

# The Blazing Star



A PUBLICATION OF THE NORTH AMERICAN NATIVE PLANT SOCIETY

## Native Plant to Know

# Showy Orchis

*Galearis spectabilis*

by Madison Woods

At the base of an ironwood tree (*Carpinus caroliniana*), on a densely wooded north-facing slope in an Ozark forest in Arkansas, I found one of the most beautiful wild orchids I'd ever seen. It was only the second time in 15 years of tramping through our woods, observing the flora and fauna, that I'd seen one like this. The first time, a decade ago, was in a different location that I was sadly never able to find again. With this latest find, I was pleased to note several immature pups surrounding one mature, blooming orchid.

Two large, smooth, green leaves embraced a flower spike that rose from the centre. Three inches (eight centimetres) up on the sturdy, smooth stem were delicate flowers of white and pinkish-purple hues, each about an inch (25 millimetres) long. The flowers were hooded by rosy pink upper petals. Those petals weren't joined, but arched together to form the hood. Beneath each hood waggled a creamy white lower lip (known as a labellum) with ruffled edges and a long spur that ended in a knob. Smaller leaves sprouted beneath each of the flowers as they whirled to the top of the stem.

I discovered later that this elegant forest flower is *Galearis spectabilis*, commonly known as showy orchis

(plural: orchises), showy orchid or purple hooded orchid. A perennial monocot of the Orchid family (Orchidaceae), it is indeed one of the showiest orchids I've seen. The technical term *orchis* refers to orchids whose roots are fleshy, tuberous and anchored in the ground (as opposed to onto trees) and whose blossoms have a spurred lip.

The one I encountered, while beautiful, wasn't as pigmented as some I've seen in photos. The hood colours can range from deep purple to very pale pink, with creamy white to stark white sepals.

Showy orchids love the shady, moist deciduous forests of eastern North America, ranging from southeastern Oklahoma to eastern South Dakota and north to Maine and Minnesota, then further north to Canada's

Quebec, Ontario and New Brunswick. They are frequently found on forest slopes rich in loamy soil with a humus detritus layer covering the ground. They appear less often on south- or west-facing aspects, which are less likely to possess the necessary qualities. However, the first one I spotted so many years ago was on a slope that received a lot of afternoon shade from



ILLUSTRATION BY MADISON WOODS

Continued on page 14

## The Blazing Star is . . .

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## NANPS HAPPENINGS

### Rewilding the Veggie Garden: Native Plants as Companions and Pollinator Powerhouses

Webinar presentation by Janice Keil

Thursday, May 27, 2021, Time: 7 p.m.

Janice Keil has been a professional educator and passionate gardener for over 30 years. She became an organic agriculture activist growing up on her family farm detasseling corn and through her work in the agricultural sector. As a NANPS director she began to wonder why native plants could not be used as companions for vegetables instead of the traditional nasturtiums and marigolds. This webinar will help native plant lovers and veggie gardeners explore an area of research that is calling out for cross-pollination!



*Round-lobed hepatica* (*Hepatica nobilis* var. *obtusa*), an early spring bloomer, in Sayeh Dastgheib-Beheshti's Toronto garden.

PHOTOGRAPH BY SAYEH DASTGHEIB-BEHESHTI

### PLANT SALE

Given the huge popularity of our spring plant sales, the NANPS Plant Sale Committee has decided to offer pre-ordering with curbside pickup this year. The cutoff date for ordering is May 21, 2021. Please visit [nanps.org](http://nanps.org).

### Garden Video Contest

Our first garden video contest last fall was a resounding success (read all about the high points and challenges faced by the contest winner and finalists on page 4), so we're bringing it back this year.

Participants are asked to submit videos that show how they have transformed their yards or gardens into native plant habitats with high biodiversity. The most inspiring submissions will be shared at NANPS 2021 AGM this fall.

Keep an eye on our website, [nanps.org](http://nanps.org), for details.



*Christmas fern* (*Polystichum acrostichoides*) unfurling

PHOTOGRAPH BY MIRIAM HENRIQUES

# In Memoriam: Stephen Roy Johnson 1957-2021

Ellen Stephenson Johnson described her son, Stephen, as an inquisitive and creative child who loved to learn and could entertain himself by reading and observing nature. These passions would sustain Dr. Stephen Johnson throughout his all-too-short life, contribute to the global store of botanical knowledge and protect fragile ecosystems. They would also provide fodder for countless articles for *The Blazing Star* during the past decade.

Virginia Commonwealth University, where Stephen earned his MSc, awarded him inclusion in the 1990 Phi Sigma Biological Honor Society; Kansas State University, where he earned his PhD in biology, honoured him with the John C. Frazier Award for Outstanding Botanical Research in 1993.

During his distinguished career, Stephen worked on ecosystem preservation as a wetlands botanical consultant in Virginia, a postdoctoral research scientist at the National Wetlands Research Center in Lafayette, Louisiana, and a biology professor covering a wide range of topics at post-secondary institutions in Virginia and Iowa.

Stephen may have recently discovered a new species of bee in Iowa. His colleagues and friends, who are continuing his research, have noted that if the bee is shown to be a separate species, it will be named after him. He certainly welcomed bees and all manner of creatures into the wildlife sanctuaries he created in his front and back yards.

His long-time partner, Mary Stark, who wrote many articles for *The Blazing Star* with Stephen, recalled his last weeks: "Each day the illness of ALS seemed to take something new away from Stephen, but he was resilient, resourceful and accepting. He enjoyed his home of 23 years and created his own refuge in Pella, Iowa. He loved the natural history artifacts that he could share with classes or give to people who might treasure a seashell. He was comforted by each room of his



PHOTOGRAPH BY MARY STARK

*Stephen Johnson taking photographs at the Prairie Learning Center in Prairie City, Iowa.*

sanctuary, which held books ranging from ecology to cultural anthropology, art, history, Russian folktales, Shakespeare and Dickens. When he could no longer walk, stand or move, he was patient and encouraging with his caregivers. When he could no longer hold a book, he quoted books, movies, songs and television comedies that continued to serve as companions. When he could no longer draw, he imagined. When he could no longer sing, he listened to his eclectic collection of music or imagined the

music in his head. He was grateful that he could still whisper to communicate and celebrate moments. As his mother noted, her son was indeed a joy."

