



ONAPA NEWS

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Examining the 'tree of life' - *arbor vitae*

Story and photos by Guy Denny

Jacques Cartier, French explorer and leader of a three ship expedition exploring the eastern coast of North America, was the first to describe and map the Gulf of Saint Lawrence as well as the Saint Lawrence River.

In 1534, he was the first European to travel inland and claim the land that is now Canada for the King of France.

After returning to France that winter, Cartier then returned to the Saint Lawrence River in 1535 with his 110 men and sailed up the Saint Lawrence River to the Iroquoian village of Stadacona where he was greeted by the native villagers. Rather than return to France before winter, Cartier and his men decided to spend the winter of 1535-1536 in a fort they had constructed near the Iroquoian village.

In the absence of fresh fruit and vegetables, with only salted game and fish for sustenance, scurvy broke out among his men. By late winter, twenty five of Cartier's men had already died and most of the rest were ill. In desperation, Cartier sought help from the Iroquois who showed him how to make a medicinal tea made

from the bark and leaves of a plant they called "annedda." Being very rich in vitamin C, it could prevent and cure scurvy.

The Iroquoian medicine worked on all remaining 85 men in Cartier's party; all were cured and returned to good health thus saving the entire expedition. The dramatic results so impressed Cartier that upon his returning to France in 1536, he took living specimens of the miracle plant back



Northern white cedar leaf branchlets

with him for the Royal Gardens.

This is believed to be the first species of North American tree introduced to Europe. Upon hearing the story of how this plant saved the expedition, the King of France declared this plant to be *arbre de vie*, a French name meaning "tree of life." The current English name, "arbor vitae," comes from the Latin *arbor* meaning "a tree," and *vita* meaning "of life."

Most historians believe this miracle plant was northern white-cedar (*Thuja occidentalis*). However, since plants were not given universally accepted scientific names until the 1700s, we will never know for sure. Regardless, the name arbor vitae

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Northern white cedar found in very different habitats

is accepted for the evergreen tree we know today as northern white-cedar. Other names are American arborvitae, and eastern white-cedar.

Northern white-cedar is a boreal forest evergreen conifer of eastern North America from Nova Scotia to Manitoba southward through the boreal forests of adjacent Midwestern and northeastern states. It is also found in scattered populations in higher elevations of the Appalachian Mountains. Elsewhere, well south of the boreal forest region including Ohio, it becomes a rare disjunct relict of the last Ice Age.

Interestingly, white-cedar occurs in two very different types of habitat. In the North Country it is largely a species of alkaline cedar swamps fed by cold, calcareous, groundwater springs. Northern white-cedar is a calciphile, a plant that does best in a moist but well-drained alkaline-rich calcium carbonate soil. On the other hand, it is also known from dry barren limestone and dolomite cliff-faces where its roots are adapted to securing water and nutrients from deep within the crevices of rock.

In Ohio the only fen in which white-cedars occur is Cedar Bog State Nature Preserve in Champaign County where it is fairly numerous. Elsewhere in Ohio it is rare and scattered in glaciated Ohio, occurring mostly on cliff-faces in

deep limestone and dolomite gorges where moist, cool conditions enable it to survive this far south. Some of the best sites are in gorges situated in Adams, Greene, and Highland counties. Clifton Gorge and Highlands Nature Sanctuary state nature preserves are good places to view this species.

Actually, the name “cedar” is somewhat misleading since although northern white-cedar is a member of the Cypress Family (Cupressaceae), it is not related to the true cedars (*Cedrus*) of Eurasia. In 1753 when Swedish botanist Carolus Linnaeus gave white-cedar its scientific name, *Thuja occidentalis*, the generic name *Thuja* was derived from a Greek word modified into a new Latin word, *thuya* in reference to an African tree with fragrant, durable wood similar to that of white-cedar. The specific epithet *occidentalis* means “of the west” which might seem curious since this is a tree of eastern North America.

There are only two species of *Thuja* in North America. The other is western cedar (*T. plicata*) occurring mostly in California.

However, in eastern Asia there are four more species in that genus that Linnaeus also named. He considered these Asian species to be species of the Far East and our two species of *Thuja* as their

counter parts in the western part of the world.

Northern white-cedar, a medium-sized tree with its beautiful dense pyramidal, globular or conical shape and aromatic soft foliage makes it very desirable for the nursery trade.

