



Since 1923

TORONTO FIELD NATURALIST

Number 667 April 2022



Funnel weaver spider and web. Photo: Theresa Moore

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PRESIDENT'S REPORT: NOT SEEING, YET BELIEVING

In tumultuous times, it can help to step back and contemplate the deeper, implacable rhythms of nature. Our planet circles the sun, and seasons progress. At a very small scale too, there are marvelous ancient patterns. Consider, for example, the springtime urges of the Jefferson salamander. Every April in our region, wherever temporary ponds fill with snow melt, the Jefferson salamander comes out to meet other Jeffersons. A day or so after mating, the females lay eggs in the pond. After two to four weeks, larval salamanders hatch. Larvae have to mature fast because the ponds dry up by late summer. So the evolutionary strategy of the Jefferson salamander is to mate very early in the spring – usually the first rainy night in spring that's above freezing. Sometimes they can be seen walking over remnant ice on ponds.

In hopes of observing salamanders doing just that, an expedition of TFNers headed out some years ago. Gracious property owners had invited us up to the Oak Ridges Moraine one early April day. A crooked line of cars parked alongside snow banks and frozen ditches. Cheerful TFN members, some quite elderly, clambered along icy hillsides. The wind was wicked. The mood was ebullient, though. It was not lost on anyone that our quest was slightly daft, but we had sunshine, fresh air and good companions. Some part of me resolved that day to include more TFN adventures in my life. Read more about this memorable outing in the May 2013 (p.15) issue of the newsletter: <https://tfngo.to/may2013newsletter>.

While the Jefferson salamander is no longer found within Toronto's boundaries, our city still harbours wonderful biodiversity. For an update on the City's efforts to protect biodiversity, TFN is delighted to have as a guest speaker Senior City Planner Jane Weninger, for a Zoom talk on Monday evening, April 11. A strong turn-out by our members will help demonstrate public interest in robust nature policies at City Hall. Read details below and mark your calendars!

Our Cottonwood Flats Monitoring Project (CFMP) volunteers are gearing up for another busy season of citizen science in this area of the Don Valley. In exciting news, our partnership with the City is expanding here, with TFN serving as Team Leaders of a new Community Stewardship Program site at the Flats! Read more on page 9.

This season also promises other in-person encounters with nature, thanks to our unflagging volunteer walk leaders. Our walks can once again accommodate more participants, given falling COVID case numbers. There is always a serendipitous element to our walks; mild weather can bring flurries of spring migrants and early blossoms, while fierce winds can blow away all but the hardiest sparrows. There is one certainty: if we don't show up, we won't see anything. And perhaps you're curious about that salamander expedition back in 2013. We never saw any salamanders. It was far too cold a day. But TFN found at least one convert.

Ellen Schwartzel
president@torontofieldnaturalists.org

HOW THE CITY WORKS – A TFN ZOOM TALK

Monday, April 11, 2022 7:00 pm

Our guest speaker, Jane Weninger, Senior Planner with Toronto City Planning, will outline the City of Toronto's framework towards a more ecological city. Jane will walk us through some of the City's existing policy documents, including the Official Plan environment and climate policies, the Biodiversity Strategy and the Ravine Strategy, and the role biodiversity and ecology play in the Toronto Green Standard, the City's sustainable design and performance requirements. A few pointers will be provided on best practices for nature advocates to engage with the City in consultations.



Join Zoom Meeting

<https://us06web.zoom.us/j/82759427737?pwd=LzVra3p4bjZLVkpaVDBXVTV5NzdLQT09>

If you prefer to dial in by phone, you can use this number:

+1 778 907 2071 Canada

Meeting ID: 827 5942 7737 Passcode: 57629

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 to seven 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.

Visit the “Members Only” section of our website to access our Walks List

As we are unable to list walks in the newsletter at present, an Archive of Past Walks is being maintained for your enjoyment: <https://tfngo.to/pastwalks>

TO ACCESS THE "MEMBERS ONLY" SECTION OF TFN'S WEBSITE, VISIT:

<https://tfngo.to/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 LECTURES

The TFN Lecture Series is now 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 an 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 subsequently be posted on our website for viewing by all TFN members.

See information about this month's lecture on the back page. To join the meeting,

visit the “Members Only” section of our website to access this link.

If you prefer, you may dial in to the April lecture by phone as follows:
+1 778 907 2071 Canada
Meeting ID: 820 2315 7279
Passcode: 051649

LECTURE REPORT

Trumpeter Swans: Back in Ontario's Ecosystem

March 6 2022

Donna Lewis, Gardener and Swan Caretaker

The Trumpeter Swan is one of three *Cygnus* species in North America. The other two are the Tundra Swan which breeds in the far north and the Mute Swan, a naturalized species imported from Eurasia. From 1700 to 1900, the Trumpeter Swan population was decimated across Canada and the U.S. due to hunting for their meat and their soft skins, quills and feathers.

