



# On The Fringe

Journal of the Native Plant Society of Northeastern Ohio

## **ANNUAL DINNER**

**Friday, October 27 2006**

At the Cleveland Museum of Natural History

Socializing and dinner: 5:30

Lecture by Kaiulani Lee at 7:30

**“A Sense of Wonder”**

**This speaker is co-sponsored by the Cleveland Museum of Natural History Explorer Series.**

**Tickets:** Dinner and lecture: \$20.00.

Send checks to Ann Malmquist, 6 Louise Drive., Chagrin Falls, OH 44022; 440-338-6622

Tickets for the lecture only: \$8.00, purchased through the Museum

**TICKETS ARE LIMITED, SO MAKE YOUR RESERVATIONS EARLY**

## **Annual Dinner Speaker, Kaiulani Lee**

On October 27<sup>th</sup>, acclaimed actress Kaiulani Lee will portray Rachel Carson, one of the most influential women of all time. Rachel Carson (1907-1964), a writer, editor, biologist and ecologist, was a great force behind the environmental movement. The 1962 publication of her book *Silent Spring* brought the danger of chemical pesticides to the public consciousness. *Time Magazine* named Carson one of the 100 Most Influential Women of the Century. The chemical companies were having fits upon being exposed, but Carson forged ahead with her discoveries and ultimately forced their hands and that of Congress.

Acclaimed by thousands as one of the founders of the environmental movement, she not only saved the lives of many people but was influential in saving the lives of birds whose shells were proven to be thinned, thus causing premature death. Our own American Eagle is one cogent example.

The play's first act takes place in the quiet of Carson's beloved summer cottage in Maine. In failing health she knows she will return to face the storm of

controversy surrounding the newly published book. Act Two begins in her Maryland home where she reflects on the professional and personal criticism and the beauty of the living world she was trying to save. “A Sense of Wonder” has played throughout America and Canada, England, and in Italy.

Lee has over twenty years of experience in the theater. She has starred in more than a dozen plays on and off Broadway and won the Obie award for outstanding achievement. In addition she has starred in television series and her film credits include *Garp* and *Cujo*, among others. Lee graduated from the American University and holds an Honorary Doctorate of the Arts from Bowdoin College.

From a noted critic, Dr. Diana Post: “Many in the audience at the Museum of Natural History were moved to tears by Miss Lee's sensitive, compelling portrayal of Rachel Carson. At the conclusion, all rose to give Miss Lee a well deserved standing ovation”.

Join us October 27<sup>th</sup> for this stunning performance.

## **2006 Annual Grant**

The deadline for applications has been extended to October 23, 2006.

Please see page 2 for details.

## Board

President	Judy Barnhart
Vice President	Barbara Andreas
Secretary	Katherine Malmquist
Treasurer	Jonathan White
Membership	Ann Malmquist
At-Large	Ami Horowitz
Program Chair	Diane Police
Newsletter	Jane McCullam
Co-editors	Ann Malmquist

*The Journal of the Native Plant Society of Northeastern Ohio* is published 4 times a year at Novelty, Ohio. ISSN 8756-6087. Questions or comments are welcome and may be addressed to Jane McCullam, 9880 Fairmount Road, Newbury, Ohio 44065, 440-338-3253; npsOhio@hotmail.com; or to Ann Malmquist, 6 Louise Drive, Chagrin Falls, Ohio 44022; 440-338-6622, inky5@juno.com

### Fall 2006 Program Schedule

**Sep 17, Sun: PLANT ID SERIES: AQUATIC PLANTS – 9:00 AM** (*Plant Identification Series*)

Bob Bartolatta of Cleveland Museum of Natural History will lead this trip to explore several glacial lakes of Geauga County by canoe, including Lake Kelso and Punderson Lake, as we look at the diversity of aquatic plants found growing in their depths.. Directions: Take St. Rt. 44 south past Punderson Lake to Pond Rd. Head east approx 1 mile to Old Rider Road. Turn left and park at Burton Wetlands on east side of road. Call Judy to register: **(H) 440-564-9151 or (W) 440-286-9516.**

**October 12, Sat: JOHNSON WOODS, Wayne County: – 10:00 am.** As fall color reaches its peak, State Botanist Rick Gardner leads this trip through the largest, least disturbed old-growth forest known to remain in Ohio. Directions: From Orrville, take St. Rt. 57 north 4 miles to Fox Lake Road. Head east 1 mile to parking area on north side of road. Call Diane to register: **(H) 216-691-1929 (W) 440-603-7195**

**October 27, Fri. ANNUAL MEETING – 5:30 pm.** Cleveland Museum of Natural History. See Page 1 for details.

#### 2006 Grant Announcement

The Native Plant Society of Northeastern Ohio will consider applications and nominations for an Annual Grant to be awarded to a person or persons working in the field of botany or conservation that demonstrates excellence in research, conservation or education, including land trusts, organizations and causes that clearly support the Mission of the Ohio Native Plant Society. The mission includes:

- Conservation of all native plants and natural plant communities through habitat protection and other means
- Public education and appreciation of native plants
- Proper ethics and methods of natural landscaping
- Surveys and research on native plants and publication of the information
- Cooperation with other programs and organizations concerned with the conservation of natural resources.

The amount of the grant will be \$500.00. Deadline for submissions is **October 23** (*please note new deadline*), and the grant will be awarded at the Annual Meeting on October 27, 2006.

Applications should include contact information, summary of the project, and how money will be used. Awardee will be asked to give a brief presentation on the project the following year at the Annual Meeting.

Please e-mail your request to bunchberry1@netzero.net. or submit 3 copies to: Judy Barnhart, President, Native Plant Society of Northeastern Ohio, 10761 Pekin Road, Newbury, Ohio 44065.

## Eastern American Trilliums

### Part 1 of 4

by Fredrick W. Case Jr.

Trilliums are among the most familiar and beloved of the early spring flowers of the eastern United States. Some enjoy great popularity for their quiet beauty and grace. Some others, especially among the sessile types, cannot be said to be "beautiful." Rather, one might say they possess "curious, gnome-like, fantastic," or even "amusing" characteristics. The folk-names of many species indicate the place they hold in the lore and lives of all of us: wood lily, mayflower, stinking benjamin, wet-dog trillium, bloody noses, and wake robin.

As a genus (or as a distinct family as some botanists believe), trilliums range widely across North America and Asia. By far the greatest number of taxa occur in the mountains, upper piedmont, and foothills of the southeastern United States, from the Carolinas to Alabama, and on the Cumberland Plateau and surrounding areas of Kentucky and Tennessee. Additional species range northward along the Appalachians into Canada, Newfoundland and westward in the north to the edges of the prairies in Minnesota, Nebraska and Iowa. Farther south, a few species occur in Missouri, Arkansas, Mississippi and Louisiana. One or two species reach Texas.

In the western United States, there are at least two pedunculate and four or five sessile trilliums, mainly near the West Coast.

Trillium species occur in Asia as well. There, they range from Russia and the Himalayan Mountains to Japan and Kamchatka.

A relative of Trillium, **Paris**, occurs in Europe and Asia. Vegetatively, species resemble, somewhat, the bunchberry, *Cornus canadensis*, while the greenish flowers are fascinating, but certainly not showy. Indian cucumber-root, *Medeola virginica*, is another relative, unshowy yet interesting and widespread in acid woods of the eastern states.

Taxonomically, Trillium has been poorly understood in the past. The literature, both botanical and horticultural, contains a morass of misnomers, incorrect distributions, and general misinformation. So confused is the situation that few can speak and be absolutely certain that they refer to a given taxon as its author intended. The confusion results from a multitude of factors. The species often possess rather minute structural differences which tend to be obliterated or obscured in dried herbarium material.

Trillium seedlings often flower while they are still much smaller than plants typical of that species. Several species seem to mutate frequently and have produced a variety of color forms. A few species hybridize freely with closely related species when they occur together. Some of the hybrids, especially when one of the parents is a color mutant, may mimic color patterns of other species.

Fortunately, studies are under way in several American and Japanese universities which could erase much of the confusion. Tools of taxonomic analysis today utilize refined chromosomal and biochemical techniques which can throw much light on relationships.

A fine revision of the sessile trilliums by John Freeman (1975) is the most definitive and helpful paper on sessile trilliums yet to appear. I will generally follow his treatment.

It is not my purpose, in any sense, to write a taxonomic paper here. Rather, I intend to discuss the eastern species of trillium from the point of view of my own field experience and from growing them in the garden.

The genus **Trillium** consists of two subgenera, **Trillium** subgenus **Phyllantherum**, the sessile trilliums, in which the flower is borne directly upon the bracts (leaves); and **Trillium** subgenus **Trillium**, the pedunculate trilliums, in which the flower is borne on a short stalk, the peduncle, above the leaves.

The pedunculate trilliums, currently under study by several researchers, greatly need revision. My interpretations and field experiences do not seem to agree fully with the works presently in print.

The pedunculate trilliums are particularly useful and showy in the garden. All work extremely well in the woodland and wild garden. Let me first list those pedunculate species which I believe to be fairly distinctive wild populations, if now taxonomically discrete species. Then I will discuss each taxon from the point of view of occurrence, culture and ecology, as follows:

### The Pedunculate Trilliums

#### Eastern Pedunculate Species

*T. catesbyi*

*T. cernuum* var. *macranthrum*

*T. erectum*

*T. erectum, forma blandum*  
*T. flexipes*  
*T. grandiflorum*  
*T. nivale*  
*T. ozarkanum*  
*T. persistans*  
*T. pusillum var. pusillum*  
*T. pusillum var. virginianum*  
*T. regellii*  
*T. simile*  
*T. texanum*  
*T. undulatum*  
*T. vaseyi*

### ***Trillium catesbyi* Ell.**

Catesby's Trillium occurs in the southern Appalachian and Great Smoky Mountain areas, from the upper piedmont of Alabama and Georgia, along the mountains into Tennessee and North Carolina. It is one of the so-called "nodding trilliums," that is, the peduncle recurves below the foliage. Fortunately, the leaves are relatively narrow in this species so that the flower displays well.

*T. catesbyi* usually grows about twelve to fifteen inches high, with the leaves held upward well above the flower. The leaves frequently fold somewhat upon the midrib into a boat-shape, with the veins well engraved into the surface. The leaves are dark maroonish green when young. The relatively large flowers, up to two inches across, bear strongly reflexed petals, either narrow or wide, which range in color from purest white to a deep rich rose-purple. The very large stamens are bright yellow and strongly recurved, the ovary six angled. In the wild the plants seldom form clumps, instead they grow singly or in loose, open associations of a few plants.

