

INDIANA

Native Plant and Wildflower Society

NEWS

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WHAT IS A NATIVE PLANT?



by Janice Glimn-Lacy

First of all, which growing things out there are plants? Members of the *Plant Kingdom* obtain nourishment mainly by photosynthesis. Most of the plants familiar to us are believed to be descended from green algae (Chlorophyta). These include stoneworts (Charophyta), liverworts, honeworts and mosses (Bryophyta), horsetails and scouring rushes (Equisetophyta), ferns (Polypodiophyta), and plants bearing seeds - gymnosperms and angiosperms. Lesser members of the Plant Kingdom include red algae (Rhodophyta) and brown algae (Phaeophyta).

Gymnosperms include cycads (Cycadophyta), *Ginkgo biloba* (the only living member of Ginkgophyta), conifers (Pinophyta) and Gnetes (Gneophyta). Angiosperms include the flowering plants (Magnoliophyta).

The non-plants which aren't animals or animal-like have been classified into three kingdoms. *Monera* includes bacteria, viruses, and blue green Cyanobacteria, which were formerly classified as algae. *Mycetae* is made up of slime molds (Myxomycota), water molds, downy mildews and white rusts (Oomycota), and true fungi.

Protista consists of dinoflagellates (Pyrrophyta), diatoms (Chrysophyta), and golden and yellow-green algae, the latter two of which are no longer included in the Plant Kingdom.

Now, then, which of the plants are native plants? Webster's dictionary definition of a native plant is "an indigenous inhabitant of a region," indigenous meaning produced *naturally* in a country or region, not exotic. Every plant is native somewhere in the world, e.g., corn and cotton are native to North America. When a native plant is introduced to another area by human or other means, it is called alien, foreign, or exotic in that area.

Naturalized is not the same as *native*. A naturalized plant is any plant established and reproducing in an area, whether or not it originated somewhere else. An example found in a bulb catalog suggests *naturalizing* daffodils in a field. Exotic plants, such as purple loosestrife, may escape from a garden and become *naturalized* in nearby fields or wet areas.

A *wild* plant is living or growing in its original, natural state, and is not domesticated or cultivated. Examples are roadside plants such as dandelions, Queen-Anne's lace, and chicory, all non-natives. Along railroad rights-of-way in northwestern Indiana, the *wild* flowers are likely to be native prairie plants. In a given area, the wildflowers may be mostly native, mostly non-native, or a mixture of the two. The term *wildflower* gives no indication of country of origin.

How can you tell if a plant is native? First, you must identify the plant by scientific name. Your flower handbook will usually list if a species is alien or non-native. By reading books

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on native plants and their habitats, you can learn which plants are native. There are courses devoted to native plants, and INPAWS has field trips, speakers, slide talks, and auctions of native plants.

Although there was *tall-grass prairie* in the northwestern part of Indiana, most of the rest of the state was *eastern deciduous forest*, specifically beech-maple forest. The only remnants of the original forest in Marion County are some of the older beeches (*Fagus grandiflora*) in such places as the Indianapolis Museum of Art, Woodruff Place, in backyards of older houses along North Meridian Street. Plants native to this type of forest also include redbud, dogwood, many types of ferns, and the spring bloomers with which most of us are familiar.

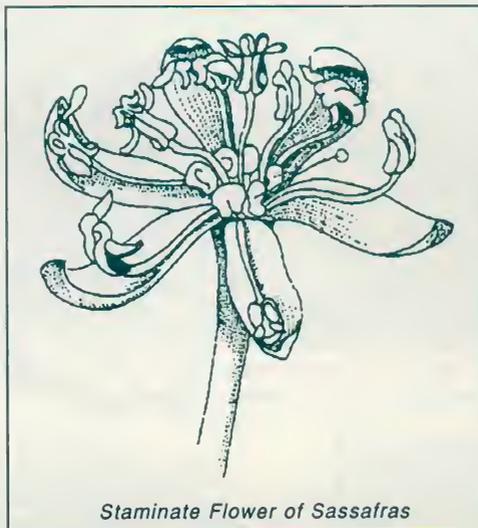
Native plants are accustomed to the variations in temperature, rainfall, soil and light conditions common to our region.

After the winter when the temperature sank to 23 degrees below zero, the Korean *Viburnum carlessi* died to the ground, but the American *V. trilobum*, the cranberry, didn't lose a bud. Native plants provide food and shelter to the birds, insects, and other animals which evolved with them.

By growing native plants, you can help save them from extinction. They require little maintenance, provided they are in their natural habitat with all basic needs provided until they are established. For example, dogwood and redbud are

understory plants and shouldn't be planted on the top of a berm, in the blazing sun. In general, native plants are not invasive, as are aliens such as garlic mustard, plantain, dandelions, and some honeysuckles, so they won't take over a garden.

The works of Charles Deam are good sources of information about native plants. *Hortus Third* is a good source on plant origins. Try your local library, and if you are near Indianapolis, the Horticultural Study Center at the Indianapolis Museum of Art, which has an extensive representation of the rapidly growing number of books on the subject. It's located in the basement of the Lilly Pavilion.



Staminate Flower of Sassafras

The above is from a talk presented by Ms. Glimn-Lacy to the Marion County Master Gardeners. Jan is an accomplished artist, writer, and is Governance Committee Chairperson for INPAWS.

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.