Our deepest condolences to Mary, Ellen and Stephen's family and friends. We will miss his lively articles, photos and illustrations. If you wish to honour his memory, donate to The Friends of Big Rock Park at [friendsofbigrockpark.org/](http://friendsofbigrockpark.org/) or to the Stephen Johnson Memorial through [paypal.com/donate?hosted\\_button\\_id=ZW4PA4HNUA93Q](https://www.paypal.com/donate?hosted_button_id=ZW4PA4HNUA93Q).



PHOTOGRAPH BY STEPHEN JOHNSON

*Megachile mendica bumblebee on Echinacea purpurea (purple coneflower)*

# Insights from NANPS Video Contest Finalists

by Irene Fedun

The question is “What is supposed to grow here?” It’s not “What do I want to grow here?” Sayeh Dastgheib-Beheshti, NANPS 2020 Native Plant Video Contest winner, came to that realization very slowly. Born and raised in Iran, she grew up in a vastly different plantscape, always loving nature, growing plants from all corners of the world, indoors and out. But when she immigrated to Canada, she learned the importance of planting native plants. Later, when she enrolled in the Faculty of Environmental Studies at York University, her understanding deepened. “I realized that changing the landscape to native plants was not just an ecological act, but also a question of recognizing colonialism and how cultures were eradicated and history rewritten,” says Sayeh. By gardening with native plants, she realized that she might help reverse, to a small degree, the radical landscape changes initiated by European colonization that have profoundly affected wildlife and First Nations.

My interviews with the contest finalists revealed insights and ideas they couldn’t possibly cram into a few minutes of video, but were well worth exploring.

Sayeh is an industrial designer with a multidisciplinary background and a strong social and environmental conscience. She believes that valuing nature should be the fundamental principle behind everything we do. The economy should not be the driving factor for making decisions; instead it should be treated as a subset of the environment, if we hope to have a sustainable future. In a variety of ways – from volunteering as a layout artist for *Women and Environments* magazine to giving timely presentations such as “Designing a Post-pandemic, Sustainable Future” – Sayeh seeks to educate others. Gardening she does for fun ... but also for the positive learning experiences it

offers her family, friends and neighbours. As shown in her video, there’s a lot going on in her garden, but this energetic woman always finds more to do.

For example, she participates in the Bees in My Backyard project launched in 2018 by the David Suzuki Foundation in collaboration with the University of Toronto Scarborough.

The project aims to discover more about solitary bees in urban habitats (some 360 species of native bees are known to live in Toronto) by providing nesting tubes for the bees to lay their eggs. Every two weeks, the homeowner takes a photo of the tubes and makes note of plants blooming in the garden at that time. At the end of the project the nests are returned and



*Bumble bee on cutleaf coneflower (Rudbeckia laciniata) in Sayeh’s garden*

PHOTOGRAPH BY SAYEH DASTGHEIB-BEHESHTI



*Jagged ambush bug on Canada goldenrod (Solidago canadensis). Sayeh often sees ambush bugs on different plants in her garden.*

PHOTOGRAPH BY SAYEH DASTGHEIB-BEHESHTI

samples of pollen are taken from each nest to identify the bee species and learn more about its habits. Just one of many fascinating projects that draw Sayeh's friends and family into the sanctuary that is her native plant garden.

Soon after Mike Smith embarked on his project to help restore forest cover in the municipality of Chatham-Kent, Ontario, he realized that his property simply wasn't large enough to sustain the breadth and depth of his nascent ambition. He promptly sold his home, found a 1.15-acre (.46-hectare) lot in North Buxton with a house and three mature silver maples (*Acer saccharinum*) and launched into the mammoth task of removing non-native rose of Sharon shrubs (*Hibiscus syriacus*) and the "crispy" hedge of blue spruces (*Picea pungens*) along the driveway. He peppered the huge lawn with 700-plus native saplings, including seven species of oaks (*Quercus* spp.), shrubs such as bladdernut (*Staphylea trifolia*) and black chokeberry (*Aronia melanocarpa*), and pit and mound features to diversify soil moisture conditions – in just the first year. Mike also created a rain garden, smothering a section of lawn with cardboard, compost and mulch, and planting such moisture-loving species as bottle gentian (*Gentiana andrewsii*) and great blue lobelia (*Lobelia siphilitica*). But this is only the beginning. (Look for the full article about Mike Smith's exploits in the fall 2021 issue of *The Blazing Star*.)

Mike is hatching new restoration plans for his own property and local conservation authority lands and parks. What's more, he documents his ideas, accomplishments and challenges on the Facebook and Instagram pages of an organization he founded called



Bottle gentian (*Gentiana andrewsii*) in Mike's rain garden

ReLeaf Chatham-Kent, where he encourages others to share their planting joys and trials. To date, over 600 people have joined. The inspiring stories posted reflect the enthusiasm for planting native species of the group's founder. Mike says, "It's all sunshine and rainbows, people planting trees and having a great time." One of his greatest pleasures comes from hearing members' successes through their social media posts...like this one.

Lorraine Chambers-Meredith, an enthusiastic birdwatcher, had moved onto a farm between Chatham and Thamesville surrounded by fields with very little habitat for wildlife. She says emphatically, "I needed trees!" Lorraine began planting not only trees, but also shrubs and wildflowers on one-tenth of a hectare (one-quarter acre) near the house and barn. Her friends gave her their discarded Christmas trees to act as cover and her husband gave her wooden pallets to pile close to the feeders – this brought in some birds, but she wanted more. She stumbled upon the ReLeaf CK Facebook page and was rewarded with

great advice and valuable connections. Since then, she has been posting excitedly about the monarch butterfly eggs successfully hatching into caterpillars on her swamp milkweeds (*Asclepias incarnata*), the goldfinches and house finches feeding on her sawtooth sunflower seeds (*Helianthus grosseserratus*) and the other birds visiting her ever-expanding wildlife haven. Lorraine happily acknowledges the help and encouragement she has received from the ReLeaf CK community, especially Mike, "a great leader with lots of good ideas."

