On The Fringe

Journal of the Native Plant Society of Northeastern Ohio

** 2012 IS OUR 30TH ANNIVERSARY! **

The Native Plant Society of Northeastern Ohio will be celebrating 30 years in 2012. The Society was founded in 1982 by a group of native plant enthusiasts. Their mission was to promote the study, appreciation, and conservation of native plants and plant communities of Ohio. After 30 years, that mission is more important than ever. One of the ways we would like to celebrate is by asking you to send in your favorite native plant photograph. If you wish, you can also include something about why this plant is your favorite. We will feature your submissions in the 2012 Journal. You can submit your photographs to dbpolice@roadrunner.com in jpg format. So get your cameras out and start clicking! You have plenty of time to submit a photograph.

Congratulations to the Recipient of The 2011 Grant of The Native Plant Society of Northeastern Ohio: The Doan Brook and Shaker School Stream Corridor Project

Congratulations to the Doan Brook and Shaker School Stream Corridor Project, the winner of our 2011 Annual Grant. The Doan Brook and Shaker School Stream Corridor Project is an ongoing restoration and research project. The first steps of the project restored in-stream habitats by creating meanders (looping changes of direction), reconnecting the stream with its flood plain and establishing a narrow riparian corridor. This work was completed over the past five years with grants from other sources. The 2011 phase of the project expanded and diversified a section of the South Branch of Doan Brook. The funds from our Grant will be used to purchase native plants and to provide field guides for students. Students from the environmental club have volunteered to plant the native trees, shrubs, and perennials with technical support from teachers and other experts. The new plantings will expand the width of the riparian corridor to provide an increase in the biodiversity within the watershed and expand the land lab for students. Students will work with teachers and expert biologists from the Cleveland Museum of Natural History to conduct bio-blitzes establishing a baseline prior to the expansion and diversification. In subsequent years they will conduct studies to track changes in the health of the stream and the biodiversity of the area. The project will also be used to provide education on sustainable landscape and watershed issues.

This year the board had to choose from a number of worthy projects. We would have loved to have been able to support them all. We have encouraged all applicants who have projects that still need funding to submit an application again next year. The fact that we received nine applications for our $500 annual grant demonstrates the need for funding to provide research, education, and outreach projects in Northeastern Ohio on native plants. The fund for our annual grant began with an endowment from one generous donor. This account is kept separate from the Society's operational budget. Recent years of declining returns due to the economy have stressed the grant fund. Gifts earmarked for the Annual Grant Fund are always welcome—no gift is too small. Gifts to the fund can be sent at any time through the year or with your annual membership dues. All gifts to the Annual Grant Fund will be used only within our Grant program on projects that demonstrate excellence in research, conservation or education and that clearly support the mission of the Society.

Interested In Becoming a Board Member?

If you are interested in more actively supporting the mission of our Native Plant Society, we invite you to apply for membership to the board. Every organization can benefit from new ideas and new energy. If you would like to help shape the future of our Society, please contact Judy Barnhart and she will explain the procedure. Call 440-564-9151 (H) or 440-286-9516 ext 2011(W), or email her at bunchberry1@windstream.net.

Board

President	Judy Barnhart
Vice President	Kathy Hanratty
Treasurer	Bill Oberdick
Secretary	Jean Loria
At-Large	Diane Christensen

Standing Committee Chairs

Membership	Jane McCullam
Publicity	Diane Christensen
Journal	Diane Christensen
Co-editor	Bill Oberdick
Public Relations	Tracey Knierim

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 Diane B. Christensen, 8400 Top Rail Lane, Novelty, OH 44072; 440-666-4870, dbpolice@roadrunner.com; or Bill Oberdick, 2459 Charney Rd., University Hts., Ohio 44118, 216-371-3345, boberdick1905@att.net

The Mission of the Native Plant Society of Northeastern Ohio is to promote the study, appreciation and conservation of the native plants and plant communities of Ohio.

Program Schedule – Spring 2012

Sunday, January 15th, 2:00 – 4:00 pm – *The Botany of Desire*. West Geauga Library. We will watch Michael Pollan's DVD on his best-selling book *The Botany of Desire*. The book explores the dance of domestication between humans and plants. Who has really been domesticating whom? Followed by a lively discussion. Directions: 13455 Chillicothe Road (Rt. 306) Chesterland. The library is located on the east side of the road between Fairmount Rd. and Cedar Rd., next door to West Geauga High school. We will meet in the large meeting room. Call Diane to register at 440-666-4870.

Sunday, Feb. 19th, 2:00 – 4:00 pm – Controlling Rainwater with Native Plants. West Geauga Library. Kathy Hanratty will narrate this program with a discussion of native plants and ways that they have been used to help purify water and alleviate flooding and erosion. How some of these techniques can be used by home owners. Directions: 13455 Chillicothe Road (Rt. 306) Chesterland. The library is located on the east side of the road between Fairmount Rd. and Cedar Rd., next door to West Geauga High school. We will meet in the large meeting room. Call Diane to register at 440-666-4870.

Sunday, Apr. 1st, 2:00-4:00 pm – Spring Wildflower Preview. **The West Woods Nature Center, Geauga County Park District, Russell, OH**. . Photographer Tracey Knierim takes you on a virtual walk through spring as she shares her native Ohio wildflower photos from February through May. Brush up on your wildflower identification and learn about some of the folklore, medicinal purposes, and meanings behind the names of our native plants. The West Woods is located at 9465 Kinsman Road (Rt 87), 2 miles east of Rt 306.

****************TENTATIVE WEEKLY WILDFLOWER WALKS ****************
**************SEE THE NEXT ISSUE FOR CONFIRMED SCHEDULE **************

Weekly Wildflower Walks – This year's walks will be on Wednesdays from 4/18-5/30 at 6pm. Spring is gone before you know it. Experience its fast changing color palettes on these weekly walks with Tracey Knierim in different locations throughout northeastern Ohio. No registration required. Walks may be rescheduled for Thursdays if we have bad weather. For questions call Tracey at 216-514-7000 x 305 (W) or 440-543-6399(H).

4/18 – Eagle Creek
4/25 – Aurora Sanctuary
5/2 – Swine Creek
5/9 – Eagle Creek
5/16 – Bedford Reservation
5/23 – Morgan Preserve
5/30 – Kent / Triangle Bogs

Founding Member Ann Malmquist Is Recognized

A bench in honor of Ann Malmquist has been installed outside The West Woods Nature Center in Novelty, Geauga County. Malmquist was recognized as founder of the Ohio Native Plant Society and for her years of service to the organization. The bench bears a plaque depicting three trillium flowers. Ann Malmquist, founding president of the Ohio Native Plant Society, was instrumental in securing the flower's position as state wildflower. Native plant enthusiasts were annoyed that the cultivated red carnation was the state flower. Rather than propose the state change its flower, Malmquist, with Richard Moseley and Guy Denny of the Division of Natural Areas and Preserves, worked with state legislators on a bill to add the trillium as the state's wildflower. Malmquist said the trillium was selected because it was found throughout the state and was easily recognizable. On Dec. 4, 1986, Gov. Richard F. Celeste signed into law an act making the *Trillium grandiflorum* Ohio's official state wildflower.