Reportedly, over 300 ornamental cultivars have been developed for their various distinctive characteristics including shape, foliage color, and size.

These cultivars are used extensively in the landscape trade and have mostly been developed from native northern white-cedar, as well as from the



Northern white cedar line the back of this Cedar Bog fen



Northern white cedar clings to the side of a cliff

western cedar (*T. plicata*) and the oriental arborvitae (*T. orientalis*) native to western China and Japan. Arbor vitae is extensively planted as an ornamental tree in yards and cemeteries as well as used for hedges, privacy screen, and windbreaks in both the United States and Europe.

In the wild, white-cedar grows very slowly often living in excess of 300 years. In a few well protected cliff sites, some specimens in excess of 1,000 years have been recorded. Seed production doesn't begin until the tree is 10-15 years of age. The fragrant, very small overlapping scaly leaves occur on fan-like flat branchlets. Arbor vitae holds its leaves for 2-5 years before leaf-fall. Both male and female flowers occur on the same tree. The cones, which are about a half inch long, appear at the tips of the branchlets.

To the Ojibwa peoples, northern white-cedar and white birch (*Betula papyrifera*) were the two most useful trees in the forest. They considered these trees to be a gift to humanity.

The dried fragrant twigs of white-cedar were burned as incense in religious ceremonies and smoke from the branchlets was used to purify sa-

cred things and places. In addition for making a refreshing tea, white-cedar extracts were used medicinally by native people for treating ailments including colds, fevers, rheumatism, headaches, rashes and skin irritations, colic in babies, cuts, bruises, and sores.

The wood was used for making the ribs and frames of birchbark canoes, and the branches were used in sweat baths. Shredded pieces of the outer bark make a good tinder for starting fires, while the tough, stringy inner bark was used as cordage.

White-cedar wood is soft, light weight, and very resistant to rot in contact with soil and water. Its many commercial, modern-day uses include posts, fencing, shingles, cabin logs, railroad ties, and wooden wear. It has also been employed for making kraft paper and particleboard. The essential oil is distilled from boughs and used for cleansers, disinfectants, insecticides, liniment, room sprays, and soft soaps.

All things considered, I am inclined to agree with the Ojibwa—this splendid tree is definitely a gift to humanity.

Highlights of my time as an ONAPA stewardship assistant

By Alyssa Mills

As a stewardship assistant with the Ohio Natural Areas and Preserves Association (ONAPA), I have had the privilege of contributing to the conservation of Ohio's most remarkable landscapes. This season has been full of challenges, discoveries, and rewarding work that has deepened my commitment to preserving the natural beauty of our state.

Preserving Wildflowers at Miller Preserve

One of the most fulfilling days this season was Thursday, May 2, 2024, at the 86-acre Miller Preserve in Highland County.

On this day, our mission was clear: combat the spread of garlic mustard, an invasive species threatening the delicate ecosystem. Working alongside dedicated volunteers and team members, we spent the day pulling and hauling garlic mustard in areas where spring wildflowers bloom most vibrantly. As we worked, we were rewarded by the sight of coolwort, twoleaf miterwort, and American columbo—all indicators of the preserve's ecological health. Each bag of garlic mustard we carried out of the preserve symbolized a victory for these native plants and their habitat.

Stewardship at Brinkhaven Barrens

Brinkhaven Barrens stands out as another impactful location this season. Supported by Killbuck Watershed Land Trust, over 80 hours of my time was spent at this site which underscored the importance of protecting unique habitats and managing invasive species to sustain the ecological diversity of the area. It was inspiring to work in such a dynamic environment and collaborate with individuals like Randy Carmel, who bring dedication and leadership to conservation initiatives.

Reflecting on this season, I am reminded of the power of hands-on conservation work. Stewardship is more than just managing land; it's building a relationship with nature that respects and preserves the balance of our ecosystems. The projects I participated in taught me new lessons about Ohio's landscapes and the resilience of its natural areas.

The work at Miller Preserve, in particular, reinforced my appreciation for the biodiversity we strive to protect. Spotting rare plants during our garlic mustard removal was a reminder of the ecological treasures we work so hard to safeguard. Similarly, the support provided by Killbuck Watershed Land Trust made possible our crucial efforts at Brinkhaven Barrens, show how partner-



Photo by Jennifer Windus

Alyssa at work

ships in conservation create lasting impact. This season expanded my skills, enriched my knowledge, and strengthened my resolve to advocate for conservation.