Their recovery in Ontario began in 1982 when Harry Lumsden, a biologist and research scientist with Ontario's Ministry of Natural Resources, started a captive breeding program with eggs retrieved from a group of thousands discovered in Alaska. His team eventually placed 584 swans in 34 locations across Ontario. By 2007, 700 Trumpeter Swans were identified in the province, which was deemed a self-sustaining though fragile population. By 2020, 2,800+ Trumpeter Swans were counted in Ontario – a remarkable recovery.

Donna Lewis joined the recovery effort in 2010 when she became caretaker for the gardens and ponds of the Stronach family estate. The family had imported Trumpeter Swans to chase away Canada Geese, and Donna took charge of the population, learning all she could about the species in order to manage them properly.

Trumpeter Swans do not migrate to a warm southern climate since, provided they can preen, each adult bird's 35,000 feathers provide enough insulation to get them through Ontario winters. Southern Ontario has enough open water in winter to meet their needs. Throughout the year, Trumpeter Swans that winter in Ontario move between their wintering and breeding grounds in Canada and the U.S. The tagging and sighting of Trumpeter Swans by volunteers over the past decades have provided important data on their recovery and distribution. There have been 267,544 sightings in North America since 1982.

Trumpeter Swans favour marshes and wetlands that are one to five feet deep with a mix of emergent and submergent vegetation for their nests. Nest-building usually starts in mid-April, though rebuilding of an existing nest may be the job at hand since these swans often mate for life and re-use their previous years' nests. A brood typically starts with four to six fledglings and the young birds grow rapidly, often flying within 15 weeks. However, due to predation, a pair may lose half their fledglings during this time.

There are significant threats to the continued recovery of Trumpeter Swans, including:

- **Lead poisoning** by ingesting lead shot from fishing sinkers and shotguns. While fishermen and hunters are switching to non-lead shot, there is significant lead present in the sediments of ponds.
- **Power lines**, typically constructed over open water rather than around ponds, are a hazard. Swans fly into them and, if they survive, are often disfigured and unable to live normal lives.
- **Loss of wetland habitat.** Urban development in southern Ontario has destroyed much of the region's wetlands, and more will be endangered by the construction of Highway 413 and other planned infrastructure projects.
- **Human interference.** The proliferation of boating, snowmobiles and dogs in areas where Trumpeter Swans breed and winter, not to mention illegal killing, is a growing threat.
- **Fishing line entanglement.** Discarded fishing lines and hooks in open water can seriously affect swans' ability to feed.
- **Angel wing syndrome.** Humans adore swans too much. They feed them bread and other food containing carbohydrates and sugars, leading to a nutritional deficiency that causes the birds' wings to point out laterally instead of lying against the body. This can result in early deaths among adult birds.

Donna recommended the following actions we can take to address these threats.

- **Educate fishermen and hunters.** Encourage use of non-lead sinkers and shot among family members and friends.
- **Fishing lines.** Remove discarded fishing lines and hooks from habitats frequented by Trumpeter Swans and other waterfowl.
- **Observe and report.** Report sick or injured birds to the local OSPCA or Humane Society.
- **Harassment.** Report harassment of swans to the Ministry of Natural Resources hotline: 1-977-TIPS-MNR.
- **Protection of wetlands.** To conserve Ontario's wetlands and marshes, volunteer with conservation groups and write to municipal or provincial representatives.

continued on next page

BIRD BEHAVIOUR – COURTSHIP RITUALS

Birds use a variety of courtship behaviours to attract a suitable mate. Some of these reduce territorial aggression so the two birds can begin to bond and not be afraid of each other. They also allow the male to display his strength, health and intelligence, and thus advertise that he will pass on the best genes and possibly be a helpful partner to rear the chicks.

A common courtship behaviour is singing, as we learned in last month's article. Woodpeckers make a drumming sound by pounding on hollow trees, while some game birds make a booming sound using air sacs in their chests. These low-pitched, rhythmic sounds carry a great distance, informing competitors that the territory is unavailable and telling females that a strong, healthy bird is present.

Some birds, such as Marsh Wrens, demonstrate their construction skills by building one or more nests before the female arrives in the spring. This shows that the male has claimed and can defend the nesting territory. The female assesses whether he has chosen a suitable location in which to raise nestlings. Some birds even build a structure that is not going to be a nest but that demonstrates their skills and intentions.

Male birds may present colourful plumage that appears only in breeding season. Fancy feathers, such as those of the Red-winged Blackbird or Wood Duck, indicate health and strength. The brilliant yellow feathers of the American

Goldfinch entice females. Birds may raise the crest on their head, hunch their shoulders, flare their wings, or push out their chest to show off to the female. Tail flicking or fanning is also used. Dance sequences may include wing flaps, head dips, bill rubbing and a variety of steps.

Sometimes just the male dances for the female; sometimes the two dance together. Any mistakes in the dance indicate immaturity or weakness and suggest that this is not a good choice of mate.