Catesby's Trillium grows most frequently in rather open, well lighted woodlands of a fairly dryish nature, often where the soil is strongly acid. It is frequent in "laurel slicks," those jungle-like entanglements of *Rhododendron maximum* and *Kalmia latifolia* on steep hillsides in the Appalachian mountains. In deep shade it often fails to bloom.

The finest forms from the gardener's standpoint which I have seen, occur in mountain valleys on the North Carolina-South Carolina border. Here, on flats along small mountain streams, occur deep rose forms with broad petals, truly lovely. (See my color photo of one of these forms in: Crockett, J., Allen, O., and Editors of Time-Life Books, *Wildflower Gardening*,

The Time Life Encyclopedia of Gardening, Time-Life Books, Alexandria, Virginia, 1977.)

For me, *T. catesbyi* grows readily. I grow it in neutral to acid sandy soil, which is moist in spring but rather dry in late summer. It receives considerable light at least for several hours each day. Seedlings of the white forms appear in bare spots in my garden but the form which opens deep rose has not appeared here from seed as yet.

Small enough for a background spot in the rock garden and ideal for the acid woodland or rhododendron bed, this early to mid-season species merits a place in all well maintained natural gardens. Appalachian region wildflower nurseries sell the species.

### ***Trillium cernuum* L.**

The Nodding Trillium is one of the trilliums not fully understood by most. Indeed, there appear to be two entities masquerading under the name *T. cernuum*. In the North, the plant usually known as *T. cernuum* var. *macranthum* Wieg. is a fairly distinctive plant. It is tall, up to twenty-four inches, although averaging about fifteen to eighteen inches, with rhombic leaves forming a nearly closed umbrella over the stem. The flower nods on a peduncle which deflexes at its base so that the flower hangs below the leaves. The peduncle, however, is fairly straight over most of its length. The leaves obscure the flower. Petals are thin textured, narrow, strongly recurved. The delicately built, lavender purple stamens divide about equally into filament and anther sac. The ripened ovary, a large, six-angled pyramidal red berry, is showy, juicy, and fruity aromatic. Since the leaves elevate during the ripening period, the fruit is better displayed than the flower.

Nodding trillium prefers cool moist soils. It grows often in low alder thickets along trout streams, or on cedar swamp borders or in low damp spots in deciduous forests of beech and maple. It seldom abounds in any one location, yet it is not particularly rare within its range.

As a garden plant, it is not easy, nor is it showy or distinctive horticulturally. It is difficult in warm soils, some forms are too tall for the rock garden, and in most forms the flowers are decidedly inconspicuous because they are obscured by the large leaves. For those whose passions run to collections of species, it is worth having, but its tallness, miffiness, and lack of showy flowers relegate it to a strictly third class place among garden-worthy trilliums, in my opinion.

*T. cernuum* var. *macranthum* occurs from Newfoundland to Manitoba across the north, then southward into Illinois and Indiana. Southward, along the Appalachians, its range is less clear, perhaps because of the confusion of this with other species or forms.

In the Blue Ridge and Great Smoky Mountains, the plant called *T. cernuum* by botanists, gardeners, and nurserymen differs considerably from our northern plant. It has been called *T. rugelii* by earlier botanists and acceptance of this taxon as a valid species seems to be coming back into favor. Along the Black Warrior River in Alabama, and in the Appalachian foothills in Georgia, I have, however, seen plants which seem nearly identical with our northern var. *macranthum*.

### *Trillium rugelii* Rendel

Rugel's *Trillium*, included by some within the *T. cernuum* concept, differs from northern *T. cernuum* in its much shorter more reflexed peduncle, heavier textured, creamy white broad petals, and large, thicker and very dark maroon purple anthers. The fruit is considerably smaller and darker red when ripe than *T. cernuum* in Michigan.

*T. rugelii* is a vigorous plant in most forms with large, rhombic leaves on a fifteen to twenty-four inch plant. Flowers last long compared to those of *T. cernuum* var. *macranthum*. *T. rugelii* occurs from northern Georgia through Smoky Mountain National Park and in the Blue Ridge Mountains of North Carolina. Johnson (1969) reports it also from Tennessee and Alabama.

In the several locations where we have observed it, it grew in very rich woods on slightly acid to neutral soils, either along flats of small streams, or on steep rich slopes just above the flood plain soils. It is easy of cultivation, but the short, curved peduncle carries the flowers well hidden below the leaves, which limits the usefulness of this species to the garden.

In several locations where we found the plant growing with *T. vaseyi*, hybrid swarms occurred. Color forms varied greatly with dark maroon, pink, rose, and rose and white flecked types present. Unfortunately, these hybrids, with really lovely flowers, produce them so obscured on their short recurved peduncles that they are rendered almost useless as garden subjects.

Current studies will almost certainly throw new light on the nature of *T. rugelii*. I consider it a valid species.

Plants listed as *T. cernuum* by Appalachian wildflower dealers will likely prove to be a mixed bag and include plants of *T. rugelii*.

### *Trillium erectum* L.

This species, perhaps the most widely distributed of our eastern pedunculate trilliums, is my unabashed favorite. Not that it is the showiest species. Rather, in Michigan, no plant ever gave me a greater chase when I was a kid trying to locate it. None has ever given me greater pleasure with its early flowering, rich coloring, its fetid yet nostalgically pleasant faint stench, and its penchant for mutating, producing showy and desirable color forms.

The wake robin occurs from the uplands of Georgia to Maine and Quebec. In the acid soil regions along the entire Appalachian chain and in the woodlands of glaciated New England, and eastern Ontario, it often abounds. Westward, in Michigan and Ohio, where acidic rocks and soils are less abundant, the plant, too, is relatively local or rare. Although reported from Minnesota, Wisconsin, and Illinois, the only authenticated stations there suggest that the plants have escaped from gardens or arboreta.

*T. erectum* is often confused with the closely related *T. flexipes* forma *walpolei*, a red hybrid segregate of this species.

Typically, *T. erectum* is a medium tall plant, from twelve to twenty inches, but not so tall in relation to leaf size as *T. cernuum*. The leaves are very large, broadly rhombic, and rich apple green. Flowers may be borne stiffly erect on their peduncles, or more often leaning to one side, sometimes almost declined. Obviously, large, colorful, erect forms are the most desirable horticulturally. Local races vary. Petals, in the typical forms a dark red-maroon, fade with age to a more purple color. They are longer than broad and sharply pointed and slightly cupped forward. Forms with ovate, broad petals occur as do very flat flowers. Although some of these types have been given subspecies names recently, many grow in mixed populations with *T. flexipes*.

I am convinced that these forms represent hybrids and hybrid swarms as these forms are duplicated in lower Michigan where the two species intermingle. We have also produced some of the same kinds of color and structure forms from controlled crosses in our garden.

More than one gene, apparently, controls the color of what is to the eye a solid dark maroon-red petal in *T. erectum*. Consequently, mutations occur involving deletions of certain but not all of the color genes. The

result may be a petal with a dark base and lighter distal portions, or the reverse, a white base but darker extremities. Multiple deletion mutations produce white petals or pale yellow or green ones.

When these color forms hybridize and various combinations occur, beautiful, bizarre, and surprising color patterns result. Nearly all are desirable horticulturally. These forms should not be confused with the variegated and monstrous forms produced in *T. grandiflorum* by mycoplasma pathogens; they are quite unlike those.

Besides the mutant color forms which can occur in any population of *T. erectum* anywhere, certain color races seem to dominate in certain districts. In parts of the higher elevations of the southern Blue Ridge Mountains, a form with narrow white, to greenish white petals abounds. The dark maroon-black ovary contrasts showily. This form is otherwise typical *erectum* in petal shape, plant aspect, and odor.

*T. erectum* flowers may last for two weeks in cool weather. When fresh, they emit the fetid odor of wet dog. Mercifully, the odor cannot be detected more than a few inches from the blossom. The fruit of typical *erectum* is distinctive. The ripe berry is quite spherical, with six shallow ridges, crowned with the three short stigma tips and the entire structure is a shiny dark maroon or blackish maroon color. Compared to the ripe fruits of *T. cernuum* or *T. flexipes*, the berry is quite small.

Red trillium grows in both evergreen and deciduous woods on light humus rich soils, or in the rich, drier peaty soil of old cedar-hemlock swamps (at least in Michigan). Soil reactions are mildly acid. The soil is generally cool in summer.

As a garden plant it is easy, except in poorly-drained clays. It is large for the rock garden, but ideal for woodland settings or as a background plant near a shrub. In my garden it seeds and hybridizes abundantly.

On the west side of the Great Smoky Mountain National Park, in the general vicinity of Gatlinburg, Tennessee, grows a plant which I formerly had interpreted to be *T. simile*, but which I have been informed by a student of the group, should be called *T. erectum* var. **blandum**. This taxon, present as the lower elevation representative there of the *erectum* complex, is truly a fine horticultural subject. Its general aspect suggests a vigorous *T. erectum*. The plant produces very large, oval-petaled, heavy textured creamy white flowers, each with a dark maroon-black ovary. The faintly musty scented

flowers stand strongly erect and appear nearly as showy as those of *T. grandiflorum*. Petals remain in good condition for a long two weeks.

The plant is not identical with the ordinary white-flowered forms of *T. erectum* and is vastly superior in size, color, and texture, horticulturally. It has proven to be a good garden plant for me in cold central Michigan, although our climate is far more severe than that of Tennessee. Bloom size increases as plants become established and strong clumps develop. I would regard this plant as one of the best of the larger pedunculate trilliums for garden use.

Forma **blandum** is one of those poorly understood entities that has been much confused with others in the past, and on which there is much current study. Regardless of the outcome of taxonomic research, the form is superb. It forms very large colonies where it occurs, often cascading down a wet roadside outcropping and nearby talus in hundreds of plants.

I do not know the extent of its range, but it appears to be the only form of *T. erectum* within some distance of Gatlinburg at the lower elevations. The plant is illustrated as *T. simile* in the Time-Life book previously cited.

### *Trillium vaseyi* Harbison

Some botanists consider *T. vaseyi* to be but a variety of *T. erectum*. I disagree with them on the basis of both taxonomic characters and field ecology, although I acknowledge that the two species are very closely related. Regardless of taxonomic differences of opinion, the plant is certainly distinct horticulturally.