My position this season was made possible in part by the generous support of the Killbuck Watershed Land Trust, with their board president Randy Carmel, whose support has been invaluable in facilitating meaningful stewardship, including projects at Brinkhaven Barrens. I am grateful to Jennifer Windus for her commitment to conservation and her support, which played a pivotal role in making my stewardship assistant position possible. Her leadership and dedication to preserving Ohio's natural habitats inspire and enable meaningful stewardship work. Thank you, Jennifer, for your lasting impact and dedication to Ohio's natural landscapes.

A sincere thank you to all our amazing volunteers, especially the new 2024 Cleveland-Akron NE Ohio all-stars ONAPA crew; I've learned so much about how valuable your dedication and support are to our conservation efforts!

I would like to extend my heartfelt gratitude to the entire ONAPA Board of Directors and committee members for their dedication and support. Their collective efforts in conservation and stewardship have greatly enriched my experience as a stewardship assistant.

Thank you all for your unwavering commitment to preserving Ohio's natural heritage and fostering a collaborative and inspiring environment for conservation work.

Autumn drought does not deter stewardship

Story and photos by Jennifer Windus

ONAPA and its stewardship team were busy this late summer through fall - despite the drought - with 19 projects. As usual, we partnered with a number of conservation agencies and organizations - not just the Division of Natural Areas & Preserves (DNAP) - to help with natural areas management.

During late summer and fall, most of our projects focus on woody species removal and treatment with herbicide. We continued important bog and fen restoration work at Travertine Fen, Myersville Fen, Beck Fen, and Cranberry Bog. We added two new sites, Warder-Perkins in Hamilton County, a preserve with running buffalo clover, and Tranquili-

ty Wildlife Area in Adams County to help open up prairie remnants.

We expanded our efforts at high-quality savannas and barrens, including Daughmer Savanna, Meilke Road Savanna, Erie Sand Barrens, and Brinkhaven Oak Barrens. Lydia Radcliffe, in her fourth year as a stewardship assistant, took another job with The Nature Conservancy in mid-September. Another SA Maya Moore left us in mid-October to pursue job opportunities in Connecticut, but we still have Alyssa Mills with us.

Watch for more projects coming in January, after a holiday break. We thank all our dedicated volunteers and partners for another great year preserving Ohio's natural areas and rare plants!



Projects and Partners

- Warder-Perkins Preserve (Audubon) – August 1
- Travertine Fen (Green Co. Parks & Trails) – August 8
- Myersville Fen (DNAP) – August 13 & 29
- Kiser Lake Wetlands (DNAP) – August 15
- Daughmer Savanna (Crawford Co. parks) – August 22 & September 17
- Honey Run Highlands Park (Knox Co. parks) – August 27
- Clifton Gorge (DNAP) – September 3rd & October 31
- Beck Fen (TNC) – September 5
- Cranberry Bog (DNAP) – September 10 & October 24
- Wolf Run Regional Park (Knox Co. parks) – September 12
- Meilke Road Savanna Wildlife Area (Div. of Wildlife) – September 19
- Tranquility Wildlife Area (Division of Wildlife) – September 26
- Kitty Todd Preserve (TNC) – October 8
- Brinkhaven Oak Barrens (Killbuck Watershed Land Trust) – October 12
- Erie Sand Barrens (DNAP) – October 29



Top left, Stewardship Assistants work at Myersville Fen. At right, Lydia Radcliffe shows Maya Moore how to run a brush cutter at Daughmer Savanna.

What's in a name?

By Tim Snyder
(Photos by Guy Denny)

New World forests presented a bewildering abundance to the first European settlers who tried to bring order out of the chaos by naming what they saw. Some of these names came from the location where the plant was found, which is how Ohio entered the botanical world.

The most familiar example is the Ohio Buckeye. Its identification with Ohioans was cemented by the 1840 election of William Henry Harrison when the first president from Ohio was honored with cabins made of buckeye logs ----an allusion to the belief that he was a common man. Scientists, being less romantic, ignored the tree's association with our state when they gave it the "official" name of *Aesculus glabra*.

They were more understanding when naming the Ohio Spiderwort, *Tradescantia ohioensis*. This handsome plant with a terminal cluster of purple flowers has a more common cousin named *Tradescantia virginiana* which was first seen on the east coast and named for Virginia. Since English settlement began in the east, the first sighting of many plants was naturally made there, which is why a number of species common in the eastern half of the United States have *virginiana* or *virginicum* in their scientific names.