Laura Tipton, whose garden in Whitchurch-Stouffville, Ontario, is featured in a blog on the LEAF (Local

Enhancement and Appreciation of Forests) website, "created a prairie/oak savanna-like garden, against the norm of her entire street/neighbourhood," says Christian Skublak, the mastermind behind the video contest. It all started for Laura when she attended a seminar put on by York Region touting the benefits of rain barrels and native plants. When she lost her mature ash (*Fraxinus* sp.) to the emerald ash borer, then lost the replacement tree she purchased from a nursery, Laura turned to LEAF. She figured they could help her select a native tree that would thrive in her compact and seasonally flooded clay soil. From there, it didn't take long for her to replace her lawn with more trees, shrubs and flowering plants – all indigenous to the Greater Toronto Area. She created a bountiful ecosystem regularly visited by birds, pollinators, toads and children.

Having grown up in a yard with a beautiful mature tree, Laura wanted a similar experience for her child. "My daughter hops on stumps, collects

Continued on page 6



PHOTOGRAPH BY LAURA TIPTON

Laura Tipton's daughter collecting rocks in her garden with a backdrop of black-eyed Susan (*Rudbeckia hirta*), swamp milkweed (*Asclepias incarnata*), blue lobelia (*Lobelia siphilitica*), sideoats grama (*Bouteloua curtipendula*) and a slippery elm tree (*Ulmus rubra*).



PHOTOGRAPH BY LAURA TIPTON

A friendly metallic green sweat bee!

roly-polies (pillbugs), makes flower art, eats wild strawberries (*Fragaria* spp.) and chokeberries (*Aronia melanocarpa*), looks at animal tracks in winter and more! She makes concoctions out of anise hyssop (*Agastache foeniculum*) and bergamot (*Monarda fistulosa*), builds fairy houses and has seen hummingbirds whiz past. She has her own little patch of natives and annual flowers where

she can plant, pick or play with anything she wants! Connecting my child with nature was definitely part of my plan, as well as simply creating a place for nature to exist. The amount of biodiversity we see in our little suburban plot is astonishing," says Laura happily.

Michele Conlin was frustrated by her lack of success planting cultivated

plants at her new Peterborough, Ontario, home. Even the lawn was a disappointment. No doubt it had nothing to do with her green thumb, but the poor quality of the soil, a dispiriting combination of clay and sand left over from construction projects. Her son, Basil Conlin, a freelance science communicator and naturalist, offered to plant a native plant garden on the L-shaped corner lot. He sweetened the deal by promising to weed it regularly!

Although he'd never gardened before, Baz was no botanical novice. He knew that the landscape before colonization had been a mixture of grasslands and bur oak (*Quercus macrocarpa*) savanna, and that remnants of those ecosystems still thrived in surprising places. Baz had, after all, participated in the ambitious restoration of tallgrass prairie and black oak savanna on the Rice Lake Plains. He was well connected to the ecosystem restoration community in southern Ontario, having volunteered with the Kawartha Land Trust and other conservation groups. Grow Wild! Native Plant Nursery in Omemee, Ontario, even donated the majority of the plant plugs for his personal restoration project.

Baz discovered several species of asters (*Symphyotrichum* and others), grey goldenrod (*Solidago nemoralis*), Indian grass (*Sorghastrum nutans*) and other natives in the park across the road from his parents' house. A nearby creek supplied him with seeds of wetland species, including pollinator magnets such as blue vervain (*Verbena hastata*) and boneset (*Eupatorium perfoliatum*) ... and the leopard frogs moved in on their own. Plants suited to calcium-rich soils, such as beardtongues (*Penstemon* spp.) or cylindrical blazing star (*Liatris cylindracea*) settled right in to his garden. Often, after smothering the lawn or digging out unwanted cultivars, he simply scattered seed. Baz estimates that 60% of the garden's biomass comes from nearby sources.

The result, three years later, is a garden that's lush spring, summer and fall with over 120 species of trees, shrubs and forbs. It teems with bees, butterflies and other pollinators.

To forestall concerns from neighbours, Baz erected lots of signage, including from the Xerces Society and the Canadian Wildflower Federation, proclaiming the garden to be a pollinator haven. The response from his neighbours has been overwhelmingly positive – four of them have torn up their lawns to create their own wild gardens! To help them along and expand the spread of plants local to the area, Baz is planning to set up a small, free seed library this spring. We wish them all happy planting!

As a self-employed, homeschooling mother of three teenagers, **Kimberlee Adams** is busy. But she still finds time to garden. At her Mulmur, Ontario, property she began exploring her dream of planting an edible forest garden, layering trees, shrubs, vines and herbaceous plants several years ago. Perhaps it was the act of gardening that expanded her environmental consciousness. She slowly came to understand that it would be best to nurture the existing ecosystem rather than introducing plants that did not originate there and might even be harmful. She learned about invasive alien plants and then, horror of horrors, discovered some in her garden. Once she started removing them, while encouraging the native plant “volunteers” and planting more natives, she was hooked.

“I love seeing and smelling the plants, and watching the wildlife that comes,” says Kimberlee. Welcome visitors include butterflies, bees, woodpeckers, mourning doves, chickadees, nuthatches, blue jays, hummingbirds and, this past summer, orioles. She has mixed feelings about the hungry rabbits that eat the tiny trees and shrubs!

