

EARLY SPRING

POTOWMACK NEWS

Potowmack Chapter of the Virginia Native Plant Society

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Magnolia Bogs

By Rod Simmons,
on behalf of the Magnolia Bog Research Group of Washington, DC



NORTHERN COASTAL PLAIN TERRACE GRAVEL BOG. ALL PHOTOS IN THIS ARTICLE BY MAGNOLIA BOG RESEARCH GROUP OF WASHINGTON, DC

So-called Magnolia Bogs are acidic, fen-like seeps uniquely associated with gravel terraces of the inner Coastal Plain along the Fall Zone that are named for a characteristic assemblage of Sweetbay Magnolia (*Magnolia virginiana*), Sphagnum moss (*Sphagnum* spp.), and other bog flora (McAtee 1918). This saturated woodland wetland community is known from a limited area at and just east of the Fall Zone in Maryland, D.C., and Northern Virginia. Fourteen remaining bog sites were sampled for the USNVC-NCR Project 20 years ago by researchers with the Magnolia Bog Research Group of Washington, D.C. (MBRGW), leading to the official USNVC classification: Northern Coastal Plain Terrace Gravel Bog: *Nyssa sylvatica* - *Magnolia virginiana* - (*Pinus rigida*) / *Rhododendron viscosum* - *Toxicodendron vernix* / *Smilax pseudochina* Woodland (USNVC: CEG1006219). Global/State Ranks: G1/S1.

With floristic affinities to similar communities in the New Jersey Pine Barrens region, their global distribution generally follows the Fall Zone in a narrow, east-west band from the Jessup area at the northern extent of their range in Howard County, Maryland to their southern extent near Fredericksburg, Virginia (MBRGW, in prep.). Throughout their range, they were never very common or large, usually occupying an acre or less in size. Nonetheless, they are vitally important resources both for the pure, naturally filtered waters which flow continuously from them – even during periods of drought – and the relic populations of ancient northward and westward migrations of rare Coastal Plain flora, which have persisted in these small communities for millennia well inland and fairly close to the Piedmont (Simmons and Strong 2002).

They typically form on a slumped bench at the toe slope of hillsides where a strong-flowing spring or seep flows from an upland gravel and sand

CONTINUED ON PAGE 3

Upcoming

Clare Walker: Phenology and Climate Change: It's all about timing

Thursday, March 10, 7:30-9 pm

Zoom Meeting. See <https://vnps.org/potowmack/events/> for registration connection closer to the date

Andrea Weeks: Virginia's Shale Barren Flora and the legacy of Lena Artz

Thursday, Apr 14, 7:30 pm

Zoom Meeting. See <https://vnps.org/potowmack/events/> for registration connection closer to the date

Walk Elklick Park with Nelson DeBarros

Time TBA

Registration required, space limited. See <https://vnps.org/potowmack/events/>

Matt Bright: Conserving Rare Plants Through Propagation

Thursday, May 12, 7:30 pm

Zoom Meeting. See <https://vnps.org/potowmack/events/> for registration connection closer to the date

Green Spring Garden Day - and Major VNPS Plant Sale

Saturday, May 14, 9 am-3 pm

All events are free and open to the public. Walks require preregistration. For email notices of upcoming events, subscribe to <https://vnps.groups.io/g/potowmack>. Or send a blank email to potowmack+subscribe@vnps.groups.io

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VNPS Plant Sales and Propagation News

It's that itchy time of year when it's hard to wait for your first spring ephemeral to bloom or the first chance to buy native plants for your own yard. There are other good sources around (see Earth Sangha earthsangha.org; National Arboretum <https://www.eventbrite.com/e/fona-native-plant-sale-tickets-269765314317?aff=ffn> for early sales) but here's what VNPS Potowmack Chapter has planned:

First Wednesday Sales: held the first Wednesday of the month, April through October, 10 am til 1 pm (though you may be able to fudge the end time). For these you need to bring cash or check. Most herbaceous plants are \$7 a pot; most ferns and woody plants are \$10 a pot; and members of VNPS subtract \$1 off every pot. All sales held in the VNPS propagation area at Green Spring Gardens Park, up against the park fence behind the Horticulture Center.

