jean Vietor's Treasurer's Report was presented and approved. Dr. Rebecca Dolan presented certificates of appreciation to several INPAWS members, etched glass plaques to founders Bill Brink, Carolyn Harstad, and Ruth Ann Ingraham, and other plaques to Kevin Tunesvick and Doug Spence, of Spence Nursery, for their contributions. Joe Ingraham, Ruth Ann's husband, and INPAWS founder, who recently passed on, was honored with a minute of silence. Carolyn was also presented with a framed certificate featuring Jean Vietor's miniature painting of a white trillium.

Ted Harris described the desire of Central Indiana Land Trust Inc. to purchase the 65-acre Burnett Woods property in Hendricks County at a very favorable price, and the need for CILTI to raise \$50,000 by year's end to complete the purchase. The INPAWS Board of Directors favors a financial contribution to help secure the property. Kevin Tunesvick moved INPAWS offer a letter of intent to contribute \$2,500, subject to the successful raising of the remainder of the purchase price. The motion was seconded, and after some discussion, approved. Lee Casebere described a project under consideration which has the goal of finding exotic insects which prey specifically on invasives such as garlic mustard, yet have no appetite for our native plants. Approval of a letter of intent for \$1,000 toward this project was also voted.

Dr. Rebecca Dolan, Nominating Committee Chairperson, read the slate of officers for the coming year, which was as follows:

President—Ruth Ann Ingraham, Vice-President—Kevin Tunesvick, Recording Secretary—Carolyn Bryson, Corresponding Secretary—Roger Hedge, and Treasurer—Jean Vietor. All were introduced except for Roger, who was

Report continued on page 5

HELP NEEDED FOR ENDANGERED SPECIES by Ted Harris

The United States Congress passed the Endangered Species Act (ESA) of 1973 in order to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, and to provide recovery programs for such species. Since that time, through recommendations from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, more than 800 U.S. plant and animal species have been placed on the list. The ESA is one of the strongest tools ever designed for protecting biological diversity. It has become a model for legislation in other nations and has led to creation of endangered species statutes in 43 states, including Indiana. (Indiana's ESA does not include plants).

Authorization for the U.S. Endangered Species Act expired in 1993, and Congress has been wrestling with conflicting views on what to do next. Resolution of the controversy may come fairly soon. There are two bills currently before Congress that would

update the ESA. One of these, the Endangered Species Recovery Act (H.R. 2351), has wide support from environmental groups. It has provisions and funding to protect the interests of private landowners, while at the same time assuring that species recovery plans are implemented. H.R. 2351 resolves many of the objections to the old ESA.

On the other hand, Senator Dirk Kempthorne's (R-ID) bill S. 1180 would significantly weaken endangered species protection. S 1180 makes new listings much more difficult, complicates recovery planning, and extends the "no surprises" assurances that H.R. 2351 gives to private owners, to federal agencies as well. This extension would leave too much discretion in the hands of agencies whose decision processes usually favor resource extraction over species protection.

Why should INPAWS members care about endangered species legislation? Very simply, it's this: Habitat protection under the federal ESA for the Indiana

bat or for the piping plover, for instance, and under Indiana's ESA for the black-crowned night heron, the osprey, the bobcat and the red salamander, among others, **also provides the habitat needed by many native plant species.**

What should you do? Please contact your district's congressional representative by writing him or her at the House of Representatives, Washington D.C. 20515 and ask their support for the Endangered Species Recovery Act, H.R. 2351. Write to Senators Lugar and Coats at United States Senate, Washington D.C. 20510 and tell them that you are not satisfied with weak endangered species legislation, such as S. 1180.

You can also reach the switchboard of any federal senator or representative by calling the congressional switchboard at 202-224-3121.

*On behalf of nature, thanks for acting!
Ted Harris, Conservation Chairman.*

Report continued from page 4

not present. There were no nominations from the floor, and the slate was voted in as presented.

Carolyn then made a few closing remarks, and turned the meeting over to Ruth Ann Ingraham, who thanked Carolyn for all her work during the past years. The meeting was adjourned shortly afterward.

Following a social hour and an excellent dinner served by Aramark Services, Inc. (Dow's culinary staff), the final presentation was made in the auditorium. The speaker was again Andy Wasowski, and his topic *The Landscaping Revolution*. His many slides compared the sterile appearance of unbroken lawns and shaped bushes to the natural beauty of native trees and flowers, and he recommended highly that more residential and commercial

landscapers focus on natural-looking surroundings.

Carolyn thanked all for coming, and the proceedings ended at about 9 PM.

