

# The Blazing Star



A PUBLICATION OF THE NORTH AMERICAN NATIVE PLANT SOCIETY

## Native Plant to Know

# Carolina Allspice

*Calycanthus floridus*

by Catherine Goddard

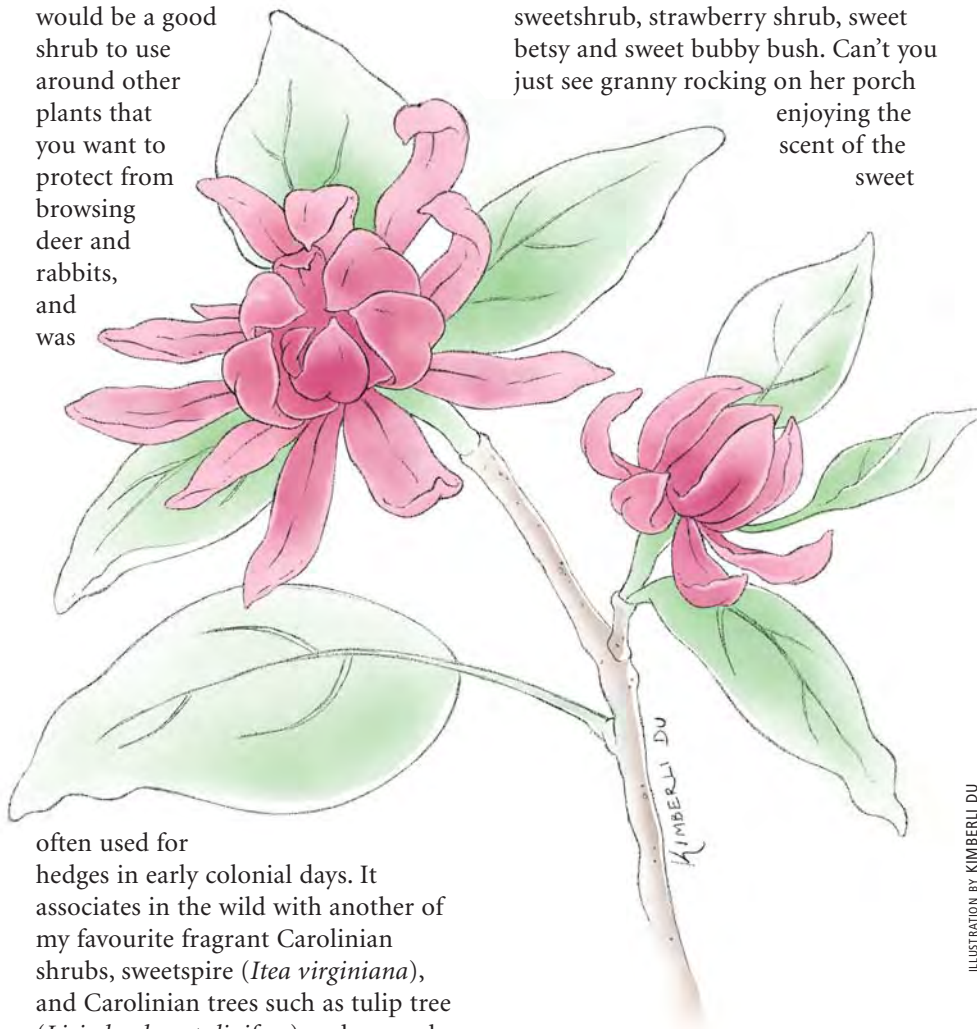
Beetles rely on their sense of smell to find food and a place to lay their eggs. Scents associated with beetle pollination are often spicy (crabapples), sweet (*Chimonanthus* spp.) or fermented (*Calycanthus* spp.). Carolina allspice (*Calycanthus floridus*) is one of three members of the genus. Two are native to North America and extremely fragrant! When crushed, the leaves and stems release a memorable aroma. The plant is used in traditional medicine by Indigenous peoples where it grows in North America.

*Calycanthus floridus* is found in the eastern United States from Florida to New York. *Calycanthus occidentalis* (California sweetshrub) is native to the West Coast. It grows taller and has light-coloured flowers without the pleasant fragrance.

While I was travelling in Tennessee and North Carolina where *Calycanthus floridus* grows in the wild, I only managed to see it in cultivation. It was stunningly taller – over three metres (10 feet) – than I ever expect it to grow in my colder, southern Ontario climate. It’s a very adaptable plant that, according to the North Carolina State University Extension website, “withstands cold and heat, insect and disease pests, fire and deer browsing.” It grows easily in almost full shade,

although it may need water, especially during droughts. It would be a good shrub to use around other plants that you want to protect from browsing deer and rabbits, and was

*Calycanthus floridus* has many common names, including common sweetshrub, strawberry shrub, sweet betsy and sweet bubbly bush. Can’t you just see granny rocking on her porch enjoying the scent of the sweet



often used for hedges in early colonial days. It associates in the wild with another of my favourite fragrant Carolinian shrubs, sweetspire (*Itea virginiana*), and Carolinian trees such as tulip tree (*Liriodendron tulipifera*) and cucumber magnolia (*Magnolia acuminata*).

ILLUSTRATION BY KIMBERLI DU

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## **The Blazing Star is . . .**

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# NANPS News

## **PLANT SALE**

Thanks to the huge popularity of our online spring plant sale we are bringing it back for the fall. Only trees and shrubs will be available for sale and these will be posted at [nanps.org](http://nanps.org) from late August to September 12. Pickup will be on Saturday, September 25. Details posted at [nanps.org](http://nanps.org).

