



## A CHANCE ENCOUNTER

# Prairie Fameflower

Dan McDowell

*A hot afternoon the final week of July finds me exploring a black oak dune/savanna complex in northeast Lake County.*

Rewarded with a couple of hours of fine summer flower viewing, I head back to my car when, near the top of a dune ridge, in an open sandy area, a couple of small plants catch my attention.

The two-inch high grass-like clusters appear almost nondescript, yet something about them presses on my mind. With a closer look, my initial puzzlement turns into pleasant surprise as I realize they are prairie fameflowers (*Talinum rugospermum*), state-listed as a threatened plant.

I was aware that prairie fameflowers were known from this site; I just wasn't expecting to see them. I now see several others in an eight- to ten-foot area, many of them with small capsuled fruits. Two plants show little pinkish floral buds seemingly close to blooming. Believing I'm probably not going to see any blooming flowers, I take my leave.

Two days later I return to the same spot a little after 4:00 p.m. Initially seeing three plants with closed pink buds, I soon start finding others. As I locate them, I begin to perceive changes in them. It dawns on me that they are starting to bloom *now*, as I watch! To see these small flowers go from tightly closed buds into vividly



*Talinum rugospermum*. Photo by the author.

beautiful pink blossoms in the space of fifteen minutes is fascinating. As I photograph them, I count twenty-three plants with eleven blooming stems, including four in a one-foot area.

The little colony grows along the margin of a dry open sandy area that may once have been an old road or trail. The most obvious plant associate is goat's rue (*Tephrosia virginiana*), along with an occasional small grass

or sedge. Several are completely in the open sun—apparently they tolerate harsh environments well.

*Talinum rugospermum* is a member of the purslane family, which includes our well-known spring beauty (*Claytonia virginica*). Indeed, the flowers of both species appear quite similar. Fameflowers are small perennials averaging five to eight inches in height, with many tipped over at an angle, appearing semirecumbent.

From the end of the rootstock, which is sometimes exposed a few inches, a cluster of nine to fourteen small cylindrical succulent leaves forms a loose circular rosette. Out of this, a short wiry stem branches into a cyme that will develop three to nine flowers during the bloom cycle in July and August.

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All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

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## INPAWS Mission

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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# A Time Rebecca Dolan To Reap

Hello native-plant-loving friends. I hope you all had good summers enjoying the Great Outdoors.

This issue of the Journal highlights our upcoming Annual Conference, to be held in Indianapolis this year. The Annual Conference is your reward for INPAWS membership. It's a great chance to meet other members, learn from experts, and just spend some time looking at photos of beautiful plants.

Nancy Hill, chair of the event, is seeking volunteers for jobs large and small to help make the meeting its traditional excellent program. If you can give some time that day to help staff the book sale, put out snacks, or drive a speaker to the airport, please contact Nancy at [nanhill86@earthlink.net](mailto:nanhill86@earthlink.net) or 317-283-8345. If you have never volunteered before, here is a chance to commit only an hour or so and help out our group.

Kay Yatskievych tells me she is in the final stages of data collection and writing for her ambitious *Annotated Checklist of the Vascular Flora of Indiana*. The Checklist will document all the species, subspecies, and varieties, both woody and herbaceous, known to grow outside of cultivation in the state. Each entry will list where the first Indiana record was published, other names for the entry that have been used in Indiana publications, and a voucher specimen in a herbarium if one has been found.

The Checklist will also identify species as native or non-native, say whether they are state-listed as of conservation concern, and give their Coefficient of Conservatism number. (If you don't know what the last item is, come to hear Dr. Paul Rothrock of Taylor University at the Annual Conference.)

Marcia Moore and I have been assisting Kay with this project. Most of the voucher sheets are in the Friesner Herbarium here at Butler University. Along with Kay's *Field Guide to Indiana Wildflowers* and Marion Jackson's *101 Trees of Indiana*, the Checklist will be a great addition to our understanding of the state flora.

I hope to see you at the November 5 Annual Conference.

Rebecca

## Moving Firewood Spreads Ash Borer

Preventing the artificial spread of the emerald ash borer (EAB) is the most important thing we can do to protect North American ash trees, says the Indiana Department of Natural Resources (DNR).

The tiny wood-boring beetle invades new forest areas by flying to trees up to one-half mile from where it emerged in the spring. This relatively slow process is vastly speeded up when humans move infested ash wood into uninfested areas, either knowingly or unknowingly. Movement of infested firewood is the leading cause of EAB expansion!

The DNR advises:

- Do not bring firewood of any kind from home to a campground. Use local sources of firewood only.
- If you have already brought firewood from home, do not take it back home or leave it for other campers. Burn it!



*Emerald ash borer. Photo by Klaus Bolte.*

INPAWS invasive species expert Ellen Jacquart also advises people not to buy or plant ash trees, as they may already be contaminated.

The emerald ash borer was first detected in the Detroit/Windsor area in 2002, having arrived from Asia in wooden shipping material. It is slender, a bright, metallic, coppery-green color and about one-third of an inch long, making it difficult to spot in tree leaves.

The beetle starves ash trees of nutrients and water by tunneling under bark. Signs of infestation include leafy sprouts at the base of the tree, d-shaped borer exit holes, dieback of the top part of the tree, and larval feeding tunnels beneath the bark.