Ann Malmquist
Founding Member



Plaque on bench with the three trillium flowers
Dedicated to Ann Malmquist

Wild Strawberry
Description & Folklore

Gordon Mitchell

Most of us enjoy eating strawberries. The ones that we buy at stores are of a different species than our native strawberry species. However, those store-bought strawberries can trace their ancestry back to our native species. Our native species is the Wild Strawberry (*Fragaria virginiana* Duchesne). However, some sources list Millspaugh instead of Duchesne as the author.

Wild Strawberries are related to Roses (*Rosa* sp.). They are members of the Order *Rosales*, the Family *Rosaceae*, the Subfamily *Rosoideae*, the Tribe *Potentillae*, and the Subtribe *Fragariinae*.

The generic name, *Fragaria*, is from the Latin words, *fragrans* or *fragrum*, which refer to the fragrance of the fruit. It may come from *fraga* or *frago*, which is "to emit a sweet odor or fragrance." The specific epithet, *virginiana*, is Latin for "of Virginia."

The common name, strawberry, may have originated from the Anglo-Saxon words, *streowbergie* or *streawberige*, which refers to its runners "strewn upon the ground." *Streaw* or *streow* is "strew", which came from "straw". It may also have been named based on the fact that Europeans placed straw upon bedding plants. *Berige* is "berry." This Anglo-Saxon spelling was used until about 1538.

At different times and places, this plant had other common names. Some of them are Canadian Strawberry, Common Strawberry, Field Strawberry, Indian Strawberry, Meadow Strawberry, Mountain Strawberry, Scarlet Strawberry, Strawberry, Thick-leaved Wild Strawberry, and Virginia Strawberry.

Description of the Wild Strawberry

Perennial
Height: Its height is 2½ inches.
Stem: This plant is stemless but has a short rhizome.
Leaves: The leaves are basal and are palmately compound with 3 leaflets. These leaves have long, hairy, and green to dull-red petioles. The leaves are arranged in a basal rosette. These leaves make excellent cover for small animals.
Each leaflet is bright green above, white and hairy below, about 1¼ inches long, and is ovate or obovate. Its margins are coarsely serrated with the terminal teeth being shorter than and about half as wide as the lateral teeth.



Fragaria virginiana Duchesne
Virginia strawberry leaf

Flowers: The flowers are arranged in flat, terminal, racemous clusters of up to 12 flowers. These clusters are placed upon separate hairy stalks from the leaves.
Each flower is radially symmetrical and is about ½-1 inch wide. It has 5 white, rounded petals; 5 acuminate, backwardly curved, green sepals; 5 linear, leaf-like bracts; about 25 orange-yellow stamens; and about 25 pistils. The flowers are dome-shaped.
They are insect-pollinated. Some of their pollinating insects are Bees (Superfamily *Apoidea*), Flies (Order *Diptera*), Butterflies (Order *Lepidoptera*), and even Ants (Family *Formicidae*). Flowering season is usually April-July.





Fragaria virginiana Duchesne
Virginia strawberry flower

Fruit: The fruit is a large, red, ovoid, fleshy, juicy, aggregated central receptacle. Its length is about ½ inch and its diameter is about ¼-¾ inches.
Numerous species of Birds (Class *Aves*) and Mammals (Class *Mammalia*) eat this fruit and help spread the seeds. Fruiting season is usually June-July.



Fragaria virginiana Duchesne
Virginia strawberry fruit

Seeds: The seeds are dry achenes that are embedded or sunken within the surface of the fruit.
Root system: The roots are shallow, dense, fibrous, and fan-shaped. They have a symbiotic relationship with endomycorrhizal bacteria.
These roots become woody with age. Most of the roots are biennial.
The long, red stolons or runners root at their nodes. This plant spreads by these runners and forms large cloned colonies. These large colonies can form entire mats. The runners also anchor the soil and prevent soil erosion. The stolons usually die out during the winter.
Habitat: Its habitat consists of dry soils in old fields, meadows, lawns, pastures, prairies, open

areas, open woods, woods edges, slopes, hillsides, roadsides, and waste areas. This plant is shade tolerant.

Range: Its range covers much of southeastern Canada and the eastern U.S. as far west as the Great Plains, excluding Florida and the Gulf Coast. Plant populations at the northern end of its range can tolerate cold temperatures as low as –40 degrees F.

Medicinal Uses

Both the Native Americans and the European settlers had numerous medicinal uses for this species. The leaves, roots, and fruits provided the necessary medicines.

The leaves, which are gathered in the spring or in the summer, are dried and used as an infusion or a tea. It was used as an astringent, a depurative, a diuretic, and a tonic. It was used for treating anemia, bladder and kidney ailments, gastrointestinal troubles, gout, jaundice, nervousness, rheumatism, and scurvy. It was used for breaking kidney stones, bladder stones, and gallstones. However, the wilting leaves contain hydrocyanic acid or cyanide.

The leaves were used externally. Leaf tea was used as a rinse for treating acne and eczema. It was also used in soaps and cosmetics for complexion and for revitalization.

The roots, which were dried in the fall, were used as a decoction. It was used as an astringent and as a diuretic. It was used as a gargle for treating sore throats and sore mouths. It also treated stomach and lung ailments and gonorrhea.

The fruits were used as an antipyretic for lowing body temperatures and as a dentifrice for removing tartar from teeth. It was also used for treating gout, scurvy, and tuberculosis. The fruits contain ellagic acid, a natural phenol phytochemical oxidant, which protects the body cells from cancer.

The fruits were also used externally. They were used as a wash or as a poultice for treating sunburns.

Edible Use

Both the Native Americans and the European settlers had edible uses for this species. These fruits can be eaten raw or cooked. They can be made into jams, jellies, beverages, and other uses. The fruit can be dried and stored for later consumption. It was once used in making bread.

These fruits contain beta-carotene, calcium, iron, magnesium, potassium, citric acid, malic acid, salicylic acid, and the sugar levulose. They also contain vitamins A, B (niacin and thiamine), C, E, and K.

The fresh leaves are also edible. They can also be eaten raw or cooked. The dried leaves can be made into a tea that contains tannin and vitamin C.

Domesticated Strawberry

The domesticated Strawberries that are store-bought are hybrids between the Wild Strawberry and the Beach Strawberry (*Fragaria chiloensis* [L.] Millspaugh). This other species is native to Chile, Argentina, and the Pacific Northwest. This hybrid species is titled *Fragaria x ananassa* Duchesne ex Rozier.

In 1629, the Wild Strawberry was first cultivated and exported to Europe. In 1714, Frenchman Amedee-Francois Frezier exported the Beach Strawberry to Europe. Because the Beach Strawberry consisted of separate-sex plants, hybridization with other species did not come quickly. The hybrid between the Beach Strawberry and the Wild Strawberry was accidentally discovered in Holland around 1750.



Fragaria chiloensis (L.) Mill.
Beach Strawberry



Cultural History

Many cultures have their own folklores, legends, and superstitions about their Strawberries. Our Native American tribes had their own beliefs.

Every June, the Seneca Tribe celebrated the Strawberry with their longhouse ceremonies. Because this was the first fruit to ripen in the spring, it was associated with both spring and rebirth.

