



Since 1923

TORONTO FIELD NATURALIST

Number 662 October 2021



European common blue butterfly. Photo: Lynn Pady. See page 15.

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PRESIDENT'S REPORT

As I step out the door these days, my self-reminders run like this: Mask? Check. Presto card? Check. Two dead cicadas? Check and check. My eccentricities are growing and (my husband has a point), being active in nature groups encourages that tendency. But there is method in my madness. Recent nature outreach events (see page 11) have shown me that the Dog-Day Cicada – that quintessential screecher of Toronto's late summer – needs a publicist. Kids and seniors alike can be amazed to learn what actually makes that infernal racket on hot afternoons; not Hydro lines and not a metal saw. An insect! The two dead cicadas – found on sidewalks – now travel with me to tell their story. “Only males make that sound,” I explain. “To attract females.” “Oooh, are these males?” kids will ask. “How did they die?” They need to know; they are hungry to hear a story.

The cicada's tale is just one of countless nature stories waiting to be told. And, in fact, many Toronto Field Naturalist volunteers have been doing just that as contributors to TFN's Toronto Nature Now project. The weekly radio spot has been featuring local nature stories in partnership with Ryerson Radio for the last two years. You can enjoy any of the 100+ back episodes online at [Toronto Nature Now Soundcloud](#), and new episodes are in the works. Thank you, Susan Grimby, for the lovely cicada episode. Thank you, every nature storyteller able to bring tension, relatable characters, vivid descriptions and exciting twists to their nature story.

Our TFN walk leaders are also skilled storytellers, of course, and it is marvelous to watch them step up. TFN offered its members a total of 19 guided walks this past summer, plus eight more in September, with routes scattered across the city, both on weekdays and weekends. This is impressive, especially for pandemic times, so hats

off to the organizers! Walks are at the core of our mission. Walks deliver those deliciously unpredictable “aha moments” of nature discovery. Walks also allow us to renew friendships, while following masking and distancing rules.

Consider too, how excellent TFN's guided walks are in cutting our carbon emissions. They encourage us to explore nature nearby rather than driving or flying for hours to distant nature hotspots. I don't know that anyone has quantified the avoided greenhouse gas emissions of enjoying nature close to home, but it deserves study. As the need to shrink our carbon footprints grows ever more acute, the value of remnant nature refuges within urban settings will also grow. So it's our job not only to celebrate, but also to protect our remaining corridors of urban nature. And that loops back to the challenge for each of us: to



bravely lean into our story-teller roles on behalf of nature. We may not want to carry dead cicadas around in our back pockets, but we should carry a story, or even two.

Your chance to soak up stories about bird migration is coming up on Sunday, October 3, at 2:30 pm. TFN is thrilled to host Dr Bridget Stutchbury, well-known author and professor at York University, as our guest lecturer. Zoom link <https://tfngo.to/lecture202110>.

Last but not least, a reminder that TFN will hold its virtual AGM on October 14 at 7:00 pm. Let's share the ongoing story of TFN. Please plan to join us. To attend our AGM, visit the “Members Only” Section of our Website.

Ellen Schwartzel
president@torontofieldnaturalists.org

WHAT'S NEW ON TFN'S WEBSITE

Visit today and discover:

- Link to September's Zoom Lecture
- Blog post on Upcoming TNS (Toronto Nature Stewards) Information Sessions
- Over 25 edits and revisions to pages all across the website!

All of this and more is yours at: <https://torontofieldnaturalists.org/for-members/>

TFN OUTINGS

Due to COVID-19 we continue our practice of offering “members only” outings posted on our website. To ensure that groups do not exceed allowed maximums and to facilitate contact tracing should the need arise, members who wish to attend a particular walk must pre-register. This facility opens on the website, at a random time of day, five days before the date of each walk. Walk leaders will have a list of who registered, and only people on the list will be allowed to participate. Before registering, please review all guidelines on the webpage and carefully review walk descriptions for any additional guidelines specific to that walk.

An Archive of Past Walks is being maintained for your enjoyment: <https://tfngo.to/pastwalks>

TO ACCESS OUR WALKS LIST

Visit the “Members Only” Section of our Website

TFN LECTURES

The TFN Lecture Series is being conducted through Zoom technology. On the scheduled date of each lecture, members will be welcomed into the virtual space at 2:30 pm. The host will introduce the speaker. To provide a more engaging and interactive experience, the 45-minute lecture with accompanying visual materials will be presented live, after which the speaker will answer questions from the audience.

The presentation and follow-up question period will be recorded and posted on our website for viewing by all TFN members.

See information about this month’s lecture on the back page.

FOR DETAILS ON

HOW TO JOIN THE LECTURE

Visit the “Members Only” Section of our Website

TO ACCESS THE "MEMBERS ONLY" SECTION VISIT:

<https://torontofieldnaturalists.org/private>

The password was delivered in the email notifying you that the newsletter is available online. If you have misplaced the password you can request it by emailing membership@torontofieldnaturalists.org.

TFN ANNUAL GENERAL MEETING

Thursday, October 14, 7:00 - 8:00 pm via Zoom

All TFN members are invited to join this online event as we share memories of the past year, celebrate our amazing volunteers and donors, and welcome our 2021-22 Board of Directors.

The nominating committee recommends this slate of nominees to the Board for the year 2021-2022:

President: Ellen Schwartzel

Vice President: Zunaid Khan

Past President: Jason Ramsay-Brown

Secretary-Treasurer: Bob Kortright

Directors:

Due to retire in 2022: James Eckenwalder, Bob Kortright, Lynn Miller, Anne Purvis,
Jason Ramsay-Brown, Kayoko Smith

Due to retire in 2023: Donata Frank, Jessica Iraci, Diana Wilson

The TFN Financial Statements for the year ending June 30, 2021 are available in the “For Members” section of our website. If you wish to see these and don’t have internet access, please phone the office and we will mail a copy to you.