A successful event requires the imagination and hard work of many people. The committee for the INPAWS 1997 annual meeting was as follows:

Co-chairs: Bill Brink and Carolyn Harstad

Committee: Margo Jaqua, Jean Vietor, Anne Wilson

Introductions: Bill McKnight

Reservations: Jean Vietor

Facilitator: Rolland Kontak

Programs: Anne Wilson

Registration: Emily Daniels, Rose Marie Stiffler

Membership: Michael Stiffler

Hospitality: Katrina Vollmer, Helen Merrill, Margaret Matthews, Julie Akard, Lin Clayton, Helen Merrill,

Donna Keller

Publicity: Margo Jaqua

Tote Bag Packet: Carolyn Harstad, Dan Anderson, Margo Jaqua, Mildred Kontak, Anne Wilson, Emily Daniels and Helen Merrill

Banquet Decorations: Sue Nord

Hall Decorations: Kevin Tungesvick, Spence Nursery

Book Sales: Jan Lacy, Mary Johnson, Reta Rutledge, Mary Kraft, Bill McKnight

Logo item sales: Carolyn Bryson, Margaret Matthews

Award Certificates: Jean Vietor, artist, Anne Wilson, Gil Daniels

INPAWS web site: Anne and Jonathan Wilson

Treasurer: Jean Vietor

Special thanks to Katrina and Helen for the delicious refreshments from noon to dusk, and to Blackberry Jam for their uplifting and toe-tapping music.

MULTIFLORAE

SPEAKERS BUREAU REPORT

Our program often slows down at this time of year. We are in the process of putting together a number of slide programs featuring native plants, using slides furnished by our members. If you are interested in presenting a program for INPAWS, the slides will be available for you to use. Some of you may do programs without going through the Speakers Bureau (that saves me work), but please let me know when you speak and to whom, so INPAWS will have a record of your speaking engagement. Dianne Stippler gave a program to Marion County Master Gardeners (south) which was inadvertently omitted from the last newsletter. I did another news piece for Channel 8 (Indianapolis) titled *Native Plants in the Shade Garden*, which was filmed at my home. The station had many calls after the show, mostly asking for sources of native plants. The general public seems to be getting as interested in native plants as we are!

Can you present a program? Please let me know. I have some volunteer speakers I haven't used yet, because there have been no requests for speakers in their areas, but it's great to know that they'll be there when the need arises. Keep warm—it won't be long before the hepatica will be blooming again!

Colletta Kosiba, Speakers Bureau Chairperson, 317-852-5973

Northside Master Gardeners Elect 1998 Officers:

INPAWS continues to be well represented in the Master Gardener program. New officers include President—Bill Wagner, Vice-President—Dan Anderson, Secretary—Joyce Landis, Assistant Secretary—Carole Longhenry, and Treasurer—Rae Ellen DeLance. Dan and Carole are INPAWS members, as is retiring president John Pankhurst. Another 20-30 INPAWS members also are M.G.'s.

FORT HARRISON STATE PARK:

Volunteers are requested to assist the interpretive staff at Fort Harrison State Park in developing landscaping plans around the park interpretive center. We would like to emphasize native plants for educational purposes. If you can help, contact Jeannine Montgomery at 591-0122 for further information.

Christmas Bird Count December 20, 1997,

Meet at the Fort Harrison State Park Interpretive Center by 8 AM and join birders around the world in surveying local birds for population trends. We will bird all morning, and meet back at the center for chili and hot chocolate. Call the interpretive center at 591-0122 for further information.

Eagle Day !!! February 14, 1998

Join DNR naturalists from Fort Harrison in hosting the naturalists and bald eagle from Patoka Lake. Explore the natural history and future of this magnificent bird, our nation's symbol.

THE FOLLOWING ITEMS WITH THE INPAWS LOGO ARE AVAILABLE FOR SALE:

Sweatshirts:

light gray with forest green printing
Sizes M, L, XL \$20.00
Size XXL \$22.00

Insulated Beverage Bags: Black with white printing. Straps allow attaching to your belt, fastening around your waist, or hanging from your shoulder. Can accommodate soft drink cans and water bottles, or your cordless or cellular telephone. \$7.50

Large Tote Bags: Natural (cream) with forest green printing. Totes are very roomy and straps are long enough to place over your shoulder. \$7.50

To order and to arrange shipping or pick up, contact Carolyn Bryson by telephone (317-873-4205), FAX (317-873-6630), or e-mail (quinnell@iquest.net). If shipping is needed, shipping costs will be added to the item price.

We are sorry to announce that Henry Graham, Juanita's husband of almost fifty-five years, passed away on Saturday, November 15th, after prolonged illness. Henry came to love Juanita's wildflowers and painted many pictures of them. We are sure that Juanita would welcome your calls and letters of support.

NATURE WALKS AT BUTLER UNIVERSITY

Dr. Rebecca Dolan, Director of the Friesner Herbarium at Butler University, will be leading tours on the Butler campus on the following Tuesdays at noon:

January 13

Winter birds of the campus

February 10

Tour of the Butler greenhouse

March 10

Early signs of spring in the Butler woods

Meet behind Gallahue Hall near the greenhouse. Tours will last about 40 minutes. There is no charge and all are welcome. Please come prepared for mud!