The Cherokee Tribe had several versions about the origin of the Wild Strawberry. Here is an excerpt from one of them.

Strawberry Legend

When the First Woman, or Sky Woman, has happy with this new world, Creator sent First Man down to help take care of his creation. First Man and First Woman were now husband and wife. They were happy and all things were good, but as in all good things bad will come, and First Woman and First Man began to fight and argue.

Harsh words were said on both sides, and finally the wife said that she was leaving. Grabbing a few belongings, she began walking away from First Man. "I am going to find another place to live," she told her husband, "You are lazy and pay no attention to me." In a short time, the husband regretted his harsh words and tried to find his wife so he could apologize. Eventually, he realized that she was too far ahead, and he prayed to the Creator to help him. "Slow her down, Creator, so I might tell her how much she means to me," he asked. "Is her soul one with yours?" Creator asked. First Man replied, "We have been one since the beginning of our time. We have been one since you have breathed life into our souls, and we shall remain one until the end of time itself."

Touched by the man's anguish, the Great Spirit intervened. Seeing the way First Woman was walking, he began to make plants grow at her feet to slow her down. To one side grew the blackberries and to the other grew huckleberries, but she still walked on.

Again he made the plants grow, and to one side grew the gooseberries and to the other grew the serviceberries, but she still walked on. So the Creator went to his garden and grabbed a handful of strawberry plants and threw them to the Earth, knowing that they would surely slow her down.

When they landed at First Woman's feet, they began to bloom and ripen. First Woman looked down to see the beautiful leaves and berries of the strawberry plant and stopped to taste just one small berry. As she plucked and ate the berries she forgot her anger. Finding a basket among her belongings, she quickly filled it, and longed for her husband once more. First Man, hurrying on his way, was surprised to see his wife returning, and oh!, how his heart did soar. She was smiling! She dipped her hand into her basket, and got a berry and placed it in his mouth. He smiled foolishly, and gave thanks to the Creator. Taking his hand, his wife led him back down the path to their home, feeding him strawberries on the way.

When the Europeans arrived, they had their own stories about the Strawberry. Most of them were in poems, in songs, and in quotations. However, they were probably about the domesticated species.

Gordon Mitchell works for the Columbus, Ohio Metroparks and was a member of the Central Ohio Native Plant Society, which merged with the Columbus Historical Society in the Spring of 2010.

Photos in this article were added by *OTF* editors.

The Winter Woods

Tom Snyder

The gate to Gross Woods State Nature Preserve is open sunrise to sunset all year long. The forest's popularity peaks during the spring wildflower extravaganza and again in the fall when leaf color is at its prime. Summer finds it nearly deserted, thanks to the bug population, and no one visits in the winter. I can't blame people for shying away from mosquitoes, but winter in Gross Woods deserves a second glance.

Located in west-central Ohio, Gross Woods is one of the least disturbed old growth woods in the area and one of the few mixed-species swamp forests remaining in that region of Ohio.

Stand and listen

The half-mile-long boardwalk winding among the trees gives visitors an excellent vantage point. We are in such a hurry nowadays that we have lost nature's song. The deep woods in winter are a good place to catch it again. Pick a place to stand and listen. Did you hear that crack of an ice-loaded branch? Can you feel the crunch of snow underfoot?

Now that the trees have lost their thick covering of leaves, we can easily see their graceful architecture. We usually think of trees in winter as being "naked." But look more closely. You'll see that they are fully clothed, for bark in all of its subtle variations is a tree's true garment. Leaves are but a temporary adornment, like a necklace worn for special occasions and then laid aside.

Look off through the clustered trees

Can you catch the repeated rhythms of tree-clothes? It is much like what you might notice in a crowd of humans with its clusters of similar tastes and fads. Over there are the oaks in deeply pleated brown, and there are the beeches dressed in austere gray with wrinkles around their protruding limbs. In the distance is the vain, non-conformist of the crowd—a lone sycamore dressed in harlequin splotches of white, tan and gray.

The trees may look lifeless, but they are only hibernating. All major functions are shut down, waiting for warmer weather when the energy stored in their roots will surge upwards with sap to awaken dormant buds.

Don't think all of the woods are asleep

The double exclamation points leading off through the snow should warn you that there is active life here, even in the coldest season. The squirrel that made these tracks was probably sniffing out nuts buried last fall against winter's famine.

Many years ago when Gross Woods was still an anonymous part of the vast Midwestern forest, other life moved through it in winter. An old treaty line cuts through the preserve from north to south, separating the former Lewistown Indian Reservation on the east from land opened to white settlement on the west. Had you been here during the winter of 1830, you might have seen a fur-shrouded Shawnee, musket in hand, carefully studying the woods. He would be looking for signs of deer – the peculiar cleft prints, clusters of tiny oval droppings, browsed twigs – or perhaps for bear or wolf.

To the Indian, the forest was a book in which was plainly written the passing events of the creatures living there. The bears and wolves are gone, but the deer remain. From the boardwalk you can still find their tracks and follow them with your eyes into the hidden distances of the woods.

The 49-acre Gross Woods State Nature Preserve is located on Botkins Road, 4 miles east of its intersection with 1-75 in Shelby County. For more information, visit our website at www.ohiodnr.com/dnap.



Gross (Samuel) Memorial Woods State Nature Preserve

Main Features:
Numerous large trees, excellent spring wildflowers and good bird habitat. There is a 1/2-mile boardwalk through its 49 acres, some of the least disturbed forest in west central Ohio. Handicapped accessible.

This preserve was made possible by a gift of the heirs of Samuel Gross to the Division of Natural Areas and Preserves via the Ohio Chapter of The Nature Conservancy in 1980. Although small in size, Gross Woods is one of the least disturbed old-growth woods in west-central Ohio and one of the few mixed-species swamp forests remaining in this part of the state.

The woods are characterized by a diversity of tree species, with no one type being dominant. Large bur oaks and basswood occur in the wettest areas, with shagbark hickory, white and red oaks, black walnut, beech, and sugar maple on slightly drier ground. The rare pumpkin ash is also present here.

The display of spring wildflowers and the brilliance of autumn colors makes visiting Gross Memorial Woods rewarding at any season.

Location:
Located in Shelby County, 6 miles east of I-75 (Botkins exit) and approximately 3.5 miles north of Jackson Center on Botkins Rd. Boardwalk and trail system are present.

Printed from the Ohio Department of Natural Resources website.

Tom Snyder is West Central Preserve Manager of the Ohio Division of Natural Areas and Preserves.
Reprinted from *Natural Ohio*, Division of Natural Areas and Preserves, ODNR. Vol. 26, No. 1.