To attend our AGM, visit the “Members Only” Section of our Website

EXTRACTS FROM OUTINGS LEADERS' REPORTS

East Don Middle, Aug 3. Leader: Charles Chaffey. The wildflower plantings in the Meadoway hydro corridor are now fully established, making a colourful display dominated by false sunflower and black-eyed Susan, with other species and native grasses; invasives are notably absent. On an evening primrose we saw a female American Goldfinch, apparently feeding. We compared two species that look similar from a distance: Joe-pye-weed with composite flower heads and whorled leaves, and swamp milkweed with five parted individual flowers and opposite leaves. From a bridge over the East Don we saw two Belted Kingfishers perched high in a dead tree. It is disappointing that construction has stopped on the incomplete East Don Trail.

Charles Sauriol Conservation Area, Aug 10. Leader: Zunaid Khan. A leisurely walk through forested, wetland and wildflower meadows by the Don River. Bird sightings included Cedar Waxwings, American Goldfinch, Gray Catbird, Warbling Vireo and Spotted Sandpiper. Black-eyed Susans were in bloom along the new trail extension.

Small's Creek and Monarch Park, Aug 14. Leader: Ellen Schwartzel. A perfect morning for a walk after prolonged heat. Small's Creek flowed quietly in its tree-shaded ravine, dotted with patches of duckweed and winding closely between homes and gardens. Elderberries and witch hazel contributed to the diverse understory. We considered how the tangled undergrowth must surely offer stop-over cover to migrating birds, habitat that will be eliminated by the planned Metrolinx GO Train expansion. The occasional train rattled by – a reminder of the need for underpasses to allow, not just people, but also wildlife safe corridors between the city's remnant natural areas. Handsome trees lined our route through Monarch Park: lindens, Kentucky coffee trees, honey locusts, oaks and also recently-planted dawn redwood. A front garden featuring young pawpaws was an extra treat.

The Meadoway, Aug 21. Leader: Sarah Kotsopoulos (TRCA). This tour of the most established section of The Meadoway allowed us to appreciate the midsummer

blooms of a variety of wildflowers and to learn about meadows and the habitat they provide. We discussed the natural history of meadow plant species and the types of animals found in The Meadoway. Notable highlights included many monarchs, eastern tailed blues, and American Goldfinches foraging. We saw many wildflowers in bloom, including false sunflowers, Virginia mountain mint, as well as native grasses.

Jonesville Allotment Gardens/Meadoway: Bumblebees, Aug 26. Leader: Beth Binnington. A humid morning with temperatures approaching 30° C. We searched for bumblebees in the Meadoway between Eglinton Ave and Victoria Park Ave. This section was seeded with native meadow seed mix in the spring of 2020, and we were impressed with the scope and rapid growth of the planting. Many summer-flowering plants had given way to goldenrods and New England asters, though some remnants of ox-eye daisy, black-eyed Susan and evening primrose remained. Many common eastern bumblebees were observed on goldenrod, and female workers with their loaded pollen baskets were noted. We shared information about Ontario bumblebee species and their biology. Bird sightings included a Downy Woodpecker working on a tall mullein spike, a Cooper's or Sharp-shinned Hawk perched in a tree by the river, and some Common Ravens overhead. Butterflies included several monarchs and a European common blue. In the Allotment Gardens we noted the variety of vegetables and flowers being cultivated, and saw more bumblebees at work.

Glen Stewart Ravine, Aug 28. Leader: Joanne Doucette. It was a great walk with lots of input from the group and much to see, including late summer flowers, animal trails, dens and "track traps" (muddy areas where footprints are clearly visible). We saw a place where a deer had bedded down. I learned some new things: how to identify silky dogwood and sneezeweed. Sneezeweed (*Helenium autumnale*) is not an introduced plant, as I had thought, but native across almost all of Canada except the East Coast.

WEATHER (THIS TIME LAST YEAR)

October 2020

October continued to be changeable and rather cool, with only brief warm-ups. The monthly mean temperature was about a degree below the 30-year average (1991-2020). The average was 10.2° downtown and 9.3° at Pearson Airport. Most of the time, daily highs were in the low teens, while the warmest day was the 23rd with a high of 24.7° at Pearson.

There was a strong cold surge right around Hallowe'en. That morning, downtown had a low of -2.8° and Pearson

had -5.4°. These were the coldest temperatures recorded in October since 1976.

Rainfall was frequent but light and of short duration due to the prevalence of dry northwesterly flow. We had about 54 mm downtown and 60 mm at Pearson, which is slightly below the 30-year average. There was an unusual threat of late-season severe thunderstorms with the warm spell on the 23rd, but they never materialized in any significant way, at least in Toronto.

Gavin Miller

LECTURE REPORT

Catherine Scott, MSc, PhD
Post-doctoral fellow, UofT, Scarborough

While some may be familiar with the movie *Eat Pray Love* starring Julia Roberts, few are likely to know of the phrase *Eat Prey Love*. Presenting from Nova Scotia, Catherine Scott shared three reasons why people should adore spiders: They mainly **eat** insects, they have neat strategies to avoid becoming **prey**, and they are very **loving** parents. Having previously been an arachnophobe, Catherine believes anyone can appreciate these eight-legged creatures (although there is one species with six legs!).

