

On The Fringe

NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO



Founding Chapter of
**THE OHIO NATIVE
PLANT SOCIETY**

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1996 PROGRAM SCHEDULE by Dr. George Wilder Program Committee Chairman

It is advised that all participants bring a brown-bag lunch on all field trips and to all workshops. Also please call the trip leader to let him know you will be coming. This is very important in case of any last minute changes which participants may need to know about. A trip leader and his phone number will be listed for each event. Please feel free to invite guests.

WEDNESDAY, FEBRUARY 14. 7:00 PM - about 9:00 PM MEMBERS' SLIDE SHOW. Native Plant Society members are requested to bring 25-30 slides which they think would be of interest to other members. They may be of native plants from a favorite locale, in-depth studies of one species or similar themes. This meeting will be held at the **CHAGRIN FALLS PUBLIC LIBRARY** which is located at 100 East Orange Street (a few hundred yards east of Main Street in Chagrin Falls).

SATURDAY, APRIL 27. 10:00 AM - about lunch time. A VIRGIN FOREST OF NORTHEASTERN OHIO: A. B. WILLIAMS WOODS AT NORTH CHAGRIN RESERVATION. Nate Fink will lead this trip. A great variety of wildflower should be visible, (e.g., diverse species of violets (*Viola*), trilliums (*Trillium*), and toothworts (*Dentaria*), as well as old trees of beech, oak, hemlock, magnolia, and hickory. Meet Nate at the parking lot of the Forest Lane Picnic Area of North Chagrin Reservation (located south of the Sanctuary Marsh Nature Center. Please telephone Nate before the trip to notify him that you will attend. His number is (216) 247-6949.

SATURDAY, MAY 25, 9:30 AM - to about lunch time, SPRING WILDFLOWERS OF THE CUYAHOGA VALLEY. Tom Sampliner will lead this trip. Possible highlights of the trip will include Yellow Lady's-slipper (*Cypripedium parviflorum* var. *parviflorum*), Pink Lady's-slipper (*Cypripedium acaule*), Dwarf Iris (*Iris cristata*), as well as various trilliums and saxifrages. Meet at the Hike and Bike Trail parking lot at Boston Mills Road. To get there take 1-271 to Route 8 south. Take Route 8 south for several miles to Boston Mills Road. Turn right (west) onto Boston Mills Road. The parking lot is a few miles further down Boston Mills Road on the right side (just beyond the intersection of

Boston Mills Road and Akron Peninsula Road). Please telephone Tom before the trip to notify him that you will attend. His number is (216) 371-4454.

A complete list of all 1996 field trips will be announced in the next newsletter.

ORCHID CLASSIC REPRINTED

by Brian D. Gilbert

The Native Orchids of the United States and Canada excluding Florida, Volume II by Carlyle Luer has just been reprinted by The New York Botanical Garden, Bronx, New York. This 363-page hardcover classic is abundantly illustrated with both color photographs and line drawings. It contains detailed descriptions and keys to the genera and species treated, notes on the flowering season, derivation of the names, distribution maps and a glossary. Dr. Luer's work was originally published in 1975. The reissue can be ordered from the Scientific Publications Department of the The New York Botanical Gardens, Bronx, New York, 10458-5126. Cost is \$41.00 for the book and \$5.55 for postage and handling.

WINTER WILDFLOWER

by Brian D. Gilbert

A Guide to Wildflowers in Winter: Herbaceous Plants of Northeastern North America by Carol Levine has recently been published by Yale University Press. The 368-page book features long entries on 391 species of non-woody plants as found in winter condition in the northeastern United States and eastern Canada. Each entry is illustrated with line drawings by Dick Rauh. Photographs by Samuel Ristich help in identifying winter rosettes of some species. This book costs \$40.00 in hardcover and \$20.00 in paper.

OHIO'S PEST PLANTS by Brian D. Gilbert

We have recently received a list of "pest plants" from the National Coalition of Exotic Pest Plants Councils. This list identifies the invasive, exotic, alien and non-indigenous plant species for Ohio and other states. The Exotic Pest Plant Councils provide expertise to federal agencies responsible for identification and control of alien invasive plant species, work with Congress to strengthen the Federal Noxious Weed Act of 1974 and attempt to build public understanding of invasive alien plants by coordinating the production of educational materials. Below is a list of all such plants the National Coalition has identified for Ohio. They are seeking our comment on the list and attempting to enlist our support for a broader campaign against these alien invasives.