## **Webinar: Plant Selection for the Birds**

Thursday, September 9, 2021, 7 – 8:30 p.m.

This presentation will introduce simple design principles that enhance the attractiveness of the garden landscape for birds in all seasons. Presenter Kevin Kavanagh is the owner of South Coast Gardens and Consulting and the author of articles and book chapters celebrating Canada's wild places and the rich plant life of the Carolinian zone. Registration information available at [nanps.org/category/all-speakers-workshops/](http://nanps.org/category/all-speakers-workshops/).



*Leaf-cutter bee on Campanula rotundifolia (harebell)*

PHOTOGRAPH BY DEBORAH CHUTE

## **NANPS Annual General Meeting**

Saturday, October 23, 2021, 1 – 3 p.m.

Visit [nanps.org/agm](http://nanps.org/agm) for details.

## **Ontario Trillium Foundation Grant**

NANPS is pleased to announce that our application for an Ontario Trillium Foundation grant was successful. The grant allowed us to hire three part-time staff until year's end. Ali Hayes is assisting with communications, Micah Adler with our Salesforce database and Andrea Rosen with the website.

# NANPS 2021 Native Plant Garden Video Contest

Thrilled with the success of our first video contest last year, we are doing it again. The contest is open to anyone in North America, individual or institution.

## To enter:

1. Submit a short video of your native plant garden (three minutes or more) to [nanps@nanps.org](mailto:nanps@nanps.org).
2. Videos must be submitted in MP4 format.
3. All videos will be shared on our Instagram and Facebook accounts. A group of volunteers/board members will decide on the semi-finalists.
4. We are looking for ecological integrity, storytelling, native plants, wildlife habitat certification and usage of the garden by wildlife (butterflies, bees, bats, amphibians etc.).

## The 2021 prizes:

1st Place Individual \$150, 1st Place Institution \$150, 2nd Place \$100, 3rd Place \$75, 4th Place \$25.

## Deadline:

Submissions will be accepted until September 1, 2021. Semi-finalist videos will be featured at our virtual AGM on Saturday, October 23, and the top five finalists will be selected by AGM attendees through an online poll.

**Our heartfelt thanks to Chungsen Leung for the donation in memory of his wife, Deborah Chute, which helps fund our native plant video contest.**



*Io moth caterpillar feeding on Canada plum (Prunus nigra)*

PHOTOGRAPH BY MIKE SMITH



Common whitetail dragonfly in fall garden

PHOTOGRAPH BY SAYEH DASTGHEIB-BEHESHTI

## Letter to the Editor

Dear Irene,

Thank you so very much for the article in *The Blazing Star* on the video contest finalists. It made me feel so good to know that there are so many native plant leaders throughout Ontario who are initiating and spreading the love of our indigenous plants through their communities.

I feel a sense of a positive, growing

movement. With all the doom and gloom we hear about biodiversity loss, this article was a welcome antidote. The 2021 contest is sure to bring even greater success.

On another topic, my councillor, Paula Fletcher, is on the committee to review the Grass and Weeds Bylaw. I have had several discussions with her staff and learned that they were unfamiliar with Doug Tallamy's work. I have read his latest book (*Nature's Best Hope*) and will be passing it on to

Councillor Fletcher's office.

Thanks again,  
Melanie Milanich  
Toronto, Ontario

**Editor's note:** Catherine Goddard, who wrote the City Bylaws article in the spring 2021 edition, responded: "It is a good reminder that connections need to be made and education pursued! (And long-held beliefs and practices upended!)"

# A Sedge For All Seasons

by Paul O'Hara

It's been almost 25 years since I worked in the Science Department at the Royal Botanical Gardens (RBG) in Hamilton, Ontario. I was fresh out of school and eager to learn more about plants in the wilds of my home. My supervisor was RBG field botanist Tyler Smith, now plant taxonomist at Agriculture and Agri-Food Canada. Tyler was a schooled botanist and true "sedgehead," whereas I had gone the college forestry route and was cutting my teeth on R.C. Hosie's *Trees in Canada* and Soper and Heimberger's *Shrubs of Ontario*. Heading out into the woods with Tyler was a bit comical; while I was staring up into the canopy, Tyler was looking at the ground.

At first I was a little perplexed by Tyler's fascination with the genus *Carex*. Sedges seemed so small and insignificant. They weren't obvious plants like trees and shrubs and, to my untrained eye, they all looked the same. As I learned more about the flora of southern Ontario I soon realized that sedges had just as much personality as the trees and shrubs that I was enamoured with and, if I wanted to be a well-rounded field botanist, I couldn't ignore them anymore. With over 150 species in southwestern Ontario alone, learning to identify sedges can really test your patience. But like Tony Reznicek, the authority on North American sedges, says: "You only have to know when you are seeing something different." Of course, that still requires getting to know some of the more common sedges in our natural habitats.

It's not surprising that so many sedges make great garden plants. First of all, they are tough as nails, easy to propagate and take well to container stock. Secondly they green up early in the season, stay green late into the fall and add much-needed texture to the garden. Thirdly sedges are valuable wildlife plants, as their nutty seeds and bountiful leaves provide food and cover for many birds, small mammals and insects. And finally, there are sedges for every habitat that you can think of, from forests, swamps, meadows, prairies, bogs, fens and disturbed woodlands to saline roadsides. So when I started designing and building native plant gardens I incorporated sedges into my designs.

Naturally, the most desirable sedges for gardens are the tufted or cespitose sedges (the ones that grow in clumps) as opposed to sedges that spread by rhizomes (the turf-forming ones).