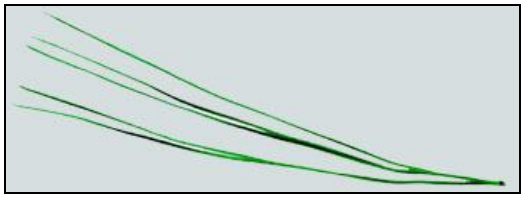
Key To the Conifers of the Great Lakes Region

Tom Sampliner

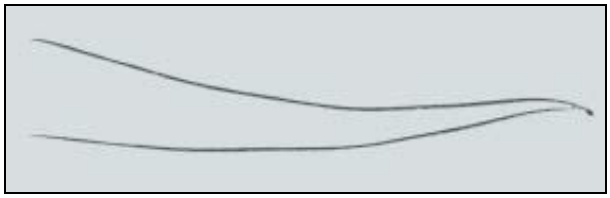
In our region, we do not have the complexity in conifers that one encounters either in the Rockies or the Pacific Northwest. Nevertheless, there are some confusing and overlapping traits that will hopefully be addressed by this key to the genera. A grateful assist goes to the well-known Canadian botanist E. C. Pielou for her expert delineation of traits in *The World of Northern Evergreens*.

The clustered leaf (needle) species

1. **The Pines** The genus *Pinus*. Their needle-shaped leaves grow in bundles called fascicles. In each bundle, needles will number from 2 up to 5, depending on the species. The white pine group has bundles of needles which are soft and pliant, while the red group has needles that are stiff and sharp-pointed.



White pine needles



Red pine needles

2. **The Larches** The genus *Larix*. These are deciduous confers that drop their needles in late fall and so they must grow needles anew each spring. New spring needles are blue-green, clustered upon dwarf pegs that are modified branches we call twigs, rather than being a woody leaf pedicel. In late fall the needles turn a gorgeous golden color before dropping off to decorate the bog mat. Being conifers, their fruit is a cone. In their first year each cone is a handsome maroon color and grows upright. In subsequent years the cones turn brown and hang downward. Ohio is the southern edge of this tree's range.



Tamarack,*Larix laricina*

The single needled species

1. **The Spruces** The genus *Picea*. The cross-section of a needle is square, and a remnant peg marks where old needles fell away, leaving the trigs rough. Needles are attached to the twig in a spiral.



Spruce

2. **The Firs** The genus *Abies*. Tree bark is smooth on mature specimens but pocked with resin blisters. Needle scars are circular and either flat or recessed against the trunk, so a trunk, twig, or branch will feel smooth. Cones in these species sit upright upon the branches.



Fir needles

3. **The Hemlocks** The genus *Tsuga*. A lacy overall look and a bent-over, dangling leader are typical. Each needle's stalk makes a sharp turn at the base. A unique conifer trait distinguishes the underside of each needle. Along the midvein beneath each needle, look for the two white parallel lines that represent the visible stomata or breathing pores.



Hemlock needles

4. **The Yews** The genus *Taxus*. Our eastern species is merely a shrub, as opposed to what you find in the west. It is dioecious, meaning male and female plants are separate. Instead of cones, their fruit is a fleshy, red berry housing the seed.

Tom Sampliner is a professional naturalist, member of The Native Plant Society of Northeastern Ohio, and a former Board member.

Photos in this article were added by OTF editors. *Larix laricina* photo by Tracey Knerim, NPSNEO Board member.

Invasive Plant:

Pernicious Periwinkle
Vinca minor

Ruth Ann Ingraham

Periwinkle *(Vinca minor),* also known as myrtle or vinca, is a favorite vining ground cover for residential and commercial use and is sold by both large and small nurseries and garden centers. Many buyers are attracted to the plant's periwinkle blue or lavender flower with a white, star-shaped throat that blooms in April and May.



Vinca minor L.
Common periwinkle

A less commonly known name for periwinkle is "flower of death." It was called this in European folklore because its vines were woven into headbands worn by dead children or by criminals on their way to execution. Unfortunately, it may deserve the same name in North America, as the extensive mats it forms on forest floors can choke out native wildflowers and other plants. A visit to Yellowwood State Forest proves the point.

Unlike another common vining invasive groundcover, wintercreeper *(Euonymus fortunei),* periwinkle does not climb tree trunks, fences, and walls, but remains on the ground where it reproduces through underground runners or stems above ground that form roots where nodes touch the ground. Periwinkle forms dense, extensive carpets on the forest floor and may cover huge areas (acres), smothering native wildflowers and other herbaceous or woody species. It grows vigorously and can thrive in complete shade and even poor soil.

European settlers brought this plant with them in the 1700s. They could not have imagined the negative effect this plant would have on our natural environment once it escaped from cultivation. Our predecessors left that problem to us.

Former owners of my Brown County cabin on Lawson Ridge Road apparently introduced periwinkle in a perennial bed. I have been digging and pulling periwinkle from that bed and surrounding areas for twenty years. When I think I've eliminated it and let a year or so go by without checking the location, I find it there again, spreading into the woodland at the edge of the garden. Last fall I found a patch where I had not seen it before, possibly started from the plant's inconspicuous and uncommon bean-like fruit. I'll continue working to eliminate it.

Control methods vary according to the scope of the problem. In my case, periwinkle is not out of control yet and I will continue to dig and pull manually. With large areas, the plant can be cut or mowed followed by a foliar application of glyphosate applied to new sprouts. There is more information at bcnwp.org with multiple, excellent links to the topic both generally and specifically.



Asarum canadense
Wild ginger

It's easy to identify some of our non-native invasive plant species in winter time. Periwinkle is evergreen and so are many others, such as wintercreeper, English ivy, and Japanese honeysuckle. In late March and early April, watch for shrubs that leaf out earlier than our beloved native understory shrub, spicebush. Bush honeysuckles and autumn olive are two examples.

What are some alternatives to non-native groundcovers? Native alternatives are the vine Virginia creeper, *Parthenocissus quinquefolia;* Christmas fern, *Polystichum acrostichoides;* and wild ginger, *Asarum canadense.*

Hellebores may serve the need as a non-native, non-vining, evergreen alternative. Some of these appear naturally just where you want them or may be transplanted from other locations on your own property. Ask your neighbors and friends if they have some and are willing to share.

As always, I ask that you learn to identify noxious species that threaten to permanently alter our natural environment–both woodlands and open fields–and to control those invasive species with as much vigor as possible. I also urge you to ask local vendors to discontinue the sale of plants such as periwinkle and wintercreeper that threaten the viability of the wildlife habitats we love.



Vinca minor L.
Common periwinkle

As chair of the Brown County Native Woodlands Project, Ruth Ann Ingraham writes a series about non-native invasive plant species for the *Brown County Democrat*. Learn more about Brown County Native Woodlands Project here.

Reprinted from the *Inpaws* Journal, Indiana Native Plant and Wildflower Society. Spring 2011.

Photos in this article were added by OTF editors. *Asarum canadense,* wild ginger, photo by Tracey Knierim, NPSNEO Board member.

Book Worth Looking At
Nests and Eggs of Birds of Ohio

The Story of the Creation of *Illustrations of the Nests and Eggs of Birds of Ohio*

By Joy Kiser



I began my professional career as the librarian for the Cleveland Museum of Natural History in 1995. While I was there I began a research project into the history of the creation of one of the rare books in the Museum's collection, *Illustrations of the Nests and Eggs of Birds of Ohio*, an extraordinary nineteenth-century book created by an Ohio family. In 2001, I moved to the Washington, DC, area to become the librarian for National Endowment for the Arts, but my research continued and, while volunteering in the Joseph F. Cullman III Natural History Rare Book Library in the Smithsonian, I helped create a web exhibit about the book that included scans of several illustrations from the Smithsonian's copy.