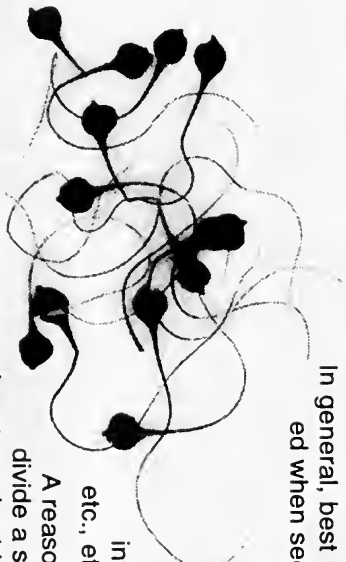
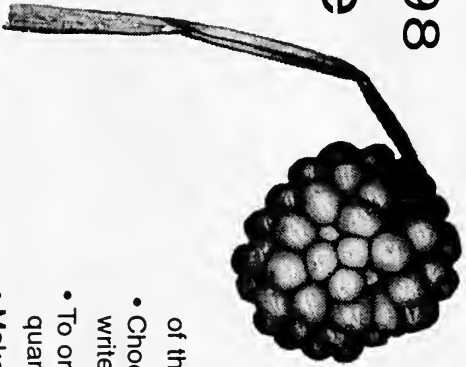
If you would like to receive a monthly reminder of the walk, or wish to be dropped from the reminder list, please call Dr. Dolan at 317-940-9413, or email rdolan@butler.edu.

seedseedseedseeds

Here is a good opportunity to obtain locally grown native plant seeds at a bargain price! See insert in this newsletter for a catalogue of seeds collected and processed by INPAWS members. For another copy of the seed list write to Rolland Kontak, 2403 S. Emerson Ave, Indianapolis, IN 46203, or email wilson@hsonline.net. All proceeds will benefit INPAWS.

1997/1998

Native Plant Seed Sale



HOW TO ORDER

- All seeds are \$1.00 per pack.
- Add only \$1.00 for shipping regardless of the size of the order.
- Circle the item number of the items you want.
- Choose at least three alternates (per order) and write their item numbers in the area provided.
- To order multiple packs of the same species indicate quantity in space below item number.
- Make all checks payable to "INPAWS."
- Address orders to:

Rolland Kontak
2403 S. Emerson Avenue
Indianapolis, IN 46203
email: rekontak@juno.com

TOTAL PACKS _____ @ \$1 = \$ _____
 PLUS \$1.00 SHIPPING \$ _____
 TOTAL ENCLOSED \$ _____

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

TELEPHONE _____

EMAIL _____

PROPAGATION HINTS

In general, best results can be expected when seeds are sown as soon as received, and subjected to outdoor natural influences. However we must guard against rodent intrusions, washouts, etc., etc., etc.

A reasonable regimen is to divide a seed supply into several parts and subject each part to a different influence. These can be varied potting soils, time of planting, moisture control, temperature variation, light or darkness exposure, covering or surface sowing, chemicals, presoaking, (especially legumes). Please report successful methods.

Much specific information is available from a host of authors. A short list:

Seed Germination Theory and Practice by Norman C. Deno, published privately by NCD.

Address inquiries to:
139 Lenor Drive, State College, PA 16801

Growing and Propagating Wild Flowers by Harry R. Phillips
ISBN 0-8078-4131-5 (pbk)

The University of North Carolina Press
The Wildflower Gardener's Guide by Henry W. Art
ISBN 0-88266-668-1 (pbk)
Garden Way Publishing Co.

Thanks to the following seed donors:
Don Bickel, Gene Bush (Munchkin Nursery), Becky Dolan, Ruth Ann Ingraham, Virgil R. Knapp, Rolland Kontak, Jean Roberts, Anne Wilsson, Dianna Zamani, and anonymous.

- No germination tests have been made.
- The quantity of seeds per pack has been determined by availability, seed size, or rarity/desirability of the species.
- Seed volume is adequate for home culture or experimentation. Quantities are not large enough for large restoration projects.
- Fluff and chaff are to be expected in some species.
- No shipments will be made outside the USA.
- Allow up to six weeks for receipt of order, although one week should be the norm.
- Your order form will be returned with your seeds.
- No cash refunds will be given. Alternates will be used for refund.
- Please report results, disappointments and satisfactions.