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• ILLUSTRATIONS •

- SASSAFRAS LEAF AND FLOWER (*SASSAFRAS ALBIDUM*) PAGES 1 AND 2 – JAN GLIMN-LACY
- AMUR HONEYSUCKLE (*LONICERA MAACKII*) PAGE 5 – SUE NORD
- RUNNING BUFFALO CLOVER (*TRIFOLIUM STOLONIFERUM*) PAGE 9 – L.L. ELLIS
- GREEN DRAGON (*ARISAEMA DRACONTIUM*) PAGE 11 – CHERYL LEBLANC

President's Message

by Carolyn Harstad

Exotic invasive plants have been featured in each of our 1996 newsletters. The dangers of the presence of Garlic Mustard and Purple Loosestrife were recorded in March and May, and this issue discusses Amur Honeysuckle as a problem plant. In a recent *BioScience* article, two members of the Department of Biological Sciences at Northern Kentucky University, James O. Luken and John W. Thieret, explore the process of *biological pollution*, "the apparent homogenization of regional floras due to exchange and introduction of nonindigenous plant species." Members of INPAWS have participated in removal of exotic plants from several areas in Indiana. We see evidence of Garlic Mustard, Purple Loosestrife and Amur Honeysuckle across Indiana and throughout the Midwest. One reason these plants are so dangerous to our native plant populations is their high seed production, rapid germination and "the ability to germinate at low temperatures and low light" enabling rapid spread across a wide range of habitats.

We know from experience that these invasives can outcompete, overtake and destroy native plant populations.

We would like to encourage you to photocopy the articles on exotic invasives and distribute them as an educational resource to nurseries and garden centers, garden organizations, and to your friends. In their article *Amur Honeysuckle, its Fall from Grace*, Luken and Thieret conclude, "Urban sprawl in the United States is likely to continue to push parks, nature reserves, and natural areas into closer and closer association with people, streets, houses, and gardens. The mostly nonindigenous floras of urban areas are also likely to be brought into closer association with nature reserves where native species are valued." The authors encourage responsible screening by plant scientists for new introductions, and the development of preservation goals and habitat management by resource managers in natural areas where there are established areas of nonindigenous plants. As responsible individuals we should

choose with care the plants we introduce into our own yards, remove exotic invasives and help with plant rescue efforts to remove these exotic invasives from public areas. In so doing we will help to preserve our heritage of native plants for future generations.

Luken, James O., Thieret, John W., Jan. 1996. Amur honeysuckle, its fall from grace. Lessons from the introduction and spread of a shrub species may guide future plant introductions. *BioScience* Vol. 46 No. 1, pp. 18-24. American Institute of Biological Sciences.

James O. Luken is an associate professor and John W. Thieret is a professor in the Department of Biological Sciences at Northern Kentucky University, Highland Heights, Kentucky. Luken is an ecologist studying the physiological ecology of invasive woody plants. Thieret is a plant systematist specializing in the taxonomy of grasses and in floristics.

INPAWS COMING EVENTS

Saturday, September 14

Auction and sale of native plants, Holliday Park, 63rd St. and Spring Mill Rd., Indianapolis, beginning at 11 AM. On sale will be plants, seeds, and possibly books and garden equipment. Donations, as usual, will be welcome.

Saturday, October 19

Fall foliage and tree identification, Hoosier National Forest, Jackson County. Hike begins at 2 PM, and will be led by Chip Weber. More details will be announced in a flyer.

Saturday, November 9

Our annual meeting, with seminars, exhibits, round-table discussions and refreshments. We are most pleased to have the DowElanco facilities on Zionsville Road available to us once more!

Saturday, December 7

Carolyn and Peter Harstad will again host the INPAWS Christmas Party, beginning at 7 PM.

• Welcome to New Members •

Membership Chairperson Ruth Ann Ingraham reports that the following people have joined INPAWS between April 1st and June 30th:

Susan Bellinger, Walkerton; Linda Biggs, Lebanon; Keith Brown, Lafayette; Dorothy Chase, Carmel; Dewey and Cheryl Conces, Zionsville; Suzanne Crouch, Carmel; Jon Franklin, Spencer; Joyce Gray, Fort Wayne; Becky Holloway, North Salem; Marcia Johnson, Muncie; Mildred Lechner, Chandler; Mary Lockhart, Geneva; Michelle Mazzochetti, Indianapolis; Judith McClure, Columbus; Robert Planck, Bloomington; Patricia Proffitt and Thomas Foster, Indianapolis; Mary Roller, Rushville; Linda Shikany, Indianapolis; Daniel and Adrienne Thornburgh, Charleston, IL; John and Charlotte Watson, Indianapolis; and Andy Thieneman, Boonville.

Renewals include Linda Bullard, Zionsville, Carol Neu-Frauman, Indianapolis, and Perry and Lisa Scott, Indianapolis.

Welcome to all of you, and we hope that you will be able to participate in our field trips, meetings, or committee activities!

Letters to the Editor

State Flower

I feel strongly the Indiana state flower should be a native species. My first choice would be the fire pink (*Silene virginica*) with the dwarf iris (*Iris cristata*) and Virginia cowslip (*Mertensia virginica*) as good alternatives.

Most of what I know about wildflowers I learned from Edna Banta, who was naturalist at McCormick's Creek about 1940. When the legislature named the zinnia as state flower, she said, "Somebody should watch those guys. When they select the state bird, they're liable to pick the bat!"

Sherman A. Minton, Indianapolis

Thanks for your comments. Any of the three would be a vast improvement over what we have now, although I wish we had something with a species name of indianica instead of virginica, carolinica, or novae-yorkiae!

Limberlost State Historic Site Activities

As a new member of INPAWS, I was excited to learn about the relevance of the organization to my job at the Limberlost State Historical Site, home of author and naturalist Gene Stratton-Porter. In 1910 she wrote, "I hope that I may live to see the day when our wildflowers will be protected by law, the same as our birds." (*Music of the Wild*). Our facility sponsors a variety of events which might be of interest to your readers.