For gardens with soils of average moisture, there are several dozen clump-forming sedges to choose from.

Wide-leaved woodland sedges are popular in the native plant nursery trade. **Plantain-leaved sedge** (*C. plantaginea*) is a common, easily recognizable woodland sedge. It flowers in early spring and the leaves have an evergreen quality. **Broad-leaved sedge** (*C. platyphylla*) grows on dry wooded slopes and crests in southern Ontario. Often dainty-looking in the wild, it puffs up into bold, blue-green rosettes in



Plantain-leaved sedge (*Carex plantaginea*) in flower in early spring.



Fruiting clumps of plantain-leaved sedge (*Carex plantaginea*) growing with foamflower (*Tiarella cordifolia*) and Christmas fern (*Polystichum acrosticoides*) in Paul's home garden.

PHOTOGRAPH BY PAUL O'HARA

PHOTOGRAPH BY PAUL O'HARA

PHOTOGRAPH BY PAUL O'HARA



The tidy clumps of James's sedge (*Carex jamesii*) growing under a white ash (*Fraxinus americana*) near St. Thomas, Ontario.

PHOTOGRAPH BY PAUL O'HARA



A clump of black-fruited sedge (*Carex eburnea*) at the top of the photo growing with starry-false Solomon's seal (*Maianthemum stellatum*), prickly-pear cactus (*Opuntia cespitosa*), moss phlox (*Phlox subulata*) and pussytoes (*Antennaria neglecta*) in Paul's home garden.

gardens where there is less root competition. I've grown the rare **Carey's sedge** (*C. careyana*) from seed and have tried it in gardens. It's another wide-leaved woodland sedge similar to *C. plantaginea*. The only wide-leaved sedge that I haven't grown is **white bear sedge** (*C. albursina*) and I've never seen it in the local native plant nursery trade. Its glossy, deep green leaves are a common sight in rich forests, especially along the Niagara Escarpment, but I've never been there at the right time to catch the seed before it drops. I collected a little seed this past spring and am looking forward to propagating it and trying it out in some gardens next year.

Other tufted, clump-forming sedges that make great garden plants:

**Early-fruiting sedge** (*Carex pedunculata*) is one of the most common sedges in our local forests and a real winner for gardens with shady conditions. With red-based culms and a tidy growing habit, I believe it should be a core species of woodland gardens in southern Ontario.

The thin, bright green leaves of **stellate sedge** (*Carex rosea*) work well in a variety of garden conditions and provide good contrast to the darker greens of most other garden plants.

**Common woodland sedge** (*Carex blanda*) is a super-tough sedge and an excellent addition to almost any garden from dry to moist and shade to sun. It can form large clumps and spreads readily by seed for those with a tight garden budget.

**Meadow sedge** (*Carex granularis*) is a common sedge with blue-green foliage and corn-cob spikelets. It grows in meadows and open woodlands, so it can tolerate garden conditions in full sun provided there is adequate moisture.

I've grown and planted the uncommon **James's sedge** (*Carex jamesii*) several times in clients' gardens. It's a small, tufted sedge similar in size to *C. pedunculata* and a superb addition to any woodland garden.

For moist to wet garden conditions (wet depressions, ditches and ponds) in full to part sun there are many upright, clump-forming sedges to choose from, including the **sturdy fox sedge** (*Carex vulpinoidea*), the beautiful **Bebb's sedge** (*C. bebbii*), the common **awl-fruited sedge** (*C. stipata*), the spiky **porcupine sedge** (*C. hystericina*) and the tall **tussock sedge** (*C. stricta*). For the same conditions in shade to part sun, I would try the graceful **fringed sedge** (*C. crinita*) and the handsome **Gray's sedge** (*C. grayi*).

Great turf-forming sedges:

**Black-fruited sedge** (*Carex eburnea*) is excellent in rock gardens and as a groundcover. It forms a low, shaggy

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carpet. It's always a treat to see it in the wild where it grows on slopes and under conifers, especially white cedar (*Thuja occidentalis*).

**Pennsylvania sedge** (*C. pennsylvanica*) is an attractive, turf-forming sedge for woodland gardens and dry shade conditions under trees.

If I had a ditch, pond or wet hollow on my property I would certainly try **lakebank sedge** (*C. lacustris*) or **northern beaked sedge** (*C. utriculata*). Both are striking, robust species that forms large stands in marshes and thicket swamps.

Most native plant nurseries carry many of the species mentioned above; sedges are even gaining popularity with conventional nurseries. But sedges are also easy to grow from seed. The perigynia (essentially the seeds, consisting of the achene and the sac that surrounds it) of most woodland sedges ripen in late spring (mid-May to mid-June), ready for collection. For wetland sedges, the perigynia are ready for picking in early to mid-summer. Sow the seeds immediately in a tray outside and cover it with netting so that squirrels and other critters don't dig in it. The seeds will germinate the same year or come up the following spring, ready to be pricked off into pots.

When collecting seed, make sure to take no more than 10% of any population. And *please* don't dig plants from our natural areas. The forests of southern Ontario – in fact

the forests of the entire continent – have already been battered from the canopy right down to the ground by disease, invasive species, overgrazing, trampling, poaching, habitat encroachment and habitat destruction. Don't contribute to the decline of our forests by being just another two-legged greedy-guts. Instead, please use every opportunity to educate yourself and others about ways to protect our forests and wetlands and the critical need to do so.