Continued on page 8



PHOTOGRAPH BY BASIL CONLIN

*The front of Basil Conlin's garden in late July, with wild bergamot (Monarda fistulosa), common milkweed (Asclepias syriaca), evening primrose (Oenothera biennis) and black-eyed Susans (Rudbeckia hirta) standing out.*



PHOTOGRAPH BY BASIL CONLIN

*Seed collected from showy tick trefoil (Desmodium canadense) growing in a remnant prairie in Peterborough generated into healthy plants in Basil Conlin's garden.*

Continued from page 7

Kimberlee made a video for the contest because “I wanted to win a free membership in NANPS. For years I thought about joining NANPS, but kept spending my budget on plants!” In her first video, the sound and picture quality were “not great” so she scrapped it. But the week before the deadline, she remembered a slideshow program she had used before and gave it a try. Her family provided “much-appreciated positive feedback and technical support.” And the result won her accolades from the contest committee. They enjoyed the virtual tour, but Kimberlee’s friends, neighbours and husband (who left a message on her Facebook page!) have enjoyed seeing, smelling and even tasting the real thing!

When Dylan Muileboom graduated from the Niagara Parks School of Horticulture, he launched his dream business, a native plant landscaping company. Naturally, some clients wanted a few cultivars or non-native edibles and Dylan was okay with that, but he refused to plant invasives or use chemical pesticides. Five years later, when he and his wife, Cassandra, were starting a family, Dylan took on a steady position with the Niagara-on-the-Lake Parks Department, part of which involves working on formal gardens. When he comes home though, he relaxes among the birds, bees and butterflies that appreciate the thriving ecosystem he has created.

When Dylan and Cassandra moved into his grandparents’ venerable old house in 2013, they began recreating the gardens. He kept his grandfather’s roses and a few treasured trees and shrubs, but has otherwise transformed the yard into a native plant haven. Dylan takes into account basic design elements – planting large swaths of a given species, strategically incorporating different heights and textures, staggering the plantings for successive blooms – then he relinquishes control. “I want it to look



Clump of yellow lady's slippers in Dylan Muileboom's garden

like a slice of nature in an urban setting,” he says. “I don’t want to be bound by other people’s perceptions.”

A one metre (three foot) square planting might include prairie smoke (*Geum triflorum*), a low-growing, evergreen, April-to-May bloomer at the front of the bed, with hairy beardtongue (*Penstemon hirsutus*), also an evergreen low-grower, nipping at its heels, followed by the slightly taller foxglove beardtongue (*Penstemon digitalis*) blooming white in June. Delicate little bluestem (*Schizachyrium scoparium*) also comes into flower in June, but sparkles rich red in the fall. Summer bloomers would be pale purple coneflower (*Echinacea pallida*) and the bright orange, monarch-hosting butterfly milkweed (*Asclepias tuberosa*). Rounding out the season would be a variety of asters.

A self-proclaimed “garden rebel” and plant collector, Dylan would love to have every plant native to Ontario, including the species at risk, growing in his yard. Living at the northern end of the Carolinian species range, he feels comfortable incorporating plants that originate in the northeastern United States (especially as the effects

of global warming are being felt in plant communities). One of his prize plants is a three-metre (10-foot) tall cucumber magnolia (*Magnolia acuminata*), an endangered species that occurs only in the southernmost parts of our province, purchased at the NANPS sale a few years back. A fellow plant sale volunteer from New York State had dug it out of his garden. Dylan, who takes great care to buy his native plants only from reputable growers (or gathers the seed himself from wild places), was happy to know the provenance of this young tree.

Dylan also has a stunning stand of yellow lady’s slipper (*Cypripedium parviflorum*), another species at risk. The plants were grown by the late Richard Woolger, NANPS fern aficionado, who gave Dylan his propagation notes (sadly mostly illegible). Although orchids can be notoriously difficult to grow, this limestone-loving, dry soil-tolerant *Cypripedium* does well for the Muilebooms. Dylan propagates the plants vegetatively and has given many away. Not all survive, but some are still blooming years later, such as his aunt’s healthy eight-year-old clump.

In addition to taping the NANPS native plant garden video featuring Dylan and his treasures, Cassandra has created a podcast called Boom Gardens, [anchor.fm/boomgardens](https://anchor.fm/boomgardens). A labour of love, it teaches listeners how to reconnect with nature and learn about our planet one native plant at a time. Follow their gardening progress on Instagram [@boomgardens](https://www.instagram.com/boomgardens).

Pleased as poppies with the interest generated by NANPS’s first garden video contest, NANPS Vice-president Adam Mohamed is organizing the 2021 contest. He’s quite certain that this year’s participants will have just as much to offer as our inspiring 2020 native plant gardeners.

*Irene Fedun is the editor of The Blazing Star.*

PHOTOGRAPH BY CASSANDRA MUILEBOOM



# City Bylaws: Still Plaguing Native Plant Gardeners

by Catherine Goddard

Incredulous. That is how I felt when I realized that the perfidious official persecution of native gardens was still going on in the City of Toronto and elsewhere. For more than three decades homeowners have been defending their native gardens against the enforcement of outdated grass and weeds bylaws. Most gardeners whose cases have been settled in a court have won, but sometimes after long and expensive legal proceedings. It is hard to imagine how the city can justify this expenditure of time and public funds, especially in the midst of a deadly pandemic and a climate crisis. Indeed, the native species in these gardens were often planted as part of a personal effort to help reverse the environmental damage done, to restore habitat that has been lost and to give sanctuary to endangered native plants. All goals aligned with the city's policies.

I attended a webinar presentation and round-table discussion in December 2020 entitled "Barriers, Bylaws and the Biophilic City: Advancing Natural Gardens and Native Plants in Our Cities." (See a video of the webinar at <https://ecologicaldesignlab.ca/communications/videos/>.) The Biophilic Cities Network, which Toronto recently joined, was created to "inspire people and cities to incorporate nature more explicitly into design and planning decisions, and connect local citizens and leaders with like-minded people and initiatives."

The discussion was hosted by the Ecological Design Lab of Ryerson University and included Ryerson University professor Nina-Marie Lister, author Lorraine Johnson, environmental lawyer David Donnelly and two guest panellists, author Mark Cullen and Patricia Landry, Horticulture and Natural Environment Officer for the City of Toronto. They discussed how to overcome challenges to the creation



PHOTOGRAPH BY LORRAINE JOHNSON

*Nina-Marie Lister's meadow garden.*

of a bylaw that is supportive of natural gardens and native plants.

