



Since 1923

TORONTO FIELD NATURALIST

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Coyote at Colonel Sam Smith Park, November 2021. Photo: Mac Marzolini .

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PRESIDENT'S REPORT: IN PRAISE OF THE AMATEUR

I'm an amateur. I happily admit it. For amateurs, though, the 21st century media world and the big city can be intimidating. We have so many professionals, stars and celebrities to compare ourselves to, and the comparison can be a bit painful. Do you like to play tennis? There's no point really; Serena Williams owns the game. Do you enjoy your time at the piano? Give it up; Yuja Wang dominates the keyboard.

Similarly, as naturalists, we are easily over-awed by extraordinary birders; world-class wildlife photographs exhibited at the ROM; golden-tongued science interpreters and breath-taking nature documentaries. If a few clicks at our laptop can show us footage of great whales courting or tracks of the snow leopard, why bother with shots of juncos in the back yard? Why go to the trouble of speaking up for nature, if David Suzuki and Margaret Atwood do such a fine job?

Thankfully, naturalists do go to the trouble. We do it for love. "Amateur" comes from the Latin root "to love." Amateur naturalists share a love of nature. Expressing that love means engaging with nature day to day, not just vicariously, but actively through walks, through photography and art, and applying all our senses. Daring to engage in nature is also a way to exercise and stretch our freedoms. Given the many restrictions imposed on us the past two years, we definitely want to explore all the freedoms we can.

Sometimes we fret that we lack credentials to be an active, vocal naturalist. The truth is that credentials are not needed. TFN's recent presidents have included a web designer, a

chef and a nuclear engineer; they have all been remarkably skilled in sharing their enthusiasm and keeping our naturalist community knitted together. Charles Sauriol was an advertising manager for 30 years. Yet he was a passionate, capable advocate for Toronto's nature and was so much appreciated that there is a conservation reserve in the Don Valley named after him. TFN's guest speakers for spring 2022 include several people who had other careers and then found themselves in key naturalist roles restoring species at risk.

Toronto is a big city with lots of big personalities, but luckily TFN is a small community with room for each of us to shine. Indeed, TFN celebrates and coaxes the amateur within each of us. We are keen to grow our team of walk leaders, for example, including good story tellers, but we are not looking for the next David Attenborough! Our newsletter welcomes contributions of writers, poets and visual artists, and a Canada Council grant is not a pre-condition. We could use people with social media know-how, but you needn't have 20,000 Twitter followers. And for those with a strong concept and lots of energy, TFN may offer a niche to create a new volunteer role. We are sufficiently small and flexible to make that possible.

To take the first step, contact volunteering@torontofieldnaturalists.org and tell us about your interests, your skills, your time availability and how you would like to share your love of nature.

Ellen Schwartzel
president@torontofieldnaturalists.org

Nature Images Show

Saturday, February 5, 2022 from 1:30 to 4 pm

Come and enjoy an afternoon of photos, videos, art and stories at our annual Nature Images Show, to be held virtually over Zoom. TFN members will present images taken on outings, hikes, trips, stewardship sessions, and just about everywhere else nature flourishes!

Zoom access: <https://tfngo.to/natureimages-2022>

Calling all TFN photographers! Share your photographs and videos at the Nature Images show!

If you would like to participate, contact Lynn Miller by the end of January at volunteering@torontofieldnaturalists.org.

TFN Board Nominations Invited

TFN is looking for people with initiative who are willing to devote time to working as members of the Board of Directors.

Please send your suggestions to the Chair of the Nominating Committee, c/o the TFN office (see contact info on page 13).

The Committee's report will be published in the May newsletter.

DONORS AND DONATION TAX RECEIPTS

Donations are a significant part of TFN revenue – about 31% in our last fiscal year (July’20-June’21). I am deeply grateful to all our donors for their support for the mission of the Toronto Field Naturalists.

Most donations are received at the time members join or renew their membership, but a little more than 10% are donated through CanadaHelps – either on their website or on the [Help Us Help Nature page](#) of our website. When you donate through CanadaHelps, that organization issues a charitable income tax receipt by email.