Sporting her spider-themed earrings, Catherine began her talk by noting that spiders are not insects. This is because spiders have only two body segments: a cephalothorax (fused head and thorax) and an abdomen. On the other hand, insects such as ants have three body segments: a head, thorax and abdomen. Spiders also have two appendages called pedipalps. Like antennae, pedipalps help spiders to sense objects. They are also used for shaping webs, capturing prey and feeding on prey. Moreover, pedipalps are useful in discerning whether a spider is male or female. Female spiders tend to have slender pedipalps, while males have tipped pedipalps with modified ends that are important for transferring sperm to the female for reproduction. Catherine describes these modified ends as “turkey basters.” In case the pedipalps are hard to observe, one might also recognize a male by its smaller body size, as spiders are sexually dimorphic (different shapes and sizes between males and females).

Spiders are found in almost every terrestrial habitat except Antarctica. With over 49,000 species worldwide and 1477 in Canada, you can find spiders in the arctic, in deserts of British Columbia and even on Mount Everest! Some spiders even live within books, and there is a very high chance there is a spider in your home at this very moment. From a survey that investigated the diversity of arthropods in people’s homes, one study found that spiders inhabited 100% of homes surveyed and 78.5% of rooms within the homes. Torontonians are likely to encounter common house spiders in their homes, including the yellow-sac



Photo by Sean McCann

spider, the spitting spider, cellar spiders and maybe even zebra spiders, which are more commonly found outdoors. While spiders are found everywhere, they aren’t very dangerous to humans. Spiders prefer to eat insects and are even beneficial to agroecosystems. Among the 440 to 880 million tonnes of insects eaten by spiders each year, they help to control insect herbivore populations. They use sensory hairs on their feet for hearing, touch and taste, as their vision is quite poor. Even if they’re not hungry, spiders will kill more prey than they can eat.

When they’re not hunting, they’re likely avoiding predation by birds, mice and wasps. Some spiders have unique adaptations that allow them to camouflage in sand, grass or among flowers. Some spiders can mimic ants or even bird poop. Whether by venom or some warning colouration, spiders have unique strategies that prevent them from being eaten.

Spiders are also great parents. Mothers will build silk egg sacs and guard them from predators. In other cases, some mother spiders will carry their eggs in their mouths. When spiderlings emerge, young spiders of the wolf spider species will climb onto their mother’s back where she carries them until they are older. Mothers of

other species take maternal care to another level by pre-digesting their own bodies for their young to consume.

Out of all the cool spider species mentioned, Catherine mainly studies the black widow, which belongs to a medically significant group of spiders that can be dangerous to humans if a spider bite is followed with venom. There are several species of black widow in North America, but only the Northern Black Widow is found in southern Ontario and Québec. Not to worry though – finding a black widow is quite rare, and even Catherine has never found one in the wild!

You can access Catherine’s recorded lecture on TFN’s website: <https://tfngo.to/sept2021lecture>

Cameron So

To read more about Dr Catherine Scott’s work studying black widow spiders, see article in the fall 2021 edition of *ON Nature*: (<https://tfngo.to/blackwidow>).

VOLUNTEER PROFILE: SOFIA MIHAYLOVA

It's almost a year since Sofia stepped into her role as Chair of the TFN Lecture Committee, at a time when COVID-19 had created a shift in how lectures were being delivered to our members. At that time, more than ever, TFN's ability to connect us with experts in a variety of environmental fields was reliant on technology running smoothly. Sofia had just recently joined the TFN when the call for volunteers to help with the Lecture Committee was sent out. With a background in information technology and having led many meetings throughout her career, the role felt like a perfect fit for her, and the opportunity came at a time when she was looking for ways to give back to the environmental community.

Nature has always played a huge role in Sofia's life. Growing up in Bulgaria, which she describes as "a small piece of land, but very rich in natural beauty and variety of landscapes," Sofia spent her summers with her grandmother in a small village in the mountains. "I feel blessed having had the chance to grow up in such an environment and with such a kind, knowledgeable guide as my grandma," she says, remembering those formative summers. "My grandma loved nature and she was my endless source of information about herbs, wildflowers, medicinal plants and wild mushrooms. We went hiking often, picking mountain herbs for tea and wild berries for jam. Dried mushrooms were a big hit. Those flavours stay with you and connect you with nature."

Those childhood experiences forged a strong connection between Sofia and the living environment. "Nature is a constant school that allows you to enrich your knowledge," she says. While her formal schooling and, eventually, career brought her to big cities such as London, England and Toronto, Canada, time spent outdoors always remained an important part of her life. "It's been a conscious way of keeping my sanity after a busy week working downtown. Walks in the park, camping and cottaging are part of my DNA."



Some of these trips led her to an unexpected hobby. "I wasn't looking for beehives," she jokes, "but I somehow ended up with a couple." Sofia's passion that has developed for this endeavour over the past few years is evident. "Bees are fascinating creatures; they build and maintain societies to survive. They have to worry about the same things that we have to worry about. Things like transportation, reproduction, communication and keeping the peace in the hive." She makes my mouth water, describing the different flavours the bees bring to the honey depending on the placement of the hives and time of year.

She generously offers to share her knowledge about beekeeping with anyone interested, "just as people have shared with me."

Agneta Szabo

VOLUNTEERS NEEDED FOR LECTURE COMMITTEE!

TFN's lectures are a great way to learn about nature. Our guest speakers are often noted experts, everything from nature in the city to global environmental issues. Our Lecture Committee plans an interesting line-up of guest speakers. The Committee also works hard to provide an enjoyable Zoom experience for both speakers and audience.

We're recruiting for two new team members for the Lecture Committee. We host eight guest lectures per year, and use Zoom during the pandemic. Do you enjoy planning events with a team? Are you comfortable meeting by Zoom? Are you comfortable corresponding with guest speakers by email? Can you commit to attending roughly two team meetings per month over the coming year? If yes, you will find this volunteer role fun and rewarding. Skills with Zoom hosting and spreadsheets are assets, but not vital; we can help you learn those skills.