Last January, an acquisitions editor from Princeton Architectural Press, which specializes in visual culture books, came across the web exhibit and contacted me to inquire if I would be interested in writing a book. I am delighted to announce that my book, *America's Other Audubon*, which will come out in spring 2012, will relate the story of Genevieve Jones of Circleville, Ohio, her

family, and the making of *Illustrations of the Nests and Eggs of Birds of Ohio*.

At the age of twenty-nine, Genevieve Jones, an amateur naturalist/artist and daughter of a country doctor, visited the 1876 Centennial World's Fair in Philadelphia, where she saw illustrations from Audubon's *Birds of America* (1827-1838) on display. His artwork inspired her to undertake the production of a book illustrating the birds' nests and eggs that Audubon neglected to include in his work. Her parents were reluctant to support the undertaking of such an ambitious and expensive project until Genevieve became despondent over a broken engagement. Concerned over her fragile mental state, they encouraged her to begin the book as a distraction. Her brother collected the nests and eggs, her father paid for the publishing costs, and Genevieve and her girlhood friend Eliza Shulze learned lithography and began illustrating the specimens. The book was sold by subscription in twenty-three parts. When part one of Genevieve's work was issued, leading ornithologists praised the illustrations, and Rutherford B. Hayes and Theodore Roosevelt added their names to the subscription list. Henry Howe described the work in his 1907 *Historical Collections of Ohio, an Encyclopedia of the State*: "It is one of the most beautiful and desirable works that has ever appeared in the United States upon any branch of natural history and ranks with Audubon's celebrated work on birds."

Then, suddenly, Genevieve died of typhoid fever after personally completing only five of the illustrations. Her family took up the completion of the work in her memory. They labored for seven years until the book was completed in 1886; collecting nests and eggs, drawing lithographs on stone, and hand coloring fifty copies of each illustration, and writing the field notes for each species of bird. Both her brother, Howard, who collected the nests and eggs and wrote the field notes, and her mother, Virginia, who completed the drawings on stone and hand coloring, were stricken with typhoid fever two years after Genevieve's death and nearly died. In spite of serious damage to their health, they never gave up and labored until the book was finished. Her father, Dr. Nelson Jones, covered the publishing costs, which were higher than had been anticipated and were not covered by the subscription price, and ultimately lost his entire retirement savings completing the task in his daughter's memory. The mother lost her eyesight at the end of her life from the effects of typhoid fever and long hours of straining to draw and color the nests and eggs. But neither parent ever complained and considered their work on the book the most important accomplishment of their lives.

When the mother's copy of the volume was exhibited on the Chicago World's Fair in 1893, it was awarded a bronze medal. Only 90 copies of the book were produced and fewer than 26 have been located today in libraries or in private collections.

America's Other Audubon is a large format coffee table book (11x13 inches) that includes a foreword by the Curator of Natural-History Rare Books at the Smithsonian, Leslie Overstreet, a prologue and introduction, archival photographs of the family, the 68 original color plates of nests and eggs reproduced for the very first time, selected field notes, and a key to the eggs.

It is our hope (mine and that of Princeton Architectural Press), that by relating the family's story and reproducing the art work, enough interest will be stimulated in the subject to evoke a publisher of historical narrative books to produce the companion volume to *America's Other Audubon* that I am currently writing, a scholarly chapter book that will provide greater details of the family correspondence with ornithologists and subscribers and of their often painful and frustrating efforts to market their work.

Illustration: Plate II. The nest of the Wood Thrush by Genevieve Jones, from *Illustrations of the Nests and Eggs of Birds of Ohio*. From the Smithsonian Science website, Smithsonian Institution Libraries, Washington, D.C.

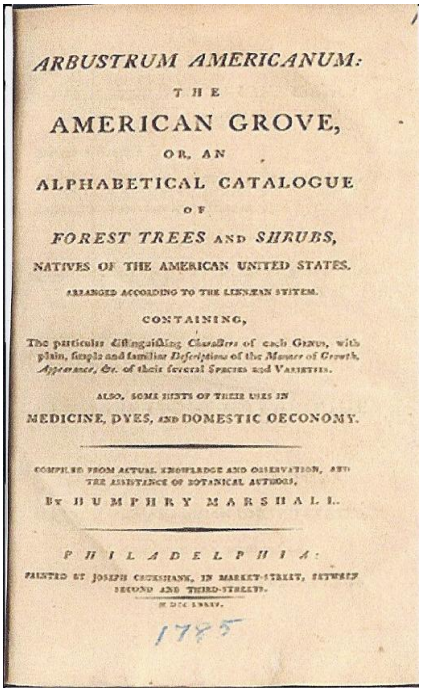
America's Other Audubon is scheduled for publication in May 2012. It can be pre-ordered from Amazon.

The Ohio Mushroom Society

Formed in 1973, The Ohio Mushroom Society has widespread membership, mainly in Ohio, but also in several surrounding states. The best way to learn identification characteristics of different kinds of wild mushrooms is to train with a specialist on the subject. Those who wish may go on to acquire an extensive background in mycology, the scientific study of fungi.

More information on the OMS can be found at: www.ohiomushroom.org

An 18th Century American Botanist
Part III
Humphry Marshall's Plants


ARBUSTRUM AMERICANUM:
THE
AMERICAN GROVE,
OR, AN
ALPHABETICAL CATALOGUE
OF
FOREST TREES AND SHRUBS,
NATIVES OF THE AMERICAN UNITED STATES.
ARRANGED ACCORDING TO THE LINNEAN SYSTEM.
CONTAINING,
The particular distinguishing Characters of each Genus, with plain, simple and familiar Descriptions of the Manner of Growth, Appearance, &c. of their several Species and Varieties.
ALSO, SOME HINTS OF THEIR USES IN
MEDICINE, DYES, AND DOMESTIC OECONOMY.
COMPILED FROM ACTUAL KNOWLEDGE AND OBSERVATION, AND THE ASSISTANCE OF BOTANICAL AUTHORS.
By HUMPHRY MARSHALL.
PHILADELPHIA:
PRINTED BY JOSEPH CRUKSHANK, IN MARKET-STREET, BETWEEN SECOND AND THIRD-STREETS.
1785

By Beverly Stamp

Humphry Marshall named many plants found in the United States. He is recognized as the author of those species, since he created their name and gave a description of each plant. I am conducting research to determine where Marshall published his discoveries that were new to science in the 18th century. These publications would have occurred prior to the 1785 publication of his book, *Arbustrum Americanum: The American Grove*. The following table lists the plants for which Marshall has been credited in the current botanical literature.