Species	Common Name
<i>Ailanthus altissima</i>	tree of heaven
<i>Alliaria petiolata</i> (<i>A. officinalis</i>)	garlic mustard
<i>Berberis thunbergii</i>	Japanese barberry
<i>Bromus inermis</i>	smooth brome
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull-thistle
<i>Conium maculatum</i>	poison hemlock
<i>Convolvulus arvensis</i>	field bindweed
<i>Daucus carota</i>	Queen Anne's lace
<i>Dipsacus sylvestris</i>	common teasel
<i>Elaeagnus umbellata</i>	autumn olive
<i>Euonymus alatus</i>	winged euonymus, winged spindle tree
<i>Festuca elatior</i>	tall fescue
<i>Ligustrum vulgare</i>	common privet
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera maackii</i>	Amur honeysuckle
<i>Lonicera spp.</i>	bush honeysuckles
<i>Lythrum salicaria</i>	purple loosestrife
<i>Mains sylvestris</i>	crabapple
<i>Pastinaca sativa</i>	wild parsnip
<i>Pueraria montana</i>	kudzu
<i>Rhamnus frangula</i>	glossy buckthorn
<i>Rosa multiflora</i>	multiflora rose
<i>Sorghum bicolor</i>	shattercane
<i>Sorghum halepense</i>	Johnsongrass
<i>Ulmus pumila</i>	Siberian elm
<i>Verbascum thapsus</i>	flannel-leaved mullein
<i>Viburnum opulus</i>	cranberry bush

Bob Bartolotta, Jim Bissell and Beverly Danielson of the Cleveland Museum of Natural History and members of the Native Plant Society have provided the Council with the names of some the plants on this list.

A WILDFLOWER PROPAGATION WORKSHOP by Tom Sampliner

On Saturday, August, 12, 1995 a hardy group of Indoor Garden Society members joined with some members of the Native Plant Society touring the gardens at Holden Arboretum's Lantern Court in Kirtland, Ohio. Following the tour, a long awaited wildflower propagation workshop was held under the guidance of Holden staff member, Tom Yates. Many present had already put in a half day at the fern workshop, also presided over by Tom Yates: we sure kept Tom busy that hot, humid day.

The propagation was the first hands on session for what I hope will develop into a regular ongoing program. Frankly, this first session is a test. Success will warrant further efforts as we gain experience to venture into the more difficult and rarer species. The project is in part a service effort. It is contemplated that mature specimens will be shared with Lantern Court in the hope we can be suppliers of those plants that a greater supply of is needed. Also, the data we keep and compile will be accumulated and hopefully be of value.

The session involved potting up cuttings of three freshly cut species. The three were: Large cranberry (*Vaccinium macrocarpon*); Red partridgeberry (*Mitchella repens*) and white-fruited partridgeberry (*Mitchella repens* var. *leucocarpon*).

The growing medium prepared by Tom was a wonderful mixture of 60% very fine grained sand and about 40% acidic organic materials well filtered by fine screens. The organic mix was comprised mostly of pine needles, oak leaves and sphagnum moss. The sand was from a local Chardon company.

Tom and I made the cuttings for propagation early during lunch hour to assure freshness. All cuttings were from Lantern Court beds. The cranberry originally came from a native Geauga County source; in fact, Tom told me it is a drier than normal source for cranberry. Hopefully, that makes it hardier for our domesticated conditions.

The method used was to take several of the 4 to 6 inch cuttings and place them atop the growing medium in each pot. Some of us used "Rootone" to give the cut end a good start. The cut end was placed into the soil while the rest of the trailing cutting was pinned to the top of the soil. Some of us watered immediately and others did not. Plastic baggies were affixed to the open end of each pot to make a miniature greenhouse or terrarium. Watering must be done only with distilled or rain water. Tap water can not be used due to the harsh chemicals present from treatment.

Records should be kept as to the frequency of watering, first new plantlets, first flowers and any other variable condition.

In nature, cranberries are at home in acidic wetlands, typically bogs. Cranberry is native to Ohio. Large cranberry (*Vaccinium macrocarpon*) is listed as a potentially threatened state heritage species while the small cranberry (*Vaccinium oxycoccos*) is rarer yet as threatened. Our northeast quadrant of Ohio is in the glaciated plateau. Therefore, we are fortunate to have a few bogs created by retreat of the last glaciation some 12,000 years ago. We are lucky the state has had the foresight to create preserves where we can still see such primitive, pristine habitat. Common growing companions of this wetland ground cover include carnivorous species such as Northern pitcher plant (*Sarracenia purpurea*) and Round-leaved Sundew (*Drosera rotundifolia*).