*If you think emerald ash borer is in your trees, call the DNR's toll-free hotline: 1-866 NO EXOTIC (1-866-663-9684). For further information, visit [www.entm.purdue.edu/EAB](http://www.entm.purdue.edu/EAB).*

# The Impending Demise of Indiana Kudzu

*Ellen Jacquart, INPAWS Invasive Species Committee Chair*

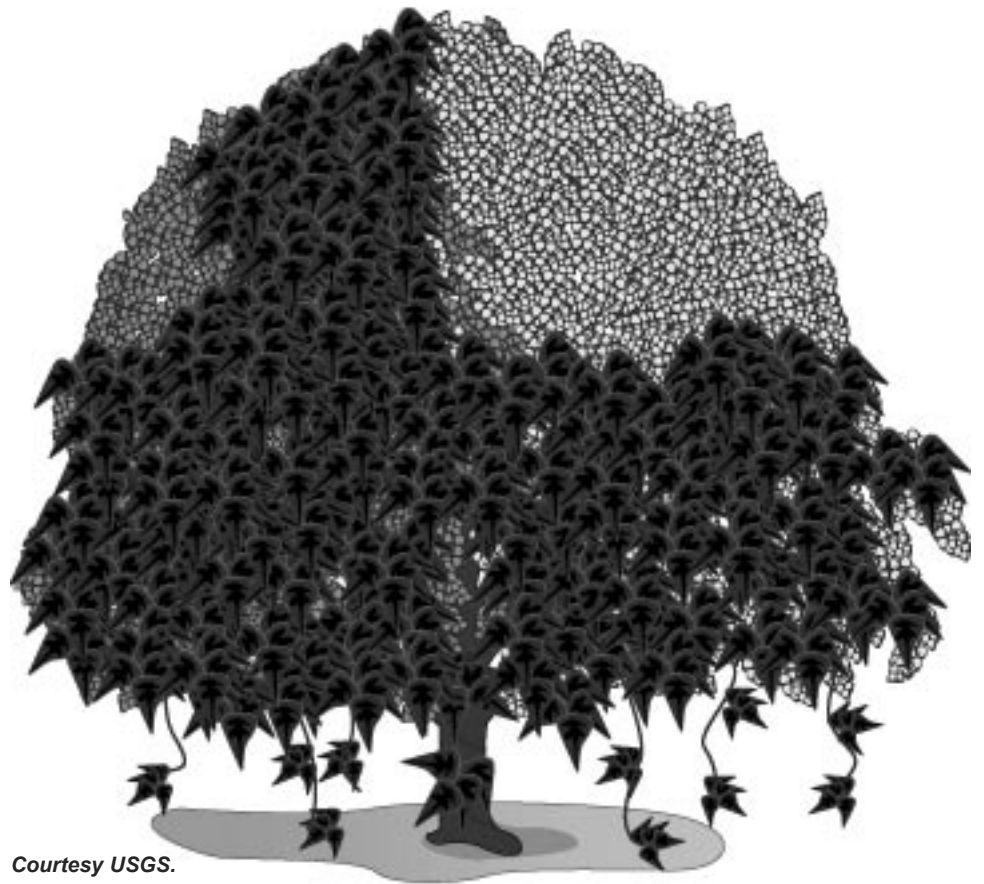
For the last two years, the DNR's Division of Entomology and Plant Pathology has been at work documenting every known site of kudzu (*Pueraria lobata*) in Indiana. The goal? To determine the extent of this species in the state—then eradicate it.

Indiana has two good reasons to eradicate this pest. First, everyone knows kudzu is tremendously aggressive in the southern states, overrunning forests, houses, and slow-moving vehicles. Until recently, we believed Indiana was too far north to really be threatened by this species. The growing season appeared too short to allow kudzu to set seed, limiting the plant to minor vegetative spread. However, in 2003, Brenda Huter of the Division of Forestry found viable seed in a population in Yellowwood State

Forest, indicating that our mild winters are now allowing this plant to set seed, making it much more mobile.

Second, kudzu poses a threat to one of Indiana's primary crops—soybeans. It has been documented that kudzu serves as an alternate host

invaded South Africa, Brazil, and Paraguay, causing yield losses ranging from 10 to 80 percent. According to Chris Pierce, Indiana's coordinator for the Cooperative Agricultural Pest Survey, the potential crop loss in the U.S. is estimated to be in the range



Courtesy USGS.



Numbers indicate kudzu sites in each county.

for soybean rust, a disease found for the first time in the United States in November 2004. Since the first find in Louisiana, it has also been detected in Alabama, Arkansas, Florida, Georgia, Mississippi, Missouri, South Carolina, and Tennessee. In the last ten years, soybean rust has

of \$640 million to \$1.3 billion in the first year and \$240 million to \$2 billion in subsequent years, depending on the severity and extent of spread. The soybean rust pathogens require a live host to reproduce and are host-specific, and kudzu is one widespread host that could serve as a reservoir.

Removing kudzu as a potential overwintering host can help diminish the threat of soybean rust.

So far, kudzu sites have been documented in seventy-three sites in twenty-five Indiana counties, totaling approximately 69.44 acres. Most sites are less than one acre in size. The largest site, in Evansville, is nearly eight acres. Ken Cotes with the Division of Entomology and Plant Pathology says kudzu sightings in the state are being confirmed by visiting the site and getting its GPS coordinates. Information is also collected from each site on associated plants, soil type, site accessibility, proximity to rare species, proximity to bodies of water, and the potential for soil erosion. Plans are being developed with DNR's Division of Soil Conservation for sites with high erosion potential.

Many groups and individuals have assisted in reporting kudzu sites, including the Indiana DNR's Division of Forestry, Purdue Cooperative Extension, and The Nature Conservancy. Illinois DNR has been helpful in providing information about the success of their kudzu eradication program.

So far the Division of Forestry has not performed any eradication work but has contacted landowners to let them know about the project and to develop a working relationship with them. About 95 percent of landowners contacted would like assistance in eradicating kudzu from their properties.

The Division is also bringing together agencies and organizations like the Natural Resources Conservation Service, Soil and Water Conservation Districts, The Nature Conservancy, and others to discuss how they can work together to fight kudzu on the ground. With their leadership, it's possible kudzu may become a thing of the past in Indiana.

*If you know of kudzu populations you don't think are on the map, report them to Ken Cote at 812-332-2241 or kcote@sbcglobal.net.*

## Rosaceae = Rose Family

Rebecca Dolan, Ph.D.  
Friesner Herbarium, Butler University

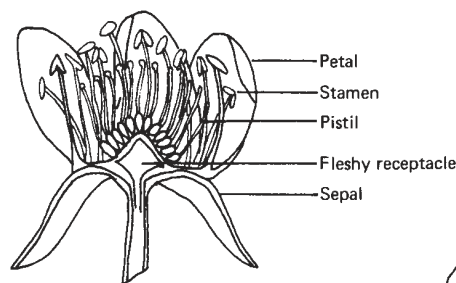
The rose family comprises about 100 genera and 2000 species worldwide, mainly in North America. Indiana has 21 genera and 101 species.