Many of us have heard of the storied battles and legal challenges mounted during the past decades by courageous native plant gardeners defending their plantings, often on city-owned front properties and boulevards, against the City of Toronto. Rather than pay the fines imposed and capitulate to sometimes arbitrary rules, including limiting plant height, these property owners chose to take the matter to court. While a property owner may apply for a Natural Gardens Exemption Permit, thereby sidestepping the bylaw, fines and the possible destruction of their garden, some have chosen not to "knuckle under." When served with a notice of violation by the city, Nina-Marie Lister chose to fight for her plants and garden on principle.

Nina-Marie established a meadow on a slope (who would want to mow lawn there? she reasoned) going down to the city sidewalk in an affluent, mid-city community with large, single-family dwellings. In her meadow garden, she featured goldenrods (*Solidago* spp.), staghorn sumac (*Rhus typhina*), grasses and other pollinator plants. Her case has yet to be concluded but she and her lawyer, David Donnelly, seem confident that, once again, the city's

grass and weeds bylaw will be ruled "unlawful" and unenforceable.

Neighbours obviously appreciated Nina-Marie's efforts since several of them left "love" notes at her house. They offered encouragement, support and appreciation for her garden. Whoever alerted the city and started the inspection process does not appear to represent the views of the majority. Wonderful! Maybe her natural garden is not "too wild, too messy, too MUCH!"

Lorraine Johnson described the experiences of several native plant gardeners who have come up against Toronto's bylaws and won their right in court challenges to "natural garden", even on the city's property. However, the stories were full of heartache. Lorraine showed pictures of verdant, resilient gardens supporting all manner of life repeatedly mowed to the ground by the city so that the area again resembled the shrivelled lawn wastelands extending for blocks all around. It all seems so senseless and antagonistic to the city's initiatives and grants, which are centered around encouraging biodiversity, native plants and pollinator gardens.

Lawyer David Donnelly explained that this issue has already been ruled on by the Ontario Court of Justice

Continued on page 10

Continued from page 9

(the 1996 Sandy Bell case, which the defendant won). David urged gardeners to “resist” against the city if they are served with notices of violation. He stated that the city’s attempts to “harass, intimidate and enforce” using the grass and weeds bylaw are “illegal.” He also noted that the fine of \$5,000 is one of the highest and most aggressive in all the bylaws. The bylaw is “unconstitutional” and imposes “subjective and arbitrary” conventional values on gardens. He concluded that we all have the constitutional right to express our beliefs through our gardens. David added that the work of amending the bylaw is underway and he feels we are close to a solution to this long-standing problem. (Lorraine and Nina-Marie are part of a group proposing changes to the bylaw.)

Mark Cullen expressed shock that we are still discussing this bylaw 30 years later! It’s up to homeowners to choose – lawns or pollinator plants. Both are acceptable. He was dismissive of the city’s use of the bylaw to restrict property owners’ choices: they would not try to limit people’s choices on other matters, such as art preferences. It’s all about aesthetics and subjective judgements. Mark feels that manicured landscapes and perfect, weed-free lawns are valued by “prisoners of the past” and that the arguments for biodiverse, native gardens are compelling.

Patricia Landry, a long-time City of Toronto horticulturist, is charged with overseeing the bylaw officers’ observations and rulings on gardens throughout the city. She noted that the grass and weeds bylaw these officers are enforcing is only one of many and they have little knowledge of horticulture. Patricia gives them a brief training session. She is often conflicted in her professional role and mitigates the strict enforcement of the bylaws by connecting with homeowners, sometimes working with them so they can meet the expectations of the officers who



PHOTOGRAPH BY DOUGLAS COUNTER

*Planted with moisture-loving native species and designed to slow and absorb surges of stormwater runoff (removing pollutants before the runoff enters a nearby creek and then Lake Ontario), Douglas Counter’s stormwater infiltration garden in the city-owned boulevard ditch was the subject of a precedent-setting court case against the City of Toronto (Counter v. City of Toronto, 2002). It was the first time a court in Canada ruled that natural gardening on public property is expression protected by Section 2(b) of the Charter (freedom of expression clause).*

have served them with their violation notice. Patricia sometimes advises the bylaw officers as they inspect gardens and make their decisions. She pointed out that the Exemption for Natural Gardens available to Toronto gardeners is apparently unique to our city. Patricia considers it part of her job to educate and convince the public about the value of naturalizing and using native plants in urban green spaces. She hands out brochures that the city and others produce promoting pollinator gardens and native plants. She suggested that the new bylaw be named the Biodiversity Protection Bylaw. In response to a question, she explained that, as the majority of land in the city was privately owned, the city needed some means of controlling and enforcing certain measures, rather than simply taking the grass and weeds bylaw off the books.

During the webinar, a listener asked what constitutes a harmless “derelict garden” versus a green space that has “health and safety issues.” Some plants that cause allergies, for example ragweed (*Ambrosia artemisiifolia*), and alien invasive plants should be eradicated. But the threat posed by the existing bylaw can create a disincentive for planting a more natural garden or making a lawn more diverse. It is counterproductive to the actions the city supports with

education and funding, encouraging individuals, private and public organizations to establish native and pollinator gardens on any available land, public and private. Conflicting and confusing policies.

Lorraine Johnson brought up property and real estate values, concerns that often drive discussions around urban green space aesthetics. She noted that all the lands in and around the city were stolen from Indigenous peoples and the value of the land needs to be measured in non-monetary ways, namely its ecological value.

Sports facilities and dog owners are just a couple of the interests that compete with the desire for more naturalized areas. The lawn care industry and gardening product manufacturers, who have a stake in promoting high-maintenance gardens and weed-free lawns, were not mentioned in this webinar, but they are powerful sectors.

I now know who to call and what to do should my gardening efforts be rebuffed by my municipal government! I’m off to start my seeds. We gardeners are eternally optimistic.