But not everything was first discovered so far east. We do, for instance, have the Ohio Goldenrod (*Solidago ohioensis*), discovered and named by John Riddell who worked in Ohio between 1832 and 1836. Unlike most familiar field goldenrods, this one has a flat-topped flower cluster. It is also limited to wet areas, especially the cold-water, calcareous wetlands called "fens," which it shares with another plant of similar appearance, Riddell's Goldenrod (*Solidago riddellii*) named for that early botanist.

Riddell is not the only person associated with Ohio that has been so honored. William Starling Sullivant, born in 1803 to a large landowner in Franklinton, inherited a sizable fortune and was able to give his atten-



Ohio Spiderwort

tion to whatever interested him. For many years, that was botany. As he explored Ohio for plants, he found things that did not seem to fit the identification keys he consulted. He sent specimens to the leading botanists of the day and was pleased to learn that he had found plants unknown to science. Several were named in his honor, including a Black-eyed Susan, a sedge and a Milkweed. Later research demoted the Black-eyed Susan to a variety of the common form (*Rudbeckia fulgida* var. *sullivantii*). The name Sullivant's Sedge appears to have disappeared entirely. Sullivant's Milkweed (*Asclepias sullivantii*) remains. Found in prairies, it is more common to the west of us, and so represents one case where Ohio played



Sullivant's Milkweed

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Qualified Charitable Distributions (QCDs) are a great way to donate to ONAPA

By Barbara Andreas, PhD.

Are you aware that there is a way to support ONAPA and not have the donation come from your taxable income? If you are 73 or older in 2024, it's time to start taking the required minimum distribution (RMD) from your IRA. Although the amount of the annual RMD withdrawal changes from year-to-year, they should continue to be withdrawn until death. Anyone currently over the age of 73 (if born before 1960, age 75 or otherwise) is required to start taking RMDs, or face a penalty.

One way to minimize your taxes is to make a qualified charitable distribution (QCD). Normally distributions from an IRA are taxable. With a QCD, however, these distributions become tax free as long as they are paid directly from the IRA to an

eligible charitable organization. These charities must be 501 (c)3s. ONAPA qualifies! ONAPA's Federal EIN is 45-5080814.



There is a catch – QCDs cannot be claimed as a charitable tax deduction on the income tax form. The good news is that a QCD is not included as income which can be more beneficial than being able to itemize the charitable gift on Schedule A of your tax return.

We recommend it is best for anyone interested in this option to first contact a tax professional to determine which IRA strategy will work for you. More information may be found at <https://www.fidelity.com/building-savings/learn-about-iras/required-minimum-distributions/qcds>, or by searching “QCDs” on your web browser.

www.fidelity.com/building-savings/learn-about-iras/required-minimum-distributions/qcds, or by searching “QCDs” on your web browser.

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So much adventure packed into a name

Virginia to the rest of the country.

Of all Sullivant's additions to the flora of North America, none has had a more adventurous name than *Sullivantia sullivanii*. He originally discovered it in Highland County in 1839 and believed it to be a type of Saxifrage. He sent specimens to Asa Gray, America's most knowledgeable botanist, who named it *Saxifraga sullivanii*, a title which William Sullivant naturally found gratifying.

After further study, Gray decided that the plant was not a saxifrage, but an entirely new genus which he named *Sullivantia*. At the same time, he changed the species name to *ohioensis*.

Decades later, rules were adopted governing the scientific name of species. One of them states that the earliest scientifically defensible name given a plant will be used. For Sullivant's plant, this made the species name *ohioensis* illegal since it had first been called *sullivanii*.

So Ohio was out and Sullivant was in, and *Sullivantia sullivanii*, a rather nondescript green plant found only in Ohio, Kentucky and Indiana does double honor to an amateur botanist from Columbus.

Who knew that so much adventure could be packed into a name!



Sullivantia sullivanii mixes in with ferns



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Ohio Natural Areas & Preserves Association

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Protecting Ohio's Natural Legacy
www.onapa.org

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ONAPA is an all volunteer 501 (c) (3) non-profit organization. Your dues and donations support critical land stewardship and restoration work in highest-quality nature preserves throughout Ohio.

Thank you for making this work possible. Dues increase to above rates January 1, 2025.