001	<i>Actaea pachypoda</i> White Baneberry	025	<i>Cimicifuga racemosa</i> Black Cohosh	049	<i>Hypoxis hirsuta</i> Yellow Star Grass	073	<i>Rudbeckia subtomentosa</i> Sweet Black-Eyed Susan
002	<i>Andropogon gerardii</i> Big Blue Stem	026	<i>Cinna latifolia</i> Wood Reed Grass	050	<i>Hystrix patula</i> Bottlebrush Grass	074	<i>Sambucus canadensis</i> Elderberry
003	<i>Andropogon scoparius</i> Little Blue Stem	027	<i>Clematis viorna</i> Leather Flower	051	<i>Iliamna remota</i> Kankakee Mallow	075	<i>Scutellaria incana</i> Downy Skullcap
004	<i>Aquilegia canadensis</i> Wild Columbine	028	<i>Coreopsis tripteris</i> Tall coreopsis	052	<i>Lactuca biennis</i> Tall Blue Lettuce	076	<i>Scutellaria ovata</i> Heart-leaved Skullcap
005	<i>Arisaema dracontium</i> Green Dragon	029	<i>Cornus florida</i> Flowering Dogwood	053	<i>Lespedeza spp.</i> Bush Clover	077	<i>Silphium integrifolium</i> Rosin Weed
006	<i>Arisaema triphyllum</i> Jack-in-the-Pulpit	030	<i>Corydalis sempervirens</i> Pink Corydalis	054	<i>Liatis spicata</i> Dense Blazing Star	078	<i>Silphium laciniatum</i> Compass Plant
007	<i>Aronia prunifolia</i> Chokecherry	031	<i>Delphinium tricomme</i> Dwarf Larkspur	055	<i>Liatis squarrosa</i> Blazing Star	079	<i>Silphium terebinthinaceum</i> Prairie Dock
008	<i>Arunceus dioicus</i> Goat's Beard	032	<i>Delphinium tricomme alba</i> Dwarf Larkspur	056	<i>Lindera benzoin</i> Spicebush	080	<i>Smilacina spp.</i> False Solomon's Seal
009	<i>Asarum canadense</i> Wild Ginger	033	<i>Desmanthus illinoensis</i> Illinois Bundle Flower	057	<i>Lobelia cardinalis</i> Cardinal Flower	081	<i>Solidago riddellii</i> Riddell's Goldenrod
010	<i>Asclepias incarnata</i> Swamp Milkweed	034	<i>Dodecatheon meadia</i> Shooting Star	058	<i>Lobelia siphilitica</i> Great Blue Lobelia	082	<i>Solidago rigida</i> Stiff Goldenrod
011	<i>Asclepias syriacus</i> Common Milkweed	035	<i>Echinacea purpurea</i> Purple Coneflower	059	<i>Ludwigia alternifolia</i> Seedbox	083	<i>Sorghastrum nutans</i> Indian grass
012	<i>Asclepias tuberosa</i> Butterfly Milkweed	036	<i>Elymus canadensis</i> Canada Wild Rye	060	<i>Mitella diphylla</i> Mitrewort	084	<i>Spigelia marilandica</i> Indian Pink
013	<i>Asclepias verticillata</i> Whorled Milkweed	037	<i>Eryngium yuccifolium</i> Rattlesnake Master	061	<i>Monarda clinopodia</i> Bergamot, Bee Balm	085	<i>Stipa spartea</i> Porcupine Grass
014	<i>Aster purpureus</i> Bristly Aster	038	<i>Euonymus atropurpureus</i> Wahoo, Burning Bush	062	<i>Monarda fistulosa</i> Wild Bergamot	086	<i>Stylophorum diphyllum</i> Wood Poppy
015	<i>Baptisia australis</i> Blue Wild Indigo	039	<i>Eupatorium rugosum</i> White Snakeroot	063	<i>Panicum virgatum</i> Switch Grass	087	<i>Symphoricarpos albus</i> Snowberry
016	<i>Baptisia leucantha</i> White Wild Indigo	040	<i>Eupatorium serotinum</i> Late Boneset	064	<i>Penstemon digitalis</i> Foxglove Beardtongue	088	<i>Trillium flexipes</i> Declined Trillium
017	<i>Brachyelytrum erectum</i> Long-awned Wood Grass	041	<i>Gentiana andrewsii</i> Bottle or Closed Gentian	065	<i>Petalostemum purpureum</i> Purple Prairie Clover	089	<i>Trillium spp.</i> Various White Trillium
018	<i>Camassia scilloides</i> Wild Hyacinth	042	<i>Geranium maculatum alba</i> White Wild Geranium	066	<i>Physostegia virginiana</i> Obedient plant	090	<i>Vernonia spp.</i> Ironweed (various)
019	<i>Campanula americana</i> Tall Bellflower	043	<i>Gillenia trifoliata</i> Bowman's Root	067	<i>Polemonium reptans</i> Jacob's Ladder	091	<i>Viburnum acerifolium</i> Maple Leaf Viburnum
020	<i>Carex stipata</i> Common Fox Sedge	044	<i>Helenium autumnale</i> Sneezeweed	068	<i>Polygonatum spp.</i> Solomon's Seal (Various)	092	<i>Yucca smalliana (filamentosa)</i> Adam's Needle, Spanish Bayonet
021	<i>Carpinus caroliniana</i> Hornbeam	045	<i>Helianthus divaricatus</i> Woodland Sunflower	069	<i>Potentilla arguta</i> Prairie Cinquefoil	PLEASE LIST ALTERNATE SELECTIONS HERE	
022	<i>Cassia hebecarpa</i> Wild Senna	046	<i>Helioopsis helianthoides</i> Oxeye, False Sunflower	070	<i>Pycnanthemum virginianum</i> Common Mountain Mint		
023	<i>Celastrus scandens</i> Climbing Bittersweet	047	<i>Hepatica acutiloba</i> Sharp-Lobed Hepatica	071	<i>Ratibida pinnata</i> Gray-Headed Coneflower		
024	<i>Chasmanthium latifolium</i> Northern Sea Oats	048	<i>Hibiscus palustris</i> Swamp Rose Mallow	072	<i>Robinia pseudoacacia</i> Black Locust		

Letter to the Editor:

My husband Joe and I were two of four co-founders of the Indiana Native Plant and Wildflower Society. It was impossible to imagine what would evolve statewide when that proverbial ball started rolling in the spring of 1993 or what an impact the organization and its teachings would have on our lives.

Through INPAWS we learned how to convert a mowed lawn to a meadow on the slope leading to our little Brown County cabin and reveled at the positive impact that conversion had on the biodiversity there.