### Characteristics

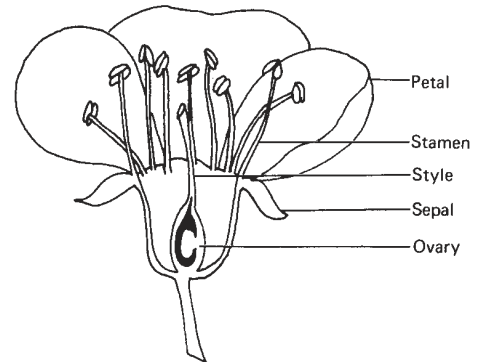
Herbs, shrubs, and trees, often armed with thorns or prickles. Leaves alternate, simple or compound, with paired stipules (extra bits of green leaf-like tissue at the base of the leaves). Flowers 5 petals and 5 sepals; many stamens. Fruit variable.

### Economic importance

Fruits and ornamentals. Quince, pear, apple, blackberry, raspberry, strawberry, almond, peach, cherry, plum, apricot. Rose hips. Essential oils for perfumes from *Rosa*. Spirea, rose, hawthorn, flowering crabs.



(a) *Rubus* (Rosaceae)



(b) *Prunus* (Rosaceae)

From S.B. Jones and A.E. Luchsinger. *Plant Systematics*. New York: McGraw-Hill, 1979.

### Herbaceous Indiana Natives

*Agrimonia*—Agrimonies  
*Filipendula rubra*—Queen-of-the-prairie  
*Geum* spp.—Avens  
*Potentilla* spp.—Cinquefoils

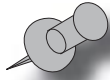
### Woody Indiana Natives

*Amelanchier*—Serviceberry  
*Aronia melanocarpa*—Black chokeberry  
*Crataegus* spp.—Hawthorns  
*Physocarpus opulifolius*—Ninebark

*Prunus serotina*—Black cherry  
*Ribes* spp.—Blackberries  
*Rosa* spp.—Roses  
*Rubus* spp.—Raspberries

### Non-Natives Common in Indiana

*Duchesnea indica*—Indian strawberry  
*Rosa multiflora*—Multiflora rose



## INPAWS Sponsored Programs

### Coming Up

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October 22 (Saturday)—Mosses and lichens at **Plaster Creek Seep**, Martin County. Hike led by Bill McKnight and Harold Allison. Limited to 15 participants.

November 5 (Saturday)—**INPAWS Annual Conference**, 8:45 a.m. to 4:30 p.m., Indiana School for the Blind, Indianapolis. Discount for registering before October 26.

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For further details visit [www.inpaws.org](http://www.inpaws.org) or contact Lynn Dennis at 317.951.8818 or [ldennis@tnc.org](mailto:ldennis@tnc.org).

### GROWING YOUR OWN

## Hearts and Flowers for Deep Shade: *Meehania cordata*

Barry Glick, Sunshine Farm and Gardens

When Thomas Meehan, a Philadelphia botanist, died in 1901, I'm sure he departed for the big forest in the sky feeling proud that Nathaniel Lord Britton (1859-1934) named a genus of plants in his honor. I'd also bet he didn't know how wonderful his namesake plant was. In fact, most people don't know how wonderful *Meehania cordata* is.

Charles and Martha Oliver, proprietors of the Primrose Path Nursery in Scottsdale, Pennsylvania, are dear friends of mine. I'd noticed *Meehania cordata* listed in their catalog. After reading their description and hearing them extol the virtues of this charming little plant, I asked them to please bring me one on their upcoming visit. I had requested one the year before, but it always seemed they were sold out. So I was emphatic that I must have one, and intimated that, should they not bring me one, they might end up sleeping in my barn on that chilly autumn night.

Tiarella, heuchera, and heucherella are the main focus of their breeding work, so we had planned a day of tiarella hunting in Wolfpen Hollow, a hauntingly mysterious woodland near my farm. We'd just descended from a summit into the foggy creekbottom when I heard Charles laughing hysterically behind me on the trail. Thinking that I must have a hole in the back of my pants, I turned to see what he found so amusing and saw him pointing to the ground. There, all around him, the ground was covered with "Meehans Mint."

Talk about getting caught not "practicing what you preach"—I who, in all of my lectures on native plants, make a point of telling people to "look in your own backyard"!

After I recovered from my initial embarrassment, we looked further and found the entire west-facing slope down to the creekbed a veritable carpet of dark, cordate (heart-shaped, hence the *cordata*), almost glossy green leaves vining over rocks and decaying tree limbs and basking in the deep shade of the hemlock and oak woods above the water.

I took some cuttings, not knowing whether they would root so late in the season, but I had a gut feeling of optimism. Sure enough, they rooted in a matter of weeks.

The following spring, I checked in on the population and found the new growth thick and lovely. In June, I went back to observe the flowers and found a sea of lilac, pink, and lavender trumpet-like blooms at the tips of the stems. They reminded me very much of *Scutellaria*, another member of the mint family and a close relative of *Meehania*.

In my garden, now having many plants from the rooted cuttings that I overwintered under a dark bench in a poly



tunnel (another testament to the virtues of *Meehania* is how deep a shade it thrives in), I proceeded to plant them under a small grove of lilacs and viburnums. They responded to the rich humus that had accumulated under these older shrubs and almost immediately started to wind their way around on the ground.

Taxonomically speaking, *Meehania cordata* is in the mint family, *Lamiaceae*. In North America, *Meehania cordata* is a monotypic (single) species in the genus. Its reported range is from southwest Pennsylvania to North Carolina and Tennessee. Its heart-shaped leaves are rather petite, averaging 1–1½ inches wide at the petiole and about 1 inch long. I suspect that the plant is hardy to zone 4,

maybe even zone 3. Propagation is easy from stem cuttings and by division.