Red-tailed Hawks maintain a pair bond for several years, but they reinforce this bond as mating season approaches by soaring at high altitudes in wide circles. The male may dive and ascend steeply and then slowly approach the female to touch or grasp her briefly. Sometimes they interlock talons and plummet towards the ground, but swerve up again safely. Piercing screams, raspy murmurs and food exchange may accompany these aerial exertions.

Birds may preen each other or sit touching in order to reduce the usual spatial boundaries and aggression: "I mean no harm; I will care for you." We see these behaviours in Mourning Doves and pigeons.

Some males bring food to the female as part of their courtship ritual. Northern Cardinals demonstrate this behaviour. It shows the female that he can find food, share it, and provide for her while she incubates the eggs and cares for the nestlings.

Jennifer Smith



A male Red-winged Blackbird displays his scarlet epaulets; a colourful male Wood Duck preens a female. Photos: Diana Turchin

Sources:

<https://www.thespruce.com/bird-courtship-behavior-386714>

<https://www.allaboutbirds.org/news/how-do-birds-fall-in-love-a-look-at-courtship-displays/>

Secret lives of common birds: enjoying bird behaviour through the seasons by Marie Read c. 2005

LECTURE REPORT *continued*

- **Sightings.** Report sightings of Trumpeter Swans (including information on the wing tags and leg bands if possible) to the Wye Marsh Center at (705) 526-7809.
- **Donate.** A donation to the Amherst Wildlife Foundation will support monitoring efforts of Ontario's restored Trumpeter Swan population.

Philip Jessup

You may listen to this lecture at: <https://tfngo.to/arch2022lecture>

THE ART OF MINDFUL DRAWING



I was so happy when Sandra Iskandar told me she would be continuing to teach her class on mindful drawing, as I was addicted to seeing all the smiling faces at the end of the class as participants showed their work!

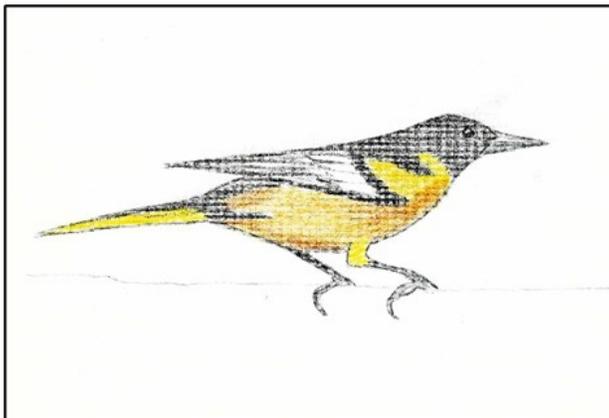
This class isn't about creating photo-realistic versions of a subject. It is about being given enough guidance and structure to capture your own vision and put it on a page. These drawings of Baltimore Orioles are just four interpretations.

As the technical coordinator for the Zoom classes, I get to attend every session. I have been amazed at the works being produced, both by people who have never sketched before and by those who are honing their skills. Feedback on the class has been unanimously positive and almost everyone wants to sign up again for the next session.

Sandra is an art educator and architect who has been teaching this course to small groups like TFN's Junior Naturalists and to large audiences for Birds Canada. For TFN's adult version of the course we limit the class size to 8-10 so everyone gets the attention they need.

Classes are held on the second Saturday of the month. Sign up by emailing NatureArts@torontofieldnaturalists.org.

Lynn Miller



Artists (from top): Maria Perrone, Dorothy Ferguson, Mary Nickel, Lynn Miller

Interested in getting together live with other artists?

The TFN Nature Arts group will be restarting this summer! Join other sketchers, painters, poets, et al in beautiful Toronto parks to flex your creativity and trade tips. There may even be snacks involved.

Contact NatureArts@torontofieldnaturalists.org if you are interested.

ECOLOGICAL RESTORATION CLOSE TO HOME

We are a small group, those who move ever closer to stinging insects in order to admire them. I like to think that Emily Dickinson was one of our reclusive members. My partner is not, preferring to keep a safe distance from bees and wasps collecting nectar and pollen in our garden. In contrast, I love gardening among bees and wasps (as well as butterflies, moths and flower flies). I take ill-advised pride in my ability to work beside them without being stung, pausing to watch their bright miniature bodies and their complex and unintelligible conversations over particularly luscious native flowers.

Douglas Tallamy taught me much about this block party in our flower border. I would like to share some unexpected details learned from reading Tallamy's *Bringing Nature Home*, *The Living Landscape* (co-authored with Rick Darke) and *The Nature of Oaks* (see <https://tfngo.to/tallamybooks>), as well as from his recent webinar *Bringing Nature Home: The Importance of Native Plants*, part of University of Ohio's Tending Nature webinar series (<https://tfngo.to/tallamywebinar>). For example, over 6,000 caterpillars are needed to raise one clutch of chickadee eggs. It is getting harder for chickadees to find those thousands of insects because there are fewer insects on the planet. Forty-five percent fewer than 43 years ago. This is purported to be one of the reasons why there are three billion fewer birds than there were 50 years ago.