On August 19 Joe died from cancer. Thank you, my native plant and wildflower support group, for your touching remarks about Joe, your hugs, your notes and the solace you give me. And special appreciation to Anne Wilson from me and Joe's family for the tribute she wrote and included in the fall edition of the INPAWS newsletter.

Sincerely,
Ruth Ann Ingraham
Membership Chairperson.

Prairie Nursery, in Westfield, Wisconsin, has published its first newsletter, "Prairie Concepts," featuring innovative landscaping ideas. If anyone is interested in being on the mailing list, contact Prairie Nursery Inc., PO Box 306, Westfield, WI, 53964, phone (608)296-3679 or fax (608)296-2741.

NABA-CENTRAL INDIANA BUTTERFLY CLUB
Please join us for a *brainstorming* meeting at the Nora Library on January 13, 1998, 7-8:30 PM. The first issue of *Butterfly News*, our newsletter for members of the Central Indiana Butterfly Club, will be delayed until February 1998. Please submit any short articles, etc. for review by our January meeting. Non-members may subscribe to *Butterfly News* for a cost of \$5.00 per calendar year. For details call Don Fisher at 317-475-9770.

Welcome to all of you who recently joined INPAWS for the first time. We hope you will be inspired by your involvement with us. I now introduce you to Michael Stiffler, the new Membership Chair, to whom I pass the INPAWS data base. Please take a moment to renew your membership for 1998. See page 11 for form, and send to Michael, or call him for more information at 317-422-8914 - Ruth Ann Ingraham.

Bloomington Russell and Bonnie Boulding	Greencastle Dawn Nichols	Rich and Dee Peine Don Slaughter
Bryant Kenneth Brunswick	Hanover Paul Carmony	Bill and Joan Warrick
Carmel Timothy Hanrahan	Indianapolis Leo and Mary Boyd	Jasper Dave Elliott
Connersville Mike and Beth Bell Family	Carla Chase	Lafayette Clifford Cox
Denver Don and Jean Musselman	Barbara Cohen	Liberty Shell and Clyde Bowne
Ft Wayne Cynthia Porter	Rob and Anita Day	Merrillville Allan Nalbor
	Joyce Disborough	Upland Yvonne Ball
	Linda Farrell	Walkerton Dan Zay
	Lee Gery	
	Linda Haas	
	Kimberly Krull	
	Jeannine Montgomery	

MORE RARE PLANTS FOUND IN INDIANA

The Indiana Division of Nature Preserves has been conducting an inventory of rare plant species in various areas of the state. In the latest issue of *Natural Area News* a large number of significant finds was reported. Among those working on the survey was INPAWS member Ellen Jacquart.

Mike Homoya found, at Pigeon River, **Pale Vetchling Peavine** (*Lathyrus ochroleucus*), **Purple Oat Grass** (*Schizachne purpurascens*) and several other threatened species. **Purple Rock Cress** (*Arabis divaricarpa*) was found in Starke County. In Lake County, **Canada Buffalo-berry** (*Shepherdia canadensis*), thought to be extirpated in Indiana, was found. Specimens of the fern **Wallrue Spleenwort** (*Asplenium ruta-muraria*), **Allegheny Stonecrop** (*Sedum telephioides*), **Large-Leaved Phlox** (*Phlox amplifolia*), and several rare grasses were observed. Specimens of **Perfoliate Bellwort** (*Uvularia perfoliata*) were located in Floyd County.

With all their combined efforts, botanists working for DNR and educational institutions have explored only a small portion of our land area for rare and unusual species. There may be many more surprises to be found in our state, some possibly in our own yards, woods or fields. INPAWS members can be a powerful help to state botanists by keeping their eyes open for any plant that appears unfamiliar or different, getting it identified, and reporting its presence to DNR if it has not been previously reported in Indiana, or if it is rare or threatened

Rooted in Mystery . . . Part II

Growth Requirements of the *Pink Lady's-Slipper*

by Bill Cullina

When you hear the phrase "old-growth forest," do you picture towering emerald cathedrals soaring hundreds of feet above a dimly-lit forest floor? This type of forest is found in the Pacific Northwest, where winters are mild and wet and summers are dry and calm. Fires sweep through occasionally during the dry months, and trees can live 1000 years or more. Here in the Northeast, moisture is more evenly distributed. Winters are too cold to allow much growth, but summers are warm and wet. Fire is much less common, but hurricanes, ice storms, and tornadoes cause massive canopy disturbance every century or so, and most trees live only 100-200 years.

For plants like the Pink Lady's-slipper (*Cypripedium acaule*), such a pattern provides many opportunities.

Cypripedium acaule is a forest plant, with large, flat, deep green leaves that are perfect for collecting the dim light that penetrates the canopy. Though this lownslung growth habit makes it a poor competitor against dense shrubs, grasses and forbs, that is not a problem in the uplands where it typically grows. Here shade and dry soils limit undergrowth to sparse shrubs such as blueberries and huckleberries.