*T. vaseyi* is a very large, late blooming plant. It stands from fourteen to over twenty-four inches high and has flowers that can be easily the largest of any eastern trillium. The deep maroon-red, faintly pleasantly scented blossoms appear after most of the other species have finished flowering. They reflex on the peduncle so as to be partially hidden beneath the leaves. The blossom, often over four inches in diameter, opens flat with recurved petal tips. Compared to many of the forms of *T. erectum*, the flowers last longer and open later in the season. The umbrella of leaves sometimes measures over fifteen inches across.

The plant is impressive to see and makes an excellent accent plant in the garden.

In the wild its preferred habitat is in the "coves"—small side valley amphitheatres eroded into soft rocks

by the smaller tributary streams—mainly of the south and southeastern edges of the Smoky Mountain and Blue Ridge Mountains. Rocky ledges and platforms near trickles in humus-rich mucky damp soils suit it best.

In our severe climate, this is not an easy plant. Although it does not perish from winter conditions, it is difficult for me to provide the wind protection and moisture it prefers as it develops in spring. Yet it always blooms even if the leaves and flower show slight damage.

Under favorable conditions it is a superb garden subject although it seems rarely to be cultivated outside its native areas. It is illustrated also in color in the Time-Life book, **Wildflower Gardening**. According to the literature, white forms and hose-in-hose double forms occur. I have not seen them.

### *Trillium simile*

From currently published works, I have been unable to ascertain to what plant this name correctly

applies. Plants I have found or been shown by other field workers have proven to be *T. flexipes*, *T. rugelii* or *T. erectum* f. **blandum**. Robert G. Johnson, in his Ph.D. dissertation, considered it to be the albino form of *T. vaseyi*. If the name is valid, its use awaits clearer scientific delineation of the taxon to which it should apply.

On a visit with Fred Case in October 1987, he gave the Journal several of his articles to reproduce. This is Part I of his "Trilliums of the Eastern United States." The article originally was published in the *Bulletin of the American Rock Garden Society*, Vol. 39, Nos. 2. & 3. Frederick W. Case was our speaker at the Annual Dinner in November of 1984 and again in 1989, and he remains interested in our group. He has retired as a teacher, but remains active in horticulture and research. Frederick Case was Chairman of the Biology Department of a high school in Saginaw, Michigan and is the author of **Orchids of the Western Great Lakes Region**.

## Interesting Tree Facts

Did you know that there are organizations in Ohio who keep records of big trees? The Ohio Forestry Association and the Ohio Division of Forestry are the two agencies in Ohio with this responsibility. A committee of eight persons has the task of checking all the nominations and the final certification of all of the big trees in the state.

- Ohio, the "Buckeye State," does not hold the national title for the National Champion Ohio Buckeye, *Aesculus glabra*. That honor goes to the state of Kentucky with a tree measuring 151" in circumference, 148' in height and a crown spread of 48'. This compares to Ohio's largest recorded Ohio Buckeye tree with a circumference of 162", a height of 82' and a crown spread of 67'. When you total the points given in each of the three categories, the Kentucky tree wins with a score of 311 points to Ohio's 261 points.
- Ohio has the only deciduous tree in the National Register's Top 10 largest trees: a sycamore.
- The all around largest Big Tree in Ohio is a Sycamore in Ashland County.
- The tallest tree in Ohio is a Tulip-tree in Belmont County (164').

- The Big Tree with the largest circumference in Ohio is a sycamore in Ashland County (582").
- The Big Tree with the largest average crown spread in Ohio is an eastern cottonwood in Delaware County (135').
- Hamilton County has the most State Champion Big Trees (52) with Franklin County a distant second (17).
- The average shade tree releases 13 pounds of oxygen a year. This is enough oxygen a day to keep a family of four breathing.
- In 1900, 12 percent of Ohio was forested. In 1991 the number increased to 30 percent or 7.9 million acres. 97 percent of Ohio's forests are hardwood trees (deciduous) with the remaining 3 percent being conifers (evergreens).
- Two Ohio counties are more than 70 percent forested (Lawrence and Vinton).
- There are over 100 different hardwood tree species and over 25 different soft wood species growing in Ohio.

Source: *Ohio Division of Forestry and The Ohio Forestry Association*  
Reprinted from *The Dawes Arboretum Newsletter*, April 2005.

## Ants and Wildflowers; Who Would Have Thought!

by Tom Stanley

Whether or not the next generations of trillium or spring beauty or wild ginger will be present in the woods down the street may have as much to do with the health of little known and less appreciated wildlife than with precipitation, sunshine, and soil fertility combined. I'm talking ants. I'm talking -Where's the Raid? Call the exterminator! Get them out of my house! - ants. (I apologize to my wife Carole if I have understated her opinion of ants.) ANTS! Other than some vague memories of high hopes, rubber tree plants, and Frank Sinatra, I cannot recall much in the way of societal praise for ants. I guess we see them as industrious, but that is, more often than not, the bad news. Yet, a recent newsletter from *The Native Plant Society of Northeast Ohio* reminded me of a lesson from my college biology days. Many species of local wild-flowers are critically dependant on a variety of ant species for seed dispersal.

Approximately one third of spring blooming wildflowers in our local forests are myrmecophytes, a *New York Times* crossword puzzle word meaning "plants whose seeds are dispersed by ants". Ants not only collect the seeds, but essentially "plant" them insuring a future crop. Plants that depend on ants typically have seeds with fleshy ridges or protuberances that are high in fats and sugars. It is these ridges that are eaten by the ants, the viable seed is then abandoned or "planted". The ant nests are high in nutrients, especially phosphorous and nitrogen, thus providing an ideal medium for the new plants to germinate and grow.

As fascinating as this ecological relationship is in the abstract, it is its impact on conservation efforts that I find most interesting. While there are no virgin forests left in northeast Ohio, there are older, mature forests that have experienced only minor impacts. There are also forests that contain relatively large, mature trees but are second growth forests that have re-colonized land that was cleared for farms or pastures. These two forests may look similar at the tree level, but they generally look very different at the

forest floor level. Spring is the best time of year to see this difference. The original forest will typically be blanketed with wildflowers; anemones, violets, bloodroots, hepaticas, trilliums, the list goes on. The second growth forest is generally very barren with only a few species of wildflowers. The reason lies, at least in part, in the variety of seed dispersal methods. Trees generally rely on wind, water or birds and mammals to disperse seeds. A cottonwood tree seed may blow on the wind, a walnut float in a river, or a black cherry transported by a bird for miles from the

parent tree. Abandoned farms can quickly receive an infusion of new growth potential from a variety of plant species that rely on these seed dispersal methods. However, years of cultivation not only directly eliminate the wildflowers, it also eliminates much of the forest soil insect community, including ants.

Contemplate what it takes for a complete wildflower community to become reestablished on an abandoned farm reverting to forest. Not only does the forest need to mature to the growth stage that creates the proper

environmental conditions, but both the correct species of ants and seed sources from surviving wildflowers must be present to permit those seeds to be moved one ant step at a time toward the recovering forest. Have you heard the one about "why did the ant cross the road?" This is precisely why it is so important to protect the remaining remnants of older forests. Once we destroy the intricate ecology of a hardwood forest, if it can be completely restored, and this is a big if, it will take 150 to 200 years. This is 7 to 10 generations of our children and their children, and so on.

Think about this the next time you see a trillium in bloom, or an ant in your back yard. Think about this the next time you drive by the woods with the "For Sale" sign on the big maple tree by the edge of the road.

Reprinted from the Chagrin River Land Conservancy Spring Journal, 2001. Illustration by Bill Hudson.





## Botany 101-23: Common Indiana Plant Families

**Liliaceae = Lily Family**

Rebecca Dolan



Large-flowered Bellwort  
*Uvularia grandiflora*



Smooth Solomon's Seal  
*Polygonatum biflorum*



Yellow Trout Lily    Mottle-leaved White Trout Lily  
*Erythronium americanum*    *Erythronium albidum*

335 genera, 4800 species of world-wide distribution

In Indiana: 26 genera and 49 species

**Characteristics**

Mostly herbaceous perennials growing from rhizomes, corms, or bulbs.

Leaves alternate, simple, linear, with parallel venation, leaves sometimes few and basal, appearing before or after the flowers. Flowers usually regular (radially symmetrical). Calyx usually looks like petals. Flower parts in multiples of 3. The term "tepals" is sometimes used for the similar looking petals and sepals. Fruit a capsule or a fleshy berry

**Economic importance**

Very important in ornamental horticulture: lilies, crocus, hyacinths, tulips, daffodils, lily of the valley

**Food crops:** asparagus, garlic, onions, leeks, chives

**Plant Products** Saffron, aloe, colchicines

**Common spring-blooming native plants in the Lily Family**

Large-flowered bellwort *Uvularia grandiflora*

Smooth Solomon's Seal *Polygonatum biflorum*

Feathery Solomon's Seal *Maianthemum racemosum*

Prairie trillium *Trillium recurvatum*

Sessile trillium *Trillium sessile*

Large-flowered trillium *Trillium grandiflorum*

Mottle-leaved white trout lily *Erythronium albidum*

Yellow trout lily *Erythronium americanum*

Wild hyacinth *Camassia scilloides*

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

Reprinted from the Indiana Native Plant and Wildlife Society News, Winter 2004.

Illustrations from Schuyler Matthews, Field Book of American Wild Flowers.

## Smith Cemetery State Nature Preserve

Guy Denny

### The First Settlers

In 1814, Charles and Alvia Andrews were among the first families to settle on the Darby Plains. They came west from Connecticut to start a new life in the Ohio wilderness. They built their cabin near the Converse settlement founded by the Rev. Jeremiah and Rhoda Converse who came from New Hampshire to Darby Township, also in 1814. Converse and his adult sons all built cabins near one another about three miles west of Big Darby Creek. Soon they were joined by other families as the settlement grew.

In September 1816, just a few years after their arrival on the Darby Plains, Charles and Alvia Andrews' youngest daughter, Almira, who was only 5 years old, became ill and died. Almira was buried on this small patch of prairie, thus becoming the first person to be interred in what was eventually to become Smith Cemetery.