1.	*Taxus canadensis* Marsh.	American Yew
2.	*Acer saccharum* Marsh.	Sugar Maple
3.	*Aesculus octandra* Marsh.	Yellow Buckeye
4.	*Betula papyrifera* Marsh.	Paper Birch
5.	*Betula populifolia* Marsh.	Gray Birch
6.	*Corylus cornuta* Marsh.	Beaked Hazel
7.	*Fraxinus nigra* Marsh.	Black Ash
8.	*Fraxinus pennsylvanica* Marsh.	Red or Green Ash
9.	*Gleditsia aquatica* Marsh.	Aquatic Locust
10.	*Lonicera canadensis* Marsh.	Fly Honeysuckle
11.	*Nyssa sylvatica* Marsh.	Black or Sour Gum; Tupelo
12.	*Populus deltoides* Marsh.	Eastern Cottonwood
13.	*Prunus americana* Marsh.	Wild Plum
14.	*Prunus angustifolia* Marsh.	Chickasaw Plum
15.	*Prunus maritima* Marsh.	Beach Plum
16.	*Rosa palustris* Marsh.	Swamp Rose
17.	*Salix humilis* Marsh.	Prairie Willow
18.	*Salix nigra* Marsh.	Black Willow
19.	*Salix sericea* Marsh.	Silky Willow
20.	*Sorbus americana* Marsh.	American Mountain Ash
21.	*Vaccinium arboreum* Marsh.	Farkleberry; Sparkleberry
22.	*Viburnum alnifolium* Marsh.	Hobblebush
23.	*Viburnum trilobum* Marsh.	Highbush Cranberry
24.	*Xanthorhiza simplicissima* Marsh.	Shrub Yellowroot

Though No. 10 *Lonicera canadensis* and No. 12 *Populus deltoides* are listed in USDA Plants with the designation "Bartram ex Marsh.," according to Edward G. Voss in *Michigan Flora, Part III Dicots*, the correct author is Marshall. Further, for *Lonicera canadensis*, Voss explains that "the name is sometimes attributed to Bartram, who, however, never validly published it." (pp. 304-305.)

Plants originally named and published by Marshall, but transferred to another genus by a later authority:

25.	*Alnus maritima* (Marsh.) Nutt.	Seaside Alder
26.	*Aronia prunifolia* (Marsh.) Rehder	Black Chokeberry
27.	*Castanea dentata* (Marsh.) Borkh.	Chestnut

For No. 25 Marshall's original published name was *Betula-Alnus maritima*. The botanist Nuttall later removed *Betula* (Birch) as superfluous. This established a simplified genus of *Alnus* (Alder). Marshall's name as the original author is retained, and Nuttall's name is placed after the original author, as the botanist who made

the change in the genus, thus *Alnus maritima* (Marsh.) Nutt.
As to No. 26, *Aronia prunifolia* (Marsh.) Rehder, I cannot locate this species in Marshall's book *Arbustrum Americanum*, but Voss's *Michigan Flora, Part II Dicots* and Andreas' *The Vascular Flora of the Glaciated Allegheny Plateau Region of Ohio*, both list this species with Marshall as the original author.

Plant No. 27, *Castanea dentata* (Marsh.) Borkh. was originally published by Marshall as *Fagus-Castanea dentata* Marsh, but it underwent a transformation analogous to what occurred to plant No. 25, *Betula-Alnus maritima*.



Franklinia alatamaha
Watercolor by William Bartram
American Philosophical Society website
Humphry Marshall exhibit

Plant published by Marshall but named by another:

28. *Franklinia alatamaha* Bartram ex Marsh.
Franklin Tree
(This author citation signifies that this species was named by Bartram, but published by Marshall, who credited the name to Bartram.)

Marshall's name given as an honor by another botanist:

29. *Crataegus marshallii* Egglest.
Marshall's Hawthorne

The genus *Marshallia* is not in Marshall's catalogue because the *Marshallia* plants were all published after Marshall wrote *Arbustrum Americanum*:

Marshallia grandiflora (Large-flowered Marshallia)
Marshallia obovata (Obovate Marshallia)
Marshallia trinervia (3-nerved Marshallia)
Marshallia caespitosa (Mat-forming Marshallia).

The genus name "*Marshallia*" does not refer to Humphry Marshall, however, but rather to his nephew. According to *Gray's Manual of Botany* (M.L. Fernald), 8th Edition, *Marshallia* Schreb. (Barbara's buttons) was "named at the request of Muhlenberg for Dr. Moses Marshall, 1758-1813, nephew of the more distinguished Humphry Marshall."

Part IV
Humphry Marshall's Botanical Correspondence

In the mid-1730's, when Marshall was approximately thirteen years old, he had already developed considerable practical skill in botany. This interest in botanical studies was due mainly to the encouragement of his first cousin, John Bartram. As his botanical knowledge increased, he acquired many correspondents.

Eventually his correspondents came to include the British botanists John Fothergill, Peter Collinson, Sir Joseph Banks and John Coakley Lettsom the Dutch botanist, Johannes Fredericus Gronovius; the American scientists Benjamin Franklin and Caspar Wistar; and many French scientists and plant collectors, as well as a number of German, Swedish, and Irish plant collectors and scientists. (Humphry and Moses Marshall Papers at the William L. Clements Library of the University of Michigan.)

Marshall also exchanged many scientific letters with Samuel Vaughan, the English landscape designer and vice-president of the American Philosophical Society (APS). The APS was the leading American scientific

organization of the day, studying climate, terrain, geology, flora, and fauna. Vaughan designed the state-house square (Independence Square) in Philadelphia. "Vaughan wished to plant every tree and shrub that grows in the several states ... that will thrive here." In a letter of May 28, 1785 to Marshall, Vaughan sought advice on which North American trees and shrubs to plant in the state-house square. (Special Collections of the National Agricultural Library.)

Marshall's four British botanical correspondents were Sir Joseph Banks, Peter Collinson, John Fothergill and John Coakley Lettsom:

(1) Sir Joseph Banks: botanist and explorer (1743-1820); President of the Royal Society, London for forty two years and honorary director of the Royal Botanic Gardens, Kew. He founded and stocked the Gardens, which were known as the foremost botanical repository and research institution in the world. He traveled with Captain Cook on a botanical expedition to the South Seas, collecting hundreds of previously unknown plant specimens.

According to the Special Collections of the National Agricultural Library, Banks wrote to Humphry Marshall four times between 1786 and 1790. In a letter dated May 6, 1789, Banks reports that the last box of plants was received safely and notes, "I have no doubt that as the spring advances we shall find in it several Plants which will enrich our Botanical knowledge." (*"Humphry Marshall Papers," USDA History Collection, Special Collections, National Agricultural Library.)*

(2) Peter Collinson: a horticulturalist and botanist (1694-1768), born into a Quaker family in London. The genus *Collinsonia* (Horse Balm) was named for him by Linnaeus. He was a supporter of the APS of Philadelphia, founded in 1743 by Benjamin Franklin. Collinson came into contact with John Bartram in 1732, supplying him with seeds, bulbs, and cuttings of American plants. Collinson became Bartram's agent for a variety of important patrons, including Hans Sloane, whose collections helped to form the British Museum. John Bartram is believed to have introduced between 150-200 new American plant species to Europe. Carl Linnaeus (1707-1778), a recipient of many Bartram specimens, called John Bartram "the greatest natural botanist in the world." I believe that Collinson and Marshall must have exchanged plant specimens, since the William L. Clements library listed them as correspondents.

(3) John Fothergill: a physician, chemist, and botanist (1712-1780), and supporter of John Bartram's son, William. In addition to exploring new areas and gathering plants for many patrons, William Bartram is also listed in Gray's Manual of Botany as an author. He was an excellent artist, and his stunning painting of the Franklinia tree hangs in the British Museum of Natural History in the Department of Botany.(It is reproduced above.)