The amount of light the plant can collect and convert into energy determines how fast it will reach maturity and

bloom. If the tree canopy is light and broken, the lady's-slipper will accumulate reserves that it can squander on flowering and seed production. If the



Cypripedium acaule

canopy is more dense, the plant may accumulate only enough energy to maintain itself through the dormant months. If the canopy becomes too dense, the plants will lose ground from

year to year and eventually die. In this way, lady's-slippers are dependent on occasional disturbances, like the severe ice storm, which breaks up the canopy, but doesn't destroy it. This is important, as the plants can't compete with sun-loving grasses and shrubs; too much disturbance, such as clearing for agriculture or construction, will eliminate them. After a disturbance, lady's-slipper reproductive rates climb, and the next generation can become well enough established to persist for the next 50-100 year cycle.

Pink Lady's-slippers can live more than 100 years, but may flower only 10-20 times during that period, and set seed a mere 2-5 times—an extremely low reproductive rate. It's as if these plants mark the passage of time in decades rather than in years, waiting for the right combination of factors to allow reproduction to proceed.

Many people have remarked that lady's-slippers were once common on their land but, over the years, have dwindled or ceased to bloom. This is probably because the forest has become older and shadier. If the canopy is thinned, the plants often make a speedy recovery.

BEES BUMBLE IN

Research by Douglas E. Gill of the University of Maryland has further clar-

ified *Cypripedium acaule*'s requirement for occasional canopy disturbance. The strange shape of the flower has evolved as a way of assuring cross-pollination, thus preventing inbreeding. For reasons that are unclear, queen bumblebees who have just emerged from their winter dens are attracted to the pouch of the flower, and crawl in through the opening. The flared opening is designed like that of a lobster trap—easy to crawl into, but hard to escape from. In order to leave, the bee must crawl up the back of the pouch and squeeze first by the sticky female stigma and then under one of two globs of pollen (pollenia), which sticks to its back, just in front of the wings. If the bee then visits another flower, it will brush this pollen onto that flower's sticky stigma before picking up a new glob of pollen. This elegant system has one major flaw, however: there is no nectar reward to lure the bee to new flowers, and the placement of the pollen on its back prevents the bee from harvesting it. After as few as one or two visits, the bee learns to avoid the deception, and looks elsewhere for nectar. Thus the orchids must have a large population of naive bumblebees to ensure good pollination rates (most other nectar-feeding insects, including honeybees, are too small to fit through the opening tightly enough to pick up the pollen). This is most likely to happen in the years following a canopy disturbance, when the increased sunlight both attracts bees and allows nectar-rich companions, such as Lowbush Blueberry, to flower heavily. Fortunately, the same conditions trigger the heaviest orchid flowering, and in those years pollination rates can soar to 30 percent.

The resulting seed will also find conditions optimal for germination and rapid growth. Gill has found that, in his study populations, mature plants may lie dormant for many years until triggered (possibly by the warmth of sun reaching the ground) to emerge, bloom and set seed.

A SUBTLE SYMBIOSIS

Orchid seeds cannot germinate unless they become infected by certain soil fungi, which the seedlings actually digest to obtain the sugars, hormones and nutrients necessary for growth. Orchid mycorrhizae, as these symbiotic fungi are called, are grouped mostly into the genus *Rhizoctonia*. It does not appear, as was once thought, that every species of orchid has evolved with a specific fungus, but rather that an orchid can rely on at least a couple of different fungi interchangeably. In fact, research has shown that a species of fungus isolated from a tree-dwelling tropical orchid is capable of successful symbiosis with the completely unrelated temperate orchid *Goodyera repens*, our Rattlesnake Plantain. Some species of fungus have worldwide distribution, while others are limited to local areas. What I find very interesting is that at least some species of *Rhizoctonia* are pathogenic, or disease-causing, when they infect non-orchidaceous species. It may be that in the distant past these fungi were parasites on orchid seeds, but eventually the seeds developed ways to resist and to control this parasitism to their own benefit. In effect, the seeds have reversed roles, now becoming parasites of the fungus. It is not clear what benefit the fungi get from this relationship, although they may receive certain enzymes or nutrients from the orchid. *Rhizoctonia* species are part of the soil flora, and most, if not all, are able to grow rapidly as saprophytes (living by breaking down non-living organic matter, such as rotting wood). Thus you should normally find at least a few species in any soil containing decomposing organic matter—whether or not orchids are present. Some species seem to be generalists, capable of growing in a variety of soils and organic materials, while others are specific to certain habitats.

Lady's-slippers in particular have been associated with at least six species of

Rhizoctonia. These fungi are present in soils where the orchids grow, and are thus available to infect and aid in the germination of seedlings. *Cypripedium* seedlings have also been germinated in a lab, using one of the most common and widespread species of orchid fungi, but it is not clear if this particular species aids germination in the wild. Thus, even though orchids may not be growing on a particular site, suitable fungi are probably already present to allow germination if seeds are introduced.

Mature plants (those at or near flowering size) of some, if not of all, of the species do not seem to be dependent on mycorrhizae to any great degree. In fact, even small propagated seedlings that we have received in sterile bags (i.e., growing without mycorrhizae) grow on very well in a sterile hydroponic mix. It is clear that once these seedlings have passed out of the critical germination stage, they can grow well without mycorrhizae under cultivated conditions.