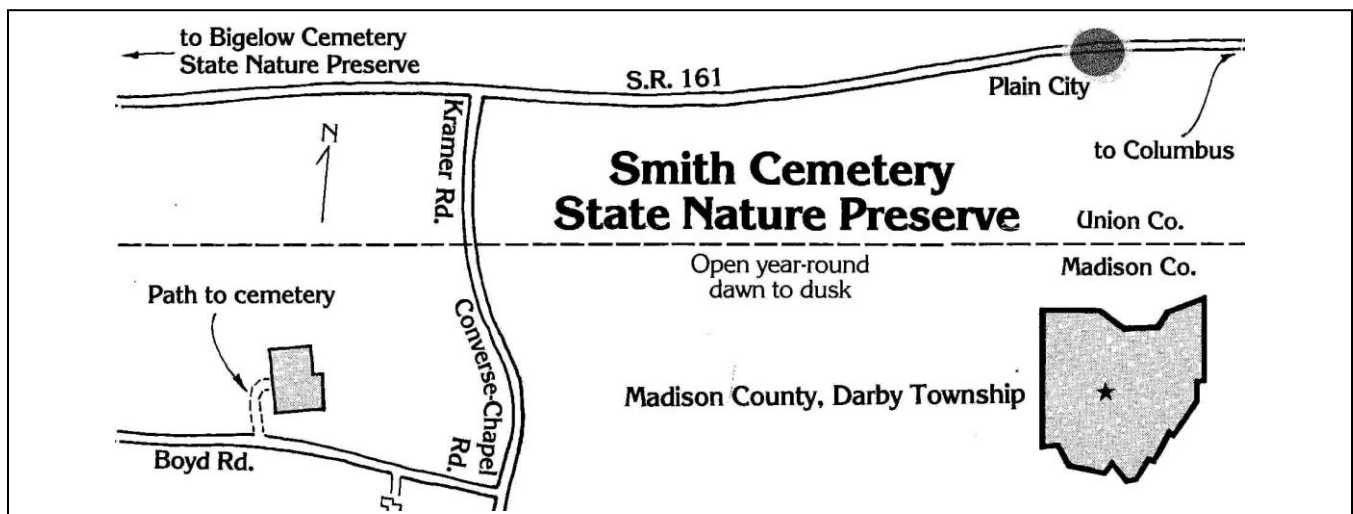
With the gradual settlement of the plains, both the prairie fires and the Indians who often set fires to drive game became part of the past. Unfortunately, during the years between the last of the prairie fires and the draining and cultivation of the prairie, each year's growth of prairie grass accumulated in a thick, decaying mass, resulting in a corresponding increase in the mosquito population. Consequently, a major outbreak of malaria swept across the sparsely settled Darby Plains, peaking in the "sickly years" of 1822 and 1823. Hardly a family escaped the tragedy of this epidemic. In 1819 Mrs. Andrews became ill and died. Just four years later Mr. Andrews caught malaria and he too died, leaving their children orphaned.

### The Smith Family

The year after her father's death, Lucindia Andrews, then only 14 years of age, married Samuel Smith Jr. whose parents, Samuel and Sarah, had moved from Vermont to the Darby Plains in 1818. The senior Smith had been a sergeant in the Revolutionary War and then became a minister in the Methodist Episcopal Church. He and Sarah had nine children, one of whom died before they left Vermont. Their sons were Samuel Jr., James, John, Bailey and Richard Smith. Their daughters were Judith, Sally and Mary A. Smith.

Samuel Smith Jr. and Lucindia were married until Feb. 11, 1832, when 22-year-old Lucindia died. She was buried on the prairie near her little sister Almira. June 13 of that year, Samuel Smith Jr. purchased 105 acres for \$210 from Walter Dun, the absentee landowner living in Kentucky who probably had not seen this land since he originally surveyed it many years before. Within this parcel was the little prairie cemetery where Lucindia Smith, her parents and little sister all had been laid to rest, as well as Mr. Smith's brother James' wife, Lucy C. Smith; his sister Judith's husband, Thomas H. Kellogg; his brother Richard's wife, Betsey (McCloud) Smith and their son, Thomas H. Smith; and finally his neighbors, Samuel and Orinda (Converse) Sherwood.

Samuel Smith Jr. and his second wife, Julia, transferred ownership of what had become the Smith Family Cemetery to the Darby Township Trustees on Oct. 15, 1834. Later, Samuel and Julia would leave the community never to return to the plains.



## Taming the Prairie

Eventually, through ditching and tiling, the Darby Plains were converted from inhospitable, wet prairie to some of the most valuable agricultural land in the state. In less than 150 years, the tallgrass prairie was almost obliterated. Today, only scattered bur oak trees and groves and infrequent patches of prairie plants are all that remain of the original vast prairie. Still, as if by design, the best remnants of the Darby Plains survive in both Smith and nearby Bigelow cemeteries. Here, in these pioneer cemeteries, the original prairie sod supports relicts of original prairie flora and serves as the final resting place for many of the first settlers whose lives were so interwoven with the prairie wilderness of the Darby Plains.

Dec. 17, 1982, 148 years after Samuel Smith Jr. transferred ownership of this cemetery to the Darby Township Trustees, the trustees dedicated Smith Cemetery as a state nature preserve to be managed and protected by the Ohio Department of Natural Resources Division of Natural Areas and Preserves. It is managed in such a way as to preserve the historic tombstones, perpetuate the prairie plants and eliminate invading non-native weeds.

## Plant Species

Smith Cemetery is perhaps the best example of a relict prairie cemetery in the state. Of the prairie grasses, big bluestem is most abundant, along with lesser amounts of little bluestem, Indian grass and prairie cord grass. Thus far, 30 species of native prairie plants have been inventoried in Smith Cemetery. Purple coneflower, Stiff goldenrod and whorled rosinweed are especially numerous. Other notable species include smooth aster, gray willow, prairie false indigo and wild petunia. Prairie wildflowers tend to be at their peak bloom by late July through most of August. The following is a list of some of the prairie plants that can be observed in Smith Cemetery:

Wild garlic  
Big bluestem  
Little bluestem  
Canadian anemone  
Smooth aster  
New Jersey tea  
Gray dogwood  
Purple coneflower  
Gray willow  
Whorled rosinweed  
Stiff goldenrod  
Indian grass



Flowering spurge  
Biennial guara  
Ox-eye  
Prairie false indigo  
Wild bergamot  
Virginia mountain-mint  
Gray-headed coneflower  
Black-eyed Susan  
Prairie cord grass  
Skunk meadow-rue  
Golden alexanders

## Preserve History

Smith Cemetery lies within the Virginia Military Lands of Ohio. It was within this land district that soldiers who fought for Virginia during the Revolutionary War could select acreage as payment for their services. Those who received a Virginia Military Land Warrant could choose their allotted acreage anywhere within the district where the land had not already been claimed. However, before receiving title from the U.S. government, they first had to have their land surveyed. Since there was a rush to claim the best lands first, holders of claims were willing and eager to pay government surveyors generously. Often these surveyors received as much as one-half of the lands they surveyed as payment for their efforts.

Walter Dun was one such government surveyor who did much of the early surveying in Madison County. In doing so, he became quite wealthy, acquiring thousands of acres of land as payment for his services.

Nov. 20, 1816, one such payment in land included what was later to become Smith Cemetery; it was officially transferred by James Monroe, fifth president of the United States, to Walter and Ann Mary Dun of Fayette County, Ky. Thus, the Duns became the first owners of this remnant of the Darby Plains.

## Too Wet or Too Dry

The Darby Plains were considered almost worthless by the early settlers. These plains consisted of extensive wet prairie, especially those lands lying between Big and Little Darby creeks. Although these poorly drained lands were covered with water several months each year, by late fall they would become powder dry and subject to raging prairie fires.

The Darby Plains supported a vast tallgrass prairie interrupted only by numerous scattered groves of oaks and hickories, especially groves of bur oaks. The dense prairie grass often grew to a height of 6-8 feet. The whole area was described as a sea of prairie grasses and

colorful prairie wildflowers. This was native prairie, an outlier of the extensive tallgrass prairies of the west.

The pioneers called these grasslands the "barrens." Much of the year they were too wet to plow, let alone plant. Mosquitoes thrived within the dense, wet prairie grasses and were often intolerable. Yet, by late summer the soil would bake dry and crack. Consequently, these were among the last lands in this part of Ohio to be settled. However, between 1810 and 1820 the barrens were finally settled, mostly by families from New

England. They paid from 40 cents to \$2 an acre for the land. From Worthington, Ohio, these families followed the Post Road westward into the Darby Plains where they staked out their land, built their cabins and endured the hardships of this prairie wilderness.

Information provided by the Ohio Department of Natural Resources, Division of Natural Areas and Preserves.  
Illustration and map by Jim Glover

## Botanical Excursions

### John Lyon (1765 – 1814): Scottish Explorer, Plant Collector, & Nurseryman

By George Ellison

Following in the footsteps of botanists William Bartram, the father and son team Andre and Francois Michaux, and John Fraser, and soon to be followed by Thomas Nuttall, Asa Gray, and Moses Ashley Curtis, among others, John Lyon was among the intrepid plant collectors who first penetrated the southern mountains during the late 18th and early 19th centuries to catalogue the diverse and not infrequently endemic flora that flourishes here. Although the genus *Lyonia* is named in his honor, John Lyon is perhaps the most neglected of those mentioned above. An overview of his activities and of his death in Asheville (where his gravesite can still be located) is worthy of the attention of those interested in the region's botanical history.

Lyon was born in Gillogie in Forfarshire, a center of flax production. Very little is known about his early life or about events that brought him to the United States. By 1796, he was managing the 300-acre garden of William Hamilton located on his Woodlands estate alongside the Schuylkill River just outside Philadelphia. Beginning in 1799, in order to secure additional plants for Woodlands, Lyons was commissioned to make a collecting trip into the Allegheny Mountains of western Pennsylvania. Thereafter, until the year of his death, so as to pursue personal interests and financial security, he made excursions as far west as Nashville and as far

south as Florida. Most of his travels, however, were in the southern Appalachians, especially into western North Carolina, which he visited on seven separate occasions.

A journal Lyon kept is preserved by the American Philosophical Society in Philadelphia. It was edited with extensive notes by Joseph and Nesta Ewan and published as "John Lyon, Nurseryman and Plant Hunter, and His Journal, 1799-1814," *Transactions of the American Philosophical Society* (May 1963). The journal indicates that Lyon collected plants atop several of the region's high peaks, including Roan, Grandfather, and Pilot mountains in North Carolina.

He is credited with introducing more than 30 new plants into horticulture. Among these was fetterbush (*Pieris floribunda*), which he discovered at Pilot Mountain on September 16, 1807. Fetterbush, now planted as far north as Boston because of its hardy nature, is prized for its handsome habit and beautiful floral displays.

