



On The Fringe

Journal of the Native Plant Society of Northeastern Ohio

2012 is our 30th Anniversary!

The Native Plant Society of Northeastern Ohio is celebrating 30 years. 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 December 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.

Flora-Quest seeks Eco-tourists

Frolicking among spring flowers is a tough job, but someone has to do it.

Many of Ohio's best botanists and naturalists lead field trips for Flora-Quest (May 4-6, 2012) including Guy Denny, Rick Gardner, Dr. Jaret Daniels, and many more. It is a botanical adventure in southern Ohio, with some excellent birds, butterflies, hiking, and geology thrown in for good measure.

What continues to draw like-minded individuals to Shawnee State Park and Forest each spring? Orchids, for one. Many other exceptional native species also reside here, like Indian Paint-brush and Hoary Puccoon. Adams and Scioto counties are packed full of rarities and wonderments, and our guides know where to find them. Throw in a small selection of excellent speakers as entertainment, local music, and 100 of the most interesting people to engage in conversation, and you start to see why Flora-Quest attendees keep coming back.

It is no wonder the ranks quickly fill with new adventurers and past participants anxious to experience southern Ohio's spring. Columbus and the area north of it, extending to Cleveland, will have just begun to show signs of spring when the flower riot is in full bloom at Shawnee.

2012's focus will be on many of the long-time favorite spots, the local State Dedicated Nature Preserves. Sign up to explore with our expert guides in Raven Rock, an otherwise "off-limits" preserve, or off-trail at Whipple Preserve.

Flora-Quest offers reasonably priced trips, speakers, and a variety of food options. Camping, cabins and comfortable hotel rooms are available in the immediate vicinity. Add to this, Flora-Quest minimizes our carbon foot-print by providing groups with eco-friendly vans, as well as supporting local conservation and preservation, and carbon offset initiatives. See full details at <http://www.flora-quest.com/>.

Program Schedule – Spring 2012

Thursday, March 8, 7:00 to 8:45 p.m. Gardening with Native Plants, Chagrin Falls Library

Join Garrett Ormiston, GIS and Stewardship Specialist with the Natural Areas Division of the Cleveland Museum of Natural History and professional landscaper for a seminar about landscaping with native plants. Learn about the threats that invasive plants pose to parks and natural areas, the many ways native plants benefit wildlife and how to make responsible plant choices for you garden. Registration required, call Chagrin Falls Library. 440-247-3551.

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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, con't.**Sunday, April 1, 2:00 to 4:00 p.m. Spring Wildflower Preview, The West Woods Nature Center.**

Photographer Tracey Knierim takes you on a virtual walk through spring as she shares her native Ohio spring wildflower photos. 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 Wood Nature Center is located at 9465 Kinsman Road (Rt 87), 2 miles east of Rt 306. No registration required.

Spring Weekly Wildflower Walks – Wednesdays at 6:30 p.m. *Note New Time*****

No registration is required for these walks. But if you are lost, will be late, or want to see if the walk will be cancelled or postponed, call Tracey Knierim 330-388-9279 after 5p.m.

***April 18 – Eagle Creek.** Discover the diversity and abundance of wildflowers this park has to offer. Directions: Take Rt 82 to Hiram. Continue east on Rt 305 to Nelson Twp. At the circle, take the first road to the right (Parkman Rd). At the split in the road, bear right on to Center Rd. At the first stop sign, turn left on to Hopkins Rd. The parking lot will be about a mile down the road on the right.

***April 25 – Aurora Sanctuary.** Let's explore this Audubon Sanctuary together. The highlight should be a large stand of Virginia Bluebells. Directions: From Rt 306/43 in Aurora, take Pioneer Trail East. The parking lot will be on the right just past the stop sign at Page Road.

***May 2 – Indian Point.** Join us for a joint program with Lake Metroparks to learn about the Indian earthen mounds found there and discover the wildflowers in the flood plain. Directions: Take I-90 to Vrooman Road and go north. Turn right (east) onto Seeley Road. Proceed past the lower lot entrance and continue up the hill for another ½ mile to the upper lot, which is located on the left (north).

***May 9 – 6:30-8:30 p.m. Swine Creek Reservation, Swine Creek Lodge.** Enjoy the amazing diversity of colorful spring wildflowers in this mature woods including green violet and discover some fascinating folklore associated with them. Be prepared for a couple small stream crossings and some hills. Directions: From downtown Middlefield, take Rt. 87 east 2 ½ miles to Hayes Road. Turn right (south) 1 ½ miles to park entrance on right. Bear left to Lodge. 16004 Hayes Rd, Middlefield, 44062. Call Judy to register at 440-564-9151 (H) or 440-279-0890 (W).

***May 16 – Bedford Reservation.** Last year we found over 30 species of spring wildflowers here, including, White Virginia Bluebells. Directions: Take Rt. 271 to Broadway/ Forbes exit. Go west on Broadway. Veer left on Union. Turn left on to Egbert Rd. The park entrance is on the right. Turn right into the park and follow road until it ends on Dunham Rd. At Dunham, turn right, cross Tinker's creek. Turn right on Button road, continue to the last parking lot. We will meet in the pavilion.

***May 23 – Morgan Preserve.** This is a new park, not open to the public yet. Chris Craycroft from Portage Park District will show us their Wetland Restoration Project and then lead us through the woods to see what this new park has to offer. Directions: Take Rt. 44 south through Mantua. Turn Left on to Nicodemus Rd., which is on the left just south of Rt. 303. Look for NPS Event sign.

***May 30 – Kent & Triangle Bogs.** Last year the Tamarack Blossoms and Pitcher Plant Flowers were Amazing! So amazing, we have to do it again! Chris Craycroft will be leading us again to explain this unique habitat. We will meet & walk at the Kent Bog and then continue on to Triangle Bog. Directions: Take Rt. 43 south through Kent to Meloy Rd. The parking lot is about ¼ mile down the road on the left.

Saturday, April 28 – 10:00a.m. to 12:00 p.m. Spring Wildflower ID Workshop, Geauga County, Big Creek Park. Deep Woods shelter. Discover the diversity of spring wildflowers and characteristics for telling them apart in this wildflower ID workshop using the Newcomb's Wildflower Guide. A Limited number of books will be available at the program for \$10 or bring your own. Joint program with Geauga Park District. Directions: Take I90 east to Rt 44. Travel south 3.2 miles to Clark Road. Turn east onto Clark Road 2 miles. Turn right onto Robinson Road. Travel 0.8 mile to park entrance. Bear left and continue to end at Deep Woods Shelter. Call Judy to register at 440-564-9151 (H) or 440-279-0890 (W).