BETTER LEFT WILD

I hope this brief article has shed some light on the complex and highly-developed life cycle of the Pink Lady's-slipper and the specialized conditions which allow them to thrive. Some wild things are better left wild, and these striking natives reward our respect with beauty and an intriguing touch of mystery that is a rarity in itself. Please enjoy them growing, as they are so well-adapted to do, in the wild places of New England, where others can enjoy them as well.

Bill Cullina is Propagator for the New England Wild Flower Society.

We appreciate the kindness of the Society and the author in allowing us to reprint the article in its entirety. For references, please consult the "New England Wild Flower", Fall/Winter 1997, or contact INPAWS News Editor Dan Anderson.

Showers Fail to Dampen Dunes Trip

by Kevin Tungesvick

The October 4th trip to the Indiana Dunes was an exciting experience for all of the participants. Although thundershowers threatened at the first two sites, rainfall was light and did not interrupt the ambitious itinerary. Visits to Ivanhoe Dune and Swale, Miller's Woods, and West Beach highlighted the floral diversity for which this area is so well known.



The first stop was at Ivanhoe Dune and Swale, where Paul Labus with the Nature Conservancy's Southern Lake Michigan Conservation Initiative explained how the site had been subdivided but never developed. The Nature Conservancy was able to purchase the property on a lot by lot basis, preserving its outstanding diversity. This globally rare Inland Dune and Swale Community contains Black Oak savannas on the dunes and wetlands in the swales. The damp sandy areas at the edges of the swales harbored thousands of Fringed Gentians (*Gentiana crinita*) in flower. The extremely fragrant Great Plains Lady's Tresses (*Spiranthes magnicamporum*) were also blooming across the site. Several beautiful asters, including Sky Blue Aster (*Aster azureus*) and Rice Button Aster (*Aster dumosus*) added late season shades of lavender. Finally, Winged Sumac (*Rhus copallina*), Sassafras (*Sassafras albidum*), and Black Gum (*Nyssa sylvatica*) sported spectacular fall foliage.

We continued to our first site in the Indiana Dunes National Lakeshore, Miller's Woods. There we were joined by three members of the Shirley Heinze Environmental Fund, a land trust dedi-

cated to preserving natural areas in northwest Indiana. Barbara Plampin, an experienced botanist from this organization, interpreted our two stops in the National Lakeshore. Many thanks go to Barbara, Myrna Newgent, and Eva Hopkins for lending their assistance and expertise.

The Miller's Woods area contains higher dunes interspersed with interdunal ponds. The dunes are covered with some of the finest remaining Black Oak savannas in the Midwest. The state rare Bush Honeysuckle (*Diervilla lonicera*) thrives in this savanna. Some interesting plants in flower during the trip included Showy and Grey Goldenrod (*Solidago speciosa* and *nemoralis*) and Flax-Leaved Aster (*Aster linariifolius*). Moister areas contained Rose Gentian (*Sabatia angularis*) and Bottle Gentian (*Gentiana andrewsii*). A boardwalk leads across an interdunal pond containing a diverse emergent plant community. Among the emergent plants present were Pickerel Weed (*Pontederia cordata*), Burreeds (*Sparganium eurycarpum* and *chlorocarpum*) and Hard-Stemmed Bulrush (*Scirpus acutus*).



Our second site in the National Lakeshore, West Beach, is a scenic array of habitats containing many rare and unusual plants. We hiked the dune succession trail, traversing various plant communities that occupy different stages of dune succession. On the fore-dunes next to the beach, we saw the dune stabilizing Marram Grass (*Ammophila breviligulata*). Also present in this community was Sand Reed

(*Calamovilfa longifolia* var. *magna*) and Cottonwood (*Populus deltoides*). As we traversed inland, we encountered several woody shrubs characteristic of the dunes, including Beach Sumac (*Rhus aromatica* var. *arenaria*), Sandcherry (*Prunus pumila*), and Hoptree (*Ptelea trifoliata* var. *mollis*). An area of even more stable sand contained Jack Pine (*Pinus banksiana*), Arctic Bearberry (*Arctostaphylos uva-ursi*), and Prickly Pear (*Opuntia humifusa*). We then descended into areas where the wind had excavated the sand



down to the water table, know as pannes. This habitat contains many characteristic plants, including Horned Bladderwort (*Utricularia cornuta*), Kalm's Lobelia, (*Lobelia kalmii*), Kalm's St. John's Wort (*Hypericum kalmianum*) and Baltic Rush (*Juncus balticus*). After traversing a blowout, the group entered a dune woodland with a variety of familiar woody plants, including Basswood (*Tilia americana*), Sassafras, and Witch Hazel (*Hamamelis virginiana*).

Our final outdoor stop took us to Jasper-Pulaski State Fish and Wildlife Area to view migrating Sandhill Cranes returning to their evening gathering site. Although we were early in the season for peak numbers, thousands of cranes were present. As the sun set, we headed south where we enjoyed dinner in Lafayette at Ryan's Steakhouse, a satisfying end to a terrific day.

Kevin Tungesvick will be program chairman for 1998/1999 and would welcome your comments and suggestions for more exciting activities.