For the past twelve years we have sponsored a Nature Photo Contest, with six categories of pictures including fauna in color, flora and natural settings in color, black and white, junior, interpretive photography, and picture best matching a selected Gene Stratton-Porter quotation. Prizes are awarded to the top three finishers in each category, and the top photo in each category will appear in *Outdoor Indiana*.

Also, in association with Limberlost Swamp Remembered, a group of people dedicated to restoring portions of the old wetlands, on June 8th, guides led groups of visitors through what used to be, and will be again, the Limberlost Swamp. I am not sure how often the newsletter is published, and I am aware it may be too late to notify the membership this year, but these are annual events, and I hope that we can work together in the future.

Mary Lockhart, Geneva, Indiana

The deadline for submissions was July 31. Photos will be on display at the Center for the Arts, 138 E. Main, Portland, from August 2nd to September 3rd.

The Limberlost State Historic Site is located one block east of U.S. 27 in Geneva, and is open March 15th-December 31st, Wednesday to Saturday 9-5 and Sunday 1-5. Admission is free, but donations of \$2 per adult and \$1 per child would be appreciated. Portions of the swamp are within easy driving distance, and tour directions can be obtained at the author's former home. For more information call 219-368-7428, or write Limberlost State Historical Site, 200 E. 6th St., Geneva, IN 46740.

What's Blooming When?

As an out-of-state member of INPAWS, I do not often have the opportunity to participate in the society's activities. However, this time I can respond to the call in the May newsletter for "observations of what's blooming when," because my wife and I spent a delightful weekend at Spring Mill State Park, May 11-12. Despite the rain and the high water (said by the park naturalist to be the highest since 1968), we hiked most of the trails in the park, and found a great variety of spring blooms. As to be expected, there was a lot of duplication of species on the trails, but interestingly, there were one or two species on some trails that we did not see on others.

We can report the following in bloom (Latin names omitted to save space):

baneberry, buttercup (several), butterweed, giant chickweed, columbine, wild comfrey, brook euonymus, fire pink, wild geranium, wild ginger, blue-eyed grass, wild hyacinth, jack-in-the-pulpit, krigia, yellow lady's slipper, dwarf larkspur, mayapple, miterwort, blue phlox, puccoon, pussytoes, golden ragwort, smooth rock cress, rue anemone, sanicle, shooting star, spring beauty, squawroot, yellow star grass, wild stonecrop, sweet cicely, tinker's weed, nodding and prairie trilliums, blue, green, white, and three-lobed violet, and violet wood sorrel. A number of early bloomers were in fruit, including **perfoliate bellwort** and **goldenseal**, and several, such as **yellow-flowered tinker's weed** and **pink valerian**, were in bud. Several large patches of **ramp**, or **wild leek**, were also seen.

Please do with these lists as you see fit. It was fun putting them together. Maybe one of these days I can make an INPAWS outing.

Larry R. Morrison, O'Fallon, Illinois

Thanks for sharing your experiences with us. It seems that you and your wife are blessed with excellent powers of observation. Hope to see you at the annual meeting or on one of our many field trips.

Amur Honeysuckle – Our Worst Woody Weed

by Sue Nord

Often it is difficult to think of a tree or shrub in the same terms as a dandelion. However, some woody plants qualify for “weed” status. One of the greatest threats to our Indiana natural areas is Amur honeysuckle, *Lonicera maackii*, a woody shrub. Though the species has a short history in the United States, it is firmly entrenched in the eastern portion of the country. Introduced here from its native range in eastern Russia, the species has escaped cultivation and has naturalized extensively in less than one hundred years. Amur honeysuckle has been planted as an ornamental shrub, soil conserving plant and to “improve” the habitat for wildlife. These particularly hardy and reliable plants produce many small white or pink blooms in May. The flowers are followed by BB-sized red fruits. These attractive fruits are the greatest part of the weediness problem. Birds are known to eat the fruit, though it is not a favorite food, and distribute the seed throughout an area. If you have any familiarity with this species, you’d swear that each seed must germinate!

The abundance of Amur honeysuckle is especially noticeable in early spring and late autumn. The plants leaf out earlier in the spring and hold their leaves longer in the fall than many of their shrub counterparts. During those seasons, a walk through old urban parks or along the Indianapolis Water Company Canal, or through many urban and suburban natural areas will provide several opportunities to locate Amur honeysuckle. In addition, a stroll through many urban and suburban natural areas will turn up more honeysuckle. With little effort, you’ll become an expert at spotting the green shrubs among the bare stems of other trees and shrubs. Where these plants are well established you may be hard pressed to find much else growing there. That is what makes this plant so troublesome. It creates dense shade and is so vigorous that virtually nothing else will grow near it. Many desirable native plants are crowded out in favor of this unwanted pest.

The ability to identify Amur honeysuckle when other plants are dormant is a slight advantage for those of us trying to control the beast. Young plants can be pulled or dug easily,

but the large plants require more effort. The oldest of honeysuckles may reach fifteen feet in height and width. These are controlled by cutting the branches to the ground and treating the stumps with an appropriate herbicide. On a small scale, it is possible to kill the shrubs with frequent cutting back of the new sprouts. This avoids the use of chemicals but is very labor intensive.



Amur honeysuckle and some other *Lonicera* species will continue to be threats. Recently, while thumbing through a plant catalog I noticed a new variety of shrub honeysuckle that is aphid resistant. Thank goodness this company is sharing this “new & improved” honeysuckle! Also, a few years ago as part of a plan to raise funds to save Thoreau’s Walden Pond there was a plant sale. Included in the list of seedlings grown around Walden Pond that were available for purchase was Amur honeysuckle. Without a doubt these honeysuckles were in great abundance around the pond.