Saturday, May 19 - 10:30 a.m. Hiram Field Station. Emliss Ricks will discuss the history of the Hiram Field Station and take us on a tour of their property. The field station consists of a 380-acre parcel of land, with 150 acres of beech-maple forest, a cold-water stream, two ponds, old fields of varying ages, young forests, crop fields, a two-mile interpretive nature trail, a waterfowl observation building, and a newly renovated, state-of-the-art lab building. It should provide a wide variety of habits for great spring wildflowers. Afterwards, if spring is cooperating, people are welcome to join Emliss at Eagle Creek. Directions: Take Rt 82 east to Hiram Twp. At the intersection of 82, 700, & 305 continue straight on 305. Turn right at the first street (Wheeler Rd). The Field Station will be on the right. Call Tracey to register at 440-543-6399.

Wednesday, June 13, - 6:30 p.m. Burton Wetlands. Join us on this early summer walk hoping to find Calla Lilies and Green Fringed Orchids. Directions: Take 422 to Rt 44. Go north on 44. Just past Lucky's Stop-N-Go, turn right onto Hotchkiss Rd. At the fork in the road, bear right onto Pond Rd. Turn left onto Old Rider Road. The parking lot will be on your right.

**For more information about the NPSNEO go to:
[www. nativeplantsocietyneohio.org](http://www.nativeplantsocietyneohio.org)**

Project BudBurst

A National Phenology Network Field Campaign for Citizen Scientists

Join us in collecting important climate change data on the timing of leafing and flowering of trees and flowers in your area through Project BudBurst! This citizen science field campaign targets native tree and flower species across the country.

The Project BudBurst website outlines how to get started, provides a list of suggested plants for watching, shares data and more. If you have little nature watchers in your house, check out how to get your children involved in the fun by becoming a BudBurst Buddie.

Visit Project BudBurst website at www.budburst.org.

Revisiting “Preserving Biodiversity: Is it too Late?”**By Kathryn Hanratty**

Since the article below was reprinted in "On the Fringe" in November of 1986, the general public has become more familiar with the term “biodiversity.” Unfortunately, we are still not much closer to answering the question "Is it too late?" The challenges outlined in Jeffery Knoop's article are still with us. Though scientists have done impressive work, we really do not know how many species exist, let alone know how many are faced with extinction. Even based on studies performed on the most highly studied taxa, vascular plants and vertebrates, the estimate fluctuates widely. Between 12% to 52% of these well identified plants and animals are threatened with extinction.

Human activity that results in habitat fragmentation, pollution, and destruction is still the largest contributing factor to loss of biodiversity worldwide. The human population, now over 7 billion, is further stressing fragile ecosystems. Global climate change, also human caused, is contributing to species loss and changes to habitat in ways that we cannot fully predict. The efforts of groups mentioned in the article, such as The Nature Conservancy, The World Wildlife Fund, National Wildlife Federation, The National Audubon Society, Sierra Club, and others, have been successful in some places in reducing habitat loss or even in repairing damaged habitats. These efforts are laudable, and every species saved is a victory. Unfortunately, human societies at large have not yet demonstrated the widespread moral respect for other species that the author suggests is necessary to preserve biodiversity. We would be wise to heed his warning that "humankind is not immortal; we are part of the fabric of life on earth."

Kathy Hanratty is the Vice President of the Native Plant Society of Northeastern Ohio. She wrote this update for the current issue of to the following article, which appeared in *On The Fringe* 25 years ago.



25 years ago this article appeared in *On The Fringe*

**Preserving Biodiversity: Is It too Late?****By Jeff Knoop**

Planet earth is in the midst of the greatest mass extinction in history. Today our planet exhibits the richest biodiversity ever evolved. Yet, we must face the frightening thought that, if current trends continue, our planet, through the activities of mankind, will lose 50% of all living species by early next century. The loss of ecosystems and continuing population growth create a synergistic response that threatens every species on earth.

Past Extinctions

Fossil records reveal that the earth has endured at least 3 mass extinctions. The most recent extinction brought about an end to the dinosaur era some 65 million years ago, and at that time, up to 90% of all faunal species may have disappeared. In contrast to pre-human mass extinctions, which are attributable to slow processes of climatic change, the current extinction process is very rapid. A wink of the eye in earth history.

Moreover, the processes of evolution that create new species have been greatly altered. We must face the fact that species evolve within complex ecosystems. The anthropocentric landscape of today, dominated by agriculture and urbanization, tends to promote biological simplicity at the expense of biological diversity. Destroying ecosystems not only destroys individual species but more importantly destroys the very fabric necessary to create new species. Since the tropical rainforests may harbor some 10 million species, the ultimate demise of these systems will represent the greatest loss of earth's biological capital.

How Many Species Exist?

According to Wilson (1985) about 1.7 million species of living things have been named and described. Almost half of these are insects; 440,000 of them are plants. Erwin (1983) believes that there are 30 million species of insects alone, the majority confined to the rainforest canopy.

Since we don't even have a close estimate of how many species exist, we really don't know how many are faced with extinction. The number is probably staggering. Many have become extinct without ever having been catalogued or described. Since, conservatively, 50% of the tropical rainforest is gone, we may have already lost 20% of all species. This is frightening.

Why Save Diversity?

To Aldo Leopold the answer was simple, "To save all the pieces is the first precaution in intelligent tinkering."

Some of the species we lose may possess unknown utilitarian values. For example, who would have guessed that an insignificant fungus would produce the antibiotic, penicillin, the wonder drug of this century, or that the nearly extinct desert pupfish may prove beneficial to human kidney disease because it can tolerate extremes in temperature and salinity. Almost all drugs and food crops are derived from wild ancestral species that occur in the natural world around us.

Plants and animals not only serve humankind but also offer clues for human survival. Each species that has survived through the ages to share the earth with us is a success story. Each of our cohabitants has evolved an ingenious and revealing set of life strategies.

If we look hard enough, each survivor can tell us something we need to know. For example, cave dwelling organisms can help to indicate groundwater pollution. Lichens wither and die if exposed to high amounts of air pollutants. Honey can be used to monitor heavy metal pollution. In more cases than not, a diverse landscape is a healthy landscape.

And, of course, there is the moral aspect of protecting diversity. All species, no matter how great or small, should be given a chance to survive. As rational beings, humans are responsible for safeguarding forms of life that we cannot create but suddenly have the power to destroy.

Tropical Forest Demise

The greatest species diversity lies in the tropics, and since this is a region experiencing rapid population growth and development, the consequences of rainforest destruction are severe and far reaching.

Every minute another 50 acres of rainforest succumbs to the chain saw. Every year 26 million acres, an area the size of Pennsylvania, is destroyed. At this rate the remaining rainforests will be gone within 35 years.