If you donate when joining TFN or renewing your membership, our bookkeeper (Thank you Barry Singh) records it in our accounting software and prints a charitable income tax receipt. I sign the receipt, after verifying that the information is recorded in the accounts, and mail it to the donor. Some donors have expressed a wish that we would issue the receipts closer to income tax time, as some other charities do. In the case of those who donate more than once a year, issuing receipts in January would also allow us to send a combined receipt or at least send the receipts at one time. We would like to issue

receipts by email to the extent possible (saving printing, envelopes, stamps and labour), but have not yet worked out how to do so.

During our Annual General Meeting this fall, we noted those who donated over \$100 in the 12 months to August 31, but inadvertently omitted those who donated through Canada Helps. When the Canada Helps donations are included, the list includes:

Ann Atkinson	Tom Stevens
Stephen Eiler	Naish McHugh
Catherine Reeves	Patricia Frenette
Alex Wellington	Ross Tucker
Martha ter Kuile	Lynn Miller

Thank you to all of you who have supported our community and mission through your donations. If you have any comments or questions, please let us know through finance@torontofieldnaturalists.org.

Bob Kortright, Secretary-Treasurer

TFN SUPPORTED SIX ATTENDEES AT THE 2021 YOUTH SUMMIT FOR MOTHER EARTH

TFN provided scholarships to six GTA youth (Aminah Rizwan, Cecilia La Rose, Jessica Yu, Julianne Ho, Owen Choy and Vamika Sharma) to participate in the September 25 and 26 Summit that was attended by 112 youths plus 12 youth mentors from across Ontario.

The summit resulted from a partnership of Ontario Nature, the Indigenous Environmental Institute at Trent University, Plenty Canada, and Walpole Island Land Trust with Ontario Nature’s Youth Council leaders and Youth Circle for Mother Earth’s Coordinating Committee to bring youth together and offer a unique, cross-cultural event to foster youth leadership and on-the-ground action.

The summit consisted of presentations from experts and knowledge keepers on topics such as environmental policy, Ontario’s native plants and food security, invasive species and power to effect change, as well as virtual discussions and youth-led sessions on nature-inspired art, dealing with eco-anxiety, climate action, biodiversity, networking and other topics. Some of the participants were

also able to meet safely in person at a Toronto hub to assist with the summit delivery and to connect with each other.

The summit success is best expressed by the youths themselves in their letters of thanks to the TFN community for its financial support that allowed them to attend the summit. A few of those comments were:

“The summit as a whole really helped me to connect more with nature and understand my responsibility towards it...”

“This was truly an unforgettable experience, one that allowed for reflection on topics I had not thought of previously, and one that gave me a renewed passion for continuing to make changes in my community.”

“The things that I have learned at the summit will help me move forward as an environmentally conscious person able to see through different lenses while approaching all sorts of problems.”

Anne Powell and Nancy Dengler

LECTURE REPORT

All About Ontario's Piping Plovers. Is Hanlan's Point a Place for Them?

December 5, 2021

Andrea Gress, Project Coordinator, Birds Canada

Piping Plovers are among Canada's most endangered bird species. Only about 4,000 to 6,000 individuals remain today, primarily in the Prairie and Atlantic Provinces. They were much more numerous in the past. In the Great Lakes region their natural habitat has shrunk severely. Andrea Gress has been leading Birds Canada's Ontario Piping Plover Conservation Program for the past four years.

The plovers arrive in Ontario from their southern wintering spots in mid-to-late April. The males scrape out their nests in sand where there are long stretches of remote beach, hoping to attract a female. They prefer wide beaches covered with pebbles and small rocks that help to camouflage their eggs. Dunes with no tall trees where predators might lurk are ideal. The female lays her eggs in mid-May one at a time until she has a clutch of four. The chicks, each about the size of a golf ball, appear just a month later. Due to attrition from predators, every egg counts. Birdwatchers adore this rare bird's brooding behaviour when the fast-growing chicks nuzzle underneath a parent until they can regulate their own body temperature at day nine or ten. It takes about a month for feathers to grow, and by mid-July the fledglings are practising flight. The females begin their migration south in late July to early August, leaving the males behind to care for the young. They follow in mid-to-late August.

Between 1977 and 2007, Ontario's Piping Plover population was extirpated. A pair eventually nested at Sauble Beach on the South Bruce Peninsula in 2007, and since then the population has grown and hovered in the range of seven to fifteen pairs.