In his exceptional book *A Reunion of Trees: The Discovery of Exotic Plants and Their Introduction into North American and European Landscapes* (Harvard University Press, 1990), Stephen A. Spongberg recalls that Lyon was the last person to observe and collect the famed Franklin tree (*Franklinia alatamaha*) in the wild. That was on June 1, 1803, while botanizing the

region west of Savannah, Georgia. He recorded in his journal that, "It is sufficiently remarkable that this plant has never been found growing naturally in other parts of the United States, insofar as I can learn, and here there is not more than 6 or 8 full grown trees of it which do not spread over more than half an acre of ground, the seed has most probably been brought there originally from a great distance by a bird of passage."

Spongeberg conjectures that, "Demand by nurserymen in England for plants of the Franklin tree may have been largely responsible for its extinction in nature, and Lyon himself may have contributed."

Lyon was inordinately successful in transporting living plants to England because he established carefully selected garden sites in the Philadelphia area where they could be maintained prior to bulk shipment. Although he sometimes, perhaps, had commissions for certain species from wealthy patrons, he sold his stock primarily at auction. Spongeberg describes a closely printed, 34-page catalog published by Lyon in 1806 prior to one such auction at Parsons' Green. The catalog "enumerated 550 lots, and the sale occupied four days. Several of the lots were composed of large quantities of one-year-old seedlings in pots; and ten lots at the end of the sale consisted each of 50 different sorts of seeds."

John Loudon, a Scottish chronicler of arboriculture and agriculture, hailed this shipment in his *Arboretum et Fruticum Britannicum* (London, 1838) as having been "by far the greatest collection of American trees and shrubs ever brought to England at one time by one individual."

Spongeberg, himself a noted collector-naturalist in China and elsewhere, describes with sympathy "the risks and privations encountered in the field" by innumerable collectors through the ages. Lyon's situation, in this regard, was extreme: "On one foray a mad dog bit the collector on the leg, forcing Lyon to sear the three punctures he sustained with a burning-hot iron and to depend on self-administered folk remedies. When his horse went astray he was sometimes forced to travel on foot, and poor roads and the lack of maps or adequate directions often resulted in lost bearings

and restless nights spent without an evening meal and the comfort of a bed. The ultimate disaster that can befall the collector-naturalist in the field is to meet an untimely death, thousands of miles from home, family, and friends. This was the fate of John Lyons."

That fate is best described in the second volume of F.A. Sondley's *A History of Buncombe County, North Carolina* (Asheville: The Advocate Printing Co., 1930), wherein a letter written in 1877 by historian and agriculturist Silas McDowell is reproduced. Primarily a resident of Macon County, North Carolina, McDowell lived as a boy from 1812 into 1814 near Asheville. In this letter, McDowell notes that, due to a "bilious fever" contracted during his strenuous travels, Lyon – "a low, thick-set, small man of fine countenance" – came from Black Mountain in the early autumn of 1814 and took a room in the Eagle Hotel.

According to McDowell, Lyon and James Johnston, a blacksmith of "almost Herculean" size from Kentucky, had become friends during the botanist's earlier visits to Asheville. When Lyon took to his sick bed, Johnston had another bed placed in the same room for his own use and attended the botanist at night, "waking from what seemed to be a profound sleep at the slightest movement of the invalid" and taking him "in his large muscular arms and handle him with as much ease as a mother does her infant."

McDowell had also become attached to Lyon, and on the day of his death went to his room earlier than usual. Well over half a century later, he recalled that, "This day had been one of those clear autumnal days when the blue heavens look so transcendently pure! But now the day was drawing fast to a close, the sun was about sinking behind the distant blue mountains, its rays gleaming through a light haze of fleecy cloud that lay motionless upon the western horizon ... The dying man caught a glimpse of the beautiful scene and observed: 'Friend Johnston, we are having a beautiful sunset – the last I shall ever behold – will you be so kind as to take me to the window and let me look out?' Johnston carried him to the window took a seat and held the dying man in a position so that his eyes might take in the beautiful scene

before him. ... After the sun sank out of sight, and the beautiful scene faded out, he exclaimed: 'Beautiful world, farewell! Friend Johnston lay me down upon my bed' ... He fell asleep in a short time and soon all was still. All of John Lyon that was mortal was dead."

Soon after his death, friends in Edinburgh, Scotland, shipped to America an engraved tombstone that now marks his grave in the Riverside Cemetery in Asheville. There he rests with such literary luminaries as Thomas Wolfe and William Sydney Porter (O. Henry) as well as significant figures in other fields like Zebulon Baird Vance, Thomas Clingman, and George Masa. According to an extensive "Riverside Cemetery Walking Tour" compiled by cemetery manager David Olson, the grave had originally been in the old burial ground at the corner of Market and Eagle street, but it was subsequently moved to the old Presbyterian graveyard on Church Street, and finally to the Riverside Cemetery. The marker was for many years thought to be the oldest engraved tombstone in Western North Carolina, but recently several older

engraved tombstones have been located in Asheville.

From Gillogie in Forfarshire, Scotland, to Asheville in the Carolina mountains, collecting plants in all weather and under dire circumstances, it was for the explorer-collector-nurseryman John Lyons a long strange journey—one that, for the most part, he apparently reveled in until the very end.

Naturalist and writer George Ellison resides in Bryson City NC. A selection of 37 of his essays was recently published as *Mountain Passages: Natural and Human History of Western North Carolina* (Charleston SC: The History Press, 2005). He can be contacted at [george.Ellison@cebridge.com](mailto:george.Ellison@cebridge.com).

This Botanical Excursions column is an expanded version of an article on John Lyon by George Ellison that appeared in the "Smoky Mountain News" (Waynesville NC, February 16, 2006, p. 39.) Reprinted from *Chinquapin*, the newsletter of the Southern Appalachian Botanical Society, Spring 2006.

## Selected References for Ohio Flora

- Andreas, B.K. 1989. The vascular flora of the glaciated Allegheny Plateau region of Ohio. *Ohio Biol. Surv. Bull. N.S.* 8(1): 1-191.
- Barnes, B.V. & W.H. Wagner Jr. 2004. Michigan trees: A guide to the trees of the Great Lakes region. Revised and updated. The University of Michigan Press, Ann Arbor, Michigan. 447 pp.
- Braun, E.L. 1967. The Monocotyledoneae [of Ohio]: Cattails to orchids. The Ohio State Univ. Press, Columbus OH. 464 pp.
- Braun, E.L. 1961. The woody plants of Ohio. The Ohio State Univ. Press, Columbus OH. 362 pp.
- Brodo, I.M., S.D. Sharnoff & S. Sharnoff. 2001. Lichens of North America. Yale, University Press, New Haven, CT. 795 pp.
- Case, F.W. 1987. Orchids of the Western Great Lakes region. *Cranbrook Inst. of Sci. Bull.* 55, Bloomfield Hills, MI. 251pp.
- Case, F.W. & R. B. Case. 1997. Trilliums. Timber Press. Portland, OR. 285 pp.
- Cooperrider, T.S. 1995. The Dicotyledoneae of Ohio. Part 2. Linaceae through Campanulaceae. Ohio State Univ. Press, Columbus, OH. 656 pp.
- Cooperrider, T.S., A.W. Cusick & Kartesz (eds.) 2001. Seventh catalog of the vascular plants of Ohio. The Ohio State Univ. Press, Columbus, OH. 195 pp.
- Cranfill, R. 1980. Ferns and Fern Allies of Kentucky. Kentucky Nature Preserves Commission, Frankfurt, KY.
- Cusick, A.W. and G.M. Silberhorn. 1977. The vascular flora of unglaciated Ohio. *Ohio Biol. Surv. Bull. N.S.* 5(4): 1-157.

- Deam, C.C. 1940. Flora of Indiana. Dept. of Conservation, Division of Forestry, Indianapolis, IN. Fernald, M.L. 1950. Gray's Manual of Botany, 8<sup>th</sup> Edition. American Book Company, New York.
- Fisher, T.R. 1988. The Dicotyledoneae of Ohio. Part 3. Asteraceae. Ohio State Univ. Press, Columbus. 280 pp.
- Flora of North America. 1993. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York.
- Flora of North America. 1997. Volume 3. Magnoliophyta: Magnoliidae and Hamamelidae. Oxford University Press, New York.
- Flora of North America. 2003. Volume 4. Magnoliophyta: Caryophyllidae, part 1. Oxford University Press, New York.
- Flora of North America. 2000. Volume 22. Magnoliophyta: Alismatidae, Arecidae, Commelinidae (in part), and Zingiberidae. Oxford University Press, New York.
- Flora of North America. 2002. Volume 23. Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press, New York.
- Flora of North America. 2002. Volume 26. Magnoliophyta: Liliidae: Liliales and Orchidales. Oxford University Press, New York.
- Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and adjacent Canada. 2<sup>nd</sup> Edition. New York Botanical Garden, Bronx, NY.
- Henn, R.L. 1998. Wildflowers of Ohio. Indiana University Press, Bloomington & Indianapolis, IN. 215 pp.
- Holmgren, N.H. 1998. Illustrated Companion to Gleason and Cronquist's Manual, *Subtitled* Illustrations of the Vascular Plants of Northeastern United States and Adjacent Canada. The New York Botanical Garden, Bronx, New York.
- Homoya, M.A. 1993. Orchids of Indiana. Indiana University Press, Bloomington & Indianapolis, IN. 276 pp.
- Jones, R.L. 2005. Plant life of Kentucky: An illustrated guide to the vascular flora. The University of Kentucky Press, Lexington, KY. 834 pp.
- Rhoads, A.F. & T.A. Block. 2000. The plants of Pennsylvania: An illustrated manual. University of Pennsylvania Press, Philadelphia, PA. 1061 pp.
- Showman, R. & D. Flenniken. 2004. The Macrolichens of Ohio. Ohio Bio. Surv. Bull. New Series Vol. 14 No. 3 iv + 279 pp.
- Snider, J.A. & B.K. Andreas. 1996. A catalog and atlas of the mosses of Ohio. Ohio Bio. Surv., Misc. Contr. No. 2. iv + 105 pp.
- Stien, J., D. Binion & R. Acciavatti. 2003. Field guide to native oak species of Eastern North America. USDA U.S. Forest Service publication. 161 pp.
- Strausbaugh, P.D. and E.L. Core. 1978. Flora of West Virginia. Seneca Books, Grantsville, WV.
- Taylor, C.J. 1962. The lichens of Ohio. Part II. Fruticose and cladoniform lichens. Ohio Biol. Surv. Biological Notes No. 4. 227 pp.
- Taylor, C.J. 1967. The lichens of Ohio. Part I. Foliose lichens. Ohio Biol. Surv. Biological Notes No. 3. 145 pp.
- Voss, E.G. 1972. Michigan Flora. Part I. Gymnosperms and Monocots. Cranbrook Institute of Science and University of Michigan Herbarium, Ann Arbor, MI.
- Voss, E.G. 1985. Michigan Flora. Part II. Saururaceae - Comaceae. Cranbrook Institute of Science and University of Michigan Herbarium, Ann Arbor, MI.
- Voss, E.G. 1996. Michigan Flora. Part III. Pyrolaceae - Compositae. Cranbrook Institute of Science and University of Michigan Herbarium, Ann Arbor, MI.
- Weishaupt, C.G. .1971. Vascular plants of Ohio. 3<sup>rd</sup> ed. Kendall/Hunt Publishing Company, Dubuque, IA. 292 pp.