I know of at least one other *Meehania* species in cultivation, that being *Meehania urticifolia*, *Meehania cordata*'s Asian cousin. It can be found growing through the woods of the mountain forests in the Honshu area of Japan. The *urticifolia* refers to the nettle-like foliage.

*Meehania cordata* is one of the best plants I can think of for those dark, foreboding corners of the garden where there isn't enough light for most other plants. Even if it didn't have the added benefit of those really bright, colorful flowers, I would recommend it as a useful groundcover.

You can read more about Thomas Meehan, writer, editor, nurseryman, and horticulturist, at [www.hcs.ohio-state.edu/hort/history/140.html](http://www.hcs.ohio-state.edu/hort/history/140.html), and about Nathaniel Lord Britton, first director of the New York Botanic Garden, at [www.nceas.ucsb.edu/~alroy/lefa/Britton.html](http://www.nceas.ucsb.edu/~alroy/lefa/Britton.html).

*Barry Glick is the proprietor of Sunshine Farm and Gardens, a West Virginia wholesale nursery offering "rare and exceptional plants for the discriminating gardener and collector." His entertaining "Glick Picks" articles may be viewed at [www.sunfarm.com](http://www.sunfarm.com). You may contact Barry at 304-497-2208 or [barry@sunfarm.com](mailto:barry@sunfarm.com).*

**Editor's Note:** *Meehania cordata* occurs in Illinois, Ohio, and Kentucky. It has not been identified in Indiana.

## Prairie Fameflower

*Continued from page 1*

Apparently only a single flower opens on a plant at a time. The small half-inch flowers have five petals with a beautiful rich pink color. As I can attest, they are strictly late afternoon bloomers, and they open quickly. I count myself fortunate to have seen eleven blooming stems at the same time in this small population.

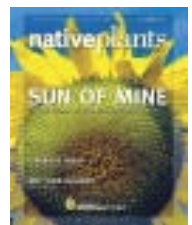
Technical information about prairie fameflower is found in Gleason and Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada* (1991). Readers may also enter the scientific name in their search engine on the Internet to find lots of additional information.

*Dan McDowell is an INPAWS member and retired steelworker from Hobart, Indiana. His favorite pastime is searching the natural areas of the Dunes Region for orchids and other interesting plants.*

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# Compensation

Barbara E. Plampin, Ph.D.  
Shirley Heinze Land Trust

*The guide's body English clearly indicated I was too arthritic to climb to the Roman fort crowning the barren, windswept summit of Hardknott Pass, the highest in England's Lake District.*

No problem: I wanted to examine the tiny bogs near our mini-van. What I found there provided ample compensation.

With just room to keep dry shod, I could safely peer into the "boglets" starry with yellow bog asphodel (*Narthecium ossifragum*), a lily cousin foreign to Indiana.

But the slender spikes of white buds turned out to rise from the flattish rosettes of an Indiana friend, round-leaved sundew (*Drosera rotundifolia*). Wider than long, glistening nectar-dew-fringed leaves held numerous skeletal remains of prey. (It's possible to gather a nectar drop on a finger tip and taste the sweetness.)

Perhaps attracted by "dew," an insect landing on a leaf sticks in the mucilage secreted by red glands. The more-or-less dime-sized leaves, technically "adhesive traps," enclose the insect while gland-secreted enzymes extract nitrogen and trace minerals missing from the plant's nutrient-poor habitat. This carnivore, found in about twelve northern Indiana counties and sites elsewhere in northern North America, also inhabits Europe and Siberia.

With us, these plants occur in sand mined to the water table with nodding ladies' tresses (*Spiranthes cernua*), colic root (*Aletris farinosa*), and hardhack (*Spiraea tomentosa rosea*) and in or near sphagnum with larch (*Larix laricina*) and pitcher plant (*Sarracenia purpurea*).

Sometimes the glistening dew and reddish leaves lead to discovery. Deam

wrote that, in 1915, this sundew "was so abundant on the moist, sandy shore of Walker Lake, Porter County, that it covered acres, and at a distance, the ground looked red." (A steel mill later filled in the lake.)

With one or two exceptions, the populations of round-leaved sundew I know are bathmat-sized or smaller. Size or even presence of plants seemingly depends on rainfall.

Large colonies remain at Indiana Dunes National Lakeshore's Pinhook Bog (signing up for a ranger-led hike is mandatory) where plants grow with its state-listed coastal plain cousin, intermediate sundew (*D. intermedia*), characterized by mounded basal rosettes of spatulate leaves.

In autumn, both species produce hibernacula—sea-urchin-like winter buds that grow into new plants.

## Some Books

Deam, C.C. *Flora of Indiana*. Reprints of US-Floras. J.Cramer. 1984.

Lippert, W., and D. Podlech. *Wildflowers of Britain and Europe*. HarperCollins, 1994.

Schnell, D.E. *Carniverous Plants of the United States and Canada*. 2<sup>nd</sup> edition. Timber Press, 2002.

Swink, F., and G. Wilhelm. *Plants of the Chicago Region*. 4<sup>th</sup> edition. Indiana Academy of Science, 1994.

*Round-leaved sundew.*  
Courtesy Department of  
Fisheries and Oceans Canada.



Membership renewal is available at the INPAWS Annual Conference.  
Renew November 5 and avoid the January rush.



# Seed Collecting Tips for Native Plants

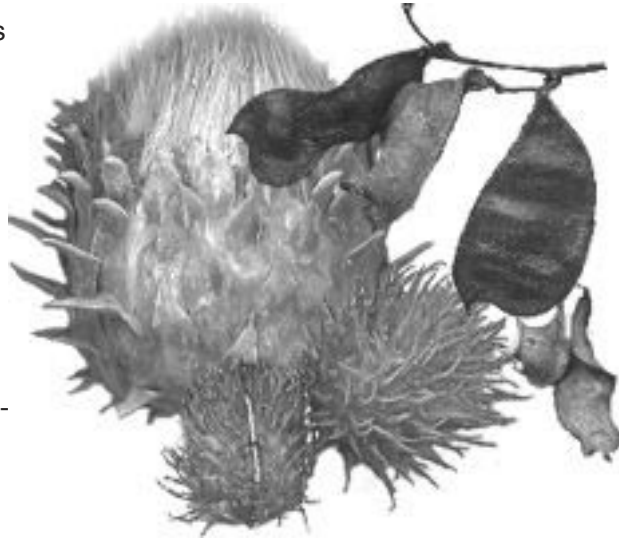
Dawn Bauman, Chair, INPAWS Native Plant Rescue

Seed collecting can be an easy, economical way to rescue native plants, repopulate native plantings, or try growing natives in your own garden. The seeds produce many small plants and, unless disturbed, the mother or stock plant is left untouched. Just make sure you **take less than one-third of the seed** from any one plant to ensure that the plant can sustain itself.