Hanlan's Point beach on Centre Island became a Toronto nesting site for Piping Plovers in 2018 and 2020 (the water level was too high in 2019). There were four nests in total, of which three failed, but one produced three birds. One of them, a male dubbed 'Blue' by Andrea and her team, returned to Ontario (Darlington Provincial Park) in 2020 and 2021, producing two clutches of four each with a 100% success rate. This illustrates just how important even one egg can be. Hanlan's Point is potentially a productive nesting site for Piping Plovers. The beach is remote and quiet, quite wide when water levels are

normal, free of tall trees, and covered with pebbles and driftwood debris that offer critical camouflage.

Enormous challenges face Piping Plovers seeking to establish nesting sites in Ontario. Their beach habitat is highly specialized, and it has been progressively lost to development and erosion over the years. Raking of beaches and dogs on the loose pose threats to nests, while predation is a recurring problem. Foxes eat the eggs. The flightless chicks are easy prey for gulls and crows, while raptors take the adult birds. A nest without both parents to care for the chicks is likely to fail without human intervention. Extreme weather events associated with climate change also pose threats. Torrential storms lead to beach flooding that washes nests away. More variable rainfall causes lake levels to rise and fall, affecting the width of beaches from season to season. Appropriate and consistent water levels are key to sustainable nesting over time. Plovers need wide beaches.

Birds Canada is actively developing and implementing the following conservation strategies in Ontario to support the growth of the Piping Plover population.

- **Nest monitoring:** Volunteers coordinated by Birds Canada are eyes and ears on the beaches where plovers are likely or known to nest. Volunteers identify the number of chicks in each nest, the number of dogs roaming the beach, and the presence of predators.
- **Fencing:** Beach locales identified as nesting areas are fenced off so that the public won't disturb the nests.
- **Predator exclosures:** Wire screens are installed around nests after four eggs have been laid. Experience shows that plovers are getting used to the exclosures and hatching success is improving.
- **Banding and research:** About 90-95% of Great Lakes Piping Plovers are now banded, enabling a network of international researchers to keep track of the population as it moves around.
- **Captive rearing program (Michigan):** If one parent is lost at a nest and the eggs are abandoned by the remaining parent, they are hatched in an incubator and the chicks are released on the beach with adult plovers. The success rate of this strategy is high.
- **Education and community engagement:** Public understanding of the importance of plover conservation helps protect beach areas and enables Birds Canada to recruit volunteers for its Ontario Piping Plover Conservation Program.

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VOLUNTEER PROFILE: JASON RAMSAY-BROWN

Many members will already be familiar with Jason Ramsay-Brown and his contributions to TFN. Since joining TFN about ten years ago, Jason has been active in numerous capacities, including creating and leading unique “literary walks” that locate natural landmarks featured in literature, helping to digitize TFN’s collection of 12,000 natural history slides, and serving on the TFN Board in several roles, including as president from 2018 to 2020.

TFN’s mission of connecting people with nature resonates deeply with Jason and is a theme that runs through all of his contributions. In Jason’s view, getting out and experiencing nature is key to sparking interest in conserving and restoring natural areas. In his case, what started as a practice of hiking in Toronto’s ravines has led to him leading stewardship activities at a number of sites, including TFN’s Cottonwood Flats Monitoring Project, and several City of Toronto stewardship sites.



When asked about his naturalist skills, Jason described himself as “abysmal” at identifying birds. His knowledge of plants and trees, however, is much more extensive, which is not surprising for someone who has authored two editions of a popular book on Toronto’s ravines. Jason has used the analytical skills he developed through his training in computer science to organize the knowledge that he has gained from observation and from other naturalists. Jason believes that “in the trench observation” and citizen science, of the kind exemplified by TFN initiatives and historical records, is an important complement to formal science, especially in the context of

a busy city like Toronto where natural areas have evolved through many uses over the city’s history.

Reflecting on his experience and accomplishments, Jason said that he is grateful for the opportunities he has had to make use of his capabilities, share his knowledge, and introduce others to places they have never been. Knowing that he has been able to impact others has been a satisfying reward for his volunteer service. Jason expressed a strong belief in the power of volunteerism and

stressed that every volunteer contribution is important and valuable and every member who is interested in volunteering can be guided by their strengths and interests to find unique ways to contribute. Jason believes that these volunteer contributions are a critical step on the path toward systemic change that will protect and preserve natural sites. The TFN members and volunteers he has met over the years make him optimistic about “how much can be accomplished when people give just a few hours of their time to something that they’re passionate about.”