Some of these publications are available through the Ohio Biological Survey.  
Revised March 2005. ODNR, Div. of Natural Areas and Preserves

## Grass-of-Parnassus

### Gordon Mitchell

Sometimes a plant is given a common name that is actually the name of a member of a different plant family. Perhaps the plant was so-named because it resembled a member of that other family. Perhaps there was another reason. One example of a plant that is named from another plant family is the Grass-of-Parnassus (*Parnassia glauca* Rafinesque).

The Grass-of-Parnassus is a member of the Saxifrage Family (*Saxifragaceae*), not the Grass Family (*Gramineae* or *Poaceae*). In fact, the Grass-of-Parnassus doesn't even resemble the true grasses.

The generic name, *Parnassia*, was named for Mount Parnassus, a mountain in Greece, which was sacred to the Greek god, Apollo. This mountain is where the Greek naturalist, Dioscorides, studied many of his plants. However, The Grass-of-Parnassus is not even native to Greece. The specific epithet, *glauca*, is Greek for "bluish green".

The Grass-of-Parnassus was listed under other names, too. A scientific synonym for this plant was *Parnassia americana* Muhlenberg. Other common names for this plant, some of which are also named for members of other plant families, are American Grass-of-Parnassus, Bog Star, Fen Grass-of-Parnassus, White Buttercup, and White Liverwort.

### Description of the Grass-of-Parnassus

Perennial

**Height:** 4-25 inches.

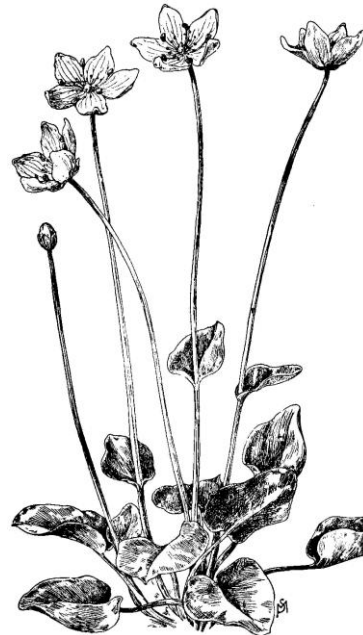
**Stem:** The stem is smooth.

**Leaves:** The leaves are simple and have unbranched veins. This plant has both basal and stem leaves.

**Basal Leaves:** The basal leaves are arranged in a basal rosette. Each leaf is broad, ovate, or spade-like, is about 1-2 inches long and about 2½ inches wide, has a round, cordate or spatulate base, a round or blunt tip, and has a long narrow, scapelike petiole.

**Stem Leaves:** Each stem has only 1 leaf. This leaf is sessile and clasps the lower part of the stem.

**Flowers:** The flowers are creamy white with green veins. Each stem has only 1 flower, which is located at the top of that stem. Each flower is radially symmetrical and is about ¾-1½ inch wide. The flower also has 5 separate oval petals, 5 blunt ovate sepals with translucent margins, 1 pistil with 4 stigmas, and 5 yellow spreading fertile stamens. Each stamen is 3-



pronged, gland-tipped, and alternates with the petals. Flowering season is usually July to October.

These flowers are insect-pollinated. To discourage self-pollination, the stamens develop and decline before the pistils develop.

Each flower may also have up to 15 sterile white stamens, which are usually arranged in 5 clusters of 3-pronged stamens. These sterile stamens are called staminoids and are located opposite the petals. The staminoids have 2 small nectar glands at their base and a dry swollen tip that shines in the light, like nectar drops. These dry swellings, called sham nectarines, help lure the insects to the flower's real nectar sources.

The flower's green veins direct the insects to the nectar. These veins reflect ultraviolet light which can be seen by the insects' eyes but are invisible to the human eyes.

**Fruit:** The fruit is a 4-chambered capsule. This capsule splits into 4 sections to release the seeds.

**Seeds:** These seeds are light brown and are flattened with spongy wings. The seeds are dispersed by water and by wind.

**Habitat:** Fens, wet meadows and fields, and other alkaline wetlands.

**Range:** Northern U.S. and eastern Canada

Gordon Mitchell works for the Columbus, Ohio, Metroparks and is a member of the Columbus Native Plant Society



## Silphium in Ohio

By Jennifer Clevinger



Compass Plant

*Silphium* is commonly known as rosinweed but individual species are also referred to as compass plant, cup plant and prairie dock. It is a member of the sunflower family (Asteraceae) and the tribe Heliantheae, whose other members include the common sunflower, cosmos, zinnia and marigolds. *Silphium* is found throughout the eastern United States and in southern Ontario, Canada. Its habitat includes prairies, stream banks, open woods, meadows and disturbed areas. It is a perennial that can grow up to 8 feet in height, with yellow ray and disc flowers (except the white Texas endemic, *Silphium albiflorum*), and opposite, alternate or whorled leaves. Unlike the common sunflower's seeds that are produced only by disc flowers, *Silphium* seeds are produced only by ray flowers. Although the disc flowers of *Silphium* do contain female structures, they are functionally male because their styles never open to expose the stigma to pollen. Therefore you can easily tell *Silphium* apart from other wild sunflowers in Ohio by the unbranched stigma of the disc flowers.

Many *Silphium* contain large amounts of resin that that often make the stems sticky to touch. There are reports that Native American and pioneer children used this resin as chewing gum. Although I can attest to the stickiness of the stem of the compass plant, I must confess that I've never attempted to chew it!

The name *Silphium* comes from the Greek word *silphion*, which refers to an extinct plant, which appears on ancient coins from the city of Cyrene in Cyrenaica. *Silphion* was used medicinally and as a cooking spice in the Mediterranean region and is estimated as going extinct in the 2<sup>nd</sup> century A.D. The picture on the coin suggests that *silphion* was a member of the carrot family (Apiaceae), perhaps a species of the genus *Ferula*.

For the past 11 years, I have been studying the rosinweeds using morphological and molecular data. This work has culminated in the recognition of 12 species and 11 varieties in my recently published treatment of *Silphium* for the Flora of North America project. Within *Silphium*, I recognize 2 sections supported both by morphological and DNA data. Section *Silphium* contains the fibrous rooted species that have leafy stems while section *Composita* contains the tap-rooted species that have scape-like stems with predominantly basal leaves. In Ohio, we have 4 native species of *Silphium*: prairie dock and compass plant belonging to section *Composita* and whorled rosinweed and cup plant belonging to section *Silphium*.

### Prairie Dock and Compass Plant

Prairie dock (*S. terebinthinaceum*) and compass plant (*S. laciniatum*) are prairie indicator plants. Aldo Leopold best summed up the imagery of *Silphium* in the Great Plains prairies with this quote from *A Sand County Almanac*:

“What a thousand acres of Silphioms looked like when they tickled the bellies of the buffalo is a question never again to be answered, and perhaps not even asked.”

Prairie dock and compass plant both have large taproots, which allow them to persist after prairie habitat has been destroyed. Native prairies have a fire regime and dry climate patterns that keep the landscape free of trees and shrubs. Today human activities, in particular large-scale mowing, have led to the creation of new tree-less habitats where prairie dock, compass plant and other prairie species are sometimes able to persist. For example, in my examination of herbarium specimens, I found 300 *Silphium* specimens that were collected on railroad right-of-ways. I have also collected *Silphium* along power-line cuts, fencerows,

cemeteries, highway right-of-ways, and roadside ditches. All of these sites shared in common the human control of woody species.

Prairie dock is named for its habitat and its large basal leaves. There are two varieties of it which are both found in Ohio. They are differentiated by their leaf shape: *S. terebinthinaceum* var. *terebinthinaceum* has entire leaves while *S. terebinthinaceum* var. *pinnatifidum* has deeply lobed leaves. There is debate on whether or not the lobed variety represents hybridization of prairie dock with compass plant. My DNA data up until this point do not support this hypothesis, but additional DNA studies are planned to continue studying the origins of variety *pinnatifidum*. In the past, a third morphological variant was recognized from Adams County, Ohio, variety *luciae-brauniae*. My favorite spot in Ohio for viewing prairie dock is Killdeer Plains in Wyandot County where large expanses of it can still be found. I also enjoy the prairie dock found in Quail Hollow State Park in my hometown of Hartville in Stark County.

Compass plant is named for its large, deeply lobed, basal leaves that often orient in a north/south direction. It is the rarest of Ohio *Silphium* as it is only found in Lawrence County at the O.E. Anderson Compass Plant Prairie and is a state listed endangered plant. Compass plant can be found planted in several restored and reconstructed prairies around the state including the Wolf Creek Environmental Center in Medina County. Another *Silphium* that can be found in prairie plantings in Ohio is the non-native, entire-leaved rosinweed (*S. integrifolium*). It can be found growing in the OSU at Marion Campus Prairie and the Kent State University prairie planting.

### Whorled Rosinweed and Cup Plant

Whorled rosinweed (*S. asteriscus* var. *trifoliatum*) is also found in prairies. It can thrive in meadows, fencerows and even cemeteries. It was previously recognized as *Silphium trifoliatum* but I have reduced it to varietal status under *S. asteriscus* because it integrates with the other varieties of *S. asteriscus* in its southern range (Kentucky, Tennessee). It is distinguished by its leaves that are usually in whorls of three. Often a few alternate, opposite and/or 4-whorled plants can also be found in a population. This variation in leaf arrangement increases in Kentucky and Tennessee where it integrates with the starry rosinweeds (*S. asteriscus* var. *asteriscus* and *S. asteriscus* var. *latifolium*).