I wrote that last fact on a chalkboard in a grade eleven classroom recently, and the only person who blanched was my partner (a teacher at the school). The shifting baseline comes to mind: people who never saw our world's former bounty and beauty do not know what has been lost, and therefore do not miss it. This brings me to the importance of groups like TFN's Junior Naturalists. It also brings me to the sweetest lesson I have learned from Tallamy's work:

we can bring it back, so much of it, by planting keystone native species. (See this guide to native plant nurseries <https://tfngo.to/nurseryguide>.)

A single native oak tree in a Toronto backyard can host over 500 different species of caterpillars that will transform into 500 different species of moths and butterflies if they don't become meals for baby birds.

When I look in doubt at our tiny northern red oak seedling, barely hanging on in its wind-swept location, I remember one of my favorite images from Tallamy's webinar: a green caterpillar standing on its tiny back feet (prolegs) reaching up to taste a leaf from a pin oak seedling about the same size as ours. Breakfast for a baby bird before her little green body transforms into an elegant yellow crocus geometer moth.

Barbara Leiterman

BOOK ANNOUNCEMENT

*A Garden for the Rusty-Patched Bumblebee:
Creating Habitat for Native Pollinators (Ontario and Great Lakes Edition)*
by Lorraine Johnson and Sheila Colla.

This regionally-specific guide, due to be published on May 21st, is the very thing to help you plant your pollinator-friendly native plant garden. It includes everything you need to know in order to create meaningful habitat for pollinators here in Ontario. Along with habitat creation info, the book includes plant profiles for more than 330 Ontario native plants along with detailed cultivation information.

You can pre-order it now via online retailers or at local bookstores.

COTTONWOOD FLATS MONITORING PROJECT



April 2022 marks the start of the sixth year of TFN's Cottonwood Flats Monitoring Project (CFMP), a partnership program with the City of Toronto's Natural Environment and Community Programs (NECP) section of Urban Forestry, that works to document biodiversity and trends in species abundance in this part of the Don Valley.

For those unfamiliar with the Flats, a bit of background is in order. Located just southwest of the Toronto Police Services dog kennel at 44 Beechwood Drive, Cottonwood Flats was likely used seasonally by Indigenous peoples for thousands of years. Following European colonization, it was stomping grounds for the likes of Elizabeth and John Graves Simcoe, Major David Secord, Parshall Terry and the Taylor family. In the 20th century it was home to a rockwool factory. And, if you were watching the news in January of 1999 when Mayor Mel Lastman asked the army to help deal with our city's record snowfall, you saw the Flats on television as one of our primary "snow dump" sites. By 2009, the Flats had been designated for ecological restoration, and by 2014, the City, TRCA, Task Force to Bring Back the Don and Schollen and Company had created and completed the first phase of a plan to return the Flats to nature.

Since 2017, more than fifty TFNers have volunteered hundreds of hours of their time to monitoring ten permanent plots at the Flats. The data we've collected tell an interesting story of the results of these restoration efforts, the impact of human use in Toronto's natural areas, the advancement of invasive species in an urban environment, and much more. Annual reports can be reviewed at <https://tfngo.to/cfmp>.

A key question for TFN since the inception of CFMP has always been "what's its desired ecological trajectory?" Our data clearly show that, left to its own devices, the Flats would no doubt become an extension of the kind of urban wilds typical of the lower Don. Its original restoration plan, however, was inspired by a desire to see it become something different: a small spot of meadowland and wetland, vital habitats scarce in the city.

Thus, it's thrilling for us to be able to make the announcement you'll find on the opposite page.

Jason Ramsay-Brown



From top: CWFP volunteers. Photo: David Barr.
 CWFP volunteers, Photo: Jason Ramsay-Brown.
 Tansy clipping. Photo: Andrew Interisano.
 Right: Cottonwood. Photo: Andrew Interisano.

TFN STEWARDSHIP WITH THE COMMUNITY STEWARDSHIP PROGRAM

TFN is extremely happy to announce we'll be serving as Team Leaders for a new City of Toronto Community Stewardship Program (CSP) team at Cottonwood Flats. Participants will have the chance to directly support the well-being of nature in this area of the Don Valley by removing invasive species and restoring native habitat.

While this new initiative is distinct from TFN's long-standing (and ongoing!) Cottonwood Flats Monitoring Project (CFMP), our CSP Stewardship team and CFMP will enjoy very tight ties. CFMP data will inform our CSP stewardship activities and the results of our CSP stewardship efforts will be monitored long-term and documented in future CFMP data. This robust circle of citizen science and practical stewardship has limitless potential benefits, not only to nature, but to deepening our understanding of the impacts of stewardship strategies and techniques in an urban environment.