Here are some tips to make this fall's seed harvest successful.

## 1. Know the plant's life cycle.

Collecting seed requires familiarity with the life cycle of the plant. You need to know when the plant flowers, when it forms seeds, and when the seeds mature. Observation and recording will give you the experience you need to overcome the most difficult part of seed collecting—the timing. Watch the growth cycle of each species throughout the year, and record what you see.



Courtesy Gene Bush, Munchkin Nursery, [www.munchkinnursery.com](http://www.munchkinnursery.com).

## 2. Determine whether the seeds are dry or fleshy.

When observing plants, note whether the seeds or fruits are dry or fleshy—are they more like sunflower seeds or more like apricots? Knowing the difference helps you pick the best time to harvest and know how to store the seeds appropriately. Many woodland plants have fleshy seeds, like the bright red berry-like seeds of jack-in-the-pulpit, and green dragon. Many prairie plants and grasses have dry seeds, like the prickly black seed heads of purple cone-flower and the delicate grassy plumes of prairie dropseed.

## 3. Time your harvest to match seed development.

Timing of the harvest is all-important. If collected too early, the seeds will be immature; if collected too late, the seeds may be dried out or gone. Observing seed development is the best way to decide when to collect. The mature seed of dry seed types is usually dark, firm, and dry. Fleshy seeds turn color as they ripen and should be collected as they are turning color.

The dispersal methods of different species provide clues to the proper harvest time. Plants whose seeds ripen in pods should be collected just as the pods are beginning to open. Seeds such as twinleaf (*Jeffersonia diphylla*) and bloodroot (*Sanguinaria canadensis*), which have a fleshy appendage, need to be collected before the capsules split. Usually when one capsule begins to split the others soon follow, so watch carefully over a period of a few days—it happens fairly quickly when it happens.

Pods that break open and shoot out dry seeds can be contained by placing a paper sack over the head and closing the open end with a twist tie. Collecting the entire pod is good because the seed will continue to ripen in the pod as it dries in the paper sack.

Some seeds ripen at various times, such as the seeds of wild columbine (*Aquilegia canadensis*). Collect these by taking the entire capsule or pod or by shaking the inflorescence over a tray or sack to catch the ripe seeds. Seed can be collected over several days during August to October and dried for one or two weeks in open paper bags or open plastic bins, shaking or turning the seed heads periodically.

Dry open prairie plants and wildflowers that have spiny seeds should be collected as entire seed heads, usually from August through October. Collect aster seeds when they are easily removed from the head. They are dark gray at maturity. Plants with seeds in a spike inflorescence can be harvested like grass. Collect grass seed by running your fingers up the flowering stems, stripping them.

## 4. Label the contents of collecting bags as you harvest.

Accurate labeling of the collection bags is important and should be done while collecting. Use common names unless you are sure of the scientific name, and be sure to include the collection date and location. This will help with record keeping.

Collect dry seeds in paper bags or paper envelopes so that the seeds don't retain moisture. Collect fleshy seeds in a sealed plastic container, preferably with a small amount of moist moss or vermiculite. Some people recommend a one-to-one ratio of moist sand, moss, and vermiculite or peat-perlite mix (Pro-Mix). The seeds of most woodland plants or early spring ephemerals need to be kept moist.

Be aware that the ink of permanent markers will dissolve on plastic bags. Instead, use the marker to write on freezer tape on the outside or on a small piece of paper slipped inside.

## 5. Clean and store seeds properly.

Fleshy seeds should be cleaned and sown as soon as possible. If they dry out, they may lose their viability or spontaneously germinate.

Dry seed should be left to fully mature and ripen after harvest by allowing air circulation in the collection bags. Storage in a brown paper sack at room temperature aids in after-ripening while helping to prevent mold.

## 6. Know what conditions stimulate germination.

Some seeds remain capable of germinating even after being stored for a long period of time. Such seeds have a seed coat that protects them from drying out and keeps them from germinating until conditions are right.

Some seeds have the added protection of a germination delay mechanism that can only be overcome by a specific series of conditions over time, such as drying, variations in temperature (stratification), wounding (scarification), exposure to light, and removal of germination inhibitors by washing or soaking overnight.

You'll need to research individual species to determine how to simulate the conditions they need for seeds to germinate.

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## Techniques to Stimulate Seed Germination

The conditions favorable to germination vary considerably from species to species. Here is a sampling of the methods used to germinate various species.

☼ **Dry storage.** Storing seed dry in the refrigerator for one to three months aids in after-ripening. This technique is useful for species such as *Aster*, *Baptisia*, *Campanula*, *Coreopsis*, *Gaillardia*, *Helianthus*, *Oenothera*, and *Tiarella*.

☼ **Stratification.** This technique tricks seeds into thinking it is spring when they are sown. Seeds are packed in moist vermiculite, perlite, or sand and kept cold to simulate winter. Some seeds require a period of dry storage before stratification.