This is an inevitable fact if current trends continue, and such trends have the potential of affecting all other species on the globe. Scientists link deforestation to changes in rainfall patterns and the spread of deserts. Burning of the rainforest releases great quantities of carbon dioxide into the atmosphere. This increase, augmented by the burning of fossil fuels, is contributing to a warming of the earth's climate, a so-called "greenhouse" effect. If such a change occurs, it has a potential to reduce the remaining species diversity in temperate regions. And ultimately the ice caps may melt, raising the ocean levels and inundating a majority of coastal cities. Seventy-five percent of urban areas occur within coastal zones.

Erosion and crop failures triggered by deforestation will swell the number of economic refugees. Immigration officials estimate that over 30 million refugees, primarily from Mexico and Central America, may try to enter the United States by the end of this century.

Responding To Species Loss

There are a number of organizations working to preserve biological diversity. Most of the work involves acquiring land in this country or convincing a foreign country to do the same, and most organizations augment this approach with education.

The Nature Conservancy (TNC), a national conservation organization, devotes 100% of their efforts to preserving biological diversity. The approach is to acquire both terrestrial and aquatic habitats that harbor endangered species. Thus far the Conservancy has acquired some 2.5 million acres across the United States. The ultimate goal is to protect at least one occurrence of all endangered species, including rare plant and animal communities, in the United States.

Realizing that the U.S. harbors less than 10 percent of all described species, The Nature Conservancy has expanded internationally to work in the species rich rainforests of the neotropics. The approach here, however, is not to buy land. The idea is to export TNC's land preservation technology to build Conservancy-like programs and to get these methods institutionalized within foreign governments and conservation agencies. Thus far, the program has been successful and continuing progress is being made.

The World Wildlife Fund is another private conservation organization working to preserve biodiversity around the globe. Their efforts, for the most part, center around rare mammal species like the Pandas of China, the Mountain Gorillas of Africa, and the golden Lion Tamarins of Brazil.

Working with the governments of these foreign countries, World Wildlife Fund supports research and educational programs while providing expertise, manpower, and supplies to protect critical habitat. Using this approach the species earmarked for preservation becomes an umbrella species which ultimately protects a plethora of species. For example, the Mountain Gorilla of western Africa is restricted to a single remote mountaintop, blanketed by a lush tropical forest. World Wildlife Fund has worked with several African countries to protect the gorilla habitat and the many other rare and endemic species present. There has been some success, yet poachers and squatters continue to stress the gorilla population. If the gorilla goes, this entire montane community will follow. Other organizations working directly or indirectly to preserve biodiversity include the National Audubon Society, the Sierra Club, National Wildlife Federation, Friends of the Earth, and Greenpeace. Others abound. Support of any of these non-profit organizations will assist in the preservation of biodiversity.

Where From Here?

Nothing short of reducing the human population and achieving a major shift in how humankind views the natural world will assure the preservation of biological diversity.

In my opinion, reducing human populations and saving biodiversity go hand in hand. Traditionally, we have treated the symptoms with little regard for attacking the underlying problem: overpopulation by *Homo sapiens*. (The current U.S. administration [Reagan] recently cut family planning assistance programs to foreign countries.) Treating symptoms will buy time. Even if replacement birth rate could be instantly reduced to 50% or one child per couple, the population would continue to grow into the next century before declining. Currently, world population is growing by 85 million per year. At this rate the human population will double by 2030.

To commit ourselves to the preservation of biodiversity implies moral respect for elephants and ants, redwoods and snail darters. The greatest diversity of life on earth is in the insect kingdom. Most insects don't possess utilitarian value. In fact the United States spends, conservatively estimated, \$2.5 billion annually eradicating insects. Worldwide, the figure must be 10 times that amount. How can we justify preserving an estimated 10 million insect species unless we possess a reverence for life and protect species for their own sakes as our moral obligation? All species are unique and, if for no other reason, should be preserved for their beauty and presence. This article may be depressing; all attempts at preserving biodiversity in this day and age are inherently depressing. Yet our planet has endured great extinctions and emerged victorious. Our planet has evolved at least 50 million species throughout its 4.5 billion year history. It can rebound.

Preserving land today for tomorrow will result not only in immediate protection of species but also result in leaving options open for the future evolution of new species. The islands of diversity thus far protected will expand and provide the necessary material for organic evolution.

Humankind, although the current captain of spaceship earth, is not immortal; we are a part of the fabric of life on earth. We would be wise to listen to Robinson Jeffers who wrote, "the greatest beauty is organic wholeness, the wholeness of life and things, the divine beauty of the universe. Love that, not man apart from that."

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Jeffery Knoop was then Acting Director of the Ohio Nature Conservancy.

Reprinted, with some non-substantive changes, from *On The Fringe*, November 1986, Vol 4, No. 6, pp 3-7.

Common Blue Violet *Viola sororia* Willd.

By Marney Bruce

It's the most visible beginning, this low, blue flame in the woods. I think of it as a pilot light that ignites the entire burst of resurrection we call spring.
~John Eastman, *The Book of Forest and Thicket*

That so well describes how I think of my native wild violets when they turn my garden and little lawn purple beginning in late March. This lovely plant is actually considered a weed by many gardeners and weed-wary grass lovers surely curse it. But the flowers are some of the first to appear and beckon pollinators in early spring. They stand up tall and straight above the leaves, advertising their pollen and nectar. The flowers have five rounded petals, with the lower one lined with 'nectar guides': stripes or veins which radiate outward and guide pollinators to their reward. They have been used in perfume, poetry, paintings and posies, and can be made into candies and jellies. At our wedding a few years ago, the carrot cake a friend made for us was covered with violet flowers. The leaves are high in vitamins A and C and can be used in salads or cooked as greens. For early settlers, violet leaves were welcome when fresh vegetables were hard to come by. The new growth is the tastiest, so try them before June or when reemerging after being cut.



Viola sororia Willd.
Common Blue Violet

The former species name, *Viola papilionacea* Pursh p.p., was a reference to the resemblance of the flower to the wings of a butterfly. How appropriate! Violets are the host

plant for many of the orange-colored fritillaries, and especially the Great Spangled Fritillary. The eggs these butterflies lay on or near violet plants in the summer hatch in the fall. The caterpillars overwinter and start feasting in the spring when the new leaves emerge. So leave the leaf litter or mulch around violets undisturbed for the fritillaries hiding there. Various birds and small mammals occasionally eat the seed and some wildlife eat the foliage.