While doing fieldwork with Tyler Smith all those years ago I watched how gingerly he walked among the sedges and wildflowers, being careful not to trample anything. And I've seen veteran field botanists like Tony Reznicek and Steve Varga wear old sneakers when walking through wetlands; they would rather get soakers than stomp through swamps and marshes wearing big rubber boots or chest waders and risk damaging these sensitive habitats any more than they have to. Now more than ever – with more people and their dogs venturing out into the wild during our pandemic lockdown – we all need to learn to walk more lightly on the land and do our part to help restore ecological function in our built landscapes.

Sedges are perfectly suited to the task. They are the great workhorses of our herbaceous flora and should be part of every garden and restoration project. Try out a few in your garden. With a little study and coaching, you might get the sedge bug like I did over 20 years ago. Happy sedging!

*Paul O'Hara is a writer, field botanist, landscape designer and native plant gardening expert. His first book, A Trail Called Home: Tree Stories from the Golden Horseshoe, was published in 2019 by Dundurn Press.*



PHOTOGRAPH BY PAUL O'HARA

*A running joke among botanists is that if you're going to have sex in the wild it should be on a shag carpet of black-fruited sedge (*C. eburnea*), pictured here on a ravine slope in Dundas, Ontario, in early spring.*



PHOTOGRAPH BY PAUL O'HARA

*The mace-like spikelets of Gray's sedge (*Carex grayi*).*

# Moss-covered Rock Ecosystems

by Don Scallen

The Niagara Escarpment is a ridge of rock dating from the Silurian age over 400 million years ago. It extends from western New York through southern Ontario into the Upper Peninsula of Michigan and then southward into Wisconsin before ending near the Wisconsin-Illinois border. Niagara Falls, the most recognizable landscape feature associated with the escarpment, tumbles over a precipice along the Niagara River between Lakes Erie and Ontario.

Dolomitic limestone, or dolostone, provides a hard, erosion-resistant cap to the ridge and, on much of the escarpment, dominates the surface. The difficulty of farming this rocky terrain has had the salutary effect of leaving much of the escarpment in a relatively natural state compared to the agricultural and urban landscapes surrounding it. In Ontario, the Niagara Escarpment is designated by UNESCO as a Biosphere Reserve.

Hikers along the Bruce Trail, an 890-kilometre (550-mile) footpath along the Niagara Escarpment in Ontario, know this caprock well. Thrusting up from the ground along many parts of the trail, it can make walking a challenge.

Where shaded, the dolostone is usually cloaked in moss. Several species of mosses colonize limy boulders.

Robin Wall Kimmerer, author of *Gathering Moss*, “has come to see the world through moss-colored glasses.” Kimmerer writes eloquently about the ecology and enchantment of mosses. She lauds their ability to colonize microhabitats where other plants can’t live, like the surface of rock. This adaptive genius relies in part on chlorophyll that “is fine tuned to absorb the wavelengths of light that filter through the forest canopy,” and the sponge-like, water-retaining capabilities of mosses. Kimmerer explains that mosses grow on stumps, rocks and cliff faces to rise above the

smothering blanket of autumn leaves in deciduous forests. On such emergent objects, mosses “are the undisputed masters of their chosen environment.”

Although trees drop leaves that can smother earth-bound moss, trees are also necessary for most mosses to survive because they slow the evaporative action of wind and sun. “Mosses must be awash in moisture for the alchemy of photosynthesis to occur,” writes Kimmerer.

Mosses transform rock surfaces into hospitable habitats for many other plants and animals, playing a keystone species role. Multitudes of tiny invertebrates, including mites, springtails and nematodes, find shelter in mosses. So do the uber-survivalist tardigrades, or water bears: in experiments they have shrugged off radiation, dehydration, extreme temperatures and even exposure to outer space.

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PHOTOGRAPH BY DON SCALLEN

Moss-covered boulders along the Bruce Trail at Belfountain, Ontario, in early April.

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All these tiny creatures, in turn, support other animals, including shrews, songbirds and salamanders.

Mosses on rock support a thriving fauna, but they also provide a growing substrate for a wide variety of woody and herbaceous plants. Kimmerer and her research assistant Aimee Delach explored the seed-capturing ability of a moss in the *Polytrichum* genus. Unlike most mosses, the *Polytrichum* species the biologists studied can grow on rock exposed to bright sunlight. The study site was one tailings field of an old iron mine in New York state. Here Kimmerer and Delach found that when “the aspens at the edge of the mine released their cottony cloud of seeds, which blew freely across the bare tailings but were trapped by the moss turf, they caught like cat hair on a velvet sofa.” Delach went on to sow a variety of different seeds in the moss and, to answer the question as to whether the moss was simply acting as a protective substrate, also in carpet that closely resembled the structure of the moss. Seeds didn’t sprout in the carpet but “in every experiment, with every species, [Delach] found that seeds grew and survived best when living in partnership with the moss.”

Another study from the University of Copenhagen examined the benefits that moss bestows on other plants growing on limestone alvars. Kaj Jan Jensen, a professor of freshwater biology, and his student Kathrine Jul Hammer concluded that “cushion mosses and cushion size play a critical role in this resource-limited limestone environment by offering an oasis of improved water and nutrient supply to the colonization and growth of plants.”

On the Niagara Escarpment, the moss growing on rocks in the shade of deciduous trees also nurtures other plants. Like the moss in the Delach-Kimmerer study, this moss-on-rock provides a matrix to capture the seeds and spores of woody and herbaceous plants and serves as a substrate for those plants to grow on. No doubt the

moss on escarpment rock also provides moisture and nutrients that assist the growth of those plants.