We're also open for sales during Green Spring's Spring and Fall Garden Days. The Spring event will be on Saturday, May 14, 9 am-3 pm. For these sale days, we are able to take credit cards.

There are other ways to be involved. We take donations of native plants (check with Laura Beaty laurabeaty@mac.com and/or Margaret Chatham margaret.chatham@verizon.net before bringing things in) and of plastic plant pots, 1 quart or larger. And we always welcome new propagation crew helpers: there's no better way to learn about native plants from flower to root or seedling to seed collection than to come to the VNPS propagation beds on Wednesdays, 10-1. Again, contact Laura Beaty to get on the mailing list for news about plans or weather cancellations.

VNPS Grass Bunch Roams Again

Covid combined with the loss of some former Grass Bunch members seriously limited grass identifying forays for the past couple of seasons, but we're resolved to rise again! The plan is to meet on Tuesday mornings in a variety of parks to explore the grasses, sedges, and rushes of our region. Don't be scared off just because you "don't know anything about grasses" — we are a thoroughly amateur group, and all started out knowing little to nothing. If you're interested in learning and can meet on a Tuesday morning, you qualify. The motto of the Grass Bunch is "We Require an Inflorescence!" — it can be hard to impossible to identify some species when they show no flower or seed. So we move around to catch early bloomers here, later bloomers there. A couple of times a year, we'll hold walks to share what we've figured out. How do you join? Send an email to Alan Ford: amford@acm.org and you're in!

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MAGNOLIA BOGS FROM PAGE 1

aquifer over a thick, impervious layer of underlying clay, which prevents the downward infiltration of water. This seepage flow and highly acidic, exposed sands and gravels of the Cretaceous-age Potomac Formation create optimal conditions for the formation of bogs. Habitats are characterized by dense, shaded thickets of ferns, shrubs, and stunted trees, as well as sunnier, peaty-saturated open areas dominated by graminoids, herbaceous plants, and scattered shrubs. Sphagnum moss is often a ubiquitous groundcover. Vegetation is very diverse. Irregular microtopography with abundant groundwater seepage forming braided channels, Sphagnum-covered hummocks, and mucky depressions is characteristic. Historic accounts of this vegetation describe these areas as “bogs” with *Magnolia virginiana* and various shrubs fringing and forming clumps within a more open center dominated by herbaceous plants.



Black Gum (*Nyssa sylvatica*) is the most dominant canopy and understory species, followed by *Magnolia virginiana*, Red Maple (*Acer rubrum*), American Holly (*Ilex opaca* var. *opaca*), and Pitch Pine (*Pinus rigida*), although none of these trees except Black Gum and Pitch Pine reach very large size or remain in the canopy for very long. Dominant shrubs include Swamp Azalea (*Rhododendron viscosum*), Highbush Blueberry (*Vaccinium* spp.), Common Greenbrier (*Smilax rotundifolia*), Dangleberry (*Gaylussacia frondosa*), Possum-haw (*Viburnum nudum*), Fetterbush (*Eubotrys racemosus*), Red Chokeberry (*Aronia arbutifolia*), Winterberry (*Ilex verticillata*), Canada Serviceberry (*Amelanchier canadensis*), Smooth Winterberry (*Ilex laevigata*), Poison Sumac (*Toxicodendron vernix*), and Fringetree (*Chionanthus virginicus*).

The dominant herbs are Cinnamon Fern (*Osmundastrum cinnamomeum* var. *cinnamomeum*) and Panic Grasses (*Dichanthelium* spp.), followed by Royal Fern (*Osmunda spectabilis*), Virginia Chain Fern (*Anchistea virginica*), Nuttall's Reedgrass (*Greeneochloa coarctata*), Prickly Bog Sedge (*Carex atlantica* ssp. *atlantica*), Northern Long Sedge (*Carex folliculata*), Bristly-stalk Sedge (*Carex leptalea*), Twisted Spikerush (*Eleocharis tortilis*), Slender Beaksedge (*Rhynchospora gracilentia*), Canada Mayflower (*Maianthemum canadense*), Rough Goldenrod (*Solidago rugosa*), Vervain Thoroughwort (*Eupatorium pilosum*), and many others.