MESSAGE FROM INCOMING PRESIDENT RUTH ANN INGRAHAM

As your newly elected president, I need to know what you want Indiana's native plant society to focus on; what would make this organization more valuable to you, more effective, more vital. I raised this question at the 1997 annual meeting last month. People answered that INPAWS is great and that we should keep doing what we're doing. But, to paraphrase another, we need to remind ourselves often of our clearly stated mission and act accordingly.

I am retiring as your membership chair. In that position, and previously as corresponding secretary, I entered membership information into the computer from the beginning of INPAWS four years ago. I've had my finger on the pulse of INPAWS. Remarkably dozens of you signed up to help the Plant Rescue Committee.

Obviously rescuing plants is a vital concern and inspired many of you to join INPAWS. How can we accomplish this? Excellent question. Rescuing plants, as we've learned, can be pursued in different ways:

1. You dig up and move plants from land targeted for destruction to safe, viable sites;
2. You pull up or dig out or apply chemicals to aggressive, invasive exotic plants that threaten the viability of indigenous plants, a task dozens of us have been involved with;
3. You support research into biological control of aggressive invasives. (Note: We voted to do this at the recent annual meeting.)

The first of these three, transferring plants to a safe habitat, is the most complex and, for us, the most elusive. But we believe we are closing in on the process. Sue Dillon, Plant Rescue chair, will hold a second certification/training session early in the spring of 1998; this will provide a forum for defining solutions to the problem.

A second major interest, I've noticed, is how to use native plants in our own yards. I am arranging to have a demonstration garden planted in my front yard using native vegetation, primarily.

There must be many private and public gardens featuring natives. Let's construct a list of members who have landscaped with native plants and who would welcome visitors on an informal basis. We could do the same for prairie and meadow plantings as well as wetlands and learn from one another.

And again INPAWS will support a demonstration garden at Orchard In Bloom, Indianapolis, in May, designed and executed by Hilary Cox and co-chair, Mike Rian.

Finally, we receive a steady flow of requests for lists of Indiana's native plants and sources. I will ask the Executive Board to authorize the publication within the coming year of a pamphlet listing Indiana's native plants, practical for home landscaping, and their sources.

I genuinely look forward to 1998 and hope to meet many more of you by holding regional meetings. You will read and hear more about this at a future time.



INDIANA NATIVE Plant and Wildflower Society

MEMBERSHIP APPLICATION/RENEWAL

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

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NEW RENEWAL

12/97

How did you hear about INPAWS?

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.

Please complete this form and mail, along with your check made payable to:

Indiana Native Plant and Wildflower Society, or INPAWS
 c/o Michael Stiffler
 2606 S 600 W
 Morgantown, IN 46160.

I would like to help on the following committee(s):

- | | | |
|---|--|--|
| <input type="checkbox"/> Annual Meeting | <input type="checkbox"/> Hospitality | <input type="checkbox"/> Programs/
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| <input type="checkbox"/> Auction | <input type="checkbox"/> Membership | <input type="checkbox"/> Publications |
| <input type="checkbox"/> Communications | <input type="checkbox"/> Native Plant
Education | <input type="checkbox"/> Publicity |
| <input type="checkbox"/> Conservation | <input type="checkbox"/> Native Plant
Rescue | <input type="checkbox"/> Special
Projects |
| <input type="checkbox"/> Fund Raising | <input type="checkbox"/> Newsletter | <input type="checkbox"/> Speakers
Bureau |
| <input type="checkbox"/> Governance | | <input type="checkbox"/> Volunteers
Coordinator |
| <input type="checkbox"/> Historian | | |
| <input type="checkbox"/> Other | | |

From the Editors:

We are continuously striving to make *INPAWS News* the most informative publication we possibly can—one that is attractive, readable, and packed with information which will be useful in the cultivation, study and appreciation of native plants.

Many of you may be reluctant to share your experiences with native plants because you are not trained botanists, and feel somewhat self-conscious about writing an article for a journal that is read by professionals.

Please rest assured that Anne and I are not professionals and we believe that most INPAWS members aren't, either (at least, in the field of botany). We're interested in growing and appreciating native plants, and helping awaken interest in our natural heritage among our students, garden clubs, and the general public.

So don't be shy! Please share with fellow INPAWS members your experiences with growing native plants, trips you have taken to study them, and any information you have regarding programs in your area or places to visit that would be of interest to other INPAWS members.

Letters to the editors are welcome, too. If you have a problem in plant identification, or a question, please write us or contact us by e-mail. We may not have the answer, but we'll find out for you, and you won't have to wait for the next issue of *INPAWS News* to come out!

We're keeping up with changing technology, too! If you have a computer but no e-mail, you can record your article on a floppy, if it is MS Word or another commonly-used word program, and send the floppy to Dan Anderson. (It will be returned!) If you have e-mail,

you can send the message that way, but it should be pasted into the body of the message rather than submitted as an attachment. If the article is typed on a typewriter, Gil Daniels has volunteered to scan the article and put it on disk, eliminating retyping. Also you may submit handwritten copy or convey the information over the phone.

Best wishes for the coming year, and we hope to hear from you.

Your editors, Dan Anderson, danand@netdirect.net, and Anne Wilson, wilson@hsonline.net.



INDIANA NATIVE
Plant and Wildflower Society

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