Fothergill owned a five acre garden with greenhouses, and acquired plants from all parts of the world. He paid plant collectors, including Marshall, very well for specimens sent to him. He was a fellow of the Royal Society and one of the earliest members of the APS in Philadelphia. A genus known as *Fothergilla* (Witch-Alder) was named for him by Johann Andreas Murray.

A letter dated August 23, 1775, was written by Fothergill to Marshall, opening with "Esteemed Friend." He states that his garden is "about five miles from London, warm and sheltered, rather moist than dry; and I have the satisfaction of seeing all North American plants prosper amazingly. There are few gardens in the neighborhood of London, 'Kew' excepted that can show either so large or so healthy a collection." Fothergill further states, "I do not think that our superiors will at all listen to any terms, but such as must be disagreeable to America. I therefore expect much mischief will be done, that a large army will be sent over, and that orders will be given to wage war in every part of America." The letter is signed "Farewell." (William Darlington's double biography, Memorials of John Bartram and Humphry Marshall, pp. 513-514, 1st Ed., Philadelphia: Lindsay & Blakiston; 1849.)

(4) John Coakley Lettsom: botanist, horticulturalist, physician, natural historian and philanthropist (1744-1815). He was a member of the Society of Friends. Several botanists of England and the Philadelphia area belonged to this religious group, also known as Quakers. He was a fellow of the Royal Society in London and also the Linnaean Society. The name of Lettsom was to be found associated with every project for the public good. In 1772 he wrote *The Natural History of the Tea-Tree, with Observations on the Medical Qualities of Tea and the Effects of Tea-drinking*.

Lettsom cultivated a garden near his home in Camberwell, Surrey, three miles to the Southeast of London. He exchanged plants with contacts in England, Europe, America, India, and the East Indies. He was especially interested in the medicinal and nutritional properties of plants. His garden was re-established in 1980 on a site that

was about to be developed. I assume that Marshall and Lettsom exchanged plant specimens, since the Clements Library affirmed that Marshall corresponded with Lettsom.

The author is a member of the Native Plant Society of Northeastern Ohio.
This article is the third in a four-part series about the 18th century American botanist, Humphry Marshall. In the June 2011 issue of On the Fringe (Vol. 29, No. 2), Part I explained Humphry Marshall's family tree. In the September 2011 issue (Vol. 29 No. 3), Part II described Marshall's life. Part III lists the native American plants he discovered, named, and described in print. Part IV summarizes Marshall's botanical correspondence with scientists of his time. The current issue includes Part III and the first part of Part IV. The second half of Part IV will be in the March 2012 issue. (Note that Part II was inadvertently titled “Henry Marshall,” rather than “Humphry Marshall;” our apologies to Humphry and our readers.)

From the Archives: *On The Fringe*, March 1987, Vol. 5, No. 2, pp 10-13

Leopold’s Lament

By Brian Parsons

> "What a thousand acres of Silphiums looked like when they tickled the bellies of the buffalo is a question never again to be answered, and perhaps not even asked." Aldo Leopold. *A Sand County Almanac*, 1949.

Leopold laments the loss of a Silphium to the road crew's mower after they had removed the fence that had protected this small remnant of the once vast prairie. He points this out as an example of mechanized man's oblivious attitude toward our native flora. In the growth of our country, the removal of the natural landscape has exacted a heavy price from our native flora.



Silphium perfoliatum, Cup Plant
MICHIGAN FLORA ONLINE University of Michigan. Web

In Leopold's words, "This is one little episode in the funeral of the native flora which, in turn, is one episode in the funeral of the floras of the world." In North America alone it has been estimated that at least 200 native plant species have become extinct since European settlement and that on a global scale at least several hundred thousand species are likely to be lost during the next few decades. This predicted rate of extinction has not occurred since the dinosaurs and associated organisms disappeared 65 million years ago.

Since the passing of Leopold's Silphium thousands of acres of land in the Midwest have been set aside by State and private conservation organizations to protect critical habitats for plant and animal species, affording protection for whole communities and the rarest of species. The urban and agricultural sprawl in this country has set a pace that hard presses conservation organizations and that has brought hundreds of species to the brink of extinction.

Roughly fifteen percent, 3,000 species, of our nation's flora are endangered or threatened with extinction. In Ohio, approximately one-third of our estimated 1800 native plant species are considered rare and endangered. The Great Lakes-Midwest region of our country contains approximately 82 native plant species that are endangered and of national concern. The long-term effects of years of abuse to our natural landscape are showing up with dramatic results.

In recent years, a great deal of time and money has been spent to identify and preserve the best existing examples of high quality plant communities and their many diverse elements. Long-term, species conservation, however, cannot be guaranteed through land acquisition alone. For, although a site may be protected, elements for which the land was acquired may disappear through natural succession indicating the need for management planning.

In 1941, Leopold lamented, "The practices we now call conservation are, to a large extent, local alleviations of biotic pain. They are necessary, but they must not be confused with cures. The art of land doctoring is being practiced with vigor, but the science of land health is yet to be born. A science of land health needs, first of all, a base datum of normality, a picture of how "healthy land maintains itself as an organism." Today, in 1987, the science of land health is developing and great strides are being made in the attempts to understand the land and its elements.

To understand how, "... healthy land maintains itself as an organism," requires long-term monitoring of protected plant communities. Understanding the dynamics and associations within a plant community and the establishment of management plans for species within the community are the first great inroads in the developing science of land health.

Long-term species conservation must be made through the development of successful management regimes based upon a species life history and habitat requirements. Traditionally, this type of information has been obtained through field (*in situ*) research of native populations. Today, another complementary mode of research is being developed that offers an expanded view of a species' life history based upon information collected through the cultivation of plant species in the greenhouse and the garden (*ex situ*).

From a national perspective, the leading proponent of *ex situ* conservation is the Center for Plant Conservation (CPC). One of the many strengths of the CPC program is that they have chosen to utilize botanical institutions within broad geographical areas to house and develop the National Collection of Endangered Species. The Holden Arboretum was selected in October of 1984 to develop the regional collection from the Great Lakes-Midwest section of the country, which includes all or portions of the state of Ohio, Indiana, Illinois, Iowa, Minnesota, Wisconsin and Michigan.

Ex situ conservation and research of endangered species is nothing new to Holden as they have been engaged in this form of conservation since 1982 when they formed a cooperative research agreement with the Ohio Department of Natural Resources, Division of Natural Areas and Preserves.

Since 1982, Holden has actively been engaged in research designed to determine the propagation and cultural requirements of Ohio's rare and endangered species. Holden is currently displaying over 125 Ohio Heritage species in its Myrtle S. Holden Wildflower Garden. Experience gained through experimentation with Ohio's endangered flora has provided a firm foundation upon which the basis of Holden's cooperative CPC program is being built.

The primary objectives of the CPC are: to develop live plant collections for public display, genetic storage and research; to share basic information about the biology and horticulture of endangered species; to establish long-term germ plasm preservation through seed storage at a Federal seed bank; and to educate the public about the threats to our endangered flora. As a cooperative garden, Holden is called upon to carry out each of these objectives.