To learn more, please contact: lectures@torontofieldnaturalists.org

REMEMBERING MARY CUMMING

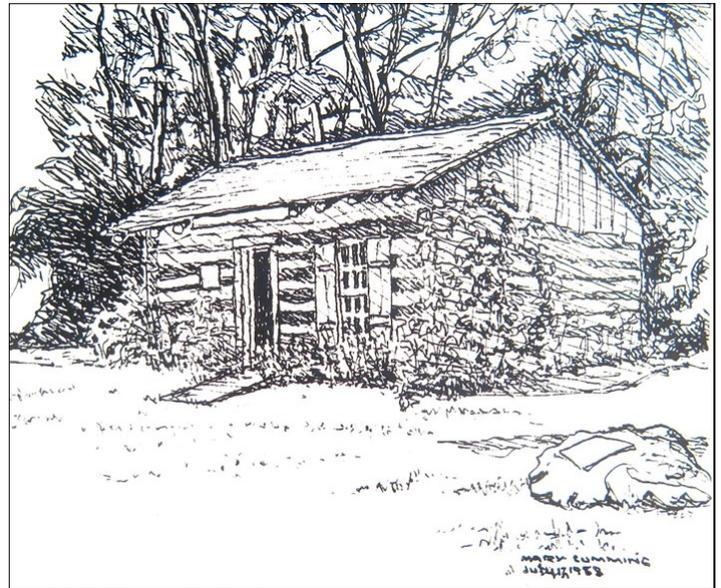
We were saddened to hear of the recent passing of Mary Cumming, age 98. Mary had a lifelong love of nature and art. She learned the techniques and finer aspects of sketching and painting at an early age from her mother, an accomplished artist. She attended the Ontario College of Art, studying under Group of Seven artist Franklin Carmichael, and graduated in 1947.



Mary's involvement with the Toronto Field Naturalists, starting in 1968, provided her with a venue for celebrating art with others and exploring, enjoying and treasuring the natural environs of our city. She and Diana Banville were close friends who together founded TFN's Nature Arts Group in 1979, providing an opportunity for budding

nature artists to get together and sketch or paint from nature. (See "From the Archives" in the March 2014 Newsletter: <https://tfngo.to/newsletter602>.) This gave rise to our extensive collection of nature drawings, by Mary and other members of the group, that has been a valuable source of illustrations for our newsletter. Mary also led outings to the ROM and to the AGO and other art galleries. She contributed beautiful watercolours and ink drawings to TFN's 85th anniversary Nature Arts Exhibit in 2008, and it was a delight for her many friends to see her there.

Mary especially liked volunteering at TFN's Nature Centre in Sunnybrook Park and spent many happy hours sketching the log cabin. Here is just one example.



Toronto Field Naturalists' Nature Centre at Sunnybrook Park

REMEMBERING ORVAL WHITE

We regret to announce the passing of Orval White on August 3 at Lakeridge Health Ajax Pickering Hospital at the age of 86. For Orval, nature was his playground and he very much enjoyed sharing his knowledge of the natural world.

Orval led walks for the TFN over many years until about 5 years ago. His walks were in the east end, mainly in the Rouge but also in Birkdale and Thomson Memorial Parks, Morningside Park and the Lake Ontario Shoreline. He volunteered on numerous occasions by manning the TFN Table at Scarborough Seedy Saturday and other TFN outreach events. He also shared his professional accounting skills by serving on the TFN Finance committee.

He led hikes for Rouge Park, was a volunteer at Rouge Park publicity events, and participated on a number of occasions in the Zoo's Annual Winter Bird count. He was a volunteer instructor for the Rouge Valley Conservation Centre's Educational programs for schools and their annual tree plantings. He was also previously a hike leader for the Toronto Bruce Trail Club.

Orval very much enjoyed hiking and canoeing in the great outdoors but in, particular and especially in later years, the Rouge Valley, a short distance from his home in Scarborough, was his favourite. He will be sorely missed.

Stephen Kamnitzer

TREE OF THE MONTH: SASSAFRAS, MITTEN-TREE (*SASSAFRAS ALBIDUM*)

There is much more to sassafras than the left- and right-handed mitten leaf forms that give it its alternative common name mitten-tree and that attracted me to it as a child in the woods near my home. This tropical orphan still shares many features with its predominantly tropical relatives in the laurel family (Lauraceae), such as Grecian laurel, avocado and the cinnamons, including camphor-tree (sometimes affectionately called Vicks Vaporub tree). It has carried those traits forward from unmistakably sassafras ancestors dating back to the Eocene, some 50 million years ago, when most of North America was nearly frost-free and covered with evergreen forests. Among its most obvious remnant tropical traits, persistently smooth-skinned green twigs and sylleptic branching stand out. The latter is a pattern of branching, exceedingly uncommon in temperate trees, in which buds grow out into new twigs in the same year as their parent branch was formed, instead of in the following year. This is easy to recognize in deciduous trees during the growing season if leaves are found simultaneously on two (or more) generations of twigs. Try finding that situation in an oak or a maple (at least in the absence of prior defoliation, such as that inflicted by gypsy moth caterpillars).

Reproduction in sassafras has some characteristics that are fairly common among our trees, notably vigorous cloning from root sprouts, while others are distinctly uncommon or even unique. Only a handful of our insect-pollinated trees are dioecious, with separate male and female individuals, unisexual flowers being much more commonly associated with wind pollination. Because of cloning, whole groves of sassafras can be exclusively male or female, most easily recognized in May when the trees are flowering.