But I propose that the colonization of moss-covered rock by other plants is a complex affair. Despite the benefits that accrue to seeds that germinate in the boulder moss, there are limiting factors. Moss in these microhabitats provides only a thin biotic film over the rock it covers. This puts larger plants at a disadvantage because they have little substance to sink their roots into.

So, while the seeds of many different plants germinate in moss on rock, only



*Bulblet fern unfurling*

PHOTOGRAPH BY DON SCALLEN



*Walking fern*

PHOTOGRAPH BY DON SCALLEN



some of those plants will thrive in that setting. Others, like trees and large shrubs, may sprout on moss but eventually die, presumably from lack of resources.

The term *vernal-pool obligate species* describes a cast of animals that rely on seasonal spring ponds for their reproductive cycles. These include spotted salamanders and wood frogs, creatures that capitalize on the fact that the vernal pools dry up in late spring or summer. Laying eggs in a temporary aquatic environment would seem a questionable strategy as the pond could dry up prior to larval metamorphosis. However, predatory fish can't exist in such ponds and that makes the gamble worthwhile.

Similarly, various species of plants capitalize on the fact that larger plants can't grow well in moss-rock habitats. Notable examples include maidenhair spleenwort (*Asplenium trichomanes*) and walking fern (*Asplenium rhizophyllum*). Shade and competition are reduced, and the moss provides the shallow-rooted ferns with the substrate, moisture and likely the nutrients to permit growth. Walking fern, at least, could be called a "moss-rock obligate species." Just like wood frogs and spotted salamanders need vernal pools, it needs moss-covered rocks to flourish.

To extend the analogy, many species of vernal pool organisms, including



*False Solomon's seal demonstrating reduced size compared with plants growing on the forest floor, but it still blooms.*

spring peepers and red-spotted newts, can flourish in other aquatic environments. These animals are known as facultative vernal pool species. They "elect" to use vernal pools, but are not restricted to those habitats.

A similar situation exists with moss-rock habitats. Common polypody, otherwise known as rock cap fern, (*Polypodium virginianum*), though usually found on moss-covered rock along the Niagara Escarpment, can also grow on mossy stumps and in other settings. I'd consider it a moss-rock facultative species. Another moss-rock facultative fern species is the lovely bulblet fern (*Cystopteris bulbifera*). The early-spring red stripes

or stalks of these ferns are a joy to behold. Later, the long slender fronds cascade down the sides of moss-covered boulders on the Niagara Escarpment. Bulblet ferns also grow on the forest floor, but can easily exploit the moss-rock habitats.

Many species of wildflowers that grow in moss-rock also grow in the soil of the forest floor. However, these "facultative" moss-rock species, like ant-pollinated wild ginger (*Asarum canadense*) and glossy-leaved Canada mayflower (*Maianthemum canadense*) can achieve some of their best growth on moss-covered rock, again likely due to decreased competition from larger plants and greater exposure to light.

Several other woodland herbaceous plants could be considered facultative moss-rock species able to flower and fruit on those surfaces, but usually stunted in comparison with their kin on the forest floor. The reduction in size likely results from the lack of available organic matter in the moss-rock interface. They are like houseplants constrained in growth by small pots. Common examples of this diverse group include the hummingbird magnet wild columbine (*Aquilegia canadensis*), false Solomon's seal (*Maianthemum racemosum*), early meadow rue (*Thalictrum dioicum*), hairy Solomon's seal (*Polygonatum*



*Wild ginger*

PHOTOGRAPH BY DON SCALLEN

PHOTOGRAPH BY DON SCALLEN

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*pubescens*), the diminutive herb robert (*Geranium robertianum*), both hepaticas, round-lobed and sharp-lobed (*Anemone americana* and *A. acutiloba*), and various violets (*Viola* spp.).

The bonsai-like characteristics of some of these moss-on-rock wildflowers makes them particularly appealing. Wild columbine, reduced in size on moss-covered rock, is a lovely thing, its red-yellow flowers highlighted against the rich green mosses.

Many of the facultative species of moss-rock plants find small clefts in the dolostone where organic matter has built up over the years. Despite sinking their roots into these organic reservoirs, I suspect they remain dependent on the moss, which acts as living mulch, protecting the colonizing plants and the organic matter they're growing in from drying out. Even plants with sizable rhizomes, like trilliums (*Trillium* spp.), find space in the moss-covered fissures to grow and flower.

While the rock clefts appear necessary for many plants to survive in the moss-rock habitat, small plants, including the aforementioned ferns and wildflowers, grow simply by spreading their roots under the moss mats. Their needs are met by nestling their roots into the moss-rock interface.

For obvious reasons, I didn't want to pull up any of the native ferns or small flowering plants (such as wild ginger) to examine their roots, but I did extract non-native common dandelions (*Taraxacum officinale*) from the moss matrix. Dandelion tap roots typically sink deep into the earth, but these plants hugged the contours of the rock below the moss, sometimes growing horizontally along that interface.

While moss-rock habitat is inhospitable to trees, presumably because they need more root space to grow, some shrubs thrive in these settings. Perhaps most prominent in



Red elderberry

PHOTOGRAPH BY DON SCALLEN



Smooth Solomon's seal

PHOTOGRAPH BY DON SCALLEN

the southern Ontario section of the Niagara Escarpment that I explore is red elderberry (*Sambucus pubens*). This shrub flourishes on mossy boulders, blooming and fruiting vigorously. To grow large, its roots eventually must find the humus-filled clefts of the rocks. *Sambucus pubens* obviously has attributes that allow it to thrive in minimal soils, anchored in place by seemingly precarious root holds. Whatever these attributes are, they allow red elderberry to colonize habitats that are generally hostile to other shrubs, including the dry, shady duff layer of dense pine and spruce plantations.