After a lifetime of exploring Toronto’s ravines, in 2019 Jason and his family moved to a small community in southwestern Ontario in search of a lifestyle change. For a naturalist, such a move brings the exciting prospect of new natural areas to explore. While Jason plans to continue his involvement in TFN, based on his history of involvement in Toronto’s naturalist community, it’s likely only a matter of time before the naturalist community around his new home begins to benefit from an energetic, dedicated and inspiring new member.

Tracy Garner

LECTURE REPORT *continued*

At the conclusion of her presentation, Andrea addressed questions from the audience. We learned that when Piping Plovers find a safe beach locale, they stick with it through successive migration seasons. Meanwhile, the plovers adapt to and tolerate urban noise. Hanlan’s Point beach is next to the Billy Bishop Airport. During the annual Snowbird

Airshow, the plovers don’t seem to budge. Maybe they realize that all those jets chase away the gulls, so it is safe staying put!

Philip Jessup

You may listen to this lecture at:
<https://tfngo.to/ec2021lecture>

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.

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>

WINTER WALKS

To help you prepare for winter walks, whether one of TFN’s guided outings, on your own, or with family and friends, we have posted on the TFN website information about winterized washrooms, snow clearing by the City, and traction devices.

See <https://tfngo.to/winterwalks>



Photo: Wendy Rothwell

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 Zoom meeting, **visit the “Members Only” section of our website to access this link.**

If you prefer, you may dial in to the February lecture by phone as follows:
+1 587 328 1099 Canada Meeting ID: 862 8765 7222 Passcode: 715099

EXTRACTS FROM OUTINGS LEADERS' REPORTS

High Park, Nov 1. Leader: Paul Overy. We explored the courses of Spring and Wendigo Creeks, which have helped shape High Park, and the Laurentian Channel, one of the remaining ancient rivers and underground aquifers in southern Ontario that continues to flow today. The focus was on efforts to improve water quality in the creeks and ponds, and restore shorelines

including management of phragmites and other invasive plant species. The trees, especially in the creek ravines, remained green remarkably late into the fall. In addition to the usual population of ducks and Canada geese around Grenadier Pond and Wendigo Creek, we saw one swan and a Great Blue Heron.

Garrison Creek, Nov 7. Leader: Richard Longley. We discussed the span of history from the end of the ice age (draining of Lake Iroquois, arrival of First Nations 12,000 years ago) to the future (proposals for Ontario Place), with much in between including contributions by Italian and Portuguese immigrants, the Governor General who donated the Stanley Cup, graves of soldiers who served at Fort York, Premiers John Robarts and Bill Davis, and much more. At Coronation Park we saw a tree planted by King George VI surrounded by others dedicated to battalions that fought in World War I, and a new memorial to sailors who served in the Battle of the Atlantic.

Leslie Street Spit, Nov 16. Leader: Charles Bruce-Thompson. We started by counting the flowers still in bloom in mid-November: vetch, yellow toadflax, Canadian and bull thistle, viper's bugloss, red, white sweet and yellow sweet clovers, perennial wall-rocket, panicked aster, tansy, Queen Anne's lace, white campion, gaillardia, spotted knapweed and late goldenrod. Sixteen species in total! Winter birds had arrived in force including flocks of Northern Shovelers, Common Goldeneyes, Buffleheads

and Long-tailed Ducks, as well as a few Green-winged Teal, White-winged Scoters, Gadwall, American Wigeon and Red-breasted and Hooded Mergansers. We also saw American Coots, Mute and Trumpeter swans, a Great Blue Heron and a Belted Kingfisher. Finally, we rescued a garter snake from its sunbathing spot in the middle of the Spine Road.

Milkman's Lane to Brick Works, Nov 20. Leaders: Ellen Schwartzel with Jennifer Smith and Paul Overy.

The stroll down Milkman's Lane afforded a pleasant view of the wooded valley with scattered trees still holding their yellow foliage. We had vain hopes of outdoing a recent count of 16 plant species still blooming at Leslie Street Spit. Our walkers admired eight species still in bloom: New England aster, rough sunflower, panicked aster, Queen Anne's lace, yarrow, toadflax, late goldenrod and the last red rose in a front garden. A chilly wind dissuaded us from settling down for a snack at the Brick Works, but we did contemplate warmer times 130,000 years ago when giant beavers roamed the valley. We saw no beaver, but sightings of a Northern Cardinal, Downy Woodpecker, Red-tailed Hawk and a nuthatch helped brighten the November day.