Due to COVID restrictions, participation on the CSP team must be limited in 2022. In February, a call for volunteers was sent to CFMP volunteers and to TFN Members already stewarding our Jim Baillie Nature Reserve. Their enthusiasm was overwhelming! We have every reason to believe that "drop in" attendance at CSP events will resume in 2023, and participation will then be open to all.

If you're interested in learning more about what TFN is doing at the Flats, what we've learned through CFMP over the years, and how our first year as CSP stewards is going, save this date: Thursday, May 19, 6:00 pm. I'll be hosting a Zoom that evening to present all this and more. Zoom details will be provided in the May newsletter, and via *Communications of the TFN* (our monthly email).

Jason Ramsay-Brown



From top: CFMP volunteers. Photo: Victor Moroz.
Mallard family. Photo: Andrew Interisano.
CFMP volunteers. Photo: Charles Bruce-Thompson.
Left: Yellow Warbler. Photo: Andrew Interisano

VOLUNTEER PROFILE: CAMERON SO

For TFN volunteer Cameron So, elementary school field trips to outdoor education centres sparked his lifelong curiosity in nature. Throughout his childhood summers, he applied what he learned from school during annual family camping trips to Ontario provincial parks. In early 2021, having recently completed a master's degree in ecology and evolutionary biology at the University of Toronto and with some extra free time due to the pandemic, Cameron began volunteering with the TFN lectures committee.

In September, Cameron moved to Montreal and began doctoral studies in plant ecology, evolution, and conservation at McGill University. He continues to be involved with the lectures committee by helping to plan lecture topics and providing technical support for virtual lecture events. Undoubtedly other committee members are grateful to have a committee member who is very comfortable with technology!

Cameron was attracted to TFN because he wanted to maintain a connection with nature while being immersed in his scientific studies, which focus heavily on math, statistics and data analysis. Cameron describes the naturalist perspective as “telling the stories behind nature.” Summer field work is the part of graduate studies that Cameron looks forward to every year. His master's degree involved raising a population of 7,000 *Brassica rapa* plants at the University of Toronto's Koffler Scientific Reserve, located on the Oak Ridges Moraine in King City, to examine their potential to adapt



to climate change. The work, which involved counting large numbers of individual plants based on their survival and traits, was intense. However, Cameron describes the opportunity to watch the seasons change through daily site visits as being “the coolest part” of his master's degree work. He expects to carry out his doctoral field work in the St. Lawrence region of Québec or in southern Ontario. Most of Canada's plants at risk are located in these regions, making them the go-to places for conservation research.

In addition to his appreciation of nature, Cameron's scientific career is motivated by his concern about the impacts of climate change, land use change and habitat fragmentation. Scientists have recognized that, in addition to population size, a species' population genetics will be a key factor in its ability to adapt and survive in a threatened or changing environment. The importance of the relationship between population genetics and conservation is driving Cameron's academic focus on quantitative genetics.

Cameron is quick to point out that climate change is not just about science and plants; it is a societal issue, and it is easy for people to get distracted. Cameron reminds himself to be mindful of his own environmental impact and also encourages others to consider their impact. After completing his PhD in a few years' time, he plans to dedicate his career to using his scientific expertise to help solve problems caused by climate change.

Tracy Garner

UPCOMING JUNIOR FIELD NATURALISTS PROGRAMS

Saturdays from 10 am to 12 noon

- April 23 Pond studies, Mosses and Mining Bees in Taylor Creek Park
- May 14 Join the Toronto Bird Celebration at Leslie Street Spit
- June 11 Do some restoration ecology by removing invasives at Ashbridge's Bay

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

JUNIOR NATURALISTS: Naturalist Edward O. Wilson

E.O. Wilson was a famous Myrmecologist (ant scientist) from Harvard University who became well-known for his studies of ant colonies. He was curious about how these colonies compared to complex human societies. Later he spoke out about biodiversity loss and became a celebrated advocate for nature.

During his childhood Edward moved many times and attended 15 different schools. Everywhere he moved, he pursued his passion for nature.

He collected insects and loved studying pond water with a microscope his mother had given him. When he was ten years old, the family moved to Washington, DC, close to the National Zoo. He became passionate about butterflies and made a large collection with his homemade net. For two years, the family lived in Brewton near the Florida panhandle. This town was surrounded by a salt-water swamp intersected by freshwater streams. It had 32 species of snakes and 14 species of turtles.

He traveled around natural areas on his bike, often to go fishing. One day, he caught a pinfish which hit him in the face. One of the spines pierced his right eye, causing him to lose most of the sight in that eye. After that he was unable to focus on distant objects, and his interest turned increasingly to small insects that he could observe by holding them up to his one good eye.