Viola sororia Willd.
common blue violet

These violets certainly spread themselves around, so I can understand the people who consider them weeds. Violets have many ways of reproducing. During the summer and into the fall seed capsules are produced which, when ripe, explode to fling the seed away from the mother plant. Pods that are almost ripe will turn dark and stand up straight with stems lengthened. Put some of these almost ripe pods in a paper bag and it will sound like popcorn popping for hours. It's a fun activity for children (of all ages) and it will keep your violet population down. Besides the showy flowers, violets have a secret flower which stays shut and fertilizes itself. This flower (called a cleistogamous flower) is probably the most

important for the plant's reproduction, for it has vast quantities of seed. Ants also play an important part in seed dispersal, as they do with many other plants. There is an oily substance attached to the seed called an eliasome, a protein-rich bribe which ants relish. They take the seed to their nests, eat the eliasome and discard the rest to germinate in their waste piles. If you have a compost pile and regularly throw these plants in, your finished compost could be full of the seeds.

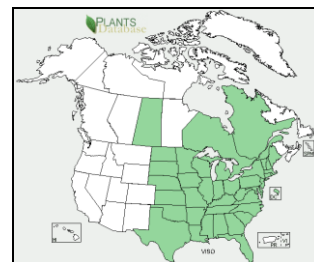


Viola sororia Willd.
Common Blue Violet

Violets bloom again in the fall, but the flowers are tucked under the leaves this time. Day length is the key. When the amount of sunlight is the same in the fall as it was in the spring, a hormone is released that triggers flowering. The flowers below the leaves may

appeal to ants and other pollinators on the ground that are more numerous then.

Now if these weren't reasons enough to love this attractive, fascinating plant, I have another reason. The wild common blue violet provides me with a lush, attractive ground cover from early spring through fall. Sometimes the leaves may turn a bit brown or yellow late in the season, but I just cut them off and fresh ones grow in their place. But if I see caterpillars or leaves with holes, I leave the plant where it is. It may be a Great Spangled Fritillary! I do hoe many of the seedlings in the spring since I want to have room for other native plants. In many places the violet leaves are intertwined with Virginia creeper or herbs like oregano and thyme. I am so happy violets have made my garden their home.



Photos in this article were added by OTF editors and provided by Tracey Knierim, NPSNEO Board member.

Reprinted from *Marilandica*, a publication of the Maryland Native Plant Society, Vol., Issue 1.

Spring's **EDIBLE** Gifts

By Debbie Naha

Our ancestors saw early spring greens as a welcome sight indeed. Weary of a long, monotonous winter diet, wild spring edibles were much prized. Even today, with the abundance of produce at your local supermarket, it's easy to appreciate wild edible plants. Tasty and loaded with nutrients, they beat store-bought greens any day. Here are a few of the many wild edible plants available in your neighborhood now:

Common Blue Violet (*Viola sororia*)

You may be lucky enough to have violets punctuate your lawn in the spring. If so, don't hesitate to add the leaves and lovely little flowers to a salad. The heart shaped leaves also make a good-tasting tea.

Dandelion (*Taraxacum officinale*)

Pesky weed or culinary delight? Super nutritious and available everywhere, dandelions are an under-appreciated wild treasure.

The spring leaves are tender and delicious. Eat them raw in salads. Later on, older greens can be boiled to remove bitterness.

Recipe for Flowery Fritters: Collect dandelion flowers. Make a batter, beating together one cup of milk, one egg and a cup of flour. Heat a few tablespoons of olive oil in a skillet over medium heat. Dip each flower into the batter and put into the hot oil. When golden brown, turn. Remove and place on paper towels to drain. Garnish with powdered sugar, honey, etc. Dandelion has several "look-alikes". Most do not pose a problem since they also happen to be edible. One however, is similar in appearance to dandelion and should be avoided. This is Coltsfoot (*Tussilago farfara*). Coltsfoot may have some toxic properties, so make sure you positively identify your dandelions!

Garlic mustard (*Alliaria petiolata*)

Yes, a terribly invasive plant, but such good eating! Leaves and flowers have a pleasant, pungent flavor and are an excellent substitute for basil in a pesto recipe. Like other

members of the mustard family, garlic mustard is high in vitamins and cancer-preventing antioxidants.

Common chickweed (*Stellaria media*)

The small white flowers have 5 petals that are so deeply notched they look like 10 petals. Enjoy the green tops in a wild salad; chickweed has a sweet, mild taste. Can also be cooked. Rich in vitamin C.

Lambsquarters (*Chenopodium album*)

Related to spinach, lambsquarters is often considered superior in taste to its popular cousin. Also called goosefoot (because of the shape of the leaves), it can grow to 6 feet tall. Prepare and eat as you would spinach, raw and cooked.

Plantain

Very common lawn 'weeds', both English plantain (*Plantago lanceolata*) and common plantain (*Plantago major*) are edible. Use the young leaves in salad, or enjoy as cooked greens.

Cress or Bittercress (*Cardamine species*)

Common garden 'weeds', these wild members of the mustard/cabbage family are among the most nutritious plants in the world. When young, raw cress leaves have an excellent fresh, mustardy

flavor. Older plants can be eaten raw or cooked.

White Clover (*Trifolium repens*) and Red Clover (*Trifolium pratense*)

Eat the leaves and flowers, raw or cooked. Clover is high in protein.



Allium tricoccum
Ramp

Ramps (*Allium tricoccum*)

A real springtime indulgence, ramps are available only during a small window of time. Also known as wild leeks, ramps are our best wild onion. In New Jersey, this seasonal delicacy appears in late March through the end of May.

When harvesting, pick a leaf from each plant, leaving most of the plant intact along with its root, so the plant can regenerate. Over-harvesting of wild leeks is a serious threat to this wonderful native, and ramps are now an endangered species in parts of Canada due to excessive picking by chefs.

A word of caution: Lily of the valley (*Convallaria majalis*) is a toxic lookalike. To determine if it's ramps you've got, gently dig one up: the stem should be wine-red

in color and have a white bulge at the root end. Pinch and sniff a leaf - it should smell distinctly of onion-garlic.

Chopped ramp leaves are delightful in egg dishes or mashed potatoes.



Spring Beauty

And More...

Spring beauties, shepherd's purse, cinquefoil, burdock, wood sorrel, mayapple, trout lily - the list goes on and on! So get to know the edible plants of your neighborhood. Wild food is everywhere!

Eat Wild Safely

If you are interested in knowing more about wild edible plants, I encourage you to become your own expert. You may learn to positively identify only one plant, but you will be 100% sure of that plant's safety. Purchase a few good books. They should include clear, color photographs of the plants.

Check references against each other—compare for consistency and accuracy.

Books should always include a plant's 'poisonous lookalikes', if any.

DON'T put it in your mouth until you are 100% sure of a plant's identity!

Reprinted from The Native Plant Society of New Jersey newsletter, Spring 2011.