Members of INPAWS and several other conservation organizations have been actively working to remove Amur honeysuckle from parks and natural areas. We need to continue in these efforts as there are so many areas inundated with the species. This work will be rewarded over time with a greater diversity of plants, providing a better habitat for both plants and animals.

Some of the material used for this article is from Luken and Thieret. Please see the *President’s Message*, page 3, for the complete citation.

Sue Nord is a horticulturist at the Indianapolis Museum of Art. She is a charter member of INPAWS.

Continuing our series on exotic invasives, we invite you to share your experiences with us. Do you have a method for dealing with plant pests that works? Would you like reprints of all three articles (Garlic Mustard, Purple Loosestrife and Amur Honeysuckle) to distribute to friends, neighbors, clubs, organizations, nature centers, garden centers? Send your ideas or requests to the Editor, Dan Anderson, 7412 Graham Road, Indianapolis, IN 46250, or e-mail Anne Wilson at awilson@mail.cpbx.net.

MULTIFLORAE

EAST EUROPEAN WILDFLOWERS

Late spring and summer are usually the seasons for vacations – in our case, this was no exception, as Sophia and I took off for a cultural Elderhostel visit to the Baltic countries, plus St. Petersburg and Moscow. There wasn't much time for flower-watching, but at various rest stops, outdoor museums, and in vacant lots within walking distance of our hotels, we went looking for wildflowers, camera in hand. The most obvious wildflower was the dandelion – acres and acres of them, in city parks, lawns, waste areas, wherever you looked. In Lithuania, it appeared that no grass was cut until about May 29th, so they had the fullest opportunity to reach their maximum potential. Several varieties of *Lamium* were seen – the white *L. alba*, what appeared to be our dead-nettle *L. maculatum*, and the closely related yellow *Galeobdolon luteum*. Other than the dandelions, the prevailing colors in the fields were white from what appeared to be valerian, and yellow from several types of buttercup, yellow sweet clover, mustards and *Potentilla*. Occasional blue patches of forget-me-nots were seen, and in one area the intense blue of a *Buglossia*. Wild strawberries, garlic mustard and lambs' quarters were seen in scattered areas. One interesting variety was *Plantago media*, which resembles our broad-leaved plantain, except that the filaments on the flower spike were purple rather than white. Violet and red colors were almost absent, excepting a couple of vetches and a species of *Geum*. During the trip, we visited one botanical garden in Riga which promised a selection of native plants but had very few, and a Natural History Museum in Tallinn which was small but had a very creditable collection of pressed specimens of the local flora. In addition, there were display tables bearing containers of more-or-less freshly picked specimens of many of the plants. This was certainly helpful, but not recommended for endangered species!

Doubtless some of the other people in the tour group thought us strange when we went prowling along the roadside, but we had fun! – Ed.

President Carolyn Harstad has been busy. She recently gave a lecture on wildflowers to *Friends of Garfield Park*, Indianapolis, and another at the *Spring Garden Festival* in Frankfort, Indiana.

Jim Wilson of Victory Garden

fame will be the featured speaker at the INPAWS Annual Meeting to be held at DowElanco, Indianapolis, Saturday, November 9.

He will give two talks:

- *Landscaping with Wildflowers*
- *Landscaping with Native Trees*

Plan to join us. Details to come.

• BUTLER NATURE WALKS •

Dr. Becky Dolan will lead the following nature walks at Butler University. All will begin at noon on the following Tuesdays, and will last for about one hour. Meet behind Gallahue Hall near the greenhouse. There is no charge, and all are welcome.

- August 13 Tour of Butler Prairie
- September 10 Spiders
- October 8 Tour of Butler Prairie
- November 12 Late Fall in the Butler Woods

State Flower

In response to our query in the May 1996 issue of *INPAWS News* concerning the state flower, i.e. how did it come to be the peony, and would a native flower be a more fitting emblem of the state, INPAWS member Nancy Grenard e-mailed her thoughts. She is president of the Wabash River Heritage Corridor Commission, set up by state statute in 1991. The commission requested that local senators sponsor legislation to name the Wabash as the State River. Instead they issued a resolution to that effect, but resolutions are temporary, lasting only for that legislative session. At least one legislator suggested that the *Ohio River* should be the State River of *Indiana*. *

She reminds us that state flower legislation is not new. Charlie Deam assisted in having the state flower changed from the carnation to the flower of the tulip tree in 1923. In 1931 the zinnia was named, and Nancy thinks that the peony was named in 1957. Several attempts to change it again have been unsuccessful and unpopular. She heard that a few years ago legislation was introduced to name the Large White Trillium (*probably Trillium grandiflorum*) the **State Wildflower**, but she can't find anything in the on-line Indiana Code to support that information. She says that personally she would love to see one of our beautiful wildflowers as the State Flower, but thinks "it's a long shot."

What do you think? Drop Dan Anderson a line at 7412 Graham Road, Indianapolis, IN 46250, or e-mail Anne Wilson at awilson@mail.cpbx.net.

* See Sherman Minton's letter on page 3 concerning the state flower and the bat as the state bird.

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If you would like to have your e-mail address included in the next INPAWS membership directory, March, 1997, contact Ruth Ann Ingraham at

Rai38@aol.com.

Also please indicate if you would like your address published in the next INPAWS newsletter in October.

Book Review by Kay Yatskievych

Of Woods and Other Things by Emma Bickham Pitcher

I am privileged to have Emma Bickham Pitcher—Bickie—as a friend, teacher and mentor. Several years ago, when I needed to photograph wildflowers in northern Indiana, her name was given me by a friend. I called her and she graciously invited me to stay with her for a couple of days. I took along a stack of 3x5 cards, each bearing the name of a species I wanted to photograph. When I showed them to Bickie, she sorted them into a dozen or so stacks, saying, “We can get these at Howe Prairie, these at Kemil Woods, these at Pinhook Bog” etc., and then we went on a whirlwind tour of all those wonderful places. No trip to photograph wild flowers before or since has ever been so productive.