Mossy rocks are unique

microhabitats, suppressing the growth of many plants including trees, but in turn providing opportunities for some of our most exquisite ferns to thrive. Kimmerer's poetic take on this is "ferns give thanks to moss." I would add that small wildflowers like wild ginger and Canada mayflower do as well. Moss-covered rocks add complexity, diversity and wonder to the woodland environment.

*Don Scallen dove into nature as a little boy and has remained immersed ever since. He's a birder, butterfly gardener, fish watcher, herp enthusiast and native plant aficionado. He recently published a book called Nature Where We Live.*

# Restoring Biodiversity One Person at a Time

Homegrown National Park™ is a “grassroots call-to-action to restore biodiversity and ecosystem function by planting native plants and creating new ecological networks.”

Homeowners, churchgoers, farmers, schoolteachers, children – anyone who has access to a plot of land – are urged to contribute to ecosystem health and restoration by removing invasive plants and growing native plants. The initial goal is to create 20,000,000 acres (8,000,000 hectares) of native plantings in gardens, school grounds, places of worship, cemeteries, golf courses, industrial parks, commercial greenspaces and more. This represents approximately half of the green lawns of privately owned properties in the United States. The intention is to extend national parks into the places where people live and work, providing humans, insects, birds and all manner of native fauna with the diverse, highly productive ecosystems needed to thrive.

The destruction of habitat, whether for development, resource extraction or the creation of endless monoculture lawns or unnaturally maintained gardens, has seriously diminished biodiversity and compromised the ability of ecosystems to produce oxygen, purify water, control flooding and pest infestations, convert sunlight into food, build and protect topsoil, and remove atmospheric carbon. Homegrown National Park addresses this urgent global crisis with a simple, science-based solution that has tangible, measurable results. Entomologist Douglas Tallamy, author of the iconic book *Bringing Nature Home* and its sequel *Nature's Best Hope*, and co-founder of Homegrown National Park™, says that gardens must now take on the role of habitat restoration and “support life, sequester carbon, feed pollinators and manage water.” A tall order, but the initiative is going strong less than a year since its launch in October 2020.

Through an online platform and signature map, the initiative informs,

engages and helps people get started with native plantings. The map is a “dynamic, interactive, community-based visual” that shows each person’s contribution to planting native by state, county and zip code. Seeing their positive efforts recorded on a country-wide map brightens spirits disheartened by all the bad ecological news and may well encourage people to do more to protect the environment. To date, there have been over 9,596 entries on the map ([homegrownnationalpark.org/the-map](http://homegrownnationalpark.org/the-map)), representing over 21,500 acres (8,700 hectares) from all 50 states. With support from the David Suzuki Foundation, Canada will soon be added to the map.

The project’s tag line, “Start a new **HABITAT™**,” highlights a vital cultural shift, where more and more humans enter into a collaborative relationship with nature. Visit [homegrownnationalpark.org](http://homegrownnationalpark.org) to learn more about the initiative, offer financial support or sign up for the newsletter. As co-founder Michelle Alfandari says, “By acting now, you can help preserve the precious wild things that preserve us – a must, not just for future generations but for us here and now.”



*The backyard of Joy Stewart and Larry Hannemann in Bristol, Tennessee before planting.*



*The yard was planted with natives to protect water quality and provide wildlife habitat.*

Plantings can introduce surprise, anticipation and entertainment into our landscapes and they have health benefits. We are entering the “ecocene” era where we have the ethical and ecological will to sustain life.

– Doug Tallamy, *Your Role in Building Biological Corridors: Networks for Life*



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## New & Noted

### *The Nature of Oaks: The Rich Ecology of Our Most Essential Native Trees*

Douglas W. Tallamy

Timber Press: Portland, Oregon, 2021  
197 pages

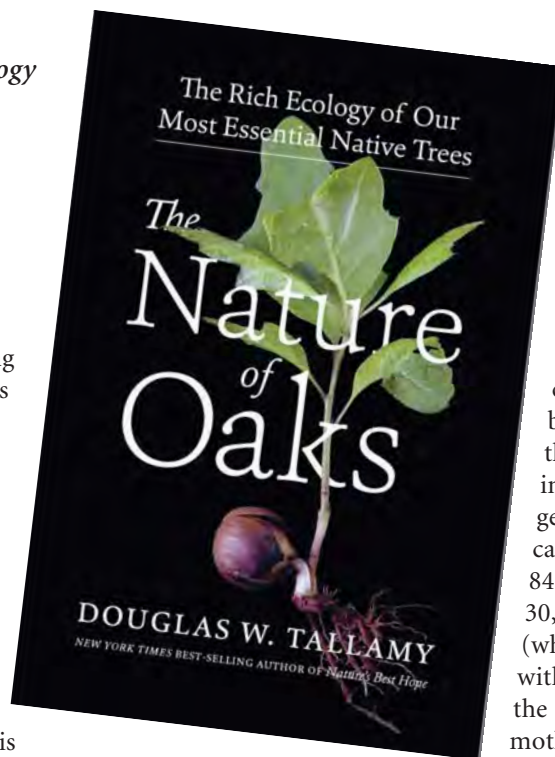
Douglas Tallamy's *The Nature of Oaks* delivers the engaging, highly readable prose for which he has become justly famous. With not one iota of "dumbing down" the complex ecological concepts or simplifying faunal arcana, he manages to render science accessible for those of us who fell asleep during high school biology. Senses dulled by poorly conveyed nature nuggets will snap to attention with each page.