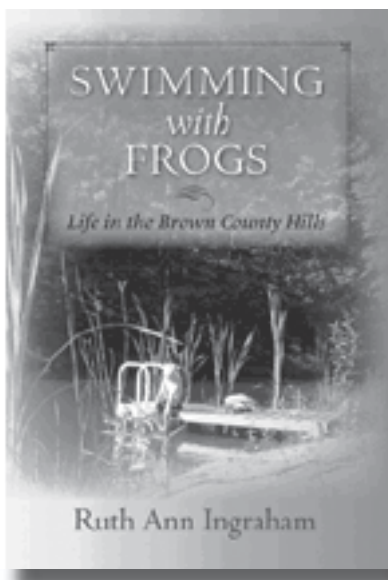
Three months of moist, cold stratification (40° F) are required for *Amsonia*, *Anemone*, *Aruncus*, *Echinacea*, and *Aconitum*. Multiple cycles of warm and cold temperatures (40–70–40–70° F) are required for *Erythronium* and *Polygonatum*.

Three months of warm, moist stratification followed by three months of cold, then shifting to warm again are required for *Lilium*, *Filipendula*, *Dentaria*, *Dicentra*, and *Claytonia*.

☼ **Cleaning and washing.** Removing seed from fruit and washing out germination inhibitors is required for *Arisaema*, *Polygonatum*, and other species with seeds imbedded in fruit. This is usually combined with other pretreatment.

☼ **Light exposure.** Providing light to stimulate germination is required for common wetland species such as *Chelone*, unlike most seeds, which are covered to a depth equal to the diameter of the seed itself.

☼ **Soaking or scarifying.** Seeds with thick coatings need to have them softened or nicked to enable germination. *Hibiscus* seed may be sown immediately after a warm water soak overnight. *Ipomoea* need to be scarified by clipping the pointed end of the seed with a file or nail clipper and soaking overnight.



AVAILABLE AT THE ANNUAL CONFERENCE

## Swimming with Frogs

*Life in the Brown County Hills*

by Ruth Ann Ingraham

**A delightful memoir of life in the hills of Brown County, Indiana.**

Close observations of nature as well as thoughtful musings about life. Beautifully illustrated with color photos and black and white drawings.

For naturalists of all stripes, fans of contemplative writing, and Brown County residents and visitors. A fine holiday gift for your nature-minded friends and relatives.

**Proceeds from Annual Conference sales go to INPAWS.**

# INPAWS Annual Conference

Mark those calendars! The **2005 INPAWS Annual Conference** will be **Saturday, November 5** in Indianapolis. Our exciting lineup of speakers includes internationally recognized keynotes Bill Cullina and Neil Diboll. Watch for registration information in the mail and at [www.inpaws.org](http://www.inpaws.org).



## **William Cullina** **New England Wild Flower Society**

**Bill Cullina's** gorgeous, seminal books on the use and propagation of native plants are essentials of any gardening library. His first, *The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada* was followed by his *Native Trees, Shrubs, and Vines: A Guide to Using, Growing and Propagating North American Woody Plants*.

His newest book, *Understand Orchids*, was published in November 2004. Work is underway on a third volume in the natives series—on grasses, ferns, and mosses—due to be published in 2007.

Bill is the nursery manager and propagator at the New England Wild Flower Society's Garden in the Woods and Nasami Farm. Bill's talks at the conference will be **The Triangle of Happiness: Native Plants for Those Tired of High Input Gardening** and **Secrets and Myths of Native Plant Propagation from Seed**.



## **Neil Diboll** **Prairie Nursery**

**Neil Diboll** is President of Prairie Nursery in Westfield, Wisconsin, one of the country's finest sources for native plants and seed. Recognized internationally as an expert in ecological and natural landscape design, he designs for highways, county parks, golf courses, commercial facilities, estates, and public, private, and university arboreta throughout the Midwest and Northeast. Neil lectures worldwide, spreading the word about the use of native plants as far away as Britain's Royal Botanical Gardens at Kew. Neil's presentation at the conference will be **Five Steps to Successful Prairie Establishment**.

## **With Additional Sessions On . . .**

The Mushrooms of Indiana

Indiana's Glacial History and its Impact on Flora and Fauna

Frogs of Indiana

Floristic Quality Assessment

Wetlands Restoration at the Scott Starling Nature Sanctuary

# Hoot Woods

Marion T. Jackson, PhD  
Professor of Ecology  
Saint Mary-of-the-Woods College

## Legacy of a Pioneer Family

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The first six essays in Marion Jackson's "Favorite Trees" series focused on individual **tree species**: Kentucky coffee tree, umbrella magnolia, witch hazel, butternut, tulip tree, and sassafras. Individuals of a species greatly resemble one another and actually or potentially share a common gene pool; in short, members of a species can reproduce among themselves.

This story features a **forest community**: Hoot Woods located in Owen County, Indiana. Ecological communities are composed of many (usually) species that have mutual tolerances to the environmental conditions prevalent at their site of occurrence. By virtue of their interactions, they are able to continue their forest stand for centuries, millennia, and often much longer.

**Editor's Note:** Hoot Woods is private property and not open to the public. However, The Nature Conservancy leads hikes there every few years for interested members.

*Of the approximately 50 old-growth beech-maple dominated remnants of the original Eastern Deciduous Forest ecosystem that my students and I have researched during more than 40 years, Hoot Woods ranks as my all-time favorite.*

This is true for several reasons, not the least of which is our continuing intensive re-surveys of the stand at decade intervals.

During the summer of 1965, my graduate student Phil Allen, a native Owen Countian, did a full census of all the trees in approximately 16 acres of Hoot Woods, then plotted the nearly 1,500 individual trees as to their exact location on a 1:33 scale map. This data set provided the basis for Phil's thesis and for re-surveys in 1975, 1985, 1995, and the 2005 inventory completed this June. Each decade, each tree is measured to record growth increments. Also noted are the deaths of individual trees and ingrowths of saplings. Dr. Mark Cowell, formerly of ISU and now at U. Mo. at Columbia, assisted me in this year's field study and will continue the project into the future.

That Hoot Woods still exists is a tribute to the Hoot family who emigrated from Germany during the 1860s to homestead their 160-acre farm, and who currently continue joint ownership among their descendants as a family trust. About 64 acres of the farm are still heavily forested and largely intact as an American beech-sugar maple-tulip tree dominated old-growth forest. The Indiana Chapter of The Nature Conservancy now holds a conservation easement on Hoot Woods itself, to insure its future protection.