Bickie is well known in the natural resources community in Indiana. She has lived in Porter County, teaching classes in wildflowers and birding, banding birds, conducting field studies on Dunes flora, and writing essays for *Dunebeat*, the Lakeshore’s newsletter. In 1987, she moved to Kalamazoo,

where her naturalist activities were focused at the Kalamazoo Nature Center. More than 130 of her essays were published in Kalamazoo’s newspaper, *The Gazette*, and have appeared in book form.

There are 62 essays in *Of Woods and Other Things*, each about three pages long, divided into four categories: Of Feathers, Of Petals, Of Trees and Of Scenes and Seasons. A sampling of titles of special interest to INPAWS members includes: *Barbellate or Glochidiate—Or What is Texture?*, *The Gentian Family*, *Winter Evergreen Groundcovers*, *Spring Tree Flowers*, and *Mighty Bats from Little Ashes Grow*.

My favorite essay is not specifically about plants. Titled *Signals of Change*, it describes the subtle changes nature makes in autumn, and how we react to them. For me, this is one of the most evocative pieces of writing I have ever read—about that very special and nearly

euphoric feeling that certain aspects of nature are capable of engendering in me. The book is dedicated to eight nature writers and photographers with the note, “They have illumined my life.” I am sure there are a great many people who would say that Emma Bickham Pitcher has illumined their lives.

Of Woods and Other Things by Emma Bickham Pitcher is available from the Kalamazoo Nature Center, 7000 N. Westnedge, Kalamazoo, MI 49004. Cost is \$10.95 plus \$3.50 S&H for the first copy, and \$1 for each additional copy. The 255-page volume, containing 5 b/w drawings, is published by Beech Leaf Press.

Dr. Yatskievych is a charter member of INPAWS and was a leader in getting our organization off the ground. She works for the Missouri Botanical Garden, and is working on a definitive book of Indiana wildflowers, which we hope to see published soon—Ed.

Editor Dan Anderson’s recipe for **Garlic Mustard Lasagna** in our winter 1995 issue has been reprinted in the summer 1996 issue of *Wildflower*, published by the Canadian Wildflower Society in Markham, Ontario, Canada.

President Carolyn Harstad’s message in the March 1996 issue of this newsletter, *My dream for the future...* has been reprinted in the New Mexico Native Plant Society Newsletter, with the comment that our visions are similar, and that they will be discussing these ideas at an upcoming retreat.

Being a Good Neighbor – What You Plant Makes a Difference,

is the title of a brochure published by the Celery Bog Citizens Advisory Committee, Tippecanoe County.

Lists of native plants, and non-native plants whose invasiveness has caused problems in Indiana, make this a useful guide for anyone concerned with maintaining a healthy diversity of flora and fauna in this state.

For more information contact the West Lafayette Park and Recreation Department, 317-463-4551.

RECENT INPAWS FIELD TRIPS

About 30 members met at **Shades State Park** on Saturday, June 8, to enjoy a fern identification hike led by Mike Homoya. After some education on fern life cycles the group hiked down a wooded ridge to Sugar Creek and back up a rocky ravine. Besides common ferns such as Christmas (*Polystichum acrostichoides*), Rattlesnake (*Botrychium virginianum*) and Fragile (*Cystopteris fragilis*), the less common Goldie’s (*Dryopteris goldiana*), Walking (*Camptosorus rhizophyllus*) and Adder’s tongue (*Ophioglossum vulgatum*), also were spotted.

We were pleased to have a joint meeting with **INPAWS’ first chapter, Oakhurst**, on Sunday, July 14, at the Minnetrista Cultural Center in Muncie. Kevin Tunesvick, program chairman, showed slides to about 25 members before they began the walking tour of Oakhurst Gardens, which featured beautiful prairie composites such as *Ratibida pinnata* and the other cones. Kevin invited all to his home afterward for a repast and to view his growing collection of prairie and other native plants.

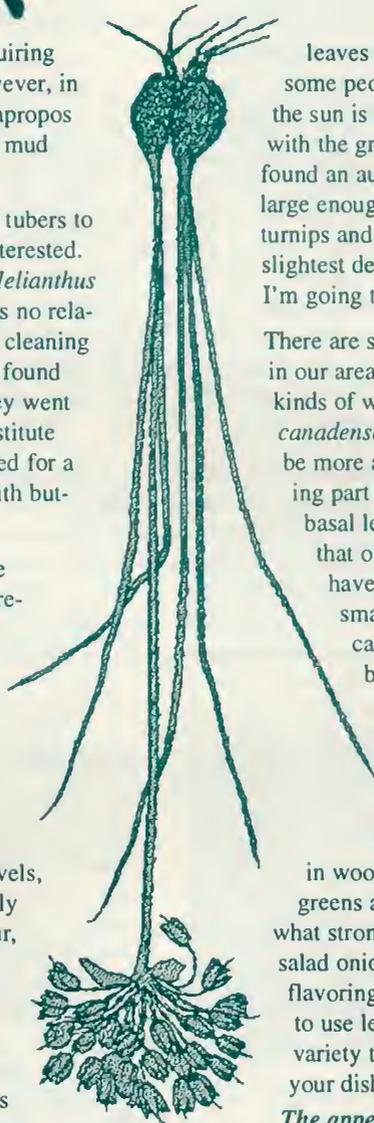
The Root of the Matter

My previous columns have been devoted to acquiring the edible goodies which are in plain sight. However, in view of the present political climate, I feel it is apropos to do some digging in the dirt, and sling a bit of mud about, if need be.