Cup Plant (*S. perfoliatum*) is named for its opposite leaves that fuse together around the stem to form a cup. One must be careful when pulling this 6 to 8 foot plant over to get a closer look at the flowers, for one can end up very wet when the “cups” that may be filled with rain water are tipped over! This species is the only *Silphium* with square stems and thus is occasionally referred to as carpenter’s weed. Other common names for this species included ragged cup and Indian cup. There are 2 varieties of cup plant. The variety *perfoliatum* is widespread throughout Ohio and found in wet prairies and river bottoms. The variety *connatum* is only known from the New River Valley in North Carolina, Virginia and West Virginia.



Cup Plant

### Growing *Silphium*

*Silphium* is easy to grow and can be purchased from nurseries that specialize in prairie plants and/or native plants. The seeds require a period of moist stratification before they germinate. I achieve this by placing my seeds in a zip-lock bag with moist sphagnum and peat moss and then storing the bag for several months in the vegetable crisper of my refrigerator. This need for stratification before germination is why I believe we do not find *Silphium* any farther south than central Florida and Texas. Currently I have 10 of the 12 species growing at my home including the four native Ohio species and three Appalachian endemics. I highly recommend *Silphium* for planting since once it is established it needs little care and can withstand dry spells. It’s a showy addition to one’s landscape that will provide you with yellow color from July through September.

Jennifer Clevinger is an Assistant Professor of Biology at Walsh University in North Canton, Ohio, where she teaches botany and ecology. Her Ph.D. dissertation from the University of Texas at Austin was on the Systematics of *Silphium*. She is a member of NPSNEO.

## Native Trees Around the House

### When it Comes to Native Trees, the Best Things in Life are Free, But Flexibility and Patience are Required

#### Bobbi Diehl

When we bought our 1962 house in a neighborhood of vast lawns, the 2/3-acre yard contained a nice assortment of mature, healthy native Flowering Dogwood (*Cornus florida*) trees, Pin Oak (*Quercus palustris*), American Beech (*Fagus grandiflora*), Paper Birch (*Betula papyrifera*), Redbud (*Cercis canadensis*), Red and Silver Maples (*Acer rubrum*, *A. saccharinum*), Green Ash (*Fraxinus pennsylvanica*), a row of tall Arborvitae (*Thuja* spp.) along the back of the property, and other border trees and large shrubs. These simply whetted our appetite for more.

Although nurseries and garden centers are carrying more native plants, small to medium native trees are still neglected. We were able to purchase a River Birch (*Betula nigra*), five Shadblow Serviceberries (*Amelanchier canadensis*), an American Holly (*Ilex opaca*), and a Canadian Hemlock (*Tsuga canadensis*). Then our luck ran out. Our local nurseryman carries only so many natives and will not place special orders. Kmart, Lowe's, and the rest occasionally will get in something unusual, so it pays to check there, but for the most part it is the same old, same old. Of course, there is always mail order. One good source of trees is ForestFarm in Oregon; another is Arbor Village in Missouri. The prices are not outrageous, although you may end up paying fairly steep shipping charges for rather small plants. Or you can bring home larger trees from a native plant nursery some distance away. Before my quest is ended, I may end up exploring all of these options. (It goes without saying that we would never, ever "rustle" a tree from the wild.)

Unexpectedly, a good source of native trees has proved to be friends and fellow gardeners, especially those in rural areas and older suburbs. Also neighbors, who, if non-gardeners, may not even know what they have. Most native trees are prolific about producing offspring. As you ramble through friends' yards while visiting, keep an eye out for potential seedlings to adopt. There is more variety out there than you might think.

My husband usually lets me choose, and there are very few native trees I don't want – the locusts (Black and Honey), Persimmon, Walnut, and most Maples being among them. (For lovers of these particular species, let's just say I have my quirks.) But I had a list

of trees I most definitely did want. And here's where flexibility comes in. Friends didn't necessarily have those trees, but often enough they had a native tree that was unusual and worth growing.

As we got over the notion that native trees must be purchased, more and more opportunities presented themselves. Gifts of a small Bur Oak (*Quercus macrocarpa*) and an Umbrella Magnolia (*Magnolia tripetala*) started us off. We moved a Gray Dogwood seedling (*Cornus racemosa*) from our former yard. Two tiny Yellowwoods (*Cladrastis lutea*) came from a neighbor. Friends gave us a small Sweet Gum (*Liquidambar styraciflua*), a beautiful larger Yellowwood, and several Ohio Buckeyes (*Aesculus glabra*). Other friends have promised us a baby Pawpaw and a Sumac. It will take several years for most of these to look like much, although the Bur Oak is already developing into a nice little tree.

As with all new plantings, new trees should be watered regularly until they get established. It's best if the smaller ones go into a holding bed near the house for a few years, until they have grown a bit, to discourage deer and rabbits. Wild Plum (*Prunus americanus*), was a casualty last year when I was overly optimistic and planted it right where I wanted it. A DNR giveaway at the 2002 Sycamore Land Trust Garden Show in Bloomington, it was a delightful addition to my collection – until someone ate it. (A group of small trees in a holding bed are also more apt to be watered and cared for in a timely fashion.)

Here are a few other suggestions. Brush up on tree identification. Do some research and select trees that will tolerate your light and soil conditions. Handle carefully. If bare root, soak in water for an hour before planting. If potted, plant within the week, or at least heel them in. Dig the planting hole 3 times the diameter of the root ball, but no deeper. Do not amend the soil. Mulch, but not too close to the trunk. I like to stake for the first year or so that the tree is in its permanent location, tying loosely with jute or other natural material. Annually, fertilize lightly with 20-20-20. I personally prefer to wait a couple of years to do any corrective pruning. See Purdue University's *Planting and Transplanting Landscape Trees and Shrubs, HO-100-W*, for more detailed instructions.

So, at least for us, it turns out that the best native trees are free-but sometimes it takes a little effort to find them, flexibility to choose what is right for your conditions, and patience as they mature. There is a saying that young gardeners plant annuals; old ones plant trees. It's certainly true in my case. I love the idea that these trees will be around long after I am gone.

*Bobbi Diehl retired in June 2002 after 25+ years at Indiana University Press, most recently as Sponsoring Editor of Regional, Gardening, and Railroad Books. Reprinted from the Indiana Native Plant and Wildflower Society News, Summer 2003.*

## Wild Yam *Dioscorea villosa*

by Tom Atkinson

Most of us know yams from the produce market or organic growers. They tend to be solid, relatively dense (when raw), orange in both skin and flesh, and the shape of a warped football. When cooked, the flesh becomes tender, soft even, and succulent. These yams, as we all know, are exotic. They come originally from Papua New Guinea. But did you know that there's a yam native to eastern North America? I was amazed to learn of its existence, and to discover that it too is edible.

Wild yam (*Dioscorea villosa*) grows naturally from New England to Minnesota and Ontario, then south to Virginia and Texas. It is found in moist woods, swamps, thickets and hedges. The plant was commonly used throughout its range in North and Central Americas, being favored by tribes in those regions for pain relief, especially for menstrual cramps. The root also helped to balance hormones (bringing the libido back into balance) and ease the pain of childbirth. The tubers were used for food.

Wild yam is a climbing vine. It climbs by extending its spring shoots up a metre (three feet) or more until it finds something to twine around. Its shoots become a very narrow green stalk (from one to two millimetres or .04-08 inches in diameter) that can extend upwards over two metres (6.5 feet). The vine will grow up tree branches, tall herbaceous plants (such as goldenrod, *Solidago* spp.) or whatever else it can find. In the garden, it is an ideal companion for an arbor.

The glory of wild yam is, in fact, the leaves. They are distinctly veined, giving the leaf a quilted or puckered look. The veins commence where leaf petiole meets leaf, and run towards the acuminate tip of the leaf. In fall, the green fades to a clear yellow. Make no mistake, this is a plant grown for its delicate, heart-shaped, shiny foliage.

There is also some hairiness on the underside of the leaves which explains the Latin binomial, *villosa* (villous means hairy in English). The *Dioscorea* part of its botanical name comes from Dioscorides Pedanius (c.40-90 AD), a Greek physician who was born in Anazarbus (today's Turkey). He wrote a text on botany and pharmacology (free from superstition, rare in its day), *De Materia Medica* ("On Medical Matters"), and served in Nero's armies as botanist.

The leaves of wild yam are wonderful, but the flowers are nothing to write home to mother about. They are pendulous, and consist of small, greenish-yellow flowers along a central stalk. The pollinated flowers form a three-parted seed capsule. (If you hold a seed capsule, and look at it straight on from top or bottom, it is exactly the same as the Mercedes-Benz logo. Mercedes-Benz cars are in good company indeed!) The seeds fall when the parchment-like outer covering is worn away in late autumn or over winter.

*Dioscorea* species are widely used in modern medicine to manufacture progesterone and other steroid drugs. This plant affords one of the best and fastest cures for bilious colic (hence the other common name, colic-root) and is especially helpful in treating the nausea of pregnant women. It is also taken internally in the treatment of arthritis, irritable bowel syndrome, gastritis, gall bladder complaints and other ailments.

The root is harvested in the autumn and dried for later use, although it should not be stored for longer than one year, since it is likely to lose its medicinal virtues. Caution is advised in the use of this plant. When taken fresh it can cause vomiting and other side effects. Note that edible species of *Dioscorea* have opposite leaves whilst poisonous species have alternate leaves.

But are the common edible tuber from New Guinea and eastern North America's wild yam the only yams in the world? Far from it. A Chinese yam, *Dioscorea*

*batatas*, is a more vigorous plant, with larger, shinier green leaves than our native. It is hardy in many locales in North America, which is both blessing and curse as introduced plants can escape and trample the native varieties. *D. elephantipes*, a.k.a. Hottentot's bread, is a South African plant and an unusual succulent. Its main feature is a large, corky caudex\* that grows up to one metre (three feet) in the wild, resembling an elephant's foot. In Central America, several species of yam are found, including a relatively new one discovered in Costa Rica, *Dioscorea natalia*, which loves the wet regions of both the Pacific and Caribbean coasts of that country. And new species of wild yams are being discovered (to science) fairly regularly.