Few places in Indiana are less changed from their original rural landscape than Owen County in the vicinity of Hoot Woods. The 21<sup>st</sup> Century erases from my consciousness as I traverse the narrow gravel roads deeper and deeper into Indiana's history. Moving down the entry lane of the Hoot farm toward the pleasant farmhouse on the hill, and walking the footpath to the woods, I sense the presence of the generations of Hoot family members who lived here, and who loved and protected their Granddad's woods.

My interest in Hoot Woods transcends the longevity of my study, as does my appreciation for the immense ecological values represented by the huge trees as members of an ancient, continuing ecological community. Each re-survey has taken on a deeper meaning, a more intimate association with Nature as it originally was, so that this summer's re-visit assumed a spiritual dimension.

As I stepped into the woods proper, the dim green-filtered forest light greeted and soothed my eyes. Liquid notes of wood thrushes drifted flute-like across the forest understory. The wild staccato cries of a far-off pileated woodpecker told me that I was home again.

It all began for me when I spent my boyhood years next to an old-growth beech-maple stand in what is now Versailles State Park. Now, here in

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another such forest, I feel that I truly belong.

Throughout my professional career as an ecologist I have walked among the virgin forests of the North American continent, taping their trunks, taking the girth of life, as it were—arching my neck to look up through lofty crowns to the sunlight that powers and sustains the trees. The objective of my studies has always been to understand the patterns and processes that ensure the continuation of Nature, and to devise protection strategies to make that survival possible.

**A**s our survey begins, I call out the tree diameters in centimeters to my data recorder: sugar maple 22.6, beech 74.2, tulip tree 128.9, red elm 17.9.... I have measured many of these trees five times since 1965. These trees and I have a kinship, and in the recesses of my mind I feel they recognize me as I again encircle their trunks and note their diameters.

As I walk through the forest stillness, my mind drifts back to that first inventory when I was in my early 30s. These trees and I have grown together during those decades—they in girth and volume, me hopefully in perception and understanding of what is truly important. After most of a lifetime of viewing and studying nature, I truly feel that an organic thread connects all of life—that to diminish any life is to diminish all life. This understanding must be the basis of Thoreau's dictum that, "In wildness is the preservation of the world."

The largest tree in our Hoot Woods study area is a magnificent chinquapin oak, *Quercus muehlenbergii*. Majestic when we began our study, it was losing vigor in 1985, and when we surveyed in 1995 it had recently



*The author tapes a 4-foot dbh chinquapin oak in Hoot Woods in June 2005.*

died. Now, in 2005, it still stands fully erect, but the bark of its trunk is gone, revealing a still rock-hard trunk more than 48 inches dbh (diameter at breast height). Nature, the original recycler, is deliberate in both its life and its death processes. This incredible oak likely garnered nearly four *centuries* of summer sun during its lifetime as it built its massive body—followed by as many *decades* to fully recycle its stored nutrients to the soil after its death. The 40-year

time window of our study is a mere "eyeblick" in the total history of Hoot Woods, which has occupied the site for perhaps 10 or 20 millennia since Pleistocene ice last vacated the Owen County region.

**G**od willing, I look forward to joining the 2015 inventory, to see if the great oak is totally gone and to reconnect with the hundreds of its companion trees in my favorite beech-maple woods.

## Keeping Indiana Wildlife from Becoming Endangered

DNR is developing a comprehensive wildlife strategy—an unprecedented “blueprint” for keeping all wildlife populations healthy by focusing on the habitats they need to thrive.

The goal is to keep species off the threatened and endangered species list and keep our common species common. Working with technical experts and partners throughout the state, DNR is pursuing a science-based approach to identify how to best protect Indiana wildlife at a landscape scale.

In an effort to encourage a more integrated approach to wildlife conservation, Congress has required all states and territories to develop comprehensive wildlife strategies by October 2005 to be eligible for potentially significant federal funds for wildlife conservation. Continued federal funding will allow DNR and other conservation partners to work together to provide more “on the ground” habitat projects.

“Only about 3 percent of Indiana’s land area is in public ownership, so the vast majority of wildlife species are located on private land,” stated Katie Smith, Chief of the DNR Wildlife Diversity Section. “It is clear that wildlife conservation will be best accomplished in Indiana through partnerships with private landowners and conservation organizations.”

According to Smith, habitat quality and quantity are the primary factors affecting wildlife populations in the United States and this process will help conserve all wildlife species in Indiana.

“This is an historic effort that has never been done before,” said Glen Salmon, Director of the DNR Division of Fish and Wildlife. “Having all fifty states and U.S. territories simultaneously developing these strategies

presents a tremendous opportunity for conservation at a landscape scale.”

DNR welcomes input on this historic effort from all Hoosiers. Feedback will help DNR and its partners provide an accurate representation of statewide wildlife and habitat needs. To find out more about this process visit [www.djcase.com/incws](http://www.djcase.com/incws).

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**November 23 is the deadline** for submissions to the Winter 2006 issue of INPAWS JOURNAL. See page 2 for details.

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## DNR Releases 2005 Indiana Big Tree Register

For the past five years, many Hoosiers have been stalking big trees. These efforts have resulted in the 2005 edition of the Indiana Big Tree Register, now available free of charge at the DNR.

The seventh edition of the Register lists 112 species of trees considered native to Indiana. Of those, 91 are represented as “champions” (in terms of size), and two species are represented as co-champs. All were nominated by tree enthusiasts. “These are people who appreciate the value that large, mature trees provide to the state,” explained State Forester John Seifert of the DNR. “Trees...sequester more carbon, collect more pollution, and give more oxygen just by merit of their size. That’s why it’s important to properly manage urban and rural woodlots, and to maintain and plant trees in our cities, towns, neighborhoods, and yards.”

The largest tree—the Big Tree Champ—for this year’s publication is a sycamore located in Johnson County near Trafalgar. The smallest of

the Big Tree Champs is a green haw growing in Wesselman Woods Nature Preserve in Evansville.