About 15 years ago, a co-worker gave me a few tubers to sample, and offered me a few plants if I were interested. The tubers were those of Jerusalem artichoke (*Helianthus tuberosa*), which, as almost everyone knows, has no relationship to an artichoke or the Holy Land. After cleaning them off, my wife and I sampled them raw, and found them to be crisp, with a slightly sweet taste. They went well in salads and Chinese-style dishes as a substitute for water chestnuts, and can, if desired, be cooked for a few minutes and served as a boiled vegetable with butter or other dressing.

The plants were installed in our garden and have thrived, gradually increasing in number to the present 35-40. These native sunflowers have yellow flowers, appearing late on stems which may reach a height of ten feet. After a killing frost, I dig up each one of reasonable size and break off the larger tubers which are attached to the root, and heel in the balance of the root clump with one or two smaller tubers still attached. I have seen patches of Jerusalem artichokes, some of considerable size, in my travels, and a patient person with a shovel could probably obtain several pounds of the tubers in a half hour, and possibly lose several pounds in the process.

One of the more common wayside weeds is wild parsnip (*Pastinaca sativa*). This, along with Queen-Anne's lace or wild carrot (*Daucus carota*), is a biennial, which means that the roots are edible only at the end of the first year, before any flowering takes place. Supposedly the parsnips are better after a frost, which means that the location of the bed should be marked in some manner before fall winds break off the dry stalks and eliminate any vestige of the plants' presence. According to the literature, the roots can be eaten raw or cooked. We tried them once, and found a reasonably tasty outer layer enclosing a hard, woody core. (The



leaves of wild parsnip may be very irritating to some people, particularly if the hands are sweaty and the sun is shining brightly, so use gloves if working with the green plants). I confess that I have never found an authenticated first-year wild carrot with a root large enough to eat, and pass by such vegetables as turnips and parsnips in the supermarket without the slightest desire to place some in our shopping cart, so I'm going to leave all you parsnip fanciers a clear field!

There are several species of the onion family (*Allium*) in our area that are useful in cooking, including two kinds of wild garlic, *A. vineale* (Field Garlic) and *A. canadense* (Wild Garlic). The former, which seems to be more abundant in central Indiana, has leaves coming part way up the stem, while the latter has mostly basal leaves. The taste of field garlic is identical to that of commercial garlic, but the bulbs generally have smaller and fewer cloves. However, the small bulblets left on the stem after flowering can also be used. One of my edibles handbooks mentions using the bulblets from wild garlic for pickles, but not those from field garlic, so I would assume that wild garlic has a milder taste.

There are several varieties of wild onions *Allium sp.* which are very common in woods, fields, and lawns and gardens. Both the greens and the bulbs can be used. The taste is somewhat strong, and I don't recommend using them as salad onions for munching, but they can be used as flavoring in cooked dishes. It would probably be wise to use less of the wild onions than the store-bought variety to avoid overpowering the other flavorings in your dish. A word of warning:

The appearance of Star-of-Bethlehem, which is poisonous, is similar to that of wild onion, both leaves and bulb. Make sure the plant smells like onions when you use it!

Dan Anderson is a wild-foods aficionado, editor of this newsletter, and a charter member of INPAWS. If you have a special recipe using wild plants, send it to Dan, 7412 Graham Road, Indianapolis, IN 46250.

PRESERVING RARE MIDWESTERN SPECIES: THE ROLE OF BOTANICAL GARDENS

by Kayri Havens, Ph.D.

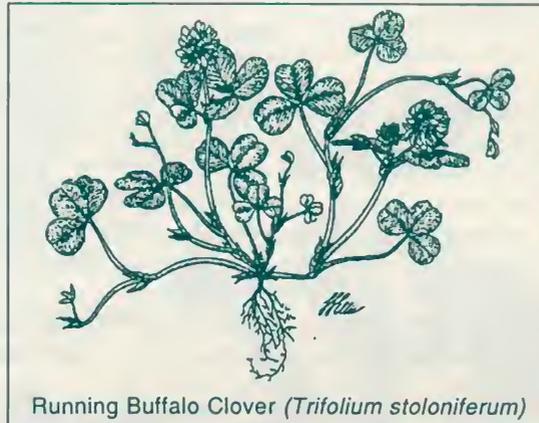
Plant species are not being lost only in tropical forests, but worldwide, at an alarming rate. Of the 20,000 plant species native to the United States, approximately one-quarter are of concern to conservationists. Many conservation biologists believe that a two-pronged approach to species protection, both *in situ* and *ex situ* (on and off site) offers the best chance for their continued survival. First and foremost, *in situ* conservation methods protect species in an evolutionary context, i.e., in their native habitat along with the other organisms with which they interact. *Ex situ* collections provide an "insurance policy" against catastrophic loss in the wild, and are a valuable resource for research on rare species.

The Center for Plant Conservation (CPC), headquartered at the Missouri Botanical Garden, is a national network of 25 leading gardens and arboreta, each of which is responsible for the *ex situ* preservation of rare plants from its biogeographical region. The Missouri Botanical Garden is a member of the CPC network, and has agreed to maintain conservation collections of 19 rare plant species from six midwestern states, including Missouri, Arkansas, Tennessee, Kentucky, Illinois, and the southern part of Indiana. Rare plants from the upper Midwest (including northern Indiana) are maintained at the Holden Arboretum in Kirtland, Ohio. The goal of the participating gardens is to conserve a genetically diverse collection of seed, and, in many cases, living plants of each of the species. These collections could ultimately be used to re-introduce plants to the wild, in the event native populations are destroyed.