When he was 13, the family moved to a large, old house situated beside a vacant lot in Mobile, AL. He scoured the lot for insects and found four different species of ants living there, including a foot-high mud colony of fire ants. Being close to the docks of ocean-going vessels from South America,

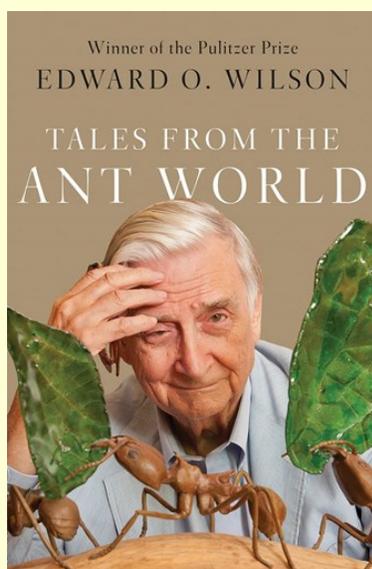
Wilson realized there were probably other colonies around. Later, traveling on a train, he looked out the window and witnessed an incredible sight. Torrential rains had inundated the land, and the Coosa River was in flood. As the train crept carefully along its banks, Wilson saw from the train window multiple 'fire ant rafts'. They had fled their flooded burrows, made rafts with their bodies and were escaping downriver.

As a biologist at Harvard University, E.O. Wilson wanted to learn the language of ants. 'Given that more than seven billion human beings and ten thousand trillion ants rule the terrestrial world, it is of some importance that we are able to talk to them, no less than if we had landed on an exoplanet inhabited by another eusocial species' (page 88, *Tales from the Ant World*).

While humans use language to communicate, ants communicate with chemical secretions that have gene-fixed meanings. We call these pheromones. Wilson discovered that one pheromone

situated in Dufour's gland close to the ant's sting tells ants in a colony where a particular ant has found food. In order to study this pheromone, scientists needed to harvest a large quantity of it, which meant they had to collect thousands of fire ants. Wilson's childhood observations of fire ants came in handy. He knew where to find anthills in large numbers.

E.O. Wilson passed away this past Christmas. He left an inspiring legacy of an ever-deepening knowledge of the natural world. He learned to identify species, where to find them, how they behaved, and the genetic control of behaviours. He was increasingly concerned about the future of the planet.



TREE OF THE MONTH: SIBERIAN ELM (*ULMUS PUMILA*)

All elm species are prolific annual fruiterers (or peaking at intervals of two to three years) whose seeds are freely dispersed by wind and germinate readily in a wide variety of soil conditions. Thus, we might expect our property boundaries and other waste areas to be well populated with any nearby kinds of elms. Toronto lies within the natural range limits of three native elm species, and three Eurasian species are commonly planted here with a few others occasionally so.

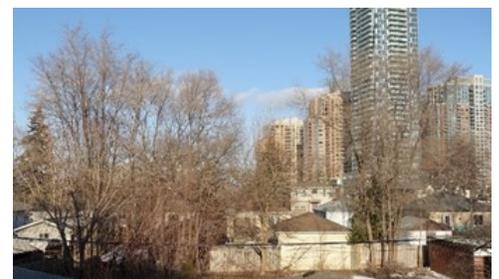
Despite these apparent opportunities for diversity within spontaneous elm populations, even a casual survey will show that THE elm of Toronto today is not the formerly dominant white elm (*U. americana*) or either of the other native species, but Siberian elm, originally from equally wintry northeastern Asia. This is partly due to the devastating effects of Dutch elm disease (DED), whose impact is least on Siberian elm among our local species. While a whole sequence of introduced deadly diseases and pests has decimated a succession of North American tree species since the devastation wrought by chestnut blight in the early 20th century, none has had a greater impact on our landscape than DED. The elimination of white elm (one of the most effective shade trees of our boulevards and farmlands) and its reduction to a persistent bevy of youngsters in woodlands and forests leaves gaping holes in our surroundings that Siberian elm cannot possibly fill even though it continues to expand around us.

Mature Siberian elms can grow as large as other elms, but their individual parts – leaves, flowers and fruits – are all much smaller than those of other local elm species. The dwarfing means different things for each of these structures. For the leaves, it means an obvious simplification compared to larger-leaved elms. In contrast to them, the lateral veins on either side of the midrib are more closely spaced and head straight out to the margin without any branching along the way. The leaves are simple-toothed, i.e. the only teeth along their edges are found at the tips of all the veins. There are none of the extra, smaller teeth in between the veins that lead to white elm and other large-leaved species being referred to as double-toothed. Finally, the base of the leaf in Siberian elm has hardly a trace of the asymmetry that is so pronounced in the larger-leaved species and is one of their primary identification characteristics.

Setting aside the flowers and inflorescences, which are pretty typical (except in size) for the main Old World elm group that also includes our native slippery (or red) elm (*U. rubra*), the smaller fruit size in Siberian elm has important ecological consequences. Keeping in mind the distinction between fruits and seeds, elms disperse their seeds singly, tightly enclosed by the whole winged fruit (or samara). The wing is a flattened disk surrounding the plump seed body and varies a great deal between species in its width compared to the seed body. The Old World group that Siberian elm belongs to, including native slippery elm and another naturalized Eurasian species, Scots (or wych) elm (*U. glabra*), have a much broader wing compared to the diameter of the body than does white elm, making their fruits all much more dispersible. But, because Siberian elm seeds weigh little more than half as much as those others, its seeds are far and away the most dispersible among those of all our local elms. (White elm seeds are just as small, but their much smaller samara wings provide much less aerodynamic lift in the wind.)