Unlike those of any other local tree, the male flowers are typical of Lauraceae in having their stamens in three whorls of three. They are also typical laurels in having anthers shedding pollen by means of four tiny flaps rather than the elongate slits typical of unrelated trees. It takes magnification to see this well, both in sassafras and in our only other native laurel, the exclusively shrubby spicebush (*Lindera benzoin*). The locally unique fruits are also typical of a big chunk of the family (though not including spicebush). The shiny, blackish-blue, one-seeded drupe is seated dramatically in a bright red cup on a bright red pedicel. The cup represents a hypanthium-like expansion of the tip of the pedicel and is fringed by tiny remnants of the six-tepal bases.

Sassafras is also unique among our trees in having four distinct leaf types. In addition to the single-lobed left- and right-handed mittens, there are some with two thumb-like lobes and others with no lobes at all. The latter, which are often more abundant than the three different lobed leaf types and which in some individuals may seem to be the only leaf form, are typical of the



Flowers from male sassafras clone showing the flaps on the anthers.
Photo: Karen Yukich



Blackish-blue drupes in a red cups.
Photo: Ken Sproule



Three of the four leaf types. Photo: Ken Sproule

continued on next page

BIRD BEHAVIOUR: ANTING

“Anting” is a behaviour in which birds rub insects, usually ants, on their feathers and skin. Approximately 200 types of birds, from wild turkeys to songbirds, engage in this activity.



Norther Flicker anting. Photo: Andrew Interisano

Sources: CBC News 6-06-21 <https://tfngo.to/anting>
Bird Watching magazine Oct. 2018

Active anting occurs when the bird takes an ant in its bill and directly smears its feathers. At other times the bird may practise passive anting by visiting ant colonies, provoking ants to attack, and allowing them to pass through its plumage. Sensing a threat, the ants shoot a spray of formic acid from their abdomens or anal glands, which is absorbed into the bird's body and acts as a natural insecticide.

Anting episodes are most common in late summer and early fall, a period that includes heavy avian molting. This leads some biologists to associate anting with the soothing of skin which can be irritated during rapid feather replacement.

A more common belief is that anting controls parasites, such as biting lice and feather mites which live in the inner catacombs of a bird's plumage.

Jennifer Smith

SASSAFRAS *continued*

Lauraceae in their shape (simple ovals with completely smooth, toothless margins), but very much a minority condition among our trees. In venation, they conform to one of the two main types found in the family. This highly distinctive venation has a pair of strong lateral veins that arise well above the leaf base and arc forward inside the margin to about midway along the leaf length. The lobes in mitten-tree leaves are intimately tied to the prominent lateral veins, which serve as the backbone of each lobe. It is as if these veins are escaping the confines of the central leaf oval, dominated by the midvein, to forge a blade of their own.

All four leaf types and every other part of the tree are permeated by individual fragrant oil cells (idioblasts), a trait more or less restricted to the “primitive” magnoliid families, including laurels, magnolias, pawpaws, and wild ginger among our native plants. In sassafras, the oil contained in these cells, formerly used in flavouring root-beer but now abandoned, contains about 80% safrole, which has been shown to be carcinogenic and a cause of other liver damage. Since the oil also kills bacteria, sassafras twigs have been used as chewing sticks in dental hygiene, a traditional practice involving many different tree and shrub species in numerous societies around the world.

Mitten-tree is confined to the deciduous forest zone in Ontario and, interestingly, reaches its northern limit in our own High Park, where it is plentiful and easy to observe. If you go there, see if there is a predictable pattern to the positions on the shoots taken by the four leaf types, an investigation that I have never quite had the time to undertake. And don't forget to visit in fall, when the rich autumn yellows, oranges and reds are spectacular, setting off the dramatically ridged, reddish-tinged grey bark beautifully.

James Eckenwalder



Rich fall colour beginning.
Photo: Ken Sproule



Bark on branches long remaining
smooth and green.
Photos: Ken Sproule

JUNIOR NATURALISTS

SHOREBIRDS

In August my husband and I had the fun of driving out to visit our daughter and her family in Saskatchewan. We traveled westward on the Trans-Canada Highway across the Ontario border into Manitoba and followed the Yellowhead Highway northwest to Saskatoon. Golden fields of wheat and canola shimmered for miles under the blue sky. I was charmed by the many 'potholes' or ponds along the edges of the fields where it was fun trying to spot shorebirds and ducks. But they are hard to identify! As someone said, shouldn't all species of shorebirds have different coloured legs?

So what are shorebirds and why are they so special? Shorebirds are water birds that mostly don't like swimming. They run around on sand or in shallow water on very long legs with toes that spread far apart so they won't sink into the muck. It is funny to watch them settle down on a nest or piece of shoreline, because the knees seem to bend backwards. These are, of course, ankles. Their very long feet are awesome for getting off the ground for the power stroke at the beginning of flight. Many shorebirds have distinctive ways of hunting for invertebrates, poking in the muck with their beak as they walk. If you look at the maps for many shorebirds, there is a tiny little strip of pink along the Arctic Ocean or Hudson Bay, where they spend the summer, and a tiny strip of blue along the Gulf coast or the coast of South America, where they over-winter.