Historic and regionally uncommon to rare bog species persisting at a number of these sites include Bog Goldenrod (*Solidago uliginosa* var. *uliginosa*), Coastal Carrion-flower (*Smilax pseudochina*), Twisted Yellow-eyed Grass (*Xyris torta*), Low Rough Aster (*Eurybia radula*), Ten-angled Pipewort (*Eriocaulon decangulare*), Button Sedge (*Carex bullata*), Long's Rush (*Juncus longii*), Water Sundew (*Drosera intermedia*), Red Milkweed (*Asclepias rubra*), Sheep Laurel (*Kalmia angustifolia*), and others.

Many traditional ecologists believe fire to historically be the main factor in limiting the growth of shrubs and trees and maintaining open areas essential to light-demanding flora, but the geohydrologic conditions and effects of permanently saturated soils (“root pruning”) that cause blowdowns of large trees (except *Pinus rigida* and *Nyssa sylvatica*) are those that have actually been observed to be the prominent factors. Ice storms, which are frequent over time throughout the natural range of this community, also maintain an open mosaic.

This community has always had a limited distribution in the Mid-Atlantic fall line zone and has probably always been rare. Today, less than two dozen or so sites remain throughout their global range in very small patches degraded to varying degrees by hydrologic disturbance, non-native invasive plants, woody succession, and various anthropogenic impacts, including foot traffic.

W.L. McAtee's words from 1918 as to the irreplaceable preciousness of these small wetlands are even more urgent today: “The antiquity of some of these little waifs and the vicissitudes they have survived entitles them to our respect, while the slender thread upon which their continued existence depends commends them our most considerate care.”



PEAT MOSS ABOVE; SWEETBAY MAGNOLIA IN LEFT COLUMN

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Magnolia Bog Research Group of Washington, D.C. (MBRGW). In prep. The last remaining Magnolia seepage bogs and their flora.

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Tuliptrees

By Laura Beaty



Liriodendron tulipifera has many common names: Yellow Poplar, Tulip Poplar, Tuliptree, Whitewood, Fiddletree, or Popple. The Latin name means “Tulip-bearing Lily Tree,” referring to its spectacular flowers that bloom in May to June. These flowers with bands of pale green and orange can be difficult to see in the upper branches of the trees unless a large branch stretches downward or a squirrel drops a flowering twig to the ground. A second story window can provide an impressive view.

The subsequent autumn fruit, cones of slim, winged seeds called samaras, are eaten by squirrels, rabbits, mice, cardinals, finches, and chickadees. Even with their small wings, the samaras can travel on the wind some distance from the parent tree. Many Tuliptree seeds don't germinate immediately, but can remain viable for up to 7 years. The cones remain on the upper branches, providing winter interest to the leafless canopy, especially when partially dispersed cones fill with snow. Autumn brings out the soft yellow colors of the tree, filling the skyline with an expansive canopy of sunshine. That canopy also provides understory plants with shady protection from the hot summer sun.

Although lumbermen call it Yellow or Tulip Poplar for the quality of its wood, it is not in the “Poplar” family (*Salicaceae* Family), which contains such trees as willows, aspens and true poplars. It is, instead, in the Magnolia Family, a fast-growing, straight and tall tree ranging from the

Great Lakes to the Gulf of Mexico, extending into Florida and Canada. Exceptional stands remain in the Ohio River Valley and Appalachian Mountains. The Smokey Mountains in North Carolina harbors “Tall One,” at 191.9 feet, the tallest recorded Tuliptree. The national champion Tuliptree (considering girth and crown spread as well as height) stands 139 feet tall in Virginia.