Waterfront Trail, Nov 26. Leader: Zunaid Khan. On an overcast, chilly and windy morning we walked from Coronation Park through Trillium Park into Ontario Place and back. There were great views of Lake Ontario with beautiful light on the water. Looking primarily for winter ducks, we observed Red-breasted Mergansers, Long-tailed Ducks, Buffleheads, and also saw Mallards, Canada Geese, Ring-billed Gulls, Northern Mockingbird and American Goldfinches.

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Rescued garter snake at Leslie Street Spit.
Photo: Maritza Lupovici



Bufflehead. Photo: Zunaid Khan

BIRD BEHAVIOUR: HOW BIRDS VOCALIZE

Note: In order to enjoy the links in this article, please ensure the speaker of your device is turned on.

Have you wondered how birds produce their beautiful songs or interesting whistles and calls? Reptiles, amphibians, and mammals all have a larynx, a voice box at the top of the throat that protects the airways. Folds of tissue there – the vocal cords – can vibrate to enable humans to talk, pigs to grunt and lions to roar.

Birds have larynxes, too. However, most birds also have a syrinx, an organ located at the base of the windpipe where the trachea divides into the bronchi connecting to the lungs. (The syrinx is lacking in the New World vultures (Cathartidae), which can only hiss and grunt.) The position of the syrinx, as well as its structure and musculature, vary widely across bird groups. This organ reaches great complexity in the songbirds, in which it consists of paired specialized cartilages and membranes of the inner walls of the bronchi, controlled by as many as six pairs of minute muscles. This allows songbirds, and probably other birds, to control the right and left halves of the syrinx separately, thus singing with two



Song Sparrow, Humber Bay Park, 2019

Photo: Ken Sproule

independent voices. An illustration of how the two sides of the syrinx operate can be found at <https://tfngo.to/allaboutbirds>

In addition to knowing *how* birds make their beautiful songs, it's rewarding to be able to identify birds when we hear them. There are a number of apps one can purchase to use in the field, such as the Merlin Bird ID app created by the Cornell Lab of Ornithology. Beverly and Anders Gyllenhaal, journalists and photographers who use their skills to write a post called *Flying Lessons: What we're learning from the birds*, recommend this app, saying "the birdsong tool turns this great birding app into a superb one." Or, if you wish to listen to bird songs and calls while comfortably seated at your computer,

Dendroica: *An aid to identifying Western Hemisphere birds* may be helpful. Go to: <https://tfngo.to/dendroica>

We will look at some of the reasons *why* birds sing in the next article.

Jennifer Smith

FOR READING

*A World on The Wing:
The Global Odyssey of Migratory Birds*
by Scott Weidensaul, 2021

Scott Weidensaul brings the reader right up to date on amazing discoveries about bird migration made over the last few years thanks to increasingly sophisticated technologies and dedicated researchers, including volunteers. His focus is on major migration routes around the globe, and the serious threats to those routes. He leavens it all, however, with examples of small victories and signs of hope.

Weidensaul is a very engaging writer and the book includes excellent maps and colour photos.

Marilynn Murphy

JUNIOR NATURALIST EVENTS

Saturdays from 10 am to 12 noon

February 12. Meet with Ken Vogan by Zoom for a wonderful interactive event about owls.

March 19: A trip to the Humber Arboretum to explore twigs, buds, Indigenous stories and maple syrup.

For information and to pre-register, email:

juniortfn@torontofieldnaturalists.org.

JUNIOR NATURALISTS

Owls in Winter

Flying out of the forested area on silent wings, the predator zeros in on the sound of scurrying in the space beneath the snow above the ground (called the subnivean zone). Dropping out of the air, it pounces, then takes flight, a mouse firmly gripped in its talons.

Owls have unique adaptations that make them efficient hunters. In addition to their hooked beaks and powerful talons, their flight feathers have a comb-like leading edge which changes the air flow over the feathers, dampening the noise. Owls have excellent hearing, enabling them to determine the direction from which a sound comes by discerning which ear hears the sound first. They also have unique feathers on their face, which help to channel sound towards their ears. Some species have asymmetrical ears (located at different heights on their skulls), or a flap of skin in front of their ears that allows them to hear if the sound is coming from below or above, in front or behind.