*Catherine Goddard is retired from her gardening business in Toronto and is relishing a chance to begin her own native plant garden projects.*

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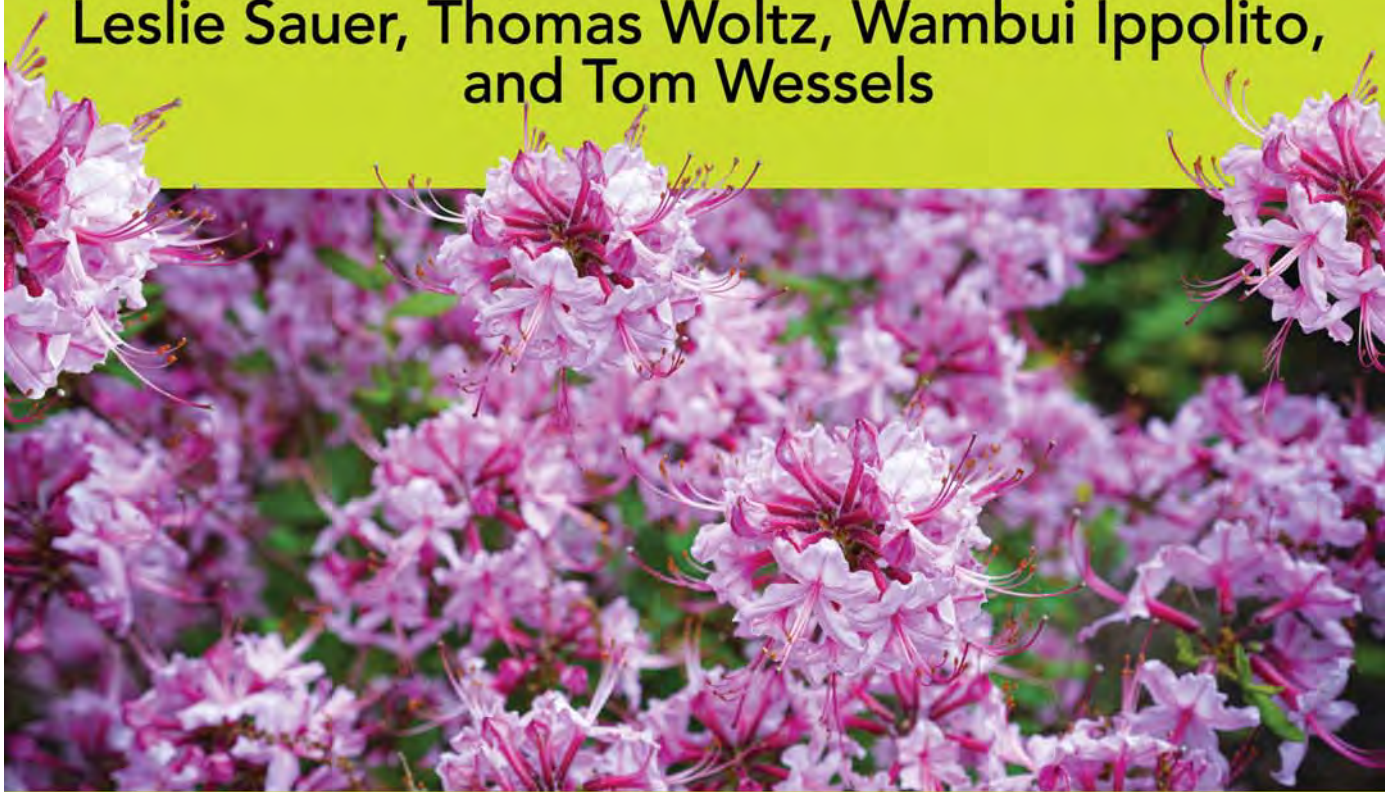
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# People and Nature

by Larry Weaner

Virtually all lands where people plant and manage vegetation have been significantly altered by human activity. In North America forests were logged, prairies were ploughed and development still occurs over ever-expanding areas. As a result of these activities, layered soil horizons have been homogenized, soil biota have been diminished, erosion and siltation have dramatically changed the character of floodplains and stream banks, hydrologic patterns have been altered and variable topography has been levelled. Predictably, these and many other changes have reduced the diversity of the flora and fauna that existed before European colonization. Equally predictably, gardeners with an interest in native plants, wildlife habitat and the general ecological health of the world in which they live are seeking to restore that diversity. The obvious solution is to plant lots of native plants. The precise associations between our native flora and fauna have been well documented; we are learning to think of plants and wildlife as an interdependent web. But that web is larger than just terrestrial flora and fauna. And due to the activities I described above, much of it is missing.