One evening while at the supper table in Saskatoon, our daughter's husband, who is a medical doctor, casually mentioned that one of his

patients is a well-known birder. This gentleman turned out to be Stan Shadick, who has been a birder for many years and offers custom birding tours around the province of Saskatchewan. (<https://tfngo.to/stanshadick>) We were instantly on the edge of our seats. Could Stan help us with shorebirds? Yes! And the fees paid to Stan for a tour go to support 'Living Sky Wildlife Rehabilitation,' a hospital for wounded wild animals. (<https://tfngo.to/livingsky>)

The very next day we found ourselves following Stan east out of Saskatoon on long gravel roads. Dust flying and in contact via our cellphones, we reached our destination — a pond on each side of the road with lots of sandy exposed shoreline. And swimming and wading in large numbers was a species rarely sighted in Ontario — the American Avocet. It looks a bit like a small swan or a ballerina with a fluffy black and white striped body and long rusty neck, teetering on very long legs. These waders were scooping invertebrates out of the water as they walked with half-open beaks which are needle-thin and tilted upwards. Avocets breed in Saskatchewan and fly straight down to Florida to over-winter, so miss Ontario.

We saw many other species that day — Dowitchers, Black-bellied Plovers, lots of sandpipers and two types of phalarope. It was wonderful to have the use of Stan's telescope and to benefit from his extensive knowledge about the exact timing of migration. And of course it was great to feel we were helping wounded animals by hiring Stan as our guide.

Anne Purvis



Left: American Avocet. Photo: kevincole, Creative Commons Attribution 2.0 (flicker.com)

Centre: Wilson's Phalarope, Leslie Street Spit, August 2015. Photo: Ken Sproule
Right: Solitary Sandpiper, Crothers Woods, July 2007. Photo: Ken Sproule

LEARNING TO LOVE UNLOVELY RAVINES

“Not much nature here, is there?” I harrumphed on my first site visit. “Here” was a scruffy patch of Scarborough ravine, thick with dog-strangling vine, burdock and Manitoba maple, largely surrounded by chain link fence, just north-east of Birchmount and Eglinton. Taylor Massey Creek trickled glumly along its concrete channel in the August drought. The dusty trail straggled in a bit and then gave up.

I was worried. This spot was where TFN had committed to celebrating Toronto’s ravines with the local community in just a few weeks’ time, partnering with Park People, Eco Spark and the City. What’s more, this spot could be a stand-in for innumerable other spots along our city’s ravines: victims of poor planning, overlooked in restoration schemes, neglected and overrun with invasive plants. The City’s Ravine Strategy aims to celebrate ravines. But how do we spark a neighbourhood’s enthusiasm and love for nature when their local ravine stretches are so scraggly and unloved?

The answer, it turned out, was to celebrate anyway. With planning, some creative licence and good will, we celebrated what **could** be. On a breezy Friday afternoon in late August, Maidavale Park was transformed into a pollinator pop-up, with colourful flagging and a ‘Welcome’ tent, plus a scattering of food, craft and nature tables. An estimated 300 kids with their parents came

through over three hours, many lining up their bikes at the free bicycle tune-up clinic. Eco Spark let kids try out insect nets, and many pipe cleaners were transformed into bee antennae hair ornaments. Everyone wore their masks, without exception.

At the TFN table, families admired a generous bouquet of native plants in bloom, from Joe-pye-weed to white snakeroot, all from my home garden. We talked about

monarchs, milkweed and Mexico. The chance to make origami butterflies enticed kids of all ages and many moms, until the colourful paper squares ran out. With practice, it became easier to nudge conversation from origami towards ravines. The cicada display was a hit, and the invasive plant display could have been a winner too, with a second volunteer.



Can we hold future events like this? TFN has plenty of scope to grow its outreach. “Before” and “after” photos of restored ravine lands would help us tell a story. A TFN banner would help, as would more interactive displays, and of course more volunteers. If you like organizing events, enjoy engaging with new people and are comfortable with Zoom, this would be a rewarding new project. Are you game? Contact promotions@torontofieldnaturalists.org and tell us a bit about your outreach interests and experiences.

Ellen Schwartzel

UPCOMING JUNIOR FIELD NATURALISTS PROGRAMS

Saturdays from 10 am to 12 noon

October 16: Fungi and trees with Andrew White

November 13: Solitary and Social Wasps by Zoom with Andrew Interisano and Sandra Iskandar

December 4: Arctic Ducks at Ontario Place

To pre-register, and to learn about COVID precautions for in-person programs, email Anne Purvis at juniortfn@torontofieldnaturalists.org

BIODIVERSITY GRADIENTS IN ONTARIO. PART 1: SETTING THE STAGE

This series explores the distribution of species richness in Ontario for various groups of plants and animals with different biological and ecological characteristics. Before starting with trees in Part 2, some context is in order on global biodiversity gradients and how Ontario fits within them. We are all aware that species decrease in diversity and numbers from the tropics, through the temperate regions, to the poles. This overall biodiversity gradient has many proposed explanations, among which the corresponding gradient in solar radiation is one of the more compelling. Variations of this theory suggest that there is simply more energy (through photosynthesis) available to divvy up in the tropics, and thus ecological room for more species. The northward latitudinal gradient of declining solar radiation is also accompanied, of course, by declining annual average temperature and increasing length and depth of winter. In addition to available solar energy and seasonality of temperature, the number of species in an area is also influenced by moisture availability and the richness of different habitats that are present locally. Averaging out these complexities that blunt our ability to predict species diversity at a local level, the general pattern applies at the largest scale across the northern hemisphere.

What is less well known, perhaps, is that we can trace a nice piece of these gradients in Ontario. Maps and our everyday experience tell us that Ontario is large. Stretching from a little south of 42° N at Pelee Island to a little south of 57° N at its border with Manitoba on Hudson Bay, our province spans a full 15° of latitude, fully one-sixth of the distance between the Equator and the North Pole. This significant segment of the northern hemisphere's latitudinal span occupies the northern half of its middle third. This expanse is coupled with a relatively gentle topography (though punctuated with some spectacular features like the Niagara Escarpment), and bounded on the north and south by large bodies of water.