Great Horned Owl



Eastern Screech-owl

Large numbers of structures called rods in their retinas give owls greater vision in low light, allowing for crepuscular (dawn or twilight) and nocturnal hunting, though some, such as the snowy owl, are active during the day. You can tell when an owl prefers to hunt by looking at its eye colour. Owls with dark eyes tend to be nocturnal; those with orange eyes tend to be crepuscular; and those with yellow eyes are diurnal (active and hunting during the day). Owls cannot move their eyes, so they must move their heads in order to follow movement. Fortunately they have very

flexible necks that are able to swivel 270 degrees. (We can only turn our heads 180 degrees, looking from one shoulder to the other.)

Overdevelopment of meadowlands and forests has driven most owl species outside of the City of Toronto. However, there are two species that do regularly nest here: the Eastern Screech-Owl and the Great Horned Owl. Other owls are seasonal visitors. While Northern Saw-Whet Owls can be seen during their spring and fall migrations, winter is the season that can bring the largest number of owls to the city. Long-eared and Snowy Owls are common winter visitors, while Northern Hawk Owls, Great Gray Owls and Boreal Owls are typically only seen here during very harsh boreal winters or in years when high population growth forces individuals to move into new areas to find food.

While winter can provide more opportunities to view owls, as deciduous trees lose the cover of leaves on their branches and more species visit the area, lucky individuals can also see evidence of owls hunting in the imprints left behind in the snow. It is very important to be respectful when viewing wildlife, especially owls. Whenever they are not hunting, owls will rest, either on branches or in tree cavities, relying on their colouring to help camouflage them. If they are disturbed during their rest, by people trying to get too close to them to take pictures or by loud noises, their ability to hunt and survive can be severely impacted.

Photos: Ken Sproule

Vanessa McMain

Source: Birds of Toronto, Biodiversity Series: <https://tfngo.to/birdsoftoronto>

GIVE OPOSSUMS A CHANCE: REDUCING URBAN MORTALITY

Although daytime sightings are uncommon, the shy nocturnal Virginia opossum is living among us. The only marsupial native to North America, opossums eat insects, carrion, small rodents, fruits and other plant matter, and small invertebrates including slugs. They change den sites every few days, except when temperatures are below -7°C when they remain in their dens. Opossums are non-destructive, groom frequently, and consume large numbers of ticks. They do not contract distemper and, with a relatively low body temperature, are rarely affected by rabies or other viruses. Defence mechanisms include drooling to appear sick and opening their mouths to display their impressive set of 50 teeth. They may also feign death, which is an involuntary comatose state induced by fear lasting from a few minutes to several hours. Unfortunately, these defences are often insufficient to overcome urban hazards.

Motor Vehicle Collisions:

Opossums are among the ten most frequently killed animals on Toronto roads, where feigning death increases risk rather than serving as a defence. If you find an opossum on the road and it is safe to do so, remove it. Otherwise, in Toronto, call 311 for removal. Even if the opossum is dead, this action will reduce fatalities among other scavengers. Once in a safe place, look and feel for respirations. For all injured or unresponsive opossums, call a Wildlife Centre and minimize stress by covering the animal with a towel and avoiding unnecessary noise and handling. Check the pouch of deceased opossums for young and, if present, leave them in the pouch, put the dead mother on a wrapped hot water bottle, and call the Wildlife Centre.

Premature Independence: Babies will occasionally fall off the mother's back prematurely. Babies more than 7" from nose to rump (excluding tail), can survive independently. If a smaller baby is found alone, observe until nightfall for the return of the mother. If she does not return, wrap the baby in a clean towel, warm with your body heat, and call the Wildlife Centre as soon as possible.



Opossum. Photo: Theresa Moore

Frostbite: Living at the northern edge of their range, opossums are prone to frostbite on their hairless tails and ears. As infection can be life-threatening, observe affected areas for redness, bleeding, swelling or drainage. If an opossum is frequenting your yard during winter, consider building a feral cat shelter (see the Humane Society site for instructions) or purchasing a heated cat shelter.

Winter Starvation and Dehydration: The most important factor determining winter survival is autumn weight. Adults of adequate weight can withstand several weeks of non