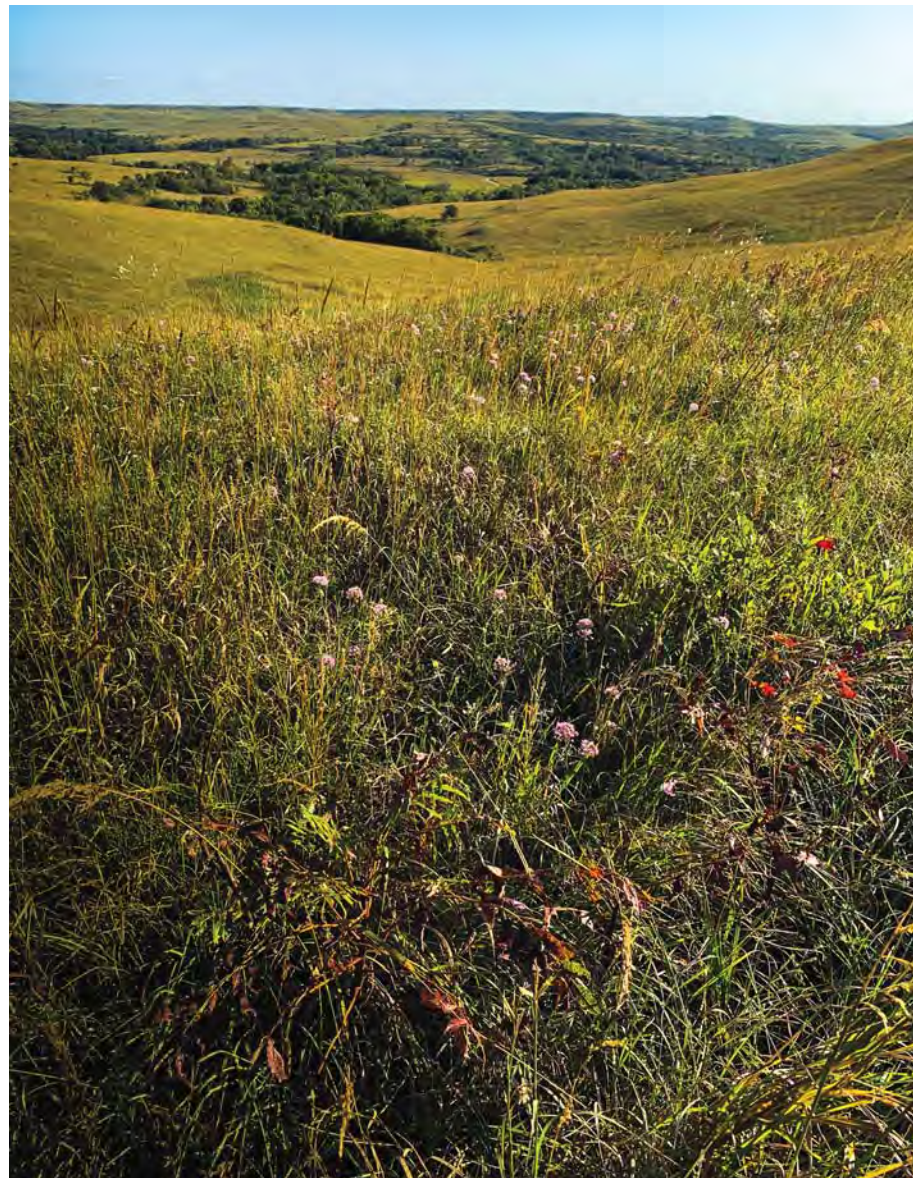
Restoring the native landscape in the exact locations and precise community associations that existed prior to European colonization is not possible in the physical landscapes where we typically garden. Why not? Gardeners have successfully grown plants, exotic and native, in conditions that differ from their native habitats for years. A little compost, a little fertilizer, a little weeding, and you have a thriving garden, historic disturbance be damned. Why should increasing the use of native species for their ecological benefits make the endeavour any harder? Because of one factor – scale – and the near impossibility of returning the topography, hydrologic patterns and so on to their original state. Still,

much can be done.

Plant an *Aronia arbutifolia* (chokeberry) at your mailbox and you may have fed a bird or two. Plant a thicket of *Aronia* around the perimeter of your property and you might feed a whole flock of birds. Influence your whole community to do the same and you could have a multi-flock migration stop on your hands. Achieving a meaningful increase in habitat value requires a meaningful increase in the square footage that native plants occupy. A

quarter-acre lawn may be considered small, but it becomes significant if replaced with a meadow, particularly if that meadow is planted and maintained in a traditional manner, including frequent weeding sessions. How do we make it manageable? Plant it with site-adapted native species in their historic community associations to form highly weed-suppressive compositions.

In 1491, before Europeans showed up and behaved in the landscape like bulls in a china shop, these native



The 8,000-acre (over 3,000-hectare) Konza Prairie in the Flint Hills of Kansas remains today because the "poor soil" was too difficult to plough.

PHOTOGRAPH BY LARRY WEANER

plant communities could have developed spontaneously. These days, native plants need our help to overcome the obstacles that Euro-style land use has created. A daunting task at any scale, let alone on the countless acres of monocultural lawns and in the woods and fields choked with invasive plants that we would like to transform.

Is it possible for people to operate in the landscape in a manner that co-exists with, or even engenders, a thriving and balanced ecological system? Not only can it happen, it has happened... historically, at least. But to learn how, we need to look beyond the European agricultural and horticultural traditions that have dominated the North American landscape for several hundred years.

When the first European explorers set eyes on the American landscape they assumed, as we did until recently, that the landscape was a product of “pure nature.” Sure the “Natives” were present, but they only practised hunting, gathering and small-plot gardening, activities that would not

likely affect the landscape on a macro scale, didn't they? Turns out these assumptions were very wrong.

Research by ethnobotanist M. Kat Anderson on the land management practices of Native Americans prior to European colonization reveals that they managed the entire landscape of what is now California. Remarkably, they did this with no heavy equipment, no herbicides and no university-level ecological restoration programs. In her book *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources* (2005), Kat Anderson describes how Native Americans who returned to Yosemite National Park, their former tribal lands, in the early 1900s would comment that the land was “unkempt” because no one was “tending” it.

Over thousands of years Native Americans had developed an array of highly sophisticated techniques to interact with the landscape in a manner that both served their needs and allowed for resource regeneration and renewal. The use of strategic

burning over large areas has become widely recognized, but many other highly precise and targeted techniques were also practised. Wild vegetation was influenced through seed collection and distribution, plant division, interplanting with wild plants and manipulations to the natural vegetative changes that Western science now calls “ecological succession.”

Burning was often used in a precise manner and for a particular goal. For example, acorns, an important food source for First Nations, were often despoiled by larvae that emerged from leaf litter in spring. Native Americans would select an oak (*Quercus* spp.) from which they planned to harvest acorns the following year, burn the leaves underneath it in the fall and destroy the eggs that would have hatched the spring larvae. The crop was thereby preserved.

These techniques may provide modern practitioners with additional tools for their ecology-based landscape efforts. For example, contemporary

Continued on page 14



PHOTOGRAPH BY LARRY WEANER

The Eunice Prairie in Louisiana is a restoration of the “lost” prairies of Louisiana and Mississippi. Reintroduction of fire is the key to its success.