Native Plant Communities of Lake Vermilion State Park

By Tavis Westbrook

On June 8, 2010, Lake Vermilion State Park became Minnesota's newest state park. Situated near Soudan, Lake Vermilion State Park is roughly 3,000 acres in size and is directly adjacent to Soudan Underground Mine State Park. Both parks combined boast nearly 10 miles of undeveloped shoreline on the east end of Lake Vermilion and about 4,000 acres of land.

The mapping of the native plant communities of Lake Vermilion State Park began in earnest in early 2010. We knew some of the recent land-use history on the parcel already:

- It had been owned by US Steel since the late 1800s;
- It had been managed for timber continuously through the 20th century; and
- It contained very rugged upland terrain as well as many hundreds of acres of open and wooded wetlands.

We also were able to look at its landscape position and make some assumptions about its physical characteristics using the Ecological Classification System developed by the Minnesota DNR.

That hierarchical system told us that the park was in the Border Lakes Subsection. This subsection consists of "scoured bedrock uplands or shallow soils on bedrock, with large numbers of lakes. Topography is dominantly rolling with irregular slopes and many craggy outcrops of bedrock." Another term commonly used within this subsection and certainly for this park would be "Canadian Shield" topography.

If you have visited the Boundary Waters Canoe Area Wilderness (BWCAW) and Quetico Provincial Park to the north and east, you have a pretty good idea of what I am describing.

Next, we used a Geographic Information System to obtain other relevant data that also existed for the parcel: streams, lakes, wetlands, topography, and soils data were particularly helpful. Additionally, color infrared photography was essential when determining land cover types because of the way different plant communities,

even tree species, have different photo signatures. After acquiring and analyzing all of the data, it was then up to park resource specialists, with help from the DNR County Biological Survey, to go in the field and verify (or “ground truth”) our assumptions that we made from the GIS analysis and supporting data.



Interior-rock-over-wetland

‘Ground truth’ results

We identified 21 different plant community classes in eight different ecological systems in Lake Vermilion State Park.

The vast majority of the uplands were classified as Northern Mesic Mixed Forest (FDn43). The dominant tree species were aspen and birch, with some pockets dominated by young red and jack pine. The stand ages throughout most of the park were young to very young, confirming that most of this land was logged in the late 1970s and early 1980s. This is a fire-dependent plant community, but fire was not at all frequent historically, averaging over 200 years between significant fire events.

One anomaly discovered during our field reconnaissance was the presence of small pockets of Northern Mesic Hardwood Forest (MHn35). This plant community is common statewide but does not appear to be common this far north in the state. More study is needed why this plant community is present in the park.

Not surprisingly, over 50 percent of the park is wetland and peatland. Most of the wetland systems we mapped can either be classified as wet ash forest (WFn64), wet cedar forest (WFn53), or beaver wetland complex. Even in the wetlands there was clear evidence of logging, most likely for cedar and tamarack posts. With that said, many of these wetlands are in good condition, with cedar regenerating quite well in areas not flooded regularly by beaver. Interestingly, there is very little acid peatland in the park. The rugged terrain, small basin size, and beavers all likely contribute to this fact.

Lastly, there are dozens of small to medium rock outcrop and cliff features that give the property variety, relief, scenery, and botanical interest. It is likely that some of these features may harbor less common plant species. Again, more survey work will be needed to confirm this hypothesis.

To conclude, this is just one aspect of the inventory work conducted by the Minnesota DNR at Lake Vermilion State Park. We anticipate many different surveys of the flora and fauna will be conducted as the division develops the park for recreational use. A new state park comes along maybe once in a career, and I have been fortunate to be on the ground helping the division in its initial natural resource inventory efforts.



Interior-wetland-view

Tavis Westbrook, Minnesota DNR resource specialist, Division of Parks and Trails.

Reprinted from *the Minnesota Plant Press*. Fall 2011 Vol.30 No. 4.

Photos in this article were added by *OTF* editors and are from the Minnesota Department of Natural Resources website.

Invasive Plants:

Are "Sterile" Cultivars Safe?

By Sheilah Lombardo

At first it seems like a common-sense solution to the problem of invasive exotic plants: Curb their spread by selecting and cloning individuals that produce fewer viable seeds.

And sure enough, some varieties of well-known invasive plants are being marketed as less prolific and therefore "greener" alternatives to their thuggish kin.

But is lowered fertility really the answer to the invasive problem?

A team of researchers decided to look into that question, applying mathematical population modeling to predict the effects of reduced fecundity on population growth rates of invasive plants. (Knight et al, 2011) Their findings demonstrated that

even large reductions in seed production, viability or germination rates may not significantly limit the population growth of long-lived invasive species.

They concluded that marketing claims of non-invasiveness are unsubstantiated. "We are concerned that the marketing of cultivars as 'safe to natural areas' has advanced much faster than the research evaluating those cultivars," the researchers wrote.

They made an important distinction. "For taxa that do not spread vegetatively, cultivars *per se* do not invade: Their offspring invade."

Because most cultivars do not breed true, they are not grown from seed. Instead, in order to duplicate their desired traits, they usually are propagated vegetatively by cuttings or tissue culture.

But unless a clone plant is truly sterile, it has the potential to reproduce sexually, either by self-pollinating or by outcrossing with nearby cultivated or feral relatives. Since the seed-grown offspring of a cultivar are likely to differ genetically from the parent(s), they can be expected to exhibit different traits.

The researchers referenced two well-known examples of supposedly sterile cultivars that outcrossed. The ubiquitous ornamental Bradford pear (*Pyrus calleryana* 'Bradford'), while self-sterile, readily crosses with related pears to produce viable seed that is dispersed when wildlife eat the fruit. As a result, wild Callery pears are now widespread throughout much of the United States.

Likewise, cultivars of purple loosestrife (*Lythrum salicaria*) that once were marketed as sterile later proved to outcross and produce seed

prolifically. I saw this firsthand many years ago in my own Minnesota garden, when my "sterile" *Lythrum* 'Morden's Pink' produced hundreds of seedlings, presumably the result of cross pollinating with a wild population of purple loosestrife that grew literally across the tracks.

The variable nature of sexual reproduction is just one factor that can affect the population growth of a species. The earlier a plant reaches reproductive maturity, for example, and the length of time it lives can have a dramatic influence on the number of offspring it may produce over a lifetime.

The researchers therefore recommend more rigorous study of potentially invasive plants, taking their entire life cycle into consideration.

In the meantime, we gardeners would be wise to regard overblown marketing claims with skepticism.



Callery pears gone wild

References:

Tiffany M. Knight, Kayri Havens, and Pati Vitt. Will the Use of less Fecund Cultivars Reduce the Invasiveness of Perennial Plants? BioScience, October 2011

Reprinted from the *Native Plant News*, North Carolina Native Plant Society, October-December 2011.

An 18th Century American Botanist Part IV- second half Humphry Marshall's Botanical Correspondence

By Beverly Stamp

Among Marshall's botanical correspondents was Johannes Fredericus Gronovius, an 18th century Dutch botanist known for the 1735 publishing of the first print-run of Linnaeus' *Systema Naturae*. This work propelled the young Swedish botanist into fame. In addition, Gronovius later published Linnaeus' *Flora Lapponica* and *Genera Plantarum* in Holland.

Also in 1735, Gronovius received dried plant specimens from John Clayton, a Virginia botanist. In 1762 they co-authored a Latin edition of *Flora Virginica* (see Figure 1), a detailed listing of Virginia plant species. This, and subsequent editions were the first botanical compilation of Virginia's native plants until the mid-twentieth century.

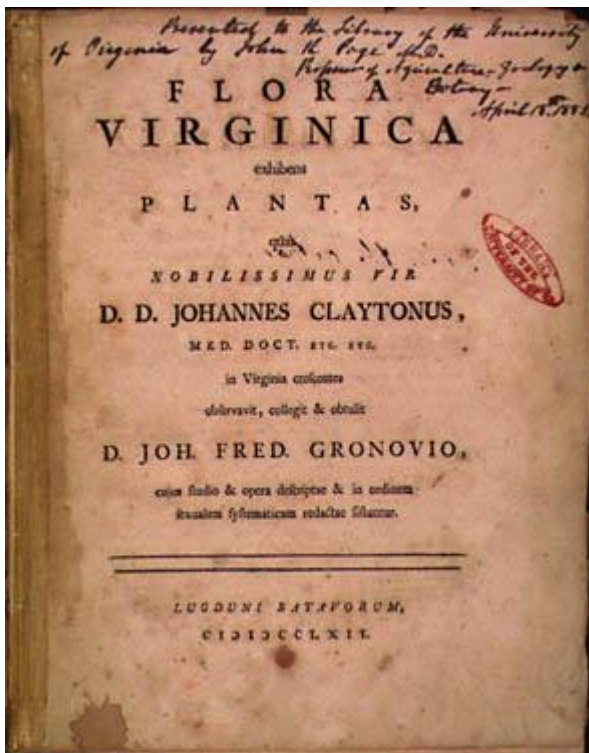


Figure 1 The 1735 John Clayton and Johannes Gronovius Latin edition of *Flora Virginica*, a detailed listing of Virginia's native plants.

A more famous scientist and statesman, Benjamin Franklin, also corresponded with

Marshall. In William Darlington's book, *Memorials of John Bartram and Humphry Marshall*, there are typewritten versions of nine letters between Marshall and Benjamin Franklin. Eight of the letters are addressed to Marshall, and one letter is from Marshall to Franklin. The first seven letters from Franklin to Marshall cover the period from July 9, 1769 to March 13, 1775; and they are all sent from London to Marshall's home in West Chester, Pennsylvania. The eighth and last letter from Franklin, dated May 23, 1775, was sent from Philadelphia after Franklin returned home upon the completion of his diplomatic duties.

In the first letter in 1769 Franklin says, "There is at present in appearance as if the great ones were about to change their conduct towards us: I believe they begin to be a little sensible of their error." He continues, "It is perhaps too much to expect that they will become thoroughly wise at once; but a little time, with a prudent, steady conduct on our side, will, I hope, set all right." Franklin ends the letter with, "I shall be obliged by a continuance of your correspondence, being very respectfully, sir, your most obedient, humble servant."

The March 18, 1770 letter mentions that the "People of Philadelphia have done well in keeping . . . steady to their agreements for their non-importation" [of British goods]. Franklin further remarks, "I ordered a reflecting 'telescope' for you. . . Dr. Fothergill has since desired me to add a 'microscope' and 'thermometer', and will pay for the whole."

My family has a facsimile copy (from the APS) of the April 22, 1771 letter from Franklin to Marshall in Franklin's handwriting. The letter consists of two pages of forty nine lines. It is addressed to "Humphry Marshall, West Bradford, Chester County". Below this is a note reading "Captain Osborne with a brown paper parcel" (see Figure 2). Franklin remarks toward the end of this letter, "I send you, herewith, some of the new 'Barley' lately introduced into this country, and now

highly spoken of. I wish it may be found of use with us."

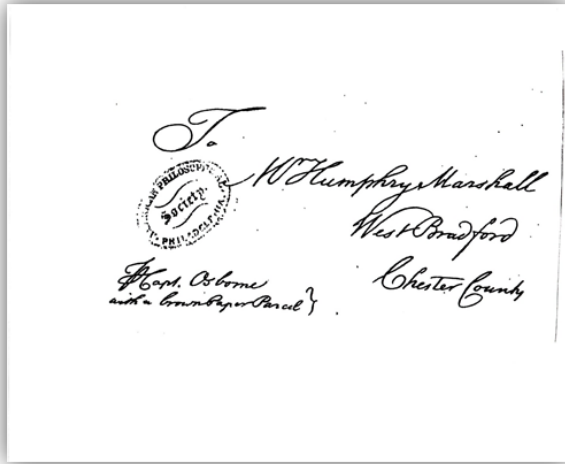


Figure 2 The April 22, 1771 letter addressed to Humphry Marshall from Benjamin Franklin.

The remainder of the letter consists of Franklin's wishing that "Our country people would well consider . . . in making their own apparel, being apply'd to the improvement of their plantations, would render those more profitable, as yielding a greater produce. I should hope they would persist resolutely in their present commendable industry and frugality. . . . It seems, therefore, the interest of all our farmers, and owners of land, to encourage our young manufactures, in preference to foreign ones imported among us from distant colonies." The letter closes with "If anything I can Serve you here, it will be a Pleasure to. Your obliged Friend and humble Servant, Benjamin Franklin" (see Figure 3).

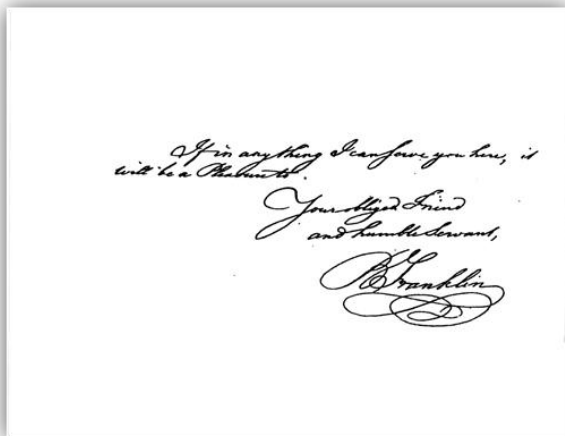


Figure 3 Benjamin Franklin's closing remarks and signature.

The February 14, 1773 letter from Franklin affirms that, "I received the box of 'seeds' you were so good as to send to me . . . with your 'Observations on the Spots of the Sun'" (Transactions of the Royal Society, at London, vol. lxiv, p. 194). Franklin further remarks that, "Perhaps if there were more such constant and diligent observers as you, some might happen to be observing at the instant such a spot was formed . . . by what means they were formed." Signed "with great respect and esteem, I am, sir, your most obedient, humble servant."

The letter of June 26, 1774 states that, "your remarks on the spots in the sun were well received by the Royal Society, and are taken notice of in the Transactions. . . . I hope soon to have the pleasure of conversing with you".

In the letter of March 13, 1775 Franklin declares, "the controversy will soon end in our favour . . . all the hopes and dependents of the ministry are in dividing us, by working on our fears and hopes. If we are faithful to each other, our adversaries are ruined." It is signed, "I am, with much esteem, sir, your most obedient, humble servant."

The letter of May 23, 1775 is postmarked from Philadelphia. Franklin remarks, "I think, with you, that the non-importation and non-exportation well adhered to, will end the controversy in our favour. But, as Britain has begun to use force, it seems absolutely necessary that we should be prepared to repel force by force, I think, united, we are well able to do. It is a true old saying, that 'make yourselves sheep and the wolves will eat you': to which I may add, 'God helps them that help themselves'."

It is important to note that in the hurry of writing these two letters that were dated in 1775 (one immediately before leaving London, and the other soon after his arrival in Philadelphia), Dr. Franklin omitted to put his name to them; however, there is no mistaking the well-known chirography of the originals, and every reader will recognize the familiar maxims of *Poor Richard*. (William Darlington, *Memorials of John Bartram & Humphry Marshall*, 1st edition, Philadelphia: Lindsay & Blakiston, 1849.)

Humphry Marshall writes to Franklin on December 5, 1785, ten years after Franklin's return to Philadelphia. Marshall congratulates Franklin upon, "Thy appointment to the station of President of the state of Pennsylvania." Marshall also

mentions, "A proposal I had made last Winter to my cousin, William Bartram, and nephew Dr. Moses Marshall, of taking a tour, mostly through the western parts of our United States, in order to make observations, etc., upon the natural productions of those regions . . . and if . . . thou should approve thereof, thou may communicate them (these proposals) to the members of the APS." In fact, in 1792, his nephew and assistant, Moses Marshall (1758-1813) was approached by Caspar Wistar, president of the APS, and Thomas Jefferson to undertake an expedition to the Pacific—an expedition eventually placed under the command of Andre Michaux, and a precursor to the Lewis and Clark expedition of 1803-1805.

Marshall continues, "I conclude . . . that I have ordered my nephew, the Dr., to present thee with one

of my catalogues of the Forest Trees of our thirteen United States; which I hope thou'll accept of, for thy perusal. I am thy obliged friend, And the public's well-wisher, Humphry Marshall."

In the *Daily Local* (online at dailylocal.com) that serves Chester County, PA, an article appeared on June 27, 2011 that reported the celebration in honor of Humphry Marshall. The celebration took place at Marshall Square Park in West Chester, commemorating the fifth anniversary of a plaque dedicated to Humphry Marshall. His many roles throughout his life included that of an expert stone mason, architect, astronomer, public servant, philanthropist, botanist, and author of a definitive botanical text: *Arbustrum Americanum*. In 2007, borough officials declared June 27th as Humphry Marshall Day in West Chester, PA.

The author is a member of the Native Plant Society of Northeastern Ohio.

This article is the fourth 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 listed the native American plants he discovered, named, and described in print. Part IV summarizes Marshall's botanical correspondence with scientists of his time. Part III and the first half of Part IV appeared in the December 2011 issue (Vol. 29 No. 4). The current issue includes the second half of Part IV. (Note that Part II was inadvertently titled "Henry Marshall," rather than "Humphry Marshall;" our apologies to Humphry and our readers.

Book Review

Wildflower Wonders: The 50 Best Wildflower Sites In the World

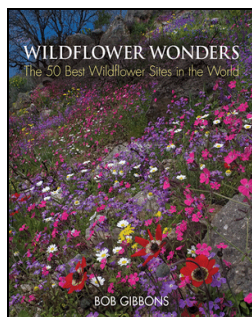
By Tom Sampliner

Bob Gibbons

With a foreword by Richard Mabey

Cloth | 2011 | \$27.95 | ISBN: 9780691152295

192 pp. | 8 1/2 x 10 | 200 color photos



There are certainly many books about wildflowers and where to go to see them. Some titles even recommend favored sites known to the author. In this book, nature photographer, guide, naturalist and now writer Bob Gibbons has a slightly different twist. He sets forth what he considers the 50 "floweriest" site shows in the world. This work was first published in 2011 in the U.K., followed shortly by an edition in the U.S. via Princeton U. Press.

Making use of his skills as nature photographer, Gibbons includes two hundred color plates that add a lot to making this book attractive. Equally impressive is his novel touch in placing a slender vertical information plate along the left margin of the text for each of the 50 sites. This panel starts with a map showing where the site is located, followed by a verbal description. Succeeding sections in the panel inform the reader when to go for peak flowering time, along with what else may be seen on such a trip. This addition of critters, historical setting, and geology is a great complement to the botanical summary. Finally he provides a brief statement of the status of any protection given to the site. Thus each panel quickly gives an idea of whether this site is of interest

or not without having to read the entire write-up of that area.

The several pages of text devoted to each site give the necessary detail as to what the local flora consists of, the rarities, the terrain and substrate, and recommended highlights to be found. For many sites the author even provides routes to the site or exact locations within the site where to go.

A number of appendices are included. First comes one called “Other Sites,” where he lists by country other flowery locations that for some reason do not make his list of the 50 “floweriest.” Unfortunately, he admits that among the reasons these other sites have been demoted include: he has not been there, he considers them too remote, or they do not meet his criteria for the most flowery—whatever that unknown standard may be. I think this is problematic. What criteria were used to select his 50 best?

The next appendix called “Tour Operators” is useful for those seeking information to plan a visit. The selected bibliography is helpful in providing some further reading, though I think it has limited usefulness since it is difficult to determine the value of information about global travel. Once again the reader must trust the author’s judgment for the scope of those included among tour operators or titles to consult for further reference. Both the alphabetical species list, as well as the standard index, is expected, well done, and welcome.

His style of writing is engaging, flows well, and is inviting. In light of his intent and writing purpose, he has done well.

In another area he has not done well, however. He has failed to set forth his background and credentials. This is not a good practice since most readers want to know such things.

Despite these criticisms, I would encourage anyone to read this book. Granted his background as naturalist, photographer, and trip guide, I am willing to put aside any doubts and at least investigate his recommended 50 best or “floweriest sites,” even if I am left to guess exactly what he meant by “floweriest.”

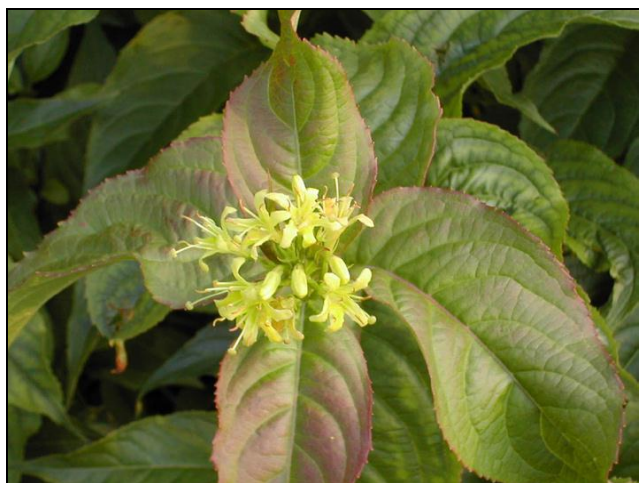
Tom Sampliner is a member of the Native Plant Society of Northeastern Ohio and a former Board Member

Plant Lore: Northern Bush Honeysuckle

By Thor Kommedahl

What is northern bush honeysuckle?

Bush honeysuckle is *Diervilla lonicera* in the honeysuckle family, native to Minnesota.



Close-up of flowers, photo by Shirley Mah Kooyman.

How did it get its names?

Diervilla was named after a French surgeon, Dr. Diéreville, who visited Canada and brought the plant to the French botanist Tournafort in 1699. *Lonicera* refers to the resemblance of the leaves to honeysuckle (*Lonicera* spp.). *Lonicera* was named after the German botanist Adam Lonitzer.

Where does the plant grow?

Bush honeysuckle grows mainly in wooded areas, often in Jack pine stands, in dry, or rocky, well-drained soil. It is often associated with hazel, dogwood, alder, chokecherry, and blueberry.

What does the plant look like?

It is a low shrub two to four feet tall with slender, ridged twigs and opposite, finely toothed, egg-shaped leaves. It has funnel-shaped, yellow flowers, often reddish in spring. Bumblebees, butterflies, and moths pollinate the flowers. Leaf colors in fall are yellow, orange, and red. Fruits are long-pointed capsules. Plants spread mainly by rhizomes, and plants regenerate rapidly after a fire or after logging,

e.g., after paper birch or balsam fir logging near Duluth.

Are they edible, medicinal, or poisonous?

The Potawatomi Indians made tea from rhizomes or leaves for use as a diuretic. They are neither edible nor poisonous, although one report is that leaves contain a narcotic principle that induces nausea.

Is bush honeysuckle useful in other ways?

Deer and moose browse shrubs in winter. They are useful as a tall ground cover and to hold banks from erosion. Plants can be propagated by seed or cuttings. Seed can be stored.



Blooming branch, photo by Peter Dziuk

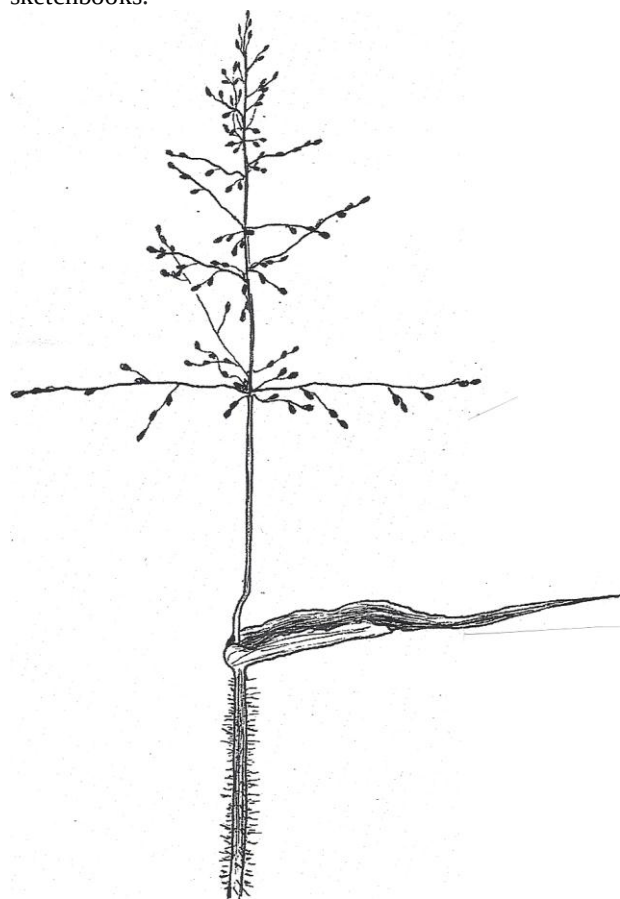
Reprinted from the *Minnesota Plant Press*, Fall 2011 Vol.30 No. 4.

A Poem about Sedges: *The Path Not Taken*

By Lauren Brown

The spring 2011 Connecticut Botanical Society Newsletter included a poem by "a frustrated member of the CBS sedge identification project with apologies to Robert Frost." The poem was received with such interest, including requests for permission to reprint it in other botanical societies' publications that the author has agreed go public.

Lauren Brown is a CBS member and the author of *Wildflowers and Winter Weeds* and *Grasses: an Identification Guide* which is available online and directly from Lauren. We are reprinting the poem with a drawing from one of Lauren's sketchbooks.



THE PATH NOT TAKEN

Two traits diverged in a murky key,
And sorry I could not fathom both,
And know the sedge, long I stood
And pondered each as well as I could:
Were there stigmas two or three?

I went for three, just as fair,
And having perhaps the better claim
Because I threw my hands up in the air
For as except the little beak
They both to me looked just the same.

And both that morning equally lay
In mysteries of Haines and Gray
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I wondered if I should maybe pray.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two traits diverged in a murky key, and I —
I took the one less stupefied
And never will know the difference.

Reprinted from the Newsletter of the Connecticut Botanical Society, Fall 2011 Vol.38, No. 2.



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
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On The Fringe

In this issue:

Preserving Biodiversity: Is it too late? – Jeff Knoop
Common Blue Violet – Marney Bruce
Spring's Edible Gifts – Debbie Naha
Native Plant Communities of Lake Vermillion State Park – Tavis Westbrook
Invasive Plants: Are "Sterile" Cultivars Safe? –Sheilah Lombardo
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Journal
of
The Native Plant
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Volume 30, No. 1

March 2012