The plants are evergreen. Leaves are tiny, elliptical and alternate upon the reddish stem. A flowering scape arises in late spring bringing forth a white to pink, four-petaled tubular flower, typically one to a stalk. The fruit is green throughout summer and begins to redden as fall begins.

Partridgeberry (*Mitchella repens*) is a common ground cover in upland forests. Considering how aggressive most ground covers are, it is a welcome addition to domestication. The creeping prostrate stalk resembles cranberry. It has the same small elliptic alternate leaves. However, it usually has a light colored line at the midvein; our specimens do not have this feature, however. In spring small tubular white to pink flowers arise in pairs from the ends of the trailing stem. The flower pair creates an interesting feature in the scarlet, edible fruit; you can see the scar where each flower contributed to the mature fruit. Sure hope we can grow and create interest in these interesting additions to domestic stock.

TULIPTREE

Liriodendron tulipifera

by Robert Leverett

Many of us hold fond memories of favorite trees we climbed, swung from, or sat beneath in our youth. These memories become magnified through the lens of childhood imagination. But there is one tree that needs no boost from youthful reveries. I speak of *Liriodendron tulipifera* Lord of the Appalachian Coves.

PHYSICAL PROPERTIES

Liriodendron tulipifera is no ordinary tree. As reported by Harriet Keeler in her artful 1900 publication, *Our Native Trees*, the Tuliptree is a genus of a single species. Keeler explained that "In the cretaceous age the genus was represented by several species, and was widely distributed over North America and Europe. Its remains are found in tertiary rock. One species alone survived the glacial ice, and this is found only in eastern North America and western China." *Liriodendron tulipifera's* only close living relative was discovered in China in 1875.

Liriodendron tulipifera is known by a variety of common names spelled in different ways: Tuliptree, Tulip-tree, Tulip Poplar, and Yellow Poplar (as it is inappropriately called by the lumber industry) are the most common. *Liriodendron* is a member of Magnolia family, which prefers deep, rich soil, though it can be found growing in relatively infertile locations. The Tuliptree flowers in May and June. Yellow-green blossoms have orange markings within and are 1.5 to 2.5 inches across with 6 petals and 3 sepals. The blossoms resemble tulips and it has been reported that a mature tree can produce 7 to 8 pounds of nectar per year from which bees produce up to 4 pounds of honey. The outline of the leaf also suggests a tulip. The Tuliptree fruits in September. Few seeds are fertile; less than 10 percent can reproduce. The leaves are 4 to 6 inches long and equally wide with 3 or 4 lobes. The leaves turn a brilliant, uniform yellow each fall. The vivid hue rivals the Plains Cottonwood and Quaking Aspen of the Rockies. The bark of the young Tuliptree is smooth and gray to gray-brown. Older trees

develop rounded ridges and deep, perpendicular furrows. The outer bark of truly old trees drops off leaving a flat, smooth surface.

The Tuliptree can seed as early as 13 years of age, though more commonly it begins bearing seed between age 15 and 20. Its wood is soft, straight-grained, and relatively light (25lb/cubic foot) . The wood has a higher strength of weight ratio than most other hardwoods — rivaling some of the important softwoods. The heartwood is light yellow to brown. Medullary rays are small and inconspicuous. The sapwood is creamy. In some stands the heartwood is also creamy, hence the common names White Poplar or Whitewood. The wood in these latter stands is inexplicably softer than that found in stands with darker heartwood; a mystery perhaps associated with soil or climate.

USES

The Tuliptree is well known in the lumber industry. the wood has been described as: straight-grained; knot free; resistant to splitting, warping, and shrinking; holding of nails well; taking of a good finish; and accepting glue, paint, and stain well. In the East, some say, Tuliptree wood is surpassed in these qualities only by White Pine. The wood is easily worked. As a result, it has found its way into everything from cabinets to postcards. Native Americans preferred it for making dugout canoes and cradles, and use the bark for a variety of medicinal purposes. According to Deborah A. Boerner-ein's American Forests article, "Rediscovering the Yellow Poplar" (commercially, I might add), use of the Tuliptree reached an all-time peak in 1899 and experienced another peak in 1950. The Tuliptree has accounted for only 9 % of hardwood production since 1960, but is now being heavily promoted by the US Forest Service and some state agencies.