From top: Small, single-toothed leaves;
broad-winged samaras;
tight tufts of many flowers.
Photos: Ken Sproule



Abandoned hedge that has become a row of trees. Photo: James Eckenwalder

continued on next page

FOR READING

***In Praise of Paths* by Torbjorn Ekelund, 2020**

Torbjorn Ekelund lives in Oslo and writes about walking throughout human history and prehistory, on paths and in trackless wilderness. He begins with the fossil tracks at Mistaken Point, Newfoundland and refers to paths in many parts of the world. The personal experiences on which he focuses, however, include walking a short country path as a small child, and as an adult walking in his own city, on hiking trails reached by short train journeys from Oslo, and in trackless Norwegian wilderness.

This very thought-provoking book has much relevance for Torontonians who enjoy walking, exploring our own city and beyond.

Marilynn Murphy

***Life as We Made it: How 50,000 Years of Human Innovation Refined – and Redefined – Nature*, by Beth Shapiro, Oct 2021, Basic Books, 352pp**

<https://www.torontopubliclibrary.ca/detail.jsp?Entt=RDM4127307&R=4127307>

Engaging, erudite history of the large effects man has had on other organisms over the last 50,000 years, not only through hunting, the use of fire, and agriculture, but also directly through breeding.

Genetic engineering is another powerful tool to shape the world. Like other tools, it can be misused, but there are major problems in urgent need of solutions that genetic engineering can provide. A great example is the Enviropig developed in Canada to more efficiently absorb phosphorus in its diet. As a result, it needs much less phosphorus in its food, resulting in much less phosphorus in its waste. Delays in approval caused the project to run out of money, so pig farms continue to pollute as before. Shapiro does not ignore the pitfalls of genetic engineering, but warns that politicized scare-mongering and our uneasiness about what

is “unnatural” is delaying advances that can solve real significant problems better than alternate approaches. Genetic engineering is unnatural, but so are weapons, farming, breeding ...

Some suggest that a conservation ethic – not always getting what we want – would be better than constant technofixes. I agree, but I don’t see how, in a democratic society, we can ensure a conservation ethic.

Bob Kortright

***Diary of a Young Naturalist* by Dara McAnulty, 2021.**

This diary records a pivotal year in the life of a teenage boy living in Northern Ireland who describes himself as having “the heart of a naturalist, the head of a would-be scientist, and the bones of someone who is already wearied by the apathy and destruction wielded against the natural world.”

Dara has an extraordinary gift of responding emotionally to the natural world, perhaps an aspect of his autism. He also has, for his age, a remarkable depth of knowledge about the species he encounters, no doubt due in part to the influence of his scientist father. And his passion for the preservation of nature has prompted him to become an environmental activist.

On top of this, Dara is a truly gifted writer, able to evoke in his readers an appreciation for the wonder he feels in nature and the love of his close-knit family, and an understanding of how autism affects the way he experiences life and human relationships.

This book won the Wainwright Prize for Nature Writing. I highly recommend it and am grateful to Pinky Franklin for telling me about it.

Wendy Rothwell

TREE OF THE MONTH *continued*

There probably isn’t a garden bed in the city that is out of reach of Siberian elm samaras on the wing. Because Siberian elm also produces large seed crops every year, Torontonians can expect to be pulling millions of its seedlings this summer. Those fruits that land along property boundaries may well produce trees within a few years, but not every tree at a boundary is a stray. Siberian elm was originally introduced here as a hedge-maker, planted in a row tight together and cut off at a metre or

more high every few years. These hedges require regular significant pruning, so it is no surprise that many of them have been abandoned and have become crowded boundary rows of full-blown trees. To a large extent, these neglected hedges are the source from which Siberian elm became naturalized and even invasive in our area.

James Eckenwalder

ABOUT TFN

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NEWSLETTER

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Note: If you wish to drop by on Friday, please phone first to ensure that someone will be there.

WEATHER (THIS TIME LAST YEAR)

April 2021

April was a mostly sunny, mild month without temperature extremes. It tended to be above normal in the first half of the month and near normal in the second half. The highest temperature was 21.8° at Buttonville on the 8th, while Pearson reached 20.6° and downtown reached 19.4°. The coldest reading was -7.0° at Downsview on the 3rd, while downtown hit -3.5° on the 2nd and Pearson hit -5.1° on the 3rd. Monthly mean temperatures were 8.4° downtown and 7.9° at Pearson Airport; these values are 0.7° and 1.0° above the 30-year average.