To develop a public display of endangered species is easier said than done. To develop a truly representative collection requires research and communication to determine which species within the region are the most urgently endangered. After a species list is determined, then collection permits must be obtained; first from the individual state and then the landowner. Arrangements then must be made for the collection of propagules (seeds, spores or cuttings) from a wild population. In the first two years of the program, Holden has brought sixteen species into cultivation, requiring the development of cooperative programs with the U.S. Fish and Wildlife Service, Region 3, and the states of Ohio, Illinois, Wisconsin and Michigan. The CPC species brought into cultivation by The Holden Arboretum are: *Aconitum noveboracense, Aster furcatus, Besseya bullii, Cirsium pitcheri, Hymenoxys aculis* v. *glabra, Iris lacustris, Iliamna remota, Lespedeza leptostachya, Napaea dioica, Oxytropis campestris* v. *chartacea, Plantago cordata, Silene regia, Solidago houghtonii, Synandra hispidula, Talinum rugospermum, Trollius laxus* subsp. *laxus.*

Developing a collection for public display and genetic storage from propagules requires that an adequate sample is collected from a population so that the genetic diversity of the given species is preserved. The

CPC calls for collections to be made from wild populations large enough so that the collection of seed from each of fifty individuals will not impact the population and reduce its survival capabilities. To allow for germ plasm retention in a Federal seed repository and within a living collection, it is necessary to collect 25-30 seeds from each of the fifty plants within the population.

When seed is brought to Holden, it is accessioned, cleaned and shipped to the Federal seed repository. A sample is held out for propagation research and the development of the living collection. To adequately represent the wild population's genetic diversity, it is necessary to produce enough plants for both research and the display of at least fifty individuals of each species within the garden.

Propagation research at Holden requires the development of regimes that most accurately represent the natural sequence of events that trigger germination of seeds in the wild. As this information is largely unknown except for a small percentage of our nation's endangered flora, this requires some basic initial research. As it is a priority to first of all get plants out into cultivation, Holden's current level of propagation research is still in the initial stages for the majority of the sixteen species.

To date, Holden has recorded germination from all but one of the sixteen species thus far brought into cultivation. Initial propagation experimentation has included warm and cold, moist stratification and to a lesser extent, scarification. Determining which propagation regime produces the best results provides a basis upon which later research can be expanded and refined. Further cultural research that will be conducted for each species will be designed to establish environmental tolerances such as soil, light, and moisture requirements. Establishing these criteria helps to define the optimum growing conditions for a given species, the results of which can be extrapolated and held up as a model for the species wild habitat.

Ex situ conservation is a complementary mode of research that is best looked at as a tool that will help to supply answers to the many unanswered questions posed by our nation's endangered flora. It is a viable option, but not one that is put forth as a replacement to habitat protection. Preserving wild habitats and communities is the best mode of conservation for it will be a hollow victory if endangered species only grow in gardens. Today, it is not uncommon to see a Ginkgo or Franklin tree growing in a landscape but none exist in the wild. Let us learn from these examples.

Great advancements have been made in the practices of conservation and the science of land health since Leopold's lament. Precious land and critical habitat is being acquired throughout the country. The developing science of land stewardship is taking great strides to become the science of land health. The developing strategy of *ex situ* conservation as applied by the CPC and The Holden Arboretum has presented the Midwest with another tool in their conservation arsenal that shall help to stem the tide of extinction.

Of the estimated 3,000 species of our nation's flora that are faced with the threat of extinction, only 113 species have been afforded legal protection under the Endangered Species Act of 1973, and only ten percent are presently in cultivation. To save our disappearing species is a goal that we all should strive for and one that will require the work and support of all conservation organizations dedicated to our native flora. State, Federal, and private conservation organizations all need your support and commitment. Join us in helping to assure that Leopold's lament is not that of our children.

Brian Parsons is the propagator at Holden Arboretum for the Center for Plant Conservation program. His outstanding talent and devotion to his work has contributed to the outstanding successes that have been achieved at Holden Arboretum.



Silene regis, Royal Catchfly
Photo by Jim McCormac

Chapters of the Ohio Native Plant Society

Cincinnati Wildflower Preservation Society
Christine Hadley, President
445 Ward-Koebel Road
Oregonia, OH 45054
513-850-9585
cncywildflower.org
http://www.CincyWildflower.org

The Mohican Native Plant Society
Joanne Wrasse
1633 St.Rt.603
Ashland OH 44805
419-281-3690
jwrasse@zoominternet.net

The Native Plant Society of Northeastern Ohio
J. Bradt-Barnhart, President
10761 Pekin Road
Newbury OH 44065
440-564-9151
bunchberry1@windstream.net
http://www.NativePlantSocietyNEOhio.org

The Botanizers
The Wilderness Center
Gordon Maupin
P.O. Box 202
9877 Alabama Av. SW
Wilmot, OH 44684
330-359-5235
http://www.wildernesscenter.org

MEMBERSHIP APPLICATION

Membership includes invitations to all field trips, programs, the Annual Meeting, and a subscription to our quarterly journal, *On The Fringe.*
Membership runs from January 1 to December 31.

NAME: _____
ADDRESS: _____
CITY: _____
STATE: _____ ZIP:_____
PHONE: (____) _____
E-MAIL: _____

(We will not sell or distribute contact information.)

☐ Check here if you wish to go green and get your copy of the Journal by email only

Membership Types: (circle type chosen)
Individual $15; Family $20;
Sustaining $30; Patron $50
Trillium Society $100; Gentian Society $200
Corporate Level $250

Donations to the Endowment Fund to support the annual grant are always welcome.
The Annual Grant is offered for work in the field of botany or conservation that supports our mission and demonstrates excellence in research, conservation or education.

Make checks payable to:
The Native Plant Society of Northeastern Ohio
and mail to:

Jane McCullam
NPS Membership Chair
9880 Fairmount Road
Newbury, OH 44065-9712

The Native Plant Society of Northeastern Ohio is a 501(c)3 organization. Your donation is tax deductible to the extent allowed by law.

RENEW NOW
Don't miss an issue of *ON THE FRINGE*

On The Fringe
8400 Top Rail Lane
Novelty, Ohio 44072

DATED MAIL – DO NOT DELAY
RETURN SERVICE REQUESTED

- Promote conservation of native plants and natural plant communities through habitat protection and other means
- Foster public knowledge and appreciation of native plants
- Support natural landscaping
- Raise awareness of the ethical issues regarding native plants
- Encourage surveys and research into native plant species and the publication of findings
- Promote cooperation with other programs and organizations concerned with the conservation of natural resources

On The Fringe

In this issue:

Wild Strawberry – Gordon Mitchell
Winter Woods – Tom Snyder
Gross Memorial Woods SNP – ODNR
Key to the Conifirs of the Great Lakes Region – Tom Sampliner
Pernicious Periwinkle – Ruth Ann Ingraham
Book Review: Nests and Eggs of Birds of Ohio
An 18th Century American Botanist, Parts III & IVA – Beverly Stamp
From the Archive: Leopold's Lament – Brian Parsons

Journal
of
The Native Plant
Society of
Northeastern
Ohio

Volume 29, No. 4 December 2011