Four trees have reigned as champions since the inception of the Register in 1974: a Deam Oak in Wells County, a black walnut in Fayette County at Schraeder-Weaver Nature Preserve, an American elm owned by Jim Herzog in Rosedale (Parke County), and a tulip poplar owned by Bill Quillam of Washington (Davies County).

DNR foresters verified 240 nominations for the 2005 version of the Register, which is published every five years. For more information, or to receive a free copy of the Indiana Big Tree Register, contact Janet Eger at 812-279-3391 or [jejer@dnr.in.gov](mailto:jejer@dnr.in.gov).

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## Purdue Offers Plant Diagnostic Services

Got a sick plant? The Extension Office in each Indiana county has an Agriculture and Natural Resources Educator who can look at samples. To find your local Purdue University Cooperative Extension Service, visit [www.ces.purdue.edu/counties.htm](http://www.ces.purdue.edu/counties.htm).

If diagnosis is a problem, photos can be sent to all the educators, thus pooling the expertise of more than 100 Purdue staff. If necessary, a sample can be sent to the Purdue Plant and Pest Diagnostic Lab. The charge is \$11 per sample. For information about sending samples to the lab, visit [www.ppd.l.purdue.edu/ppdl/SampleSubmission.html](http://www.ppd.l.purdue.edu/ppdl/SampleSubmission.html).

The Purdue Diagnostic Lab home page, [www.ppd.l.purdue.edu/ppdl](http://www.ppd.l.purdue.edu/ppdl), features breaking news, a picture of the week, links to Mary Welch-Keesey’s “What’s Blooming” articles, Tom Turpin’s insect articles, and archived information on past problems.

## INPAWS Bus Trips Are Back!

Twenty-eight intrepid native plant lovers braved 93-degree weather September 9-11 to take in the sights at the Missouri Botanical Garden and Shaw Nature Reserve on INPAWS' first bus excursion in several years.

MBG botanists Kay and George Yatskievych provided personalized tours of both sites, including a rare book collection at the MBG research facility, and cheerfully fielded endless technical queries from their savvy visitors.

New and old INPAWS members became acquainted as camaraderie developed on the bus rides, over box lunches, and especially around joint efforts to identify plants.

Our thanks to Ruth Ann Ingraham and Lynn Dennis for organizing the event. We look forward to more! *Your ideas for excursion destinations are welcome. Please contact program chair Lynn Dennis at 317-951-8818 or [ldennis@tnc.org](mailto:ldennis@tnc.org).*



*George and Kay Yatskievych of the Missouri Botanical Garden were our expert guides.*



*Soaring temperatures did not dampen spirits in the luxurious restored prairie plantings at Shaw Nature Reserve.*

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## Walk-Ins Welcome at Wabash River Symposium, October 6-7

"The River of Indiana" is the focus of this year's fall meeting of the Indiana Academy of Science at Saint Mary-of-the-Woods College near Terre Haute.

Cosponsored by Hanover College's Rivers Institute and IAS, the symposium features a keynote address by Dr. James Gammon, Professor Emeritus, DePauw University, with a sneak preview of a new video on the Wabash (Thursday, 7:30 p.m., free and open to the public) and talks on the biology and conservation of the Wabash River by local authorities (Friday, 8 a.m. to 12 noon.; \$15 fee).

All talks will be held in Room 100, Hulman Hall, on the campus of Saint Mary-of-the-Woods. For information, contact Daryl R. Karns at [karns@hanover.edu](mailto:karns@hanover.edu) or 812-866-7249.

## Swimming with Frogs: Life in the Brown County Hills

Reviewed by Bobbi Diehl

Several years ago, Ruth Ann Ingraham asked me to read her unfinished manuscript and tell her how to make it more publishable. As it played into one of my favorite fantasies—the purchase of a Brown County cabin—I was happy to oblige.

I found the manuscript as yet rather unformed and advised Ruth Ann that it needed tightening, reorganizing, and refocusing. That was the end of my involvement.

I later heard that Indiana University Press had given her a contract and was pleasantly surprised six months ago to hold the completed *Swimming with Frogs* in my hands. I read it straight through. Ruth Ann had done a tremendous amount of work, and it showed. The book is amusing, informative, and has gorgeous photographs. Anyone who cares for the environment should have it, not only for the cabin adventures—which never stop—but for the wonderful tales of Ruth Ann's and Joe's interactions with the Brown County wildlife and flora.

The obvious subjects, such as water, trees, birds, deer, and wildflowers, are dealt with capably, as one would expect of an INPAWS co-founder. The frog and toad chapter is wonderful—Ruth Ann adores amphibians. There are also unexpected delights, such as the chapter on mushrooms. As for “Mousy,” it is a tour-de-force, alone worth the price of the book. I could go on but prefer to let each of you discover your favorites.

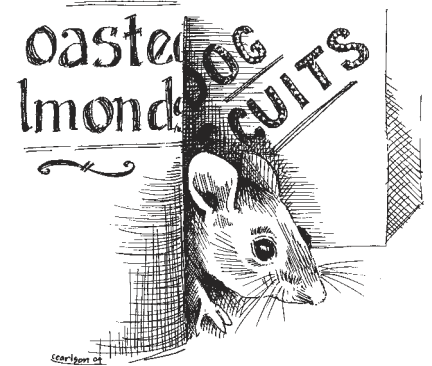
Ruth Ann has done much for the environment just by her actions over the years, not to mention her generosity to environmental causes. Now she has written this book, which is sure to inspire readers to do more also—and I'm happy to say it's selling briskly.

So buy a copy while supplies last and, when you have time, sit next to your favorite window, put your feet up, and crack open *Swimming with Frogs* for your own enjoyment.

Then let me know how you like it!

*Appreciate living simply.  
Think small.  
Cultivate the state of quietness;  
then listen and observe intently.  
Nurture nature.  
Be open to joy, despite grievous loss.  
Discover and protect the wonders  
of our diverse world.  
Love life.*

—Ruth Ann Ingraham



“Mousy” rendered by Chris Carlson.

**Editor's Note:** Ruth Ann donates her royalties to The Nature Conservancy's Brown County Hills Project.



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and Wildflower Society

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