GROWTH CHARACTERISTICS

The Tuliptree is light-loving and can repopulate old fields in the southern part of its range like White Pine in the Northeast. It achieves and maintains dominance in the canopy by outgrowing its competitors. The first year it is likely to grow about half a foot. Thereafter it can grow up to 3 feet per year for a number of years. One 58 year old specimen in North Carolina was measured at 114 feet. Under competition with other species, the Tuliptree tends to maintain a central leader and simply outgrows its competitors. As a youth, I observed a White Pine and Tuliptree growing side by side in a nearby field. These equally proud species were neck and neck throughout the 10 year period that I watched them locked in their race for dominance.

Although the Tuliptree likes sunshine, the species lives long and persists in the shaded coves of the Southern Appalachians. Estimates of the ages of the oldest Tuliptrees in the Great Smoky Mountains are on the order of 500 years. It is not clear how these estimates were derived, but solid data support a longevity of over 350 years for old trees. Most books describe the Tuliptree as a large forest tree up to 6 feet in diameter and 150 feet in height. A few sources place its limits at 200 feet in height and 10 feet in diameter. Records confirm that Tuliptrees approached these dimensions in the pre-settlement forests of at least two areas: flood plains of Illinois and Indiana rivers (e.g. Wabash) and Southern Appalachian coves.

We are indebted to naturalist Robert Ridgeway for the work he did in the 1870s and 80s. He took meticulous measurements of the largest Tuliptrees he could find. A sample of 25 trees yielded an average of 6.2 feet with a maximum of 11 feet. A sample of

18 Tuliptrees measured on the ground yielded an average height of 143.5 feet with a range of from 110 to 168 feet. Ridgeway triangulated the crown of one giant, standing alone in a field, at 182 feet. He estimated some downed giants with broken crowns to have been near 200 feet when standing.

Similar data exist for cove trees of the Southern Appalachians. Great Smoky Mountain National Park has records of a giant Tuliptree that yielded 18,000 boardfeet in 4 logs. Its diameter approached 7 feet and its length was a solid 190 feet. A stupendous Tuliptree cut in North Carolina's Slickrock district in the early 1900s produced 20,165 boardfeet of lumber in four huge logs. This figure can be better appreciated when compared to the average of 33,000 boardfeet of lumber per acre calculated for the virgin Pisgah tract of southern New Hampshire. Today, a good White Pine forest in the Northeast can yield 25,000 boardfeet per acre. Oak forests often yield as little as 500 boardfeet per acre. In 1859 a professor Buckley reported two Tuliptrees near the Pigeon River in Haywood County, NC: The first made 33 feet in circumference and the second 29. Other statistics could be cited to confirm that with the demise of the American Chestnut, the Tuliptree was left with few competitors for the title of monarch of the Eastern hardwoods. If the Tuliptree can be equaled in height, it would likely be by the American Sycamores that once grew in the Ohio and Tennessee River valleys.

Prior to 1967, the national champion Tuliptree grew in Annapolis, Maryland. It measured 26 feet 6 inches in circumference, but was a mere 83 feet in height: a field spreader. In 1967, Paul Thompson, famous big tree hunter from Michigan, crowned a new national champion Tuliptree: girth 19 feet three inches, height 176 feet, spread 112 feet. The current national champion, the third largest tree in the East, grows near Bedford, VA. Its girth 23 feet; height 146 feet; crown spread, 125 feet.

Those looking for impressive Tuliptrees need not travel far. Within its range, respectable specimens can be found in yards and city parks. Even in the extremes of its range, *Liriodendron* may exceed 100 feet in height and 3 feet in diameter, but the real giants are found in the areas of old growth possessing terrain favorable to the species.

For several years, I have been collecting data on sizes and ages reached in the past by Eastern in-forest trees of various species, with the intention of comparing them to those growing in today's environment. I search for the exceptional trees. Knowing the limits to which these woody towers grow may help us understand if our incessantly meddling activities are reducing the vitality of the forest and turning once majestic specimens into runts. I have been concentrating on the White Pine, Eastern Hemlock, Red Spruce, Sugar Maple, White Ash and Tuliptree.