I approached this book already a committed Tallamy fan (who isn't?!), though somewhat dubious about the subtitle's claim of any tree being "most essential." (I'm more of the "all is essential" school of ecological thought, and besides, how can scientists know enough about the unknowable complexity of the planet to make such a claim?) Yet I was swayed by the fourth page of the prologue: "Oaks support more forms of life and more fascinating interactions than any other tree genus in North America."

What follows is a month-by-month tour of all this life, through the lens of leaves, flowers, acorns and roots, based on Tallamy's own experience of planting oaks in his four-hectare (10-acre) yard in Pennsylvania. If one phrase captures the guiding ethos of this exploration, it is a sense of wonder. Tallamy has the mind of a scientist, the eyes of a naturalist and the ears of a wordsmith. Often, these complementary skills unite in one elegant moment, such as when he writes "In effect, caterpillars are repurposed leaves that can walk."

Tallamy conveys a huge amount of information and, in the best tradition of science and nature writing, weaves highly specific details seamlessly into a compelling narrative. It's hard not to read this book without covering pages in Post-It notes or pencil markings to highlight favourite bits. Here are some of mine:

Fifty percent of the diet of chickadees in winter is insects (page 34). Of the caterpillars for which host data (i.e., what plants they can eat) is known, 86% confine their larval development to plants within three families (page 37). The most numerous animals on earth are nematodes: one square metre of leaf litter and soil humus can contain more than 1,000,000 nematodes (page 52). A mature oak drops roughly 700,000 leaves each year (page 53) and 70 moth species eat dead, rather than live, oak leaves (page 54). A 50-millimetre (two-inch) rainstorm drops more than 245,000



litres (54,000 gallons) of water per four-tenths of a hectare (one acre) (page 56). In Tallamy's area, oak pollen, which is highly allergenic, is on the wind only for a few days at the end of April (page 68). In a study that compared native and non-native hedgerows, there were 68% fewer caterpillar species, 91% fewer caterpillars and 96% less caterpillar biomass in the non-native hedgerows than Tallamy and colleagues recorded in native hedgerows (page 74). In general, birds don't eat hairy caterpillars such as gypsy moths (page 84). A mature tree can host 20,000 to 30,000 cicada nymphs on its roots (where they suck xylem as they grow) without harm (page 90). Oaks support the development of 897 species of moths in the United States (there may be more, as these are the known

interactions) and 33 species of butterflies and skippers in their larval stage (page 96). More than 90% of species that use oaks drop from their host tree after they've completed larval development, and then they either pupate underground or make their cocoons in the leaf litter under the oak (page 146).

While there is plenty of accessible information, what grounds (literally) the book is Tallamy's framing around his own landscape. He does this in such an inspirational way that by the end of the book, you'll be collecting acorns and planting like a squirrel. If you think you don't have enough room for an oak, Tallamy ups the ante by urging you to plant 10! (Their social roots will knit together, creating strength and preventing windfalls.)

Tallamy is enduringly upbeat, so one depressing fact in the epilogue really stands out: "The percentage of oaks in eastern forests has dropped from 55% pre-European settlement to 25% today." But such is the incredible value of this book: Tallamy's legion of readers just might reverse this trend, thanks to the inspiration and information this wonderful book provides.

*Lorraine Johnson has been writing books about native plant gardening for close to 30 years. Her perennially popular 100 Easy-to-Grow Native Plants for Canadian Gardens is now in its third edition.*

## New & Noted

### *Tree*

by Melina Sempill Watts  
2017, Change the World Books, 240  
pages  
ISBN 978-0-9976921-1-2

It is not our practice to review novels in *The Blazing Star* but this book, simply titled *Tree*, deserves attention. More than a memorable addition to the small canon of environmental literature, it reaches into the mind and heart of a California live oak (*Quercus agrifolia*). As it ages over centuries, the tree witnesses, responds to and participates in the plant, animal and human world around. Blending magic realism, ecological science and social history into a tender tale, Melina Sempill Watts draws on her childhood experiences speaking to and, yes, listening to the voices of trees.

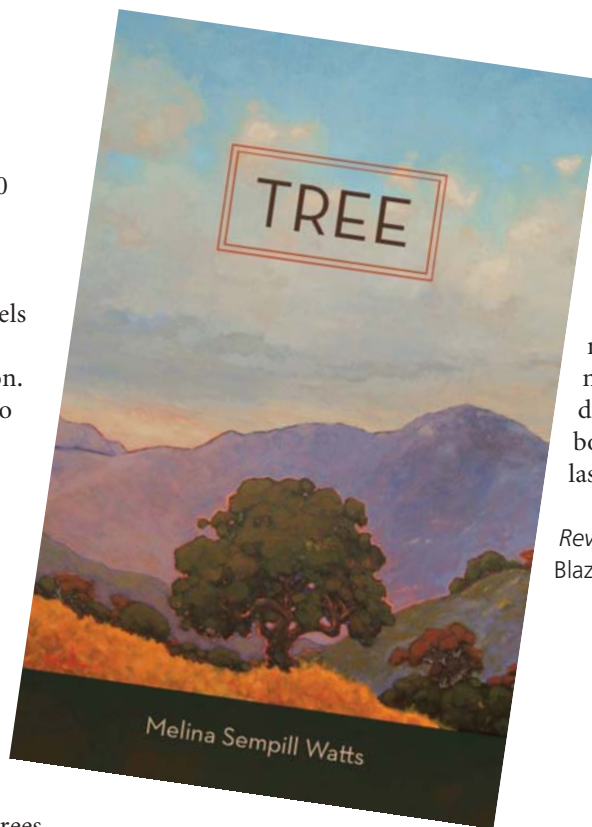
The oak grows from a sapling revered by local Indigenous peoples for the acorns it will produce to a young tree that sees the arrival of the first Spaniards and the immediate impact this has on the local environment. Their cattle and pigs not only trample and root out native species, but the people deliberately sow the seeds of familiar European plants to guide their way in the unfamiliar landscape. Both immediately wreak havoc on the fragile ecosystem.