It is a valuable hardwood species of clear wood and straight grains, used in earlier times as flooring or the backing of furniture and even drawers fronted with figured maple, walnut, cherry, and other attractive hardwoods. It continues as a valuable lumber for these attributes. Native Americans used these straight-trunk trees to make dugout canoes, copied by early settlers, including Daniel Boone with his 60-foot canoe. It was systematically cut down from the “endless forests” in Colonial times to make charcoal for a variety of industries, including the early glass industry. It is the State Tree for Kentucky, Tennessee and Indiana.

Tuliptrees are hard to transplant, and don't like to have their roots disturbed, but have a high tolerance for disease if grown in deep loose soils where they can extend a tap root deep into well-drained mineral-rich soils. Good drainage is necessary but spring rains are not a problem for this tree. Remember gypsy moths? Tuliptrees were the green spots in the gypsy-moth-denuded forest. My half-acre property supports seven large Tuliptrees. In nine years, only one wind storm “pruned” the upper branches of one tree. Early leaf fall occurs during long summer droughts, reducing the tree's stress. Tuliptree scale and aphids produce lots of honeydew, a sugary liquid waste, falling from the trees. It's not a serious problem when I remember to hose down car windows in the driveway—otherwise it becomes a very sticky problem when a fungus, sooty mold, grows on the honeydew. Spring and summer rains make life easier for me and the trees.

Tuliptree is our tallest and handsomest tree in the East. Though it readily repopulates disturbed sites, it can live 500 years. It is beloved by beekeepers for the prodigious amount of easily accessible nectar it produces, used by all types of bees, beetles, flies and hummingbirds. Tuliptree honey is a dark amber with a bold flavor. Its aromatic leaves host Eastern Tiger Swallowtail, Promethea and Tuliptree Silk Moth caterpillars among 50-odd species. You won't find this tree on Doug Tallamy's list of “Best Bets” for attracting large numbers of butterflies and moths due to the limited range of species it hosts; but for sheer numbers of caterpillars it does its part to feed baby birds.

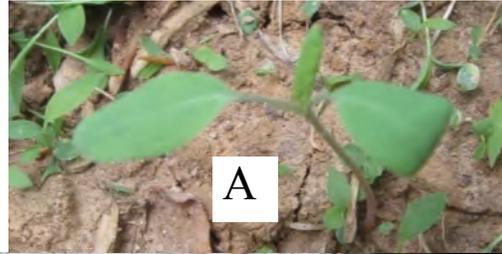


MASSIVE TULIPTREE IN ALDIE, PHOTO BY FRITZ REUTER; BLOSSOM PHOTO BY ROD SIMMONS.

Cotyledons

We tend to think that we can never identify a seedling plant until it shows us its true leaves, but some cotyledons are distinctive. I'll admit that some of these I only identified by looking at their more-developed brethren, but see what you can guess anyway. Answers on page 6.

- 1 **Acer palmata*, Japanese maple
- 2 *Acer rubrum*, Red maple
- 3 **Alliaria petiolata*, Garlic mustard
- 4 *Cryptotaenia canadensis*, Honewort
- 5 **Hedera helix*, English ivy
- 6 *Impatiens capensis*, Jewelweed
- 7 *Liriodendron tulipifera*, Tulip tree
- 8 *Parthenocissus quinquefolia*, Virginia creeper
- 9 **Persicaria perfoliata*, Mile-a-minute



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Word of the Month: Samara



A dry seed with a well-developed wing. Most samaras are borne by tall trees (like maples, ashes, tuliptrees) so their wings can help the wind to disperse them.



**NORWAY MAPLE (ACER PLATANOIDES) 10/11/20; BOXELDER (ACER NEDUNDO) 4/29/19;
TULIPTREE (LIRIODENDRON TULIPIFERA) 10/8/20. PHOTOS BY MARGARET CHATHAM.**

Answers to quiz on page 5: 1-I; 2-B I wish I could have found Norway maple cotyledons to photograph: they have really large, long, strap-like cotyledons; 3-C; 4-H One and a half plants, with long petioles; 5-D Yes, this one did get pulled after its photo session; 6-E These are the plants that inspired me to think cotyledons can sometimes be identified; 7-G Great trees from tiny cotyledons grow; 8-F; 9-A In real life, you can usually see a bluish tint to these.