Measuring the girth and basal area of a tree is relatively simple, but it is extremely difficult to accurately measure the height and crown spread of in-forest trees, particularly in mountainous terrain. Tall trees are the most difficult to measure. They require longer baselines to discern the highest points of their crowns.

After the old growth conference last August in North Carolina, naturalist Ted Watt, my daughter Celeste Poulin (contributing artist to Wild Earth) , and I measured a number of impressive Tuliptrees in the Cosby section of Great Smoky Mountains National Park. A stand of trees on the Gabes Mountain Trail produced measurements up to 163 feet. At 94 feet, the baseline for the tallest tree was too short. The measurement thus carries a high probability of error. However, a younger tree on the Henwallow Falls trail, near the Cosby campground yielded a height of 146 feet on a respectable baseline of

160 feet. The Porter Creek trail produced measurements in the 150 foot range on equally long baselines. Unfortunately, I could not get measurements of the most promising trees, including a hemlock that may rewrite the records. Much work remains to be done in the Porter Creek drainage to adequately document the exceptional qualities of its forest. Obtaining unobstructed views of the tree crowns in this cathedral forest will require they be measured when bare of leaves. We hope to put to rest the question of whether 200-foot-tall Tuliptrees can still be found in the Southern Appalachians.

TULIPTREE AS A SYMBOL

No account of trees would be complete without discussing their psychological impact on humans. The Tuliptree ranks high in its capacity to inspire properly attuned mortals. In his book *The Best Loved Trees Of America*, Robert Lemmon writes, "The United States is fortunate in the number and variety of its large trees, but within the area where it naturally grows you would look far to find one more impressive than the Tuliptree at its best."

Harriet Keeler's poetic description of the Tuliptree reflects its impact: "The trunk rises like a Corinthian column, tall and slender, the branches come out symmetrically, and the whole contour of the tree, though somewhat formal possesses a certain stately elegance." Keeler's sentiment is echoed by others who point to the tree's symmetry. Yet many who adore the species have not seen it at its best. Their praise would be effusive were they to walk among the real forest giants. But where can one see such trees?

The lush, rain drenched coves of the Great Smoky Mountains and the nearby Joyce Kilmer-Slick Rock Wilderness harbor Tuliptrees that demonstrate the awesome power locked in the genetic of the remarkable species. Gargantuan trunks rise like Atlantean pillars through the mist to connect earth and sky, continuing an unbroken reign of centuries of dominance. The visitor is humbled in the presence of these Ice Age survivors. They seem timeless, linking present and past. No measurements need be taken nor statistics cited to bolster respect. The massive in-forest Tuliptrees stand in sharp contrast to the slender crowded second-growth Tuliptrees a few thousand yards down the ridges. Like young athletes who must slowly develop into seasoned professionals, "young field poplar" only hint at the inherent power of the species.

This article by Robert Leverett (52 Fairfield Ave., Holyoke, MA 01040) has been reprinted from the Winter, 1993 issue of *Wild Earth* (P.O. Box 455, Richmond, VT 05477) with permission of the author and Wild Earth.

NATIVE PLANTS ON THE INTERNET

by **Brian D. Gilbert**

As we hurl toward the end of the 20th century, it seems to this writer that more and more the computer is weaseling its way into our lives. This newsletter is prepared with the word processing assistance of a computer. And it seems that we're daily bombarded with new sources of information that we can access on the "internet" with the assistance of our

computer. Information about native plants hasn't escaped this computer onslaught. The following is a sample listing of native plant information available on the internet.

A. The Center for Plant Conservation

(internet address: <http://www.mobot.orgCPC>) is now on-line with information about its National Collection of Endangered Plants and other CPC programs and publications.

B. An on-line key, complete with photographs of all of Wisconsin's orchids can be found at:

http://library.wisconsin.edu:80/biotech/demo/orchid/orchids_of_wisconsin.html.

C. The Flora of North America can be accessed at: <http://fna.wustl.edu/fna>.

D. The Graves Herbarium at Connecticut College can be browsed at its internet location: <http://herbarium.conncoll.edu>.

E. Information on wildflowers in all 50 states called The Wildflower Page can be found at: <http://rampages.onramp.net/garylpe>.

Before we go into any greater detail listing native plant information on the internet, we would like some feedback from members. If you want to know more, call the author at (216) 486-8765.

ON THE FRINGE
Quarterly Newsletter of the
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