Continued from page 13

ecologist Jeffrey Stringer, in a collection of articles on oak forest restoration entitled *Managing Oak Forests in the Eastern United States*, observes: “Bumper crops are needed so that some of the acorns escape being eaten by wildlife and insects.”\*

Equally important to discard is the idea that, simply because the application of Euro-based land use practices had many negative side effects, all human interactions on the land must necessarily be destructive, including those that occur on the macro-scale. We can't go back to 1491. The landscape has been too much altered for that. But integrating knowledge of historic plant communities with a better understanding of the traditional ecological practices with which those communities evolved can only make us better equipped to plant and manage our way into a new, but healthy, landscape ecology.

*Larry Weaner is a fellow of the Association of Professional Landscape Designers.*

\*It should be noted that in traditional cultures physical interactions with plants and

other aspects of the landscape are often associated with deeper meaning than the use of a resource superficially implies. Also, separating the “practice” from its cultural associations can have its limitations. “Cultural appropriation” is another issue to consider.



PHOTOGRAPH BY LARRY WEANER

*Historic levels of soil disturbance were considered when selecting species for the Virginia meadow planting.*

Continued from page 1 – **Showy Orchis**

a mountain to the west.

Several species of bumble bees pollinate showy orchises. The spur plays an important role in pollination: the pollen package at an opening at the top of the spur awaits eager bees. When the bee makes its way to the bottom of the spur, it finds a drop of nectar in the little knob at the end as a reward for all that hard work.

In the United States, *Galearis spectabilis* is listed as endangered in Maine and Rhode Island, threatened in Michigan and New Hampshire, and exploitably vulnerable in New York. Otherwise, it is considered globally secure. Its species-at-risk status is likely the result of habitat destruction through logging and development, which causes changes in the environment. Shade reduction affects the soil moisture level and ultimately the humusy ground cover necessary

for the plant's critical mycorrhizal companion life. Many orchids are also dug out of the wild by enthusiasts or unscrupulous suppliers for the home garden – a foolhardy and sadly destructive practice since most orchids do not survive transplant from the wild.

There's a reason these orchids are not commonly found in nurseries. As the mature orchid of *Galearis spectabilis* produces its dust-like seeds, they disperse to the ground. The seed provides no nutritional support for the new plant. Its sustenance must come from the mycorrhizae of fungi in the genus *Ceratobasidium*. The fungi convert nutrients from the leaf litter humus into chemicals that will be used by the orchid to grow. This relationship is necessary throughout the life of the orchid. The *Galearis spectabilis* listed for sale through

online outlets are likely taken directly from their native habitats and potted. These plants may live for a short while, but if the transplant location lacks the fungi needed, the orchid will not thrive or even survive.

The fungi associated with prime orchid habitat depend on decaying organic matter, which in turn depends upon the microclimate (cool, moist, shady) and deciduous leaf litter. This ecosystem is not easily reproduced or introduced to different locations. Best leave the orchid where it is and only stop to admire it.

*Madison Woods is a nature-loving artist in northwest Arkansas who uses local pigments to create her watercolour paintings. Visit her website at [wildozark.com](http://wildozark.com).*

## New & Noted

### *Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard*

by Douglas W. Tallamy  
2019, Timber Press, Portland, OR

Douglas Tallamy's earlier book *Bringing Nature Home* (2007) was so persuasive on the importance to wildlife of gardening with natives that, as soon as I finished it, I became a NANPS member and vowed to learn all I could to turn my yard into suitable habitat for birds and insects. Judging from the many glowing mentions of his name in issues of this newsletter, I'm not alone in my admiration for his work.

In *Nature's Best Hope*, Tallamy outlines a wider framework for the same themes. In a concept he calls "Homegrown National Park," he calls on those who own or manage land to join their properties to a continent-wide network of native plantings to support the regeneration of the ecosystem. In his vision, not just private yards but airports, golf courses, college and corporate campuses, even hospitals, are potential biological corridors that knit the natural habitat back together.

Tallamy's central insight is that insects have evolved host plant specializations. It is because monarch caterpillars have evolved both chemically and behaviourally to circumvent milkweed toxins that they depend so much on that family of plants. Without their larval host plants, insect species lack sufficient reproductive habitat, which in turn means insufficient caterpillar biomass, on which birds primarily depend to rear their young, and a poor outlook for bees, which perform "the lion's share of pollination duties."

An award-winning science communicator, Tallamy engagingly explains such concepts as edge effects and introgressive hybridization, but the book is at its best in citing real-world studies, for instance, research showing that a pair of Wilson's warblers brings more than 800 caterpillars to their nest every day until their nestlings fledge. Tallamy generously showcases his students' and colleagues' work, among others Desiree Narango's eye-opening study showing that chickadees achieve replacement rates of breeding only where less than a third of the vegetation is non-native.

Although I had known that, ideally, native plantings should mimic the layered arrangement of natural woods, I didn't know until reading this book that, in part, the layers



provide caterpillars with pupation sites away from their larval host. Also of practical interest is the suggestion that planting several trees close together encourages interlocking root systems that in turn make property-damaging tree falls less likely. Tallamy's professional identity as an entomologist comes through when he exhorts us to know our insects, the better to care for them. I humbly resolve to try harder at this task, encouraged by the stunning photographs in the book, particularly of some spectacular caterpillars!

For a book that audaciously tackles such topics as political tribalism and even human population control, there are some puzzling gaps, not least Tallamy's seeming unawareness of the serious threat posed to birds by glass. He mentions a scarlet tanager with the "annoying habit" of attacking its own reflection in his living room window; he features Margy Terpstra, whose love of birds was kindled by a Kentucky warbler she found, killed by a window strike. Yet he fails to mention preventive window treatments in his list of ideas for a "conservation hardscape," even as he exhorts us to turn outdoor lights off at night to protect moths. Instead of the biographical sketches on Aldo Leopold and E. O. Wilson, which contribute to the book's somewhat slow start, I would rather have read of Tallamy's take on green roofs, which others have seen as potential landing places for migratory birds and insects.

But these are small and even churlish complaints about a book that spreads an urgent and empowering message, that all of us who garden must think of nature as here and now, not someplace else or way back when. And we must act accordingly, so that a dying planet may be brought back to life.

Review by Vicki Soon-Ai Low, copy editor for The Blazing Star.



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