In order to have a genetically adequate collection, seeds are collected from several plants in each of several populations, sometimes over several years. Our "starting point" for sampling is a collection of 10 seeds from each of 50 plants from at least 5 populations, but these numbers are adjusted based on several factors. For example, in extremely rare species, one might collect only a few seeds over several years, to minimize our impact on the population. On the other hand, some rare plants produce copious amounts of seed, but germination may be poor, and few seedlings survive to adulthood. With these taxa, more seeds are collected to compensate for the high attrition rates. Similarly, the number of populations sampled will vary, depending on their genetic structure. In species whose populations are very similar genetically, seeds are collected from fewer populations. Conversely, in species that have genetically distinct populations, as many as possible

are sampled. Seeds are the storage propagule of choice, but where few or no seeds are produced, cuttings or divisions of plants are obtained. Whole plants are collected in rescue efforts only when the population is about to be destroyed.

Most of the seed is sent to the National Seed Storage Laboratory in Fort Collins, Colorado, but a subset is kept at the Garden so we can learn how to grow the plant to maturity, a necessity for re-introduction projects. For those species that make insufficient seed to store a genetically adequate sample, numerous living plants are maintained. Most of these are planted in private nursery facilities, but several of the taxa have a few representative plants on display, with interpretive signs for our visitors.



Running Buffalo Clover (*Trifolium stoloniferum*)

There are two species from southern Indiana in our collection. The first is Globose bladderpod, *Lesquerella globosa*, in the Brassicaceae or Mustard family, which is known from 20 sites ranging from Indiana to Tennessee, but many populations consist of 10 plants or fewer. The plant is usually found clinging to bluffs along rivers and roadsides, and some of the populations are threatened by roadside maintenance. The name "bladderpod" refers to the inflated, bladder-like fruits. The second species is Running buffalo clover,

Trifolium stoloniferum, in the Fabaceae or bean family. *T. stoloniferum* was once common throughout the Midwest, but by the early 1980's it had declined to the point that it was thought to be extinct. It has been re-discovered in approximately 100 locations, including two in southern Indiana, largely due to intensive surveying by botanists during the past decade. The reason for the species' decline is not known, but some botanists have speculated that the plant requires a moderate amount of disturbance, which may have been provided by buffalo in the past. Today, it is often found in cattle pastures, along trails, and in other moderately disturbed areas. Running buffalo clover gets its common name from the putative association with buffalo, and its production of long stolons or "runners."

Our collecting activities would not be possible without the help and cooperation of state and federal agency botanists and private landowners, as well as the generous support of individuals and organizations who sponsor the species in the Center of Plant Conservation's National Collection (see below). The interest income from plant sponsorships supports seed collection activities, seed storage, and horticultural research on these rare species in perpetuity. Sixteen of the nineteen species maintained at the Garden have sponsorships.

Preserving... continued on page 11

Jewelweed

Jewels of the Summer

by Dr. Rebecca Dolan

Jewelweeds, or touch-me-nots, are one of the most common wildflowers blooming in moist soil in central Indiana from July through September. Elaborate flowers and dense stands make these plants striking. The two Indiana species, *Impatiens capensis* and *I. pallida*, are readily distinguished by flower color: the first, spotted jewelweed, has orange flowers with dark spots, while the latter has pale yellow flowers. Both have translucent stems with watery juices.

The common name jewelweed is said to come from the beautiful complexity of the flowers, which hang from their stems like pendent jewels, or from a jewel-like sheen the leaves exhibit when placed in water. It is clear where "touch-me-not" comes from: the ripe pods open explosively when touched, flinging the seeds a considerable distance from the mother plant. The pods contain small vegetable "springs" which build up considerable compressive force by absorbing water. A gentle touch causes the spring to uncoil suddenly, resulting in the force that feels like a moving animal in your hand and often makes an audible popping sound. Try it and see!

The plants are members of the touch-me-not family, Balsaminaceae, and are the only two species native to eastern North America. However, the genus *Impatiens* has 500-600 species worldwide, chiefly from India. Horticultural varieties of *Impatiens* are hybrids of *I. holstii* and *I. sultanii*, both non-native. The name *Impatiens* is from the Latin for impatient, referring to the explosive dispersal of the plant's seeds.



Jewelweed flowers have long spurs made of fused sepals that hold nectar to attract animal pollinators, including ruby-throated hummingbirds. Jewelweeds have been the subject of scientific study, due to an unusual reproductive feature. Some flowers never open, and produce seed only by self-pollination (cleistogamous flowers), while others open and cross-pollinate with other plants (chasmogamous flowers). The closed flowers are apparently a hedge against unsuccessful cross-pollination. Seeds from these flowers produce seedlings less robust than those from cross-pollinated flowers, but they can be produced without the presence of other plants.

Jewelweed is often touted as a remedy for poison ivy and stinging nettles, two other plants found in wet, shady places. Rubbing the juice of the leaves and the stem directly on the skin is recommended. The juice has also been used as a fungicide to treat athlete's foot.

Around Indianapolis, jewelweed can be seen at Holliday Park, Crooked Creek, Juan Solomon Park and Eagle Creek Park. Look along stream and creek banks, and in low woods.

(Jewelweed is also useful against irritations from insect bites or stings, and the young greens are palatable when cooked. Chop and cover with boiling water for 2-3 minutes, change water and cook for another 8-10 minutes. Season with lemon juice or favorite dressing—Ed.)

Dr. Dolan is director of the Friesner Herbarium at Butler University, a charter member and presently Recording Secretary of INPAWS.

Report on May Auction

by Rolland Kontak

"I HATE AUCTIONS," the NICE LADY said.

"Why?" I asked.

"Because I pay too much," she replied.

She stayed for the 1:00 PM start, however, and soon was enjoying the May 5th INPAWS plant auction with about one hundred other folks. The Boone County Fairgrounds Community Center was packed as thunderstorms raged overhead.