“The first rain after the visit of the foreign men and long-necked deer, many new things happened. Plants no one had ever known came up in the meadow, a cosmos-altering side effect of the most innocuous thing imaginable, the horses’ dung. From feed grain to gut to ground came soft green wild oats, eager European rye, Timothy grass, alfalfa and wild radishes.

Something else arose as well – a path of light bright yellowish green, composed of new sprouts. It began across the creek and then extended along the side of the creek and away up towards the hill... With sun and time and more water, these new plants grew like proverbial weeds.

Mustard.... Underneath the ground, their roots gave off a pungent oil which irritated and disgusted the local grass and flowers so much that they gave ground and would not share dirt with this new plant.”

As the oak ages, the book moves into the story of a young woman of Spanish descent who loses her mother and siblings to cholera. Wandering the hills, locked in tenacious grief, she settles under Tree, who is physically affected by the girl’s deep sorrow. Tree responds with great compassion, startling her, but initiating a profound lifelong communication, at once verbal and physical, between them.



In the end, it’s not human greed that kills the tree but a lack of understanding. As development overtakes the Santa Monica Mountains, Tree’s tribe of native grasses, forbs and other woody plants is replaced by an artificially maintained foreign landscape. The magnificent oak dies an untimely death, breaking the heart of a young boy. Tree’s final words: “Only love lasts. Grow. Plant an acorn.”

Review by Irene Fedun, editor of *The Blazing Star*.

## SEND US YOUR SEEDS

To harvest native plant seeds and share them with others is one of the most significant ways of contributing to biodiversity restoration. Welcome to the NANPS annual seed exchange! For tips on how to harvest, visit

[nanps.org/seed-collection-reaping-what-you-sow](http://nanps.org/seed-collection-reaping-what-you-sow), then send your seeds, separated by species and identified with the

source/parentage, to NANPS Seed Exchange, Box 69070, St. Clair P.O., Toronto, Ontario, M4T 3A1.

Of course, you should take no more than 10% of a population, whether you are collecting seeds from your garden plants or from the wild. Seeds will be distributed on a first-come, first-served basis to anyone who requests them, although seed donors get first pick!

*Thank you!*



Eastern redbud seeds (*Cercis canadensis*)

PHOTOGRAPH BY DEBORAH CHUTE

Continued from page 1 – **Carolina Allspice**

bubby shrubs in her hedge?

Several decades ago, when I had a gardening business, I spotted *Calycanthus floridus* on a plant availability list and found a home for it in a client's garden. It was planted in a wet, shady spot where I hoped it would add fragrance and year-round interest. My company was focused on caring for gardens, which allowed me to observe the plant over the years. I was delighted to see it thriving with virtually no maintenance. It produced suckers and grew to two metres (six feet). The few flowers that appeared were not conspicuous (no hort prizes here!). However, they were notable for their unusual colour – mahogany brown or burgundy – with strap-like petals (actually sepals) unfurling from a solitary bud at the tip of new growth. The sweet, resinous fragrance wasn't strong but was quite pleasant and distinctive. I suspect that further south in its Carolinian range, the shrub's fragrance would be enhanced by warmer weather. Many people writing about this plant suggest you not purchase it unless you have a chance first to smell the blooms, as there is great natural variability in the fragrance.

It was a wonderful surprise to discover the unusual, large, dark brown, fig-like seedpods (achenes) on a trip to my client's garden in late fall. Here's a bonus: the great garden marauders, squirrels, do not show any interest in these hard, dry "fruits," which hang on the branches until spring. Although I have tried to germinate the seeds, I've had no success yet. It might be easier to transplant the rooted suckers, but this method would not increase gene pool diversity, which should be a goal of native plant gardeners.

*Calycanthus floridus* would be a great addition to a garden, even north of its native range. The species is not often available in nurseries in southern Ontario, so anyone wanting to buy native plants grown ethically should check with native plant



*Chrysalid on Carolina allspice shrub at the University of Guelph Arboretum.*

nurseries or tell conventional growers that they do not want cultivars, which are of little value environmentally since they do not support insects. Cultivars are often cloned (meaning

that all plants are genetically identical) and bred for specific, usually decorative, characteristics that appeal to the people buying the plants, not wildlife.

If your

Carolina allspice gets too dense or tall for a garden setting, it can easily be pruned after blooming to keep it in check. With its opposite growth it can be difficult to respect the plant's natural shape when pruning, but it responds rapidly and may even rebloom. Of course, in a native restoration project, the shrub should be allowed to grow undisturbed, offering birds great nesting opportunities. The shiny, deep green, ovate-shaped leaves are rarely eaten and turn a lovely gold in fall.

Carolina allspice adds spice to a garden in every sense of the word!

*Catherine Goddard has retired from her gardening business in Toronto and established her own native plant habitat project during pandemic lockdown while volunteering with local native plant groups. She encourages gardeners to*

*purchase their plants from native plant nurseries – visit the North American Native Plant Society website, [nanps.org/commercial-growers/](http://nanps.org/commercial-growers/), for a listing by region.*

PHOTOGRAPH BY CATHERINE GODDARD



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