Precipitation was below normal again, with 54.5 mm downtown and 55.8 mm at Pearson; these values are about

two-thirds of the normal. Most of the rain fell on the 11th-12th and 27th-29th. The first thunderstorms happened on April 28th. After a long absence, snow made a brief return on the 21st when Pearson had a snowfall of 4.4 cm, bringing the monthly total to just below normal.

Vegetation was slightly advanced compared to normal by perhaps five days, with forsythia blooming early in the month and magnolias mid-month. It was the warmest April since 2017, though the springs of 2018 to 2020 did feature rather cold weather.

Gavin Miller

*A red oak awakes
 with the soft rain of springtime
 welcomes the oriole*

Haiku Vanessa Hardy

EXTRACTS FROM OUTINGS LEADERS' REPORTS

Downsview Park, Feb 8. Leader: Charles Bruce-Thompson. A lot of snow had fallen, so walking conditions were tougher than expected and minor trails were impassable. The well-publicized owls that had been visiting the park recently had gone, and so too had the packs of photographers. One participant saw a Long-eared Owl on the wing disappearing into the distance. Otherwise, we saw a few winter regulars including Dark-eyed Juncos, American Tree Sparrows and White-breasted Nuthatches.

Winter in the Don Valley, Feb 10. Leader: Vivienne Denton. We walked north from the Riverdale Park footbridge looking at winter plants – a tangled mixture of native species, alien invasives and TRCA plantings. We noted the Chester Springs marsh and other wetland areas and talked about the Metrolinx train lay-by that will encroach on the ravine. It was not a good day for observing wildlife, but there were ducks on the river. We saw a line of Mallards sitting on an ice floe and some Common Mergansers near the storm water outflows. Returning by way of Todmorden Wildflower Preserve, we heard a woodpecker.

Heritage, Necropolis and Cabbagetown, Feb 12. Leader: Ellen Schwartzel. Pavements and pathways were remarkably icy on a cold morning. Crampons helped those who wore them, and all stayed safe. At St. James Cemetery, we reflected on how the dense shade cast by Norway maples has contributed to eroded ravine slopes, necessitating expensive slope stabilization work, now underway. At the Necropolis, a Sharp-shinned Hawk and a Red-tailed Hawk flew over. At Riverdale Farm, chickens, goats and horses boosted our observations of fauna.

Waterfront trail – Jack Layton Ferry Terminal to Ontario Place, Feb 18. Leader: Zunaid Khan. It was a beautiful winter morning with freshly fallen snow on the trail. We enjoyed the lovely sunshine while observing

beautiful reflections on the water and ice. We saw quite a number of winter ducks including Long-tailed Ducks, Common Goldeneyes, Greater Scaup, Red-breasted Mergansers, Redheads, Buffleheads and White-winged Scoters. Also observed were Mute and Trumpeter Swans, Mallards, Canada Geese, House Sparrows, Northern Cardinal and a Red-tailed Hawk.

North Toronto historical houses and York Cemetery, Feb 24. Leader: Kayoko Smith. We visited prominent landmarks, including Gibson House and Dempsey hardware store, to find out about rural life in pioneer days

in the borough of York. A large Tolman sweet apple tree at the corner of Yonge St and Park Home Avenue is one of the remaining trees from Gibson orchard established in 1832 that add a dynamic dimension to the York Cemetery landscape. The land was bought by Joseph Shepard in 1805 and farmed. The Mount Pleasant Cemetery Group bought it in 1916. The Willowdale airfield operated there until the 1940s when it was converted into a cemetery. The west end of the cemetery extends into the ravine and Hinder property.

The woodlot was snow-covered and steep to access. We heard nuthatches and woodpeckers, and spotted eggs of the *Lymantria dispar dispar* moth in a row of oaks.

The Ward, Feb 28. Leader: Paul Overy. We explored the social history of The Ward, a neighbourhood which for over a century was one of Toronto's worst places to live and yet key to many immigrants' ability to survive and integrate into broader Toronto society. We discussed the social and political dynamics which led to the many waves of immigration between the 1830s and 1950s, the work of Medical Officer of Health Charles Hastings in partnership with photographer Arthur Goss, and the progressive eradication of the housing and community spaces of The Ward to be replaced by hospitals, new City Hall and the other built forms we know today.



American Tree Sparrow, Lynde Shores, Feb. 2010.
Photo: Ken Sproule

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TFN LECTURE

Sunday, April 3 at 2:30 pm

See page 3 for information about lectures via Zoom

The Tip of the Iceberg. Discoveries in the world of mycology and its important role in our past, present and future.

Kathy Vatcher, a frequent foray leader who has taught mushroom identification at the Mycological Society of Toronto, The Kortright Centre for Conservation, Rouge National Park and for private events, will share her knowledge about and enthusiasm for wild mushrooms.



Photo: Jenny Bull

Upcoming lecture:

May 8 Restoring the American Chestnut in Ontario, Ron Casier, Chair, Canadian Chestnut Council