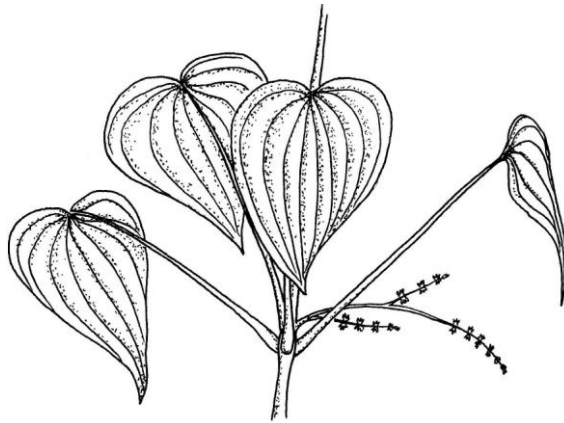
I have yet to introduce a friend or fellow naturalist to *Dioscorea villosa* and have a negative, or even

neutral, reaction. People are delighted with this simple, yet elegant, vine.

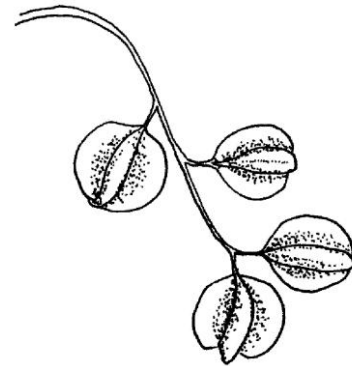
*Tom Atkinson is a native plant propagator living in Toronto. His primary interests are in rare woody and herbaceous plants, indigenous, of course, and those which are found in southern Ontario down through the eastern mountains of the USA.*

\*caudex. Thickened, usually underground base of the stem of many perennial herbaceous plants from which new leaves and flowering stems arise.

Reprinted from *The Blazing Star*, the Newsletter of the North American Native Plant Society, Fall 2004.



Wild Yam



Wild Yam Seed

## Wildflower of the Year – 2004:

### The Joe-Pye Weeds

by Mary Carol Cooper, Salato Wildlife Education Center

Wildflower advocates from all across the state have selected Joe-Pye weed as the Salato Native Plant Program's Wildflower of the Year for 2004. All the species of the genus *Eupatorium* with whorled leaves are referred to as Joe-Pye weed, and several of these species are known in Kentucky. They are members of the Aster Family and they are generally found in moist calcareous areas, damp meadows, thickets, bogs, and marshes.

Hollow Joe-Pye weed (*Eupatorium fistulosum*) is common and widespread throughout Kentucky. Also known as "queen-of-the-meadow," it is a stately plant

that will grow up to 10 feet high. It has a rounded, dome-shaped inflorescence of many purplish pink heads. Its stem is usually purple, smooth, and hollow, and its blunt-toothed leaves are usually in whorls of 4-7. It is found in open meadows and other sunny moist areas.

Sweet Joe-Pye weed (*E. purpureum*) has a solid and mostly green stem, sharply toothed leaves in whorls of 3-4, and very pale pinkish flowers. It gets its common name from the sweet smell of its crushed leaves. It is frequent in Kentucky and grows in open woods.

Two other species of Kentucky Joe-Pye weed, however, are not at all common. Steele's Joe-Pye weed (*E. steelei*) is listed as Endangered by the Kentucky State Nature Preserves Commission (KSNPC). It is also known as Appalachian Joe-Pye weed because it is endemic to a fairly small area of the Cumberland Mountains shared by Kentucky, Virginia, Tennessee, and North Carolina. It is similar to sweet Joe-Pye weed, but its stems are covered with bristly hairs below its flowers rather than being smooth.

The most rare of the Kentucky Joe-Pye weeds is spotted Joe-Pye weed (*E. maculatum*). In fact, it may be completely gone from the state. The KSNPC lists it as Historical since there are old reports of its existence in swamps and along the Ohio River in Jefferson and Campbell counties as well as more doubtful accounts from Barren, Estill, Harlan, and Nelson counties. It does occur all across the northern U.S., and its range extends south into the mountains of Tennessee and North Carolina, but it has been decades since anyone has seen it in Kentucky.

It grows 2-6 feet tall with sturdy, purple-spotted or sometimes evenly purplish stems which are hairy beneath the clusters of pinkish-purplish, fuzzy flowers. Individual flower heads are 1/3 inch wide and they occur in more-or-less flat-topped clusters of 4 to 5-1/2 inches wide. The leaves are lance-shaped with coarse teeth, 2-1/2 to 8 inches long, and generally in whorls of 4 to 5.

The more common Joe-Pye weeds bloom in late summer and they are a wonderful nectaring source for bees, butterflies and hummingbirds. They attract at least 9 different butterfly species as well as other insect pollinators. The hairs on the flowers hold the pollen, and when insects land, pollen brushes onto them. Pollen is also brushed from one flower to another, so the plants are not totally dependent upon insect pollination.

Joe-Pye weed will likely be the tallest plant in your garden and should be considered as the high point in your design. Use it as a background at the very rear of a sunny perennial garden or put it in the middle of a circular or oval garden. If you wish, you can keep it at a manageable size by topping the plant when it is about 4 feet tall. Stems grow from a large crown with a fibrous

root system that spreads quickly. Nice companion plants are Boltonia, rough-leaved goldenrod, native asters, and brown-eyed Susans. In a moist, sunny area, it will naturalize well with ironweed and rose mallow. Whether in flower or in fruit, the plants are also outstanding in arrangements.

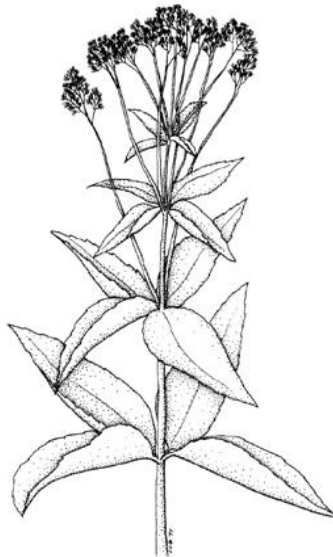
There are several stories about who Joe Pye really was. Some say he was a 19th-century Caucasian

"Indian theme promoter" who used the root to induce sweating in typhus fever, but the general consensus is that he was a Native American medicine man who lived in New England in the late 1700s. He became famous for "curing" typhoid and several other diseases with concoctions made from Joe-Pye weed. Historically, Native Americans had many uses for this plant. They used a tea of the whole herb as a diuretic for dropsy, gout, kidney infections, and rheumatism. Root tea was used for fevers, colds, chills, diarrhea, and liver and kidney ailments. As "Gravelroot," Joe-Pye weed was used to clear urinary stones. It was also used to improve the appetite and soothe frazzled nerves, and the crushed leaves were said to improve the complexion.

Joe-Pye weed seeds and plants are available from many native plant nurseries. It is also very easy to propagate by seeds or division. Collect seeds in mid to late September by cutting off the top of the plant or individual heads and placing them upside down in a large paper bag. Let them dry for up to a week and then shake them in the bag and put the seeds in a sealed container.

Sow seeds directly outdoors after collecting in the fall for spring germination. Or sow them thickly in a flat of good germination mix indoors or in a cold frame in late winter. Germination is usually spotty, but when seedlings are large enough to transplant, they don't demand much attention beyond keeping the soil evenly moist. They will reach their full height and flower during their second season. Plants can be simply divided in the fall as they go dormant or in the spring when the first shoots appear. Replant divisions immediately and water thoroughly.

Reprinted from *The Lady Slipper*, newsletter of the Kentucky Native Plant Society, Spring 2004



Joe-Pye weed  
*Eupatorium purpureum*



## Chapters of the Ohio Native Plant Society

Cincinnati Wildflower Preservation Society  
Dr. Vic Soukup  
338 Compton Road  
Wyoming OH 45215  
513-761-2568

Central Ohio Native Plant Society  
Dick Henley  
11800 Poplar Creek Rd  
Baltimore OH 43105-9407  
740-862-2406

Native Plant Society of the Miami Valley  
Nancy Bain  
444 Acorn Drive  
Dayton OH 45419  
937-698-6426

The Mohican Native Plant Society  
Mike Klein  
1778 Dougwood Drive  
Mansfield OH 44904  
419-774-0077  
mklein1@neo.rr.com

Native Plant Society of Northeastern Ohio  
J. Bradt-Barnhart, President  
10761 Pekin Road  
Newbury OH 44065  
440-564-9151  
bunchberry1@netzero.net

The Botanizers  
The Wilderness Center  
Stan Watson  
4134 Shelby Circle  
Wooster OH 44691  
<http://www.wildernesscenter.org>

## MEMBERSHIP APPLICATION

**Membership runs the calendar year and is not pro-rated.** Membership includes invitations to all field trips, programs, the Annual Dinner, and a subscription to the quarterly journal *On The Fringe*

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PHONE: (\_\_\_\_) \_\_\_\_\_

E-MAIL: \_\_\_\_\_

### Membership Types:

Individual \$15; Family \$20;  
Sustaining \$30; Patron \$50  
Subscription to the Journal \$15

Make checks payable to:

*Native Plant Society of Northeastern Ohio*  
and mail to:

**Ann Malmquist**  
**NPS Membership Chair**  
**6 Louise Drive**  
**Chagrin Falls, OH 44022**  
**440-338-6622**

On The Fringe  
6 Louise Drive  
Chagrin Falls OH 44022

NON-PROFIT ORG  
U.S. POSTAGE PAID  
NOVELTY OHIO 44072  
PERMIT NO. 22

**DATED MAIL – DO NOT DELAY**



- Promote conservation of all native plants and natural plant communities through habitat protection and other means
- Encourage public education and appreciation of native plants
- Support proper ethics and methods of natural landscaping
- Encourage surveys and research on natural plants and publication of the information
- Promote cooperation with other programs and organizations concerned with the conservation of natural resources

# On The Fringe

**In this issue:**

Eastern American Trilliums, Part 1 – Frederick Case, Jr.  
Interesting Tree Facts  
Ants and Wildflowers – Tom Stanley  
Botany 101: The Lily Family – Rebecca Dolan  
Smith Cemetery State Nature Preserve – Guy Denny  
John Lyon (1765-1814) – George Ellison  
Selected References for Ohio Flora  
Grass of Parnassus – Gordon Mitchell  
*Silphium* in Ohio – Jennifer Clevinger  
Native Trees Around the House – Bobbie Diehl  
Wild Yams – Tom Atkinson  
The Joe-Pye Weeds – Mary Carol Cooper

Journal  
of  
The Native Plant  
Society of  
Northeastern  
Ohio

Volume 24, No. 3

September 2006