With their high heat capacity (essentially a kind of temperature inertia), Hudson Bay causes the north shore of Ontario to be colder than we might expect from its latitude, and Lakes Erie and Ontario make the south shore warmer.

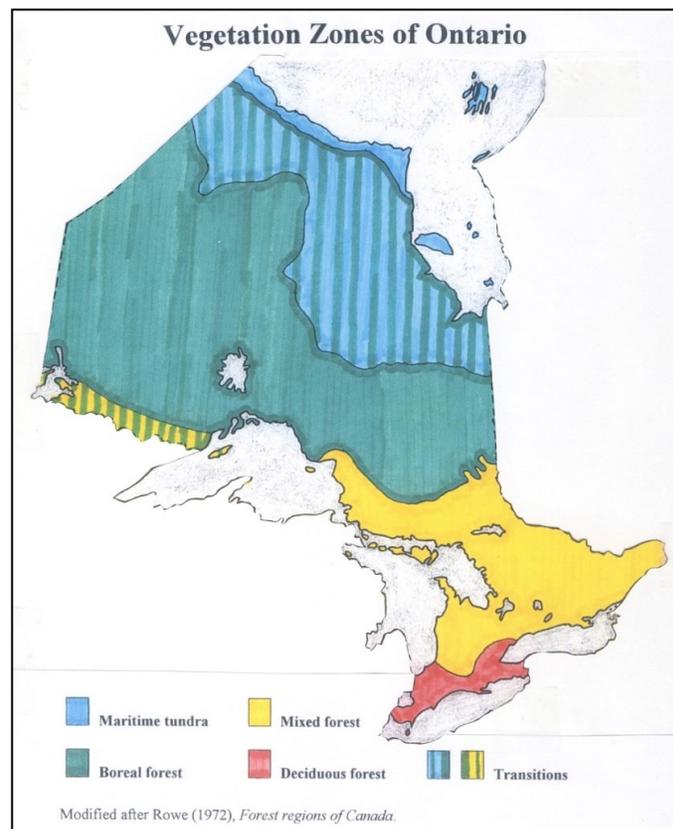
These factors suggest that it might be worthwhile to explore the pattern of biodiversity for different groups of organisms in the province, all of which have only occupied the landscape since the withdrawal of the continental glaciers beginning 14,000 years ago. The relative recency of deglaciation in geological, evolutionary

and ecological terms might raise questions about the reliability and stability of present-day species distributions. However, based on pollen records and other fossils over this period, most of our environments and the species distributions that contribute to them had reached something of an equilibrium long before they started being recorded by collecting and other records, at least until the effects of humanity's global warming experiment really began to take hold.

Individual species distributions reflect each one's own ecological requirements and tolerances. While each species' range limits and varied abundance within those limits are thus unique, there is enough overlap in their

environmental constraints that predictable communities can often be discerned at the local and regional levels, and larger consistencies emerge at grander scales. At the provincial level, the terrestrial biota of Ontario is clearly organized into four vegetation zones, characterized by the physiognomies of their ecologically dominant life-forms. While standing water environments of rivers, wetlands and lakes, and exceptionally dry or nutrient-poor environments, do not readily reflect these zones, the majority of terrestrial species and communities do fall under their influence.

continued on next page



THE GRASS AND WEEDS BYLAW TO BECOME THE 'TURFGRASS AND PROHIBITED PLANTS BYLAW'!

Toronto's existing Grass and Weeds Bylaw requires that "property owners cut and remove the grass and weeds on their properties whenever these grow to over 20 centimetres" (eight inches). Weeds are vaguely defined to include "vegetation growth that does not form part of a natural garden that has been deliberately planted to produce ground cover." This has been used by neighbours who prefer lawns to harass those of us who have tried to naturalize our gardens. Many of us have been in violation of this bylaw for many years.

After years of complaints, the City allowed property owners to apply for a natural garden exemption from the bylaw. Many of us pointed out that the City was wasting its own staff time with this bureaucratic permitting of something that should be in every garden if the City's own biodiversity strategy means anything at all.

This summer, finally, City Council adopted sensible amendments to the Grass and Weeds Bylaw that will come into effect January 1, 2022. (See <https://tfngo.to/grassandweedsbylaw>.) These amendments will:

- replace the term "grass and weeds" with the term "turfgrass" so that the height requirement applies to turfgrass only;
- delete the requirement for removing grass cuttings;
- delete the natural garden exemption process;
- add provisions to prevent obstruction of roads, sidewalks and sight lines at intersections, driveways, sidewalks, walkways, or visibility to all traffic control devices, and
- prohibit common ragweed, poison ivy and the following nine non-native plant species:

Canada thistle (*Cirsium arvense*) (original, more appropriate British name: creeping thistle)

Common buckthorn; Glossy buckthorn (*Rhamnus cathartica*; *Frangula alnus*)

Dog-strangling vine (*Cynanchum rossicum*; *Cynanchum louiseae*)

Garlic mustard (*Alliaria petiolata*)

Giant hogweed (*Heracleum mantegazzianum*)

Japanese knotweed (*Reynoutria japonica* var. *japonica*)

Phragmites (*Phragmites australis* subsp. *australis*)

Purple loosestrife (*Lythrum salicaria*)

I am happy there is provision that "staff review this list on an ongoing basis in consultation with experts to ensure accuracy and relevance." For a start it is inconsistent to prohibit common ragweed while not mentioning giant ragweed which has similar effects and is also common.

Although there are no criteria in the bylaw amendment for what species should be on the list, the nature of the prohibited plants suggests that it should include plants that are seriously harmful to health or to biodiversity of our natural areas. Unfortunately, invasive trees are not on the list, presumably because the City is struggling to increase the tree canopy in face of the loss of ash to emerald ash borer, and also because so many of the trees the City plants do not thrive because they are badly planted.