I noticed that the group of plants in front of NICE LADY grew larger as she purchased Twinleaf (*Jeffersonia diphylla*), Green dragon (*Arisaema dracontium*), and several Dwarf larkspurs (*Delphinium tricorne*). NICE LADY was smiling, so if she paid too much, she was happy with her prizes.

It was a fabulous event—a record auction. Hundreds of native plants donated by members and commercial sources found new homes, and increased our treasury by \$3650. Chairlady Lynn Jenkins arranged for the Boone County Master Gardeners to assist in set-up and auction chores. When I finally left, one of the Master Gardeners was mopping

the floor. A big THANK YOU to them. (Thanks also to the many INPAWS members who helped in many ways—Katrina Vollmer with refreshments, Jean Vietor and Carolyn Harstad with the till, Sue Nord, Kevin Tungesvick and Anne Wilson with logistics, and many others. Thanks also to the INPAWS members who were so generous in donating plants for the auction.)

Snow trillium (*Trillium nivale*), Sharp-lobed hepatica (*Hepatica acutiloba*), and a beautiful flowering specimen of Silverbell tree (*Halesia monticola*) were three species which appeared for the first time at an INPAWS auction. Their desirability was reflected in the prices realized. I dropped out of the bidding on the Silverbell tree at \$55, but have since acquired a packet of free seeds, so maybe I'll have one yet!



NICE LADY stayed until the end of the two and one-half hour auction, and left happy. So, even though you might also be an auction-hater, why don't you try us next time? We offer fun, food, my attempt at entertainment and education, and the opportunity to add to your collection of native plants. If, after all this, you too still "HATE AUCTIONS," please join those generous folks who donate surpluses from their private native gardens, and feast from the \$1, \$3, and \$5 tables of pre-priced plants. Your next opportunity will be our fall auction at Holliday Park at 64th Street and Spring Mill Road in Indianapolis, on Saturday, September 14, 1996.

(Confession of an auctioneer/reporter: NICE LADY is a fictional composite of our many great auction-goers—a literary device to flesh out my story!)

Thanks again to Rolland for a great job of auctioneering, plus all the work he and wife Mildred did in setting up the lots, plus all the tenderly cared-for plants he donated—Ed.

Preserving... continued from page 9

However, the three species added to the collection in the last two years, *Lesquerella globosa*, *Mespilus canescens*, and *Solidago ouachitensis*, have not yet been sponsored. For more information on sponsoring a plant in the National Collection, please call the Center for Plant Conservation at 314-577-9540.

The Missouri Botanical Garden is responsible for the following plant species in the Center for Plant Conservation's National Collection:

- *Amorpha ouachitensis* (Ouachita Mountain leadplant)
- *Apios priceana* (Price's potato bean)
- *Arabis perstellata* (Small rockcress)
- *Arenaria cumberlandensis* (Cumberland sandwort)
- *Astragalus bibullatus* (Pyne's ground plum)
- *Boltonia decurrens* (Decurrent false aster)
- *Calamagrostis porteri* ssp. *insperata* (Ofer Hollow reedgrass)

- *Calamovita arcuata* (Cumberland sandgrass)
- *Echinacea tennesseensis* (Tennessee coneflower)
- *Eupatorium luciae-brauniae* (Lucy Brown's eupatorium)
- *Lesquerella filiformis* (Missouri bladderpod)
- *Lesquerella globosa* (Globose bladderpod)
- *Lesquerella perforata* (Spring Creek bladderpod)
- *Lesquerella stonensis* (Stone's River bladderpod)
- *Lindera melissifolia* (Pondberry)
- *Mespilus canescens* (Stern's medlar)
- *Solidago ouachitensis* (Ouachita Mountain goldenrod)
- *Solidago shortii* (Short's goldenrod)
- *Trifolium stoloniferum* (Running buffalo clover)

Dr. Havens is the Conservation Coordinator at the Missouri Botanical Garden. She is responsible for the curation and interpretation of rare native species, and conducts research on the reproductive biology of several rare taxa.

Indiana Native Plant and Wildflower Society

MEMBERSHIP APPLICATION

Yes! I/we have been waiting for this exciting opportunity! Enclosed is a check for the following:

- | | | | | | |
|-------------------------------------|------|---------------------------------|-------|------------------------------------|-------|
| <input type="checkbox"/> Student | \$10 | <input type="checkbox"/> Family | \$25 | <input type="checkbox"/> Sponsor | \$250 |
| <input type="checkbox"/> Individual | \$18 | <input type="checkbox"/> Patron | \$100 | <input type="checkbox"/> Corporate | \$500 |

Additional Donation \$ _____

Total Enclosed \$ _____

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NEW RENEWAL

How did you hear about us?

8/96

Annual dues pertain to the fiscal year January 1 through December 31.

Dues paid after September 1 are applied to the following fiscal year.

Gifts Do Help

Your gift of any amount will be most appreciated. Donations above student, individual and family membership dues are tax-deductible to the extent provided by law. Gifts will be used to help further the programs and purposes of INPAWS, such as publishing a newsletter and providing services related to monthly programs.

Membership Categories:

- Student:* For full-time students under the age of 22. Benefits include meeting notices, one vote on organizational issues, newsletter, membership directory.
- Individual:* Benefits are the same as for student.
- Family:* Includes head(s) of household and dependents. Benefits include meeting notices, newsletter, membership directory, and two votes on organizational issues.
- Patron:* Benefits are the same as for family, plus donation.
- Sponsor:* Benefits are the same as for family, plus donation.
- Corporate:* Benefits include newsletter, meeting notices, directory, special recognition, plus donation.

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

- | | |
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| <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"/> Speakers Bureau | |
| <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.

Jim Wilson of Victory Garden fame will be the featured speaker at our annual meeting. See page 6.

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