



On The Fringe

Journal of The Native Plant Society of Northeastern Ohio

Consider Getting Your Copy of Our Journal *On The Fringe* Electronically in 2011.

In January you will receive your membership renewal notice and an invitation to accept the Journal of the Native Plant Society of Northeastern Ohio electronically. The electronic version will be rolled out for the March 2011 issue. As most organizations, we are experiencing increasing costs to publish *On The Fringe* in a paper format. We see this as an opportunity to conserve paper and to apply our resources towards educating the public on native plants. Please consider receiving an electronic version of *On The Fringe*. Thank you!

Call for Articles

We invite articles of general botanical interest or about particular native or invasive plants to be published in *On The Fringe*, the quarterly Journal of The Native Plant Society of Northeastern Ohio. Please send your articles to co-editor Diane B. Christensen, 8400 Top Rail Lane, Novelty, Ohio 44072 or at dbpolice@roadrunner.com.

In an effort to preserve the high standards of our Journal, articles submissions will be accepted for reprinting if they are accurate and well-written and if we think they would be of interest to our audience.

Program Schedule – Winter - Spring 2011

Winter Tree ID – Geauga County – Saturday, February 12, 10:00 a.m. - Noon, Meyer Center, Big Creek Park. From twigs and buds to fruit and bark discover how to tell trees in winter. A Master Tree Finder booklet will be available at the program for \$4.00. Joint program with Geauga Park District. Directions: From I-90 take Rt. 44 south about 2 miles to Clark Road. Turn left (east) on Clark about 2 miles to Robinson Road. Turn right on Robinson about 2 miles to park entrance on right. Bear left at the split to the first parking area on right. 9160 Robinson Rd. Chardon 44024. Call Judy to register at 440-564-9151 (H) or 440-286-9516 ext 2011 (W).

Books & Native Plants – Cuyahoga County - Thursday, February 17, 7:00 p.m. - Loganberry Books, 13015 Larchmere Blvd, Shaker Heights. Join us for an evening exploration of book sources and resources for bibliophiles and native plant enthusiasts. Gary Esmonde, Librarian at Cleveland Botanical Garden, will guide us across the terrain of introductory Ohio flora books to collectors' items in the very special collections of the Eleanor Squire Library. Wendy Wasman, Librarian of Cleveland Museum of Natural History, will share some botanical treasures from the Museum's rare book collection. Suggested donation \$3.

Ohio Botanical Symposium – Friday, March 25 – Columbus. The Native Plant Society of Northeastern Ohio is a sponsor of The Ohio Botanical Symposium, which brings botanists, naturalists, and other nature enthusiasts together to network, provide professional enrichment, and view posters and displays on Ohio's native flora, natural areas, and rare plants. Villa Milano, 1630 Schrock Road, Columbus, Ohio, 43229. For registration information go to <http://www.dnr.state.oh.us/tabid/20259/Default.aspx>

Spring Wildflower Preview – Cuyahoga County – Sunday, March 27, 2:00-4:00 p.m. Cuyahoga County Public Library, Solon Branch. Refresh your memory of native spring wildflowers that will soon begin to bloom in Northeast Ohio. Photographer Tracey Knierim takes you on a virtual walk through spring as she shares her native Ohio wildflower photos from February through May, where to look for them, and the folklore behind them. Directions: Take Rt. 422 east to Rt. 91 in Solon. Head south 1.1 miles to Portz Parkway. Turn left and go 0.2 miles to library (0.5 miles from Rt 43 / Aurora Rd.) 34125 Portz Parkway, Solon, Ohio 44139-6803. No registration required.

Board

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

Standing Committee Chairs

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

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

2010 Annual Grant Recipient

This year at the annual meeting we awarded our annual grant to the Lake Erie Allegheny Partnership (LEAP). The monies will be used to promote LEAP's Plant of the Year, including the LEAP website and LEAP member organizational websites, outreach programs, native plant sales, promotional flyers and other materials. Fact sheets will be created and distributed to all LEAP organizations and partners to ensure that a common message and common facts are conveyed to gardeners.

Grant Description

LEAP's Native Plant Promotion Committee (NPPC) has selected three native plants to highlight for their 2011 Plant of the Year campaign. They are Dense Blazing Star (*Liatris spicata*), Allegheny Serviceberry (*Amelanchier laevis*), and Common Winterberry (*Ilex verticillata*). The goals of the Plant of the Year campaign are to: 1) promote the benefits of native plants to the backyard gardener 2) provide a common message for naturalists and nurserymen; and 3) give focus to the message. Funding from the Native Plant Society will be used to produce printed materials for the Plant of the Year campaign for distribution at member institutions, partner organizations, and at local nurseries, as part of an expanded effort to promote native plants in the region.

Background

LEAP (www.leapbio.org) is a consortium of more than forty conservation-related organizations located in the Glaciated Allegheny Plateau eco-region. This eco-region is defined by a common glacial history and climate and includes northeastern Ohio, western Pennsylvania, and western New York. LEAP member organizations are dedicated to the identification, protection and restoration of biodiversity in the region and to the increased public awareness of biodiversity, through the support of member organizations. Current LEAP members represent park districts, conservation organizations, universities, and governmental agencies in Northeast Ohio and western Pennsylvania and own and manage over 300,000 acres of natural areas. LEAP members recognize three key focus areas: 1) communication and exchange of information among LEAP organizations; 2) organizational capacity of each Partnership member; and 3) public awareness and engagement. Several Committees have been formed to address issues of concern in the region, including the Conservation Fund Committee, the Biodiversity Plan Committee, the Wildlife Conflict Committee, the West Virginia White Butterfly Committee, and the Native Plant Promotion Committee.

The Native Plant Promotion Committee (NPPC) was formed in 2008 in response to the threat of invasive plants to our natural areas. The mission of the NPPC is to educate the public about the many benefits of native plants in the

LEAP region and to join the nursery and landscaping trade in promoting the purchasing, selling, propagating and planting of our area's native plant species. Members of the NPPC include naturalists, researchers, landscape designers, nurserymen and gardeners. Just some of the many organizations represented on the Committee are The Holden Arboretum, Cleveland Botanical Garden, Cleveland Museum of Natural History, Cleveland Metroparks, Nature Center at Shaker Lakes, The Nature Conservancy, Hiram College, Gilson Gardens, Klyn Nurseries. One of the Committee's most successful outreach programs is its attendance at the Cuyahoga Soil and Water Conservation District's rain barrel workshops. During these workshops Committee members talk to participants about the benefits of native plants, answer questions and have informational materials available.

A new initiative for the Committee beginning in 2011 is the Plant of the Year campaign. For 2011, three plants have been selected:

- Perennial of the Year – Dense Blazing Star (*Liatris spicata*)
- Shrub of the Year – Common Winterberry (*Ilex verticillata*)
- Tree of the Year – Allegheny Serviceberry (*Amelanchier laevis*)

The NPPC's Plant of the Year campaign is modeled after the Perennial Plant Association's Plant of the Year campaign, which has been supported since 1990 (perennialplant.org). The criteria used to select plants for the NPPC's campaign have combined those listed by the Perennial Plant Association with a LEAP regional focus:

- Native to the LEAP region
- Suitable for a wide range of climatic conditions
- Low maintenance
- Pest and disease resistant
- Readily available
- Multiple season of ornamental interest
- Easily propagated by asexual or seed propagation
- Has a "story" to tell, e.g. suitable for butterfly gardens, suitable for rain gardens,
- Good native alternative to an invasive plant.

The strategy for the selection of plants for the next decade will be to initially select native plants which are readily available in the marketplace currently and to select lesser available plants for upcoming years giving nurserymen ample time to make these plants available.

Please visit the LEAP website for more information. www.leapbio.org

THE MUSHROOM ORIGINS OF SANTA AND FLYING REINDEER

By Tom Sampliner, that FUN-GUY

Across northern Europe and Asia, various indigenous peoples have long had a close relationship with the earth and all that emerges from it, including fungi. Therefore, it should be no surprise that a northern temperate-to-boreal, colorful species of mushroom would have been investigated and utilized. A species with a bright red or orange cap liberally decorated with large chunks of white flesh, all upon a stout white stem, is one of historic as well as herbal importance. The connection with holiday time traditions here in the west is the story to be told.

The mushroom we call the "fly agaric," *Amanita muscaria*, is a species with a sturdy pure white stalk, a bright cap (red in northern regions around the world but orange in the Great Lakes Region) liberally flecked with pieces of white flesh on the top of the cap. Underneath the cap are gills of pure white. They are "free," meaning that they run from the edge of the cap until just before they would meet the stem, reattaching to the underside of the cap. There may or may not be a floppy ring of tissue remnant upon the upper stalk just below the cap. Upon paper, mature spores developed within the gills leave a white spore print. They emerge

from the ground as terrestrials. Partly visible or hidden beneath the substrate is the lower half of the white vase or egg from which the mature stem grew. They grow in association with conifer trees.

In Scandinavia as well as Siberia, the indigenous peoples have been herdsman. In the far north, this has meant tending to flocks of ungulates we call Reindeer. These people were dependent on the well being of their herds. European missionaries and explorers would bring back reports of what they saw. Eventually some of these anecdotes became incorporated into western stories, anecdotes, and traditions.

The Lapp people have long known about and used the fly agaric to achieve mind-altering experiences. The rich and powerful among them, especially the shamans, would deliberately use the mushroom to achieve great visions. A deep coma-like slumber usually occurred after initially eating the mushroom. Upon awakening, the shaman became capable of almost superhuman athletic feats. This use probably developed from observations of their reindeer eating the mushrooms, which brought on unusually active, athletic romping and leaping, almost to the point one would believe the animals were flying. They believed each shaman was guarded by a mushroom-intoxicated reindeer. Rather than try to dissuade the people from long-held beliefs, it was easier for western missionaries to incorporate the anecdotes into western folklore about Saint Nicholas and Christmas. The flying of Santa's reindeer is not too far removed from the intoxicated antics of real reindeer. This mushroom's color scheme of red against white came to be the colors attributed to Santa, as opposed to the older green colors of the European St. Nicholas. Lapp people still scatter pieces of Amanita on the ground as a way to herd or entice their reindeer to go where they desire.

Both the Lapps and the Siberian Russians make another use of the fly agaric. This is an indelicate topic so the squeamish should stop reading now. The hallucinogenic effects of the fly agaric can be obtained not only by eating or smoking. They remain powerful within any liquid. Therefore, human or reindeer urine carrying the intoxicating compounds were collected as

desirable vehicles for mind-altering experiences. The poor peasants would often gather the outdoor urine deposits of their overlords for a cheap high.

The fly agaric makes a great natural insect trap. Pieces cut up in milk serve as the attraction. Flies alight, become stupefied, and drown.

Down through history, famous personages have used this mushroom for mind altering experiences. Who can forget Alice looking way up to the caterpillar sitting atop a fly agaric smoking a hookah? Lewis Carroll's literary works are filled with such explicit references to this species, and yes, he did some using. How about the mad Russian monk Rasputin, who had the ear of the last Czar and Czarina? I could go on, but I think you have the idea. Medicinal, herbal and industrial uses of our fungi friends are just now being more fully explored. Perhaps I have whetted your appetite to do a little reading or looking.



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

**Don't forget to visit our website at
[www. nativeplantsocietyneohio.org](http://www.nativeplantsocietyneohio.org)**

American Ginseng

A forest resource with deep roots in Pennsylvania

By Eric Burkhardt, School of Forest Resources, Pennsylvania State University.

American ginseng (*Panax quinquefolius* L.) is a native perennial forest herb whose distribution has been reported from nearly every County of Pennsylvania. As a result of strong international demand and often astonishing profitability, the collection of American ginseng for market from Pennsylvania forestlands has been practiced for over two centuries. In July 1783, the Bavarian scholar Dr. Johann David Schoepf visited Pennsylvania and several other eastern States with an interest in America's medical botany. He began his trip at Philadelphia extending visits to Bethlehem, Nazareth, Reading, Lebanon, Carlisle and Pittsburg. A published account of this journey, entitled *Travels in America*, provides a glimpse of the economic significance of ginseng and other medicinal forest plants in early Pennsylvania life. At Laurel Hill, Pennsylvania, he observed the following:

A man met us who was taking to Philadelphia some five hundred pounds of ginseng-roots on two horses. He hoped to make a great profit because throughout the [Revolutionary] war little of this article was gathered, and it was now demanded in quantity by certain Frenchmen. The hunters collect it incidentally in their wanderings; in these mountains the plant is still common, but in the lower parts it has pretty well disappeared.... Much is brought into Fort Pitt [Pittsburgh]. Industrious people who went out for the purpose have gathered as much as sixty pounds in one day.

Though many native Pennsylvanian medicinal plants were (and continue to be) collected for market, the American ginseng industry in particular has often been cited as an important economic and cultural force in Pennsylvania. Historian Kathy Scogna, for example, has observed the importance of ginseng trade and cultivation in the early development of Reading and Berks County in her book, *The Ford at the Schuylkill* (1998). From historical and contemporary accounts, it is clear that throughout its range in Pennsylvania the plant has been and continues to be a significant source of supplemental income. Given proper forest conditions, American ginseng has few maintenance requirements. Accordingly, the species has been spared from extinction by the prudent actions of Pennsylvanians who have historically tempered exploitation with stewardship.

While the conservation efforts of many Pennsylvanians have successfully preserved wild ginseng in many parts of the



Commonwealth, it is recognized that in other parts of the State unscrupulous collection behavior has caused continued declines in population occurrence and/or size. Just as importantly, the structure of the remaining populations continues to be altered by removal of the larger and older plants so that young plants with less overall reproductive potential predominate. This is in large part due to State regulations enacted in 1987 requiring that ginseng collectors observe a set of rules intended to facilitate natural reproduction in wild populations. One component of these regulations requires that only plants with at least 3 leaves (or prongs as they are called in the ginseng parlance) are to be harvested from forestlands. While intended to permit plants to reach

reproductive maturity and thus contribute to population growth (or re-growth), the efficacy of this law is questionable since the greatest number of fruits are produced by older ginseng plants that have attained 3 or 4 prongs. The preferential removal of these plants by collectors therefore adversely impacts the ability of natural populations to be self-propagating. Consequently, research may reveal other types of harvest guidelines that could be followed by collectors (and growers) to better facilitate natural reproduction and regeneration, such as leaving certain percentage of each size-class in a given year.

In recent years, it is becoming increasingly clear that the interest in wild ginseng collection from Pennsylvania's forestlands remains strong. This is in large part due to the fact that the price commanded for forest cultured root has noticeably surpassed that of artificially propagated root. In 2002, for example, the average price paid by dealers in Pennsylvania for wild ginseng root was \$300 per pound

(dry). Artificially-propagated root from Canada, on the other hand, sold for only \$10-25 per pound. With the existence of such pricing disparities, there is apt concern over the potential for overexploitation of wild populations in Pennsylvania. Data compiled over the past several years has indicated that an average of 200 fresh roots is needed to produce a single pound (dry) of Pennsylvania wild ginseng. Using this figure, it is estimated that over 400,000 plants were harvested from Pennsylvania forestlands in 2001. Perhaps more astounding (and worrying) is that an estimated 7 million plants have been harvested from Pennsylvania forests since 1989. Clearly, even if these estimates are only partially accurate, the fate of extant wild plants is a justified concern. The species is presently listed as vulnerable in Pennsylvania pending further study.



Panax quinquefolius

Following the inclusion of American ginseng in Appendix II of the International agreement known as CITES (Convention on International Trade in Endangered Species of Flora and Fauna) in 1973, Federal authorities require that the Pennsylvania Department of Conservation and Natural

Resources (DCNR) annually track the quantities of wild ginseng harvested for export outside the State. Such figures are obtained from buyer-seller transactions and then compiled and analyzed to determine if continued harvesting poses a threat to species survival. The interpretation of available harvest data is complicated, however, by the fact that very little is actually known about existing wild populations and the ginseng enthusiasts within the State collecting or cultivating the species. While a rural ginseng industry is viewed as positive and welcome, there is nevertheless need for communication and cooperation between stakeholders in order to support both species survival as well as continued ginseng collection and/or cultivation activities.

In the early twentieth-century, a solution to over-collection of wild ginseng was recognized in the encouragement of cultivation on privately-owned forestlands and on farms using artificial shading. The Commonwealth of Pennsylvania pursued this strategy from about 1897-1930 as American ginseng husbandry was offered to rural Pennsylvanians as a means to diversify income and utilize otherwise idle forested acreage. The efforts of the State are reflected in several publications from the period, most notably in the works of George C. Butz, an early agricultural researcher who conducted experiments in ginseng culture from 1897-1902 at the Pennsylvania State College Experiment Station in State College (later re-named the Pennsylvania State University). In a Pennsylvania Department of Agriculture Bulletin from 1897, Professor Butz noted that ginseng farms had been initiated in the vicinity of a number of Pennsylvania towns including

Oliphant Furnace (Fayette County), Bonview (location unclear), Bethesda (Lancaster County), Mill Hall (Clinton County), and Bradford (McKean County). These efforts appear to have been at least partially successful and at the very least helped to shift the supply of root from wild to managed plants. The degree to which forest cultivation is still being practiced in these and other regions of the State remains unknown.



In 2003, the Penn State School of Forest Resources and Pennsylvania DCNR are launching a multi-year research and extension program that will develop information on existing wild ginseng populations and examine the extent to which forest cultivated root is replacing, or could replace, wild root. This study is sorely needed, not simply for regulatory purposes, but more importantly for the building of collaborative relationships with Pennsylvanians who can contribute to the management and preservation of this economically and ecologically valuable forest resource. To this end, individuals willing to participate in this study are needed in the following two areas:

- Wild ginseng study populations are needed from throughout the state. Forest landowners who have wild ginseng on their lands are asked to volunteer these sites for study. The locations will be kept strictly confidential and the populations will not be disturbed. Information will be

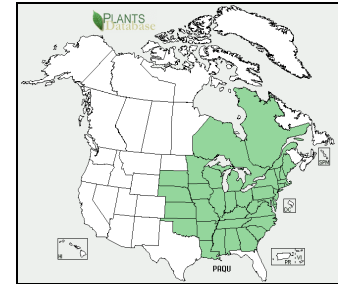
collected about natural population reproduction and mortality as well as the site characteristics such as soil properties, vegetation, and physiography. This information will be used to determine what factors ginseng growers and conservationists should consider in site selection and management.

- Collectors and growers throughout Pennsylvania are needed for exchange of information. Individuals should be willing to complete a confidential questionnaire pertaining to collection/ growing practices and experiences. This information will be used to build future educational programs as well as acquire insights into the impact of any possible future regulatory actions.

In return for their time and efforts, study collaborators/ participants will be offered assistance and guidance in the management and cultivation of

ginseng and other forest understory plants. Depending on individual objectives and knowledge, this assistance could take many forms, from site consultation to recommendations for developing a horticultural enterprise. Interested individuals are encouraged to contact the author at the earliest convenience so that arrangements can be made for the 2003 season. American ginseng is a plant with deep roots in Pennsylvania. For many Pennsylvania forest landowners, the propagation of American ginseng on private forestlands represents an excellent opportunity to generate income, maintain the integrity of forest ecosystems, and increase appreciation for Pennsylvania's wild resources. At the same time, cultivation of this native forest resource will facilitate timely conservation of the species and possibly generate a forest-grown

industry that might partly or wholly replace wild-collection in the 21st century.



Eric Burkhardt can be contacted by email at epb6@psu.edu or by mail at: 7 Ferguson Building, School of Forest Resources, the Pennsylvania State University, University Park, PA 16802. He can also be reached by phone through the Penn State Forest Resources Extension Office at 814-863-0401.

The Happy Herbivore Blithesome Borage

By Scott D. Appell

"The leaves and floures of Barrage... make men and women glad and merry, driving away all sadness, dulnesse, and melancholy."

—John Gerard, *General Historie of Plantes* (1597)

I have a clear memory of the first time I served my family my homegrown cucumber-and-borage-blossom salad. They looked at me—dare I say sheepishly—as if I'd set a plate of fodder down in front of them. "Don't flowers harbor bugs and organisms?" one parent inquired. With a mind-set like that, it's a wonder my sister and I were conceived in the first place.

An old-fashioned herb native to the Mediterranean region and central Europe, borage (*Borago officinalis*) makes a wonderful addition to the culinary garden. It is one of the foolproof edible plants, growing with ease and abandon in any spot with full sun and average soil. And it's delightfully tasty and versatile in the kitchen.

A sturdy annual plant, borage is covered all over with stiff, fairly prickly white hairs. Its round, hollow, generously branching stems grow between one and two feet tall and produce large, oval dark green leaves with pointed tips. Cymes of pretty star-shaped bright blue (sometimes white or pink) blossoms sit atop the plant throughout the summer.

Borage lends its name to its taxonomic family, the Boraginaceae, which includes such familiar cousins as comfrets (*Symphytum*), lungworts (*Pulmonaria*), alkanets (*Anchusa*), and Virginia bluebells (*Mertensia virginica*). As to the origins of the name itself, theories abound. Some say it derives from the Latin word *borra*, meaning "rough hair"—a reference to the plant's hirsute stems and leaves. Others believe the name is linked to the Celtic word *borrach*, meaning "courage," and refers to the plant's curative properties.

The specific epithet, *officinalis*, translates roughly to "of the apothecaries" and is a direct reference to the historical importance of the plant in herbal medicine. Since ancient times, borage has been employed as a diuretic, diaphoretic (fever reducer), and anti-inflammatory. It was also thought to impart comfort and courage and—in the words of famed 16th-century English botanist John Gerard—"increase the joy of the minde."

Two cultivars are available to gardeners. *Borago officinalis* 'Alba' is white-flowered and comes true about 50 percent of the time when allowed to self-seed. The other strain, *B. officinalis* 'Variegata', is very hard to find but worth the legwork. It produces yellow-mottled leaves (which add a nice touch to salads) and blue flowers.

Borage requires little more than full sun in a moist but well-drained soil. Seeds are widely available from mail-order nurseries and should be planted in March and covered with two inches of soil. (Because of its long taproot, borage doesn't react well to transplanting.) Germination is quick, and even young seedlings are easily recognizable by their fuzzy foliage. Borage adapts well to containers and window boxes and even does fine indoors in south or southwest-facing windows.



A Platter of "Weeds"

This recipe emulates a typical Mediterranean dish of cooked wild greens, but in this case we are using cultivated plants.

- 2 big handfuls of tender borage leaves
- 1 clove garlic (finely minced)
- 1 red cayenne pepper (seeded and minced)
- 2 big handfuls of mixed greens, featuring some or all of the following: young comfrey leaves, Shirley poppy leaves (gathered before the plant blossoms and soaked several hours in ice water), chard, beet greens, escarole, dandelion, leafy (nonheading) radicchio, chicory, arugula, purslane, garden sorrel, clary sage, flat-leafed parsley, ferny fennel foliage, orach, watercress
- 3 tablespoons of high-quality olive oil
- Sea salt and freshly ground pepper to taste

Chop the greens into manageable mouthfuls and thoroughly wash in cold water. Toss them into a pan of salted boiling water for a couple of minutes, then drain and refresh under the cold tap. Drain them well. In a large skillet, heat the olive oil until hot, add the greens, and toss to coat. Add the garlic, cayenne, ground pepper, and sea salt, and cook until tender. Serve with a grated sharp cheese and good crusty bread. Serves two people.

The fresh leaves of borage have a mild cucumber taste and may be added to salads, used as a potherb, or brewed into tea. They are also great cut up in cream cheese or added to yogurt. (Don't be nervous about "prickles"; once in the mouth, the leaf hairs quickly dissolve.) The flowers are delicious eaten raw in salads. (Yes, they are, Mom!) They can also be preserved, candied, or used fresh as edible garnishes. The blossoms yield a whitish honey with a mild herbal flavor much appreciated by apiarists.

The dried stems are used to flavor a number of alcoholic beverages, including the British mixed cocktail Pimm's No. 1 Cup. In Spain, the succulent petioles (leaf stalks) are parboiled and fried in batter.

Scott D. Appell writes, gardens, and teaches horticulture in Vieques, Puerto Rico.
Reprinted from the Plants & Gardens News, Spring 2007, © Brooklyn Botanic Garden.



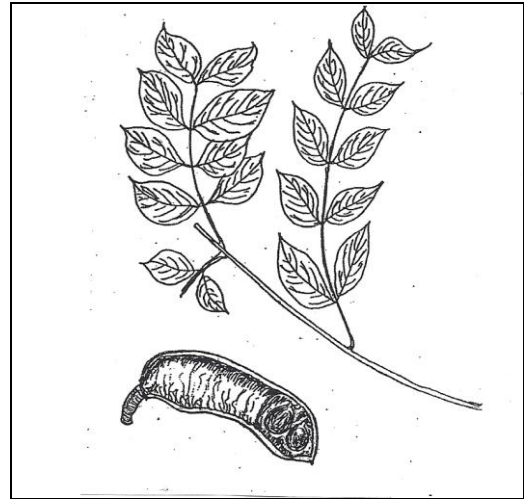
Coffeetree *Gymnocladus dioica* (Linnaeus) K. Koch

By Robert Tener

The Coffeetree has begun to grow on me. I first became acquainted with this tree in a course in local flora that I took as an Emeritus professor at Kent State University from Dr. Cooperrider. He had his class walk all over the KSU campus to find the trees or shrubs for the day's lesson, stop there and wait while he would cut off a small branch and give one to each of his students. Thus, I had a small leafy branch of a Coffeetree. I still have that sample snuggled dust free under two plastic covers in my class folder. But of more importance, perhaps, is that I got to see a mature tree, feel its tall strong beauty, and hear its wind swept music. I decided I needed some for my nursery arm. In love with those trees, I now had a purpose for my 19 acre High Hawk farm. I did not want to be a retired vegetable or grass farmer.

Upon reading in the extensive literature on trees I learned the Coffeetree is also called the Kentucky Coffee Tree, the Mahogany Tree, Stump Tree, Chicot Tree, Coffee Nut, Coffee Bean, and Nicker Tree. Its genus name, *Gymnoclaus*, comes from two Greek words, *gymnos* meaning naked and *klados* meaning branch, and refers to the tree's thick stubby branches, which look naked in winter. Among the French Canadians it is called the

Stump or Dead Tree because of its winter dress, having no small jeweled twigs. Its species name, *dioica*, means in two houses and refers to the fact that the male and female flowers usually grow in separate clusters and on separate trees as though on a trial separation. The common name comes from its seeds being used as coffee beans by the early Kentucky settlers or by the similarity in appearance between the tree's beans and coffee seeds.

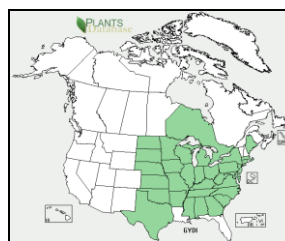


This is a medium size open deciduous forest tree averaging 60 to 80' but may reach 110' in height with a trunk diameter from 3 to 4'. In winter with its heavy thick branches and stubby branchlets, it looks naked. It has a short trunk, and its large limbs branch off at acute almost vertical angles 10 to 15' above the ground. It has a narrow round crown. The leaves are the largest of any woodland tree in the United States, being alternate, twice and even thrice pinnate or compound, having 3 to 7 pinnae and 6 to 14 leaflets. The entire leaf is 2 to 3' long and 1 to 1-1/2' wide; the leaflets are oval, sharp pointed, smooth margined, 2" long and 2" wide, dark " above, paler beneath, turning yellow in the fall. The leaves are late in coming out, being full grown only by the end of June. The leaflets are usually in a vertical position facing each other except at noon on sunny days when they are more or less horizontal. The flowers are small, green white, with the male, and female flowers appearing on separate trees in June. The male flowers hang in 3 to 4" clusters and the female ones hang in 10 to 12" clusters. The fruits are red brown, broad, flat, heavy beanlike pods 4 to 10" long, 2 to 4" wide and persist unopened on the tree throughout the winter with no apparent special means of dispersing their seeds. Each pod contains 6 to 9 dark brown, large, round, flattened, hard, easily polished seeds, which are difficult to crack, have unusual vitality, and have given the tree its common name. The branchlets form the tree's unique winter feature, being thick, clumsy looking, stubby, seemingly without buds. They are a brown gray green with

orange lenticels and large white heart shaped scars as large as thumb nails. They also have a salmon colored pith.

The Coffeetree is one of the rarest of the forest trees. It grows best in rich bottom lands, well drained sandy soils, edges of woods and streams. As it needs light, it will not grow if overshadowed by other forest trees. It is a rapid grower in rich soils where if crowded it will send its trunk straight up. But it is a slow grower in uplands and gravelly soils where it tends to branch out. On the limestone soils of southwestern Ohio it is common. It roams from New York south to Tennessee and west to Wisconsin then south to Oklahoma. Although it is not abundant, it reaches its largest size in the lowlands of Arkansas. Most trees are in full foliage before it leafs out, and then it provides little shade, a characteristic, which suggests its southern origin. Although it needs some moisture, it makes a fine park and lawn tree as it has few insect enemies. In Ohio it is more common in the western counties from Lorain, south to Lawrence and west.

Its wood is heavy, coarse grained, strong, not hard, red brown, durable in contact with the ground, taking a good polish. It is used for furniture, fence posts, railroad ties, general construction. But it is too scarce to be commercially valuable. Its leaves make a fly poison, and a decoction of the fresh green pulp of the unripe fruit once was used in homeopathic practice. Apparently the early Kentucky settlers roasted the seeds for their coffee, a practice discontinued after the Revolution, and some Indians ate the roasted seeds.



Gymnocladus dioica

U.S. Forest Service

<http://www.fs.fed.us/>

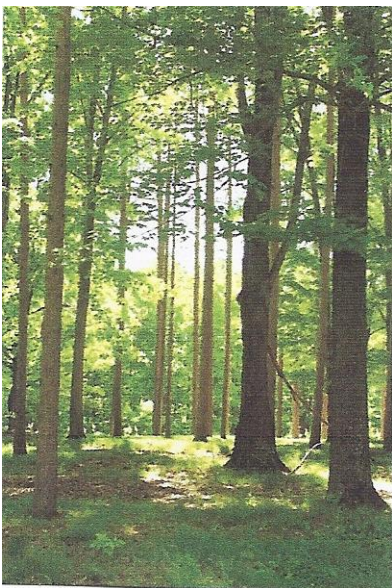
An information-packed site that includes lists of Forest Service Publications, research and databases; a clickable map of national forests; and links to other Forest Service sites.

Conservation in Action At Orchard Hills Park

By Paige Hosier



Can you think of a time during your exploration or discovery of a beautiful habitat that you found yourself reflecting, *"Wow, I wonder what it was like for the Native Americans or pioneers when they discovered this place for the first time."*



Few of our nation's natural habitats are what they once were, but our Earth is resilient. And it is the goal of many good natural resource managers to restore damaged habitats to what they once were.

Geauga Park District biologist Paul Pira spends his career studying, documenting and developing plans for properties in the Park District's care. The purpose of these management plans is to help ensure the protection and conservation of Geauga's natural habitats, while making the best recommendations to develop new parks so people can get in to enjoy them.

During the summer of 2010, Orchard Hills Park in Chester Township is under construction to add roadway, parking, rest rooms, an indoor/outdoor picnic shelter and trails on a small portion of this 237-acre park. But the larger part of this season's improvements involve, the restoration of natural habitats that once dominated this beautiful property; which for more than 50 years was maintained as a golf course.

"Our goal is to restore what was once there," says Pira, "a mature beech-maple forest ecosystem with clean headwater streams and wetlands for the Chagrin River. We want to 'jumpstart' natural recuperative ecosystems that support a vast array of native flora and fauna for the Chagrin River corridor."

The restoration work taking place today is an investment for future generations, because the outcomes take time. The natural beauty that enthralled pioneers 200 years ago will probably never be achieved to its fullest extent, but we can attain a healthy and sustainable ecosystem in harmony in nature. As the habitats restore themselves, there will be plenty of beautiful landscapes to enjoy.

Conservation projects include the restoration of 1,500 linear feet of stream, 3 acres of wetlands, 50 acres of forest and 22 acres of meadow. The restoration will help protect and preserve stream corridors, and reestablish more natural and healthy functioning streams. The project will improve the water quality and overall health of the surrounding habitats.



The long-range benefits of this project are so valued that, through the assistance of Western Reserve Land Conservancy, land protection and conservation funds have been received through the support of Ohio Environmental Protection Agency's (OPEA) Water Resource Restoration Sponsorship Program (WRRSP) and the 319 Grant, Clean Ohio Funding and other federal and state funds.

Caves Creek, located within Orchard Hills Park, has been designated by Ohio EPA as a "Cold Water Habitat tributary to the State Scenic Chagrin River." Based on its high quality resources, Orchard Hills Park has been identified as a "critical protection parcel" in

the state-endorsed Chagrin River Watershed Action Plan.

Be today's pioneer and watch for the progression of this conservation work in Orchard Hills Park. A few years from now, as you walk the trails to see the streams returned to their natural flow, wildflowers popping up through the seasons, and forests beginning to mature, you can thrill in the knowledge that future generations may experience this Northeast Ohio scenic view as it once had been.



Paul Pira assesses one of the many streams at Orchard Hills Park

Paige Hosier is the editor of the *Voices of Nature* a publication of the Geauga Park District. Reprinted from the Summer 2010 *Voices of Nature* publication.

POLYGONACEAE: The Smartweed Family

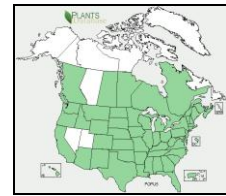
By Landon McKinney

The Smartweed family is characterized by a sheathing membrane covering the stem nodes (joints). These are called ocrea. The flowers are small and not particularly showy and, thus, wind pollinated. Most of you are familiar with smartweeds (genus *Polygonum*), but you may know them by one of the other common names such as tearthumb, lady's thumb, or water-pepper. Smartweed seems to be one of the earliest common names based on the European *Polygonum persicaria*. It is said that the sap or plant juices will irritate or "smart" the eye or nose tissue. Imagine that, all this time I thought the common name meant that you got brainy by eating the stuff.

Anyway, the genus *Polygonum* is divided into several sections with common names like knotweeds and bindweeds. Bindweeds are vine-like and look similar to morning glory vines but with smaller flowers. Many of the knotweeds are exotic weeds occurring in fields, waste places, and roadsides. Japanese knotweed (*P. cuspidatum*) is an invasive, shrubby member of the genus. It is currently known from approximately 36 of the lower 48 states and can be seen in extensive stands along some roads in eastern Kentucky. Probably the greatest threat it poses is to riparian areas. It can survive severe floods, colonize rapidly, and it is extremely persistent once established. As with many other invasives, it was introduced in the late 1800s as an ornamental and for erosion control. Japanese knotweed is considered edible. The young shoots can be steamed and served like asparagus.



Polygonum cuspidatum L., knotweed



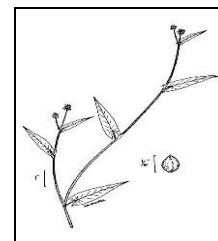
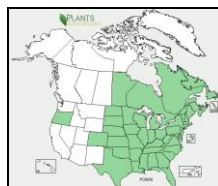
Polygonum punctatum, Elliot dotted smartweed

The smartweeds give us several native wetland species such as false water-pepper (*P. hydropiperoides*), dotted smartweed (*P. punctatum*), and the arrow-leaved tearthumb (*P. sagittatum*) which is my favorite. It has a reclining, almost vine-like growth habit, 4-angled stem, and reflexed (pointing downward) prickly hairs on the stem.

Hey, when was the last time you sat down to a hot, heaping stack of buckwheat pancakes? In this same family the genus *Fagopyrum* is buckwheat. In fact, in some wildflower books and manuals, the family is referred to as the buckwheat family. Not into buckwheat pancakes, how about a good old-fashion rhubarb pie? Yep, Rhubarb (*Rheum raphaniticum*) is a member of this family. I believe I talked my wife Lela into making me at least one rhubarb pie a long time ago. However, neither she nor my kids liked it (probably the tartness) and I ended up having to eat to whole thing, and since I'm supposed to stay away from most sweets, I've never asked for another one. The tartness probably comes from the presence of oxalic acid in the stems that could bother some people. The calcium and potassium oxalates in the leaves can really be disturbing to some people even though in some of the older European botanical texts, the leaves were mentioned as a pot-herb.

None of the smartweeds are thought to be poisonous. The leaves, except for the youngest ones, apparently have a peppery taste (plant juices are described as acrid). The young leaves can be chopped and added to mixed green salads or cooked as a pot-herb. Historically, some species were reportedly used medicinally for internal bleeding.

Other members of this family are the docks and sorrels (*Rumex*). Red or sheep sorrel (*Rumex acetoseila*), bitter dock (*R. obtusifolius*), and curly dock (*R. crispus*) are non-native weeds of fields and waste ground. Swamp-dock (*R. verticillatus*) is native and occurs sporadically across the state in wetlands. Most docks or sorrels are edible as young leaves in salads or as potherbs. The leaves are somewhat sour, and sheep sorrel leaves are even said to be a thirst-quenching, sour snack while hiking. The leaf juices of curly dock have been used to treat ringworm and other skin conditions.



Polygonum sagittatum L., arrowleaf tearthumb



Rumex acetosella L.
common sheep sorrel

The smartweed family, while not known for showy flowers, is an interesting plant family with several species that are important to Kentucky's wetlands. As with many other plant families, it has its edible, medicinal, and weedy components. The species of *Polygonum* and *Rumex* that are part of the state's native flora should be appreciated, if for no other reason, for the added diversity they provide to Kentucky's natural communities.



Rumex acetosella L.



Rumex crispus L.



Rumex crispus L.
curly dock

Reprinted from The Lady Slipper, Summer 2004 number 19:2. Kentucky Native Plant Society.

***Sassafras albidum* (Nutt.) Nees. Mitten Tree**

By Marion T. Jackson, Ph.D.

My woodshop fills with the spicy aroma of sassafras as tawny shavings curl up and away from my antique wooden hand plane. Only a skilled woodsmith will be able to distinguish my rich-grained work piece from golden oak, once it is fitted into the picture frame I am making. Beautiful, easily worked, and relatively inexpensive, sassafras lumber is gaining wide popularity among wood crafters.

What an ancient and versatile tree is the sassafras! Ancestors of the modern sassafras shared the warm-wet forests of the Tertiary geological period with early redwoods, tulip-trees, magnolias, and sweet gums. Today only three species of sassafras survive in the

world, one in central mainland China, one in Taiwan, and ours, which ranges widely over the eastern United States. Locked within our species are secrets gleaned during its 60 million year history, before the early French settlers applied their version of the euphonious name by which aboriginal Americans called the tree.

Best known of its uses is the refreshing tea which derives its flavor from the safrole which is steeped from the fresh bark of large roots. As soon as frost left the ground in late February or early March, my father always grubbed out several dark red roots to flavor the ruddy brew we used as a spring

tonic to thin the blood "so we would be in shape for spring farm work." Our pioneer ancestors recognized both red and white varieties of sassafras, and believed that roots from red sassafras (variety molle, from the pubescent leaves) made the best tea. We sipped the spicy tea as we sat around the wood stove on blustery evenings of late winter, unaware that one day someone would find it contained a possible carcinogen. Most likely we would not have stopped drinking it had we known.

Sassafras belongs to the Lauraceae, the aromatic laurel family of higher plants. One of its cousins produces the avocado; another yields cinnamon and

camphor. Spicebush, with its glossy green leaves and scarlet berries, is a common shrub in mesic Indiana woodlands and was once used as a substitute for allspice. Dried sassafras leaves are the file used in the southern dish file gumbo. Oil of sassafras, once an ingredient in patent medicines, is still used in the preparation of certain soaps, perfumes, and cosmetics. A Mediterranean cousin, *Laurus nobilis*, is the source of culinary bay leaves as well as the leafy laurel branches once woven into garlands to crown successful poets and athletes in ancient Greece and Rome.

Although "resting on one's laurels" is not a good practice, a slender sassafras pole makes a near-ideal walking staff. Its springiness, light weight, and durability—the qualities which also made it a much-used wood by American pioneers—will improve your footing in rough terrain for years. Easily riven with a hickory-handled froe and an ironwood beetle, young trees were once a favorite for shingles, slats, and fence pickets. Its durability in contact with soil and the ease with which it is split were properties sought for use in fence posts and rails. The pioneers boasted that well-seasoned sassafras posts would outlast three post holes!



Coopers hand-shaved sassafras staves for making wooden water pails and kegs. Hay frames for wooden-wheeled farm wagons on horse-powered farms were often made of sassafras lumber because of its strength and its light weight for ease in exchanging wagon beds. The best booming pole, to anchor fast the loose hay, wheat bundles, or corn fodder during hauling, was also made from a seasoned sassafras sapling.



Little need to plant a sassafras tree, even though its cinnamon-tinged bark, lemon-colored pom pom flowers, varied leaves, and showy fruits make it a lovely ornamental. In fact, farmers consider it a "weed" tree. Throughout the tree's native range, during autumn song birds plant, in every fencerow and untended field border, the glossy purple fruits which they eagerly pluck from the tree's bright vermilion egg-cup receptacles. If left alone, the seedlings will soon sprout into large colonies, which become blazing burnt orange copses in later autumn. Individual seedlings, however, usually are transplanted with difficulty; since their root development is sparse, survival rates are low.

Sassafras typically does not grow to great size, although some very large specimens are on record. Charles Deam had a photograph in

his *Trees of Indiana* of a man standing inside a hollow stump of a Jennings County specimen. In life that tree must well have exceeded four feet in diameter because it still measured 48 inches dbh (diameter at breast height) nearly 50 years after it was cut in 1866. A fine old tree that I measured in Versailles State Park in 1967 was 29 inches in diameter and had a clear bole of 44 feet. Some forest-grown individuals in the old-growth section of Hoot Woods in Owen County were about 24 inches dbh, with clear boles of 50 to 60 feet. Since sassafras is intolerant of deep shade, these trees undoubtedly began growth in canopy openings decades earlier.

The varied leaf shapes are the tree's trademark—in fact, its Latin name was once *Sassafras variifolium*. How does the tree "know" when and how to make a simple oval leaf form, a single left-handed or right-handed mitten or the curious double mitten? And what selective advantage does variation in leaf shape convey to the sassafras? I am not sure any botanist has ever answered those questions completely. Perhaps some mysteries of nature should remain mysteries.



Sassafras albidum (Nutt.) Nees
sassafras

Marion T. Jackson, Ph.D., is professor of Ecology at Saint Mary-of-the-Woods College.

Reprinted from the Indiana Native Plant and Wildflower Society
INPAWS Journal, Summer 2005.

INDIAN PIPE

By Gordon Mitchell

Due to the presence of the chlorophyll pigment, most of our plants have green leaves. However, some of our plants lack chlorophyll and have no green. One of those plants is the Indian Pipe (*Monotropa uniflora* L.).

Indian Pipes are white, bluish or pinkish, translucent, succulent, and waxy. They are cool and clammy to the touch. If touched, they will decompose and turn dark brown or black. If rubbed, they will seep a clear, gelatinous sap.

Indian Pipes are members of the Order *Ericales* and of the Indian Pipe Family (*Monotropaceae*). They were formerly within the Heath Family (*Ericaceae*) and within the Pyrola, the Shinleaf, or the Wintergreen Family (*Pyrolaceae*).

The generic name, *Monotropa*, is Greek for “one turn”. *Mono* is “one” and *tropos* is “turning”. The specific epithet, *uniflora*, is Latin for “one flower”. *Unus* is “one” and *flora* is “flower”.

A previous scientific synonym for this plant was *Monotropa brittonii* Small. At different times and places, other common names for this plant have been American Iceplant, Bird’s Nest, Broomrape, Convulsion Root, Convulsion Weed, Corpse Plant, Death Plant, Dutchman’s Pipe, Eyebright, Fairy Smoke, Fitroot, Fitroot Plant, Fitsroot, Ghost Flower, Ghost Plant, Ice Plant, Nestplant, One-flowered Waxplant, Ova-Ova, Pipe Plant, Tobacco Pipe, and Waxplant.



Monotropa uniflora

Description of the Indian Pipe

Perennial

Height: Their height is about 2-12 inches.

Stem: Their stems are upright, fragile, thick, fleshy, unbranched, and are covered with scaly bracts. Before fertilization, these stems are white and brittle. After fertilization, these stems are black and tough. There may be as few as 1 stem or as many as 20+ stems.

Leaves: Their leaves are nearly absent, being only small, scaly bracts. They are about 1/8 inch long and are both simple and alternate.

Flowers: The young flowers are white or pinkish, odorless, radially symmetrical, solitary, tubular, bell- or urn-shaped, nodding, and terminal. Each flower is about 1/3-1 inch long. It has 4-6 broadly oblong petals that are united at their bases and are flared at their tips; 2-6 separate, scaly, bract-like sepals; 8-12 brown-yellow stamens; and 1 pistil with a sticky, 5-parted stigma. Flowering season is usually June to October.

These flowers are insect-pollinated. They are visited by some species of small Bumblebees (*Bombus* sp.) and possibly by some Fly species (Order *Diptera*). These flowers may have scents and colors that are only detected by insects.

The sticky mucous upon the stigma often gets stuck upon the insects. The smooth dry pollen will attach to the sticky mucous and will be transported to other stigmas. This process helps ensure cross-pollination. After fertilization, the flower heads are upright. These flowers turn purple then black.

Fruit: Their fruit is an ovoid or oval, tan or brown capsule or pod. As the seeds mature, the capsule becomes enlarged, erect, and rests upon the dry petals and sepals. The capsule splits open down its sides into 4-5 sections to release its seeds. These capsules often persist throughout the winter.

Seeds: The seeds are small, brown, and thread-like. These seeds are dispersed by the wind from the late summer to the following spring.

Roots: The root is thick, brittle, clustered, and fibrous. It is often a massive, tangled, and hardened ball of small brown segments. During the late summer and fall, they produce the buds for next year's stems. The roots can produce large plant colonies.

Mycorrhizae (Greek: "fungus root" - *mykos* is "fungus" and *rhizon* is "root") surround these roots. The roots get their nutrients from the fungi. Via their filaments, the fungi get their nutrients from dead plant nutrients or from tree roots. However, the fungi do not harm the host trees. The fungi make this plant both epiparasitic and saprophytic.

Because these roots and their fungi are interconnected with the humus or with other roots, they are very difficult to transplant. Even transplanting much of the organic soil won't guarantee success.

Habitat: Indian Pipes inhabit deep rich shaded woodlands, ravines, and hillsides which have dense leafy mulch, woodland humus, or tree roots. They prefer Pines (*Pinus* sp.), Oaks (*Quercus* sp.), and American Beeches (*Fagus grandifolia* Ehrh.). They do not inhabit sunny areas. They are easiest to find after summer rains. Their numbers may fluctuate annually.

Range: Indian Pipes' range is transcontinental, from Alaska and Newfoundland to Florida and Mexico. They have also been sighted in some parts of Central America, northern South America, China, Japan, and India. This plant may have evolved during the Jurassic Period of the Mesozoic Era, before the super-continent of Laurasia had separated.

Uses

Both the Native Americans and the European settlers used this plant for medicine. The sap from this plant was used as an ophthalmic lotion for treating inflamed eyes or for sharpening vision. It was also used externally for treating bunions and warts, and as a poultice for treating sores. The stems and leaves were used fresh or dried as a tea for treating aches, pains, and fevers of common colds. The roots were used dried and powdered as a tea for treating convulsions, fainting spells, fits, epilepsy, insomnia, muscular spasms, nervous irritability, and various female troubles. Water extracts were used as an antibacterial.

Indian Pipe also was eaten. It could be eaten raw, roasted, or boiled. Although it often tasted like Asparagus (*Asparagus officinalis* L.), it was generally considered to be bland and tasteless. However, this plant contains toxic glycosides, such as andromedotoxin, so its safe use is questionable. This plant is also too scarce to harvest.

Cultural History

Indian Pipes played a role in our cultural history. The Native Americans had a story that this plant first appeared where an Indian had dumped some white ashes from his pipe. The Cherokee Tribe has this story:

The Origin of the Indian Pipe Plant

As told by John Rattling-Gourd

Before selfishness crept into the world- that was a long time ago- the Cherokee people were happy and peaceable. They used the same hunting grounds and fishing grounds as their neighbors. They fished in the same streams and hunted in the same stands of forest. There were no arguments about boundaries and there were no arguments about fishing rights. But this was before Men became greedy. All this changed when Men learned to quarrel.

The first quarrel that arose was between the Cherokee and a neighboring tribe. It was a long and bitter quarrel, so bitter that the chiefs of the two tribes decided to meet in council to try and settle their trouble. And so they met, one day, and they smoked the peace pipe in solemn council, but they did not stop quarreling. A puff on the peace pipe and a bitter word was the way it went. Days passed and still the council sat and smoked and quarreled.

Now the Great Spirit was much displeased that the Indians should quarrel while smoking the pipe of peace. And the Great Spirit said, "I shall have to do something to you men that will show you that People should live together in peace, and that when Indians smoke the pipe, it must be done in peace.

The Great Spirit looked down at the old Men sitting in all that smoke. And he saw how gray they looked and how their heads hung down in weariness because it had been many nights since they had slept. And so he turned the old Men who smoked there in the council into small silvery gray flowers, their heads bent over and their petals hoary.

If you should find one in the woods and turn it so that the head is down and the stem up, you will see that it looks like an Indian pipe, and so it is called to this day. But in the woods where they are often seen clustered together, they appear to be little gray People sitting in long council.

Now after the Great Spirit had changed the quarreling Indians into flowers and set them out in the forest, he noticed that the smoke from their pipes still hung heavy in the air above the place where the council had been. So he gathered up the smoke and draped it over the mountains as a reminder. And he left it there until such time as all Men shall learn to live in peace together.

Indian Pipes in Poetry

A few American poets wrote about the Indian Pipe. Emily Dickinson wrote a poem that was titled *'Tis whiter than an Indian Pipe*. Mary Potter Thacher Higginson, wrote this poem about the Indian Pipe:

Ghost-Flowers

*In shining groups, each stem a pearly ray,
Weird flecks of light within the shadowed wood,
They dwell aloof, a spotless sisterhood.
No Angelus, except the wild bird's lay,
Awakes these forest nuns; yet night and day
Their heads are bent, as if in prayerful mood.
A touch will mar their snow, and tempests rude
Defile; but in the mist fresh blossoms stray
From spirit-gardens just beyond our ken.
Each year we seek their virgin haunts, to look
Upon new loveliness, and watch again
Their shy devotions near the singing brook;
Then, mingling in the dizzy stir of men,
Forget the vows made in the cloistered nook.*

Another poem, *Summer Song*, by Sarah Foster Davis contains these lines about Indian Pipes:

*Where the long, slant rays are beaming,
Where the shadows cool lie dreaming,
Pale the Indian pipes are gleaming—*

Catharine Esther Beecher, the sister of Harriet Beecher Stowe, wrote *To the Monotropa, or Ghost Flower*:

*Pale, mournful flower, that hidest in shade
Mid dewy damps and murky glade,
With moss and mould,
Why dost thou hang thy ghastly head,
So sad and cold?*



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.

The Doctrine of Signatures

By Guy L. Denny

Since the dawn of history, man has made magic and medicines with plants. Herbal medicine practiced by most primitive peoples was essentially founded on the supernatural and on the basis of trial and error. Plant remedies which worked have been in use for countless generations simply because they did work. Those that didn't were discarded. Many early cultures from the Egyptians and Greeks to the American Indians based their herbal medicine on a local "doctrine of signatures." This doctrine involved a belief that "Like cures like" and for every illness there is a cure. Those who believed this doctrine maintained that the shape, color and aroma of many medicinal plants were signs that indicated what that plant could cure. For example, since the blossom of the bellflower (*Uvularia* Sp.) resembles the uvula which hangs down from the soft palate in the back of one's throat, this plant was thought to be a cure for throat disorders.



Since the blossom of the bellflower (*Uvularia* Sp.) resembles the uvula which hangs down from the soft palate in the back of one's throat, this plant was thought to be a cure for throat disorders.



Although this concept was ascribed to many cultures throughout the world for thousands of years, it was Swiss physician Theophrastus Bombastus von Hohenheim (1491-1541) (better known as Paracelsus) who popularized what has become the famous doctrine of signatures. Paracelsus theorized that some plants had "signatures" to help man know what wild plants were useful and what purpose they served. This sign (or signature) was a part of the plant that physically resembled a part of the human body. For example, since the leaf of the hepatica resembles the human liver, It was believed that hepatica had been put on Earth to cure problems of the liver. A plant with heart-shaped leaves, such as wild ginger, was meant for treating heart disease, etc. Paracelsus influenced the

underlying philosophy of medicine for centuries as his doctrine had a great following among physicians.



The leaf of the sharp-toothed hepatica resembles the human liver.

Many, but not all, tribes of American Indians also practiced medicine according to their own ancient doctrine of signatures. In most cases the Indians interpreted this concept somewhat differently. They believed that to eliminate worms a plant that resembled worms was needed. For instance, the Micmacs thought that since a foul odor might induce a headache in a healthy person, smelling the foul odor of skunk cabbage could cure a headache.



Native American Indians adopted the use of ginseng from the Colonists who learned of its medicinal value from the Chinese.

During the settlement of this country the doctrine of signatures played a major role in herbal medicine. Our forefathers not only brought European herbal medicine with them, but also readily adopted those used by the American Indians. Likewise, American Indians were quick to embrace European herbal medicine as such plants introduced to America from Europe became naturalized.

Guy Denny – 6021 Mt. Gilead Rd., Frederickton, OH 43019

Invasive Plant:**Japanese Knotweed, *Polygonum cuspidatum*****Description**

Japanese knotweed is an upright, shrublike, herbaceous perennial that can grow to over 10 feet in height. As with all members of this family, the base of the stem above each joint is surrounded by a membranous sheath. Stems of Japanese knotweed are smooth, stout and swollen at joints where the leaf meets the stem. Although leaf size may vary, they are normally about 6 inches long by 3 to 4 inches wide, broadly oval to somewhat triangular and pointed at the tip. The minute greenish-white flowers occur in attractive, branched sprays in summer and are followed soon after by small winged fruits. Seeds are triangular, shiny, and very small, about 1/10 inches long.



Japanese knotweed is designated a noxious weed in the State of Washington

Ecological Threat

Japanese knotweed spreads quickly to form dense thickets that exclude native vegetation and greatly alter natural ecosystems. It poses a significant threat to riparian areas, where it can survive severe floods and is able to rapidly colonize scoured shores and islands. Once established, populations are extremely persistent.

Distribution in the United States

Current distribution of Japanese knotweed includes 36 states in the lower 48 from Maine to Wisconsin south to Louisiana, and scattered Midwest and western states. It is not currently known to occur in Hawaii.

Habitat

Japanese knotweed can tolerate a variety of adverse conditions including full shade, high temperatures, high

salinity, and drought. It is found near water sources, such as along streams and rivers, in low-lying areas, waste places, utility rights-of-way, and around old home sites. It can quickly become an invasive pest in natural areas after escaping from cultivated gardens.

Background

Japanese knotweed was probably introduced to the U.S. in the late 1800's. Also known as crimson beauty, Mexican bamboo, Japanese fleece flower, or Reynoutria, it was first introduced as an ornamental and has also been used for erosion control and for landscape screening. It is now found throughout the eastern U.S., in several western states, and Alaska, which has few exotic invasive plants to date.

Biology and Spread

Japanese knotweed spreads primarily by vegetative means with the help of its long, stout rhizomes. It is often transported to new sites as a contaminant in fill dirt seeds, sometimes distributed by water, and carried to a lesser extent by the wind. Escapees from neglected gardens, and discarded cuttings are common routes of dispersal from urban areas.

**Management Options**

Grubbing is effective for small initial populations or environmentally sensitive areas where herbicides cannot be used. Using a pulaski or similar digging tool, remove the entire plant including all roots and runners. Juvenile plants can be hand pulled depending on soil conditions and root development. Any portions of the root system not removed will potentially resprout. All plant parts (including mature fruit) should be bagged

and disposed of in a trash dumpster to prevent reestablishment.



Chemical

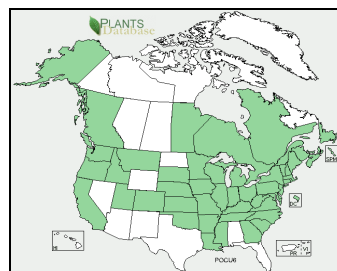
Cut stem application

Use this method in areas where plants are established within or around non-target plants or where vines have grown into the canopy. This treatment remains effective at low temperatures as long as the ground is not frozen. Cut the stem about 2 inches above ground level. Immediately apply a 25% solution of glyphosate (e.g., Roundup®, or use Rodeo® if applying in or near wetland areas) or triclopyr (e.g., Garlon) and water to the cross-section of the stem. A subsequent foliar

application of glyphosate may be required to control new seedlings and resprouts.

Foliar application

Use this method to control large populations. It may be necessary to precede foliar applications with stump treatments to reduce the risk of damaging non-target species. Apply a 2% solution of glyphosate or triclopyr and water to thoroughly wet all foliage. Do not apply so heavily that herbicide will drip off leaves. A 0.5% non-ionic surfactant is recommended in order to penetrate the leaf cuticle, and ambient air temperature should be above 65 °F.



Source: (<http://www.nps.gov/plants/alien/fact/faja1.htm>) (downloaded November 2010)

Book Review

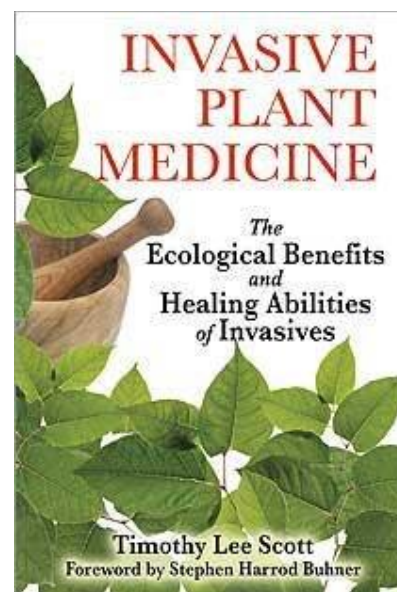
The editors of the Journal have included this book because it offers a very different, somewhat controversial, view on invasives that we thought might prompt some fresh thinking and useful discussion. Our inclusion of the book here does not mean that our Society has taken a position on the views expressed in it

Timothy Lee Scott

Invasive Plant Medicine: The Ecological Benefits and Healing Abilities of Invasives

Publisher: Healing Arts Home
Date Published: September 2010
Paperback, 384 pages
ISBN: 9781594773051
List price: \$19.95

Invasive Plant Medicine: The Ecological Benefits and Healing Abilities of Invasives offers a fascinating glimpse of what can be done when dealing with invasives such as Japanese Knotweed, Purple Loosestrife, and others.



Synopsis

Timothy Scott shows how invasive plants, mostly originating in Asia “where they are used in traditional healing” perform an essential ecological function and are far less a threat to the environment than the cocktails of toxic pesticides used to control them. The first book to demonstrate how plants originally considered harmful to the environment actually restores the Earth’s ecosystems and possesses powerful healing properties.

Biography

Timothy Lee Scott is an acupuncturist and herbalist with a master’s degree in traditional Chinese medicine. He runs a private practice in Vermont and gives workshops on Chinese herbalism, native

medicinal plant cultivation, and the benefits of invasive plants.

Stephen Harrod Buhner, who wrote the forward to Scott's book, is an Earth poet and the award-winning author of ten books on nature, indigenous cultures, the environment, and herbal medicine. He comes from a long line of healers including Leroy Burney, Surgeon General of the United States under Eisenhower and Kennedy, and Elizabeth Lusterheide, a midwife and herbalist who worked in rural Indiana in the early nineteenth century. The greatest influence on his work, however, has been his great-grandfather C.G. Harrod who primarily used botanical medicines, also in rural Indiana, when he began his work as a physician in 1911.

“I loved this book, I turned every page in appreciation and anticipation. Poetic, wise, visionary and practical, *Invasive Plant Medicine* is my new favorite book about plants. Written for the medical professional, lay person, gardener, botanist and biologist, for everyone who loves and worships at the roots of the green world, *Invasive Plant Medicine* goes deep, beneath the surface, and provides a refreshing new theology of “invasives” or “messenger” plants as they are so aptly termed by the author.”

Rosemary Gladstar, herbalist, author, and founder of United Plant Savers and the International Herb Symposium

“Timothy Lee Scott shows how wrongheaded it is to single out other species as harmful. In nearly every case, the blame for damage done by so-called invasive species lies with us, when we have created an imbalance that opens opportunities for new species to move in. And Tim goes beyond simply removing blame from our fellow species. He shows how erstwhile invaders can teach us how to heal damaged ecosystems and ourselves.”

Toby Hemenway, author of *Gaia's Garden: A Guide to Home-Scale Permaculture*

National Invasive Plant Rankings

<http://www.NatureServe.org>

Providing the scientific basis for effective conservation, NatureServe and its network of natural heritage programs are the trusted source for information about rare and endangered species and threatened ecosystems.





Chapters of the Ohio Native Plant Society

Cincinnati Wildflower Preservation Society
Dr. Vic Soukup
338 Compton Road
Wyoming OH 45215
<http://www.cincywildflower.org>

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

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
Stan Watson
4134 Shelby Circle
Wooster OH 44691
<http://www.WildernessCenter.org>

MEMBERSHIP APPLICATION

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

NAME: _____

ADDRESS: _____

PHONE: (____) _____

E-MAIL: _____

Membership Types:

Individual \$15; Family \$20;
Sustaining \$30; Patron \$50
Trillium Society \$100; Gentian Society \$200
Corporate Level \$250

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

Jane McCullam
NPS Membership Chair
9880 Fairmont Road
Newbury, OH 44065
440-338-3253

RENEW NOW

Don't miss an issue of
ON THE FRINGE

On The Fringe
9880 Fairmount Road
Newbury OH 44065

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

RETURN SERVICE REQUESTED
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 proper methods of 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:

2010 Annual Grant Recipient
The Mushroom Origins of Santa and Flying Reindeer – Tom Sampliner
American Ginseng – Eric Burkhart
The Happy Herbivore, Blithsome Borage – Scott D. Appell
Coffetree - Robert Tener
Conservation in Action at Orchard Hills Park – Paige Hosier
Polygonaceae: The Smartweed Family – Landon McKinney
Sassafras albidum, Mitten Tree – Marion T. Jackson, Ph.D.
Indian Pipe – Gordon Mitchell
Folklore: The Doctrine of Signatures – Guy L. Denny
Invasive Plant: Japanese Knotweed
Book Review: Timothy Lee Scott – Invasive Plant Medicine

Journal
of
The Native Plant
Society of
Northeastern
Ohio

Volume 28, No. 4

December 2010