I would like to thank all TFN members who have written to their Councillors on this subject, particularly Lorraine Johnson, who inspired the wording of my letter.

Bob Kortright

BIODIVERSITY *continued*

The accompanying map shows these latitudinally arranged vegetation zones which can serve as one framework in helping interpret the biodiversity patterns of various groups of plants and animals. Listing from north to south, these zones display decreasing control by cold. The treeless **maritime tundra**, under the influence of frigid Hudson Bay, is underlain by continuous permafrost. The **boreal forest**, too cold in winter for all but the hardiest broadleaved trees, is dominated by conifers. The **mixed forest** is dominated by either conifers or deciduous hardwoods depending on microclimates. Finally, the **deciduous forest** (called by some Carolinian Canada), is

dominated by deciduous hardwoods due to the permissive climate fostered by Lake Erie (and, to a lesser extent, Lake Ontario).

Forthcoming parts of this series will each focus on the provincewide pattern of species richness for one or more group(s) of plants or animals. Some of their patterns fall rather neatly within the global latitudinal biodiversity gradient while others deviate from it in ways that are interesting to explore.

James Eckenwalder

FOR READING

***The Brilliant Abyss: Exploring the Majestic Hidden Life of the Deep Ocean and the Looming Threat that Imperils It* by Helen Scales, Atlantic Monthly Press, 2021.**

A fascinating, important, and well-written book. The first half reveals the zoological wonders of the depths of the ocean, previously thought to be lifeless, but now known to harbor great diversity, mostly sustained by the nutrients falling from above but also by chemosynthesis around hydrothermal vents. This is illustrated by about 30 (not enough) beautiful photos of bone worms, giant isopods, amphipods, larvaceans, sea cucumbers, deep sea corals and sponges, gossamer, scale and bomber worms, siphonophores, scyphozoans, snailfish, tinseltail, owlfish, squid, octopus and a scaly-foot snail.

Ms Scales then explains that the deep ocean is important to us because it is vital to limiting climate change, and because it contains such a diversity of lifeforms that could provide medicines in the future.

The deep ocean has already been abused, by unsustainable deep fisheries for long-lived species such as orange

roughy and as a junkyard. But the most serious threat is mining of hydrothermal vents and metal-rich nodules, aided by the regulator cum promoter International Seabed Authority (ISA). The pitch from organizations planning to mine the seabed is that those metals are essential to the batteries necessary to curb the use of fossil fuels, and can be mined from the seabed with less environmental harm than increased extraction on land. This pitch has been quite successful, particularly with respect to cobalt which currently comes mostly from the Congo. However, the nodules are essential to virtually all life on the ocean's abyssal plain where they provide almost the only hard substrate which corals, sponges and anemones require. Mining licences have been granted both by the ISA and by island states. Mining these vents and nodules may or may not prove profitable, but it will definitely destroy almost all life in areas where it occurs.

Bob Kortright

Link to Toronto Public Library:
<https://tfngo.to/brilliantabyss>

ABOUT TFN

TFN is a charitable, non-profit organization.

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NEWSLETTER

Toronto Field Naturalist (ISSN 0820-636X) is printed on 100% recycled paper. Printing & mailing: Digital Edge Printing & Media Services.

Views expressed in the newsletter are not necessarily those of the editor or Toronto Field Naturalists.

Members are encouraged to contribute letters, short articles and digital images. Please email to: newsletter@torontofieldnaturalists.org

Submissions deadline for Nov issue: Oct 1

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Address: 2 – 2449 Yonge St, Toronto M4P 2E7. The office is normally open 9:30 am to noon on Fridays.
Note: If you wish to drop by on Friday, please phone first to ensure that someone will be there.

KEEPING IN TOUCH

Lynn Pady shared these August insect sightings:

The European common blue butterfly, a fairly new species in Toronto, has been seen in the Taylor Creek Ravine this summer. I had my first sighting on August 30th near David Balfour Park. (Ed: See photo on front cover.)



This eastern common bumblebee, covered in pollen, was sitting on my balcony railing 21 flights up, panting hard as it rested before flying back to the yellow coneflowers.



It was a treat to see this snowberry clearwing moth enjoying swamp milkweed in one of the small ponds east of Dawes Road.

Lynn Pady



My patches of goldenrod are attracting a lot of different insects, including this fascinating bug. I have no idea what it is.

Anne Leon

Ed: Thank you, Max Skwarna, for identifying this as a locust borer (*Megacyllene robiniae*), a species of longhorn beetle endemic to eastern North America that is a serious pest of the black locust tree.

Max, a member of TFN's Photography Group, recently submitted some stunning insect photos for our Macro Challenge, including this female blue dasher dragonfly (*Pachydiplax longipennis*).



Toronto Field Naturalists
2 – 2449 Yonge St.,
Toronto, Ontario, M4P 2E7

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TFN LECTURE

Sunday, October 3 at 2:30 pm

See page 3 for information about lectures via Zoom

New Discoveries in Songbird Migration

Bridget Stutchbury, Professor, Dept of Biology, York University and author of “Silence of the Songbirds,” will talk about the threats our songbirds face on migration and while in the tropics, and the importance of conservation measures critical for their journey.



Upcoming Lectures:

- Nov 7 *Toronto Islands: their Natural Heritage*, Bob Kortright, former TFN President and well-known local naturalist. Also presenting City of Toronto Staff
- Dec 5 *Piping Plovers in Ontario*, Andrea Gress, Ontario Piping Plover Program Coordinator, Birds Canada/Oiseaux Canada
- Feb 6 *Ontario's Caribou*, Dr. James Schaefer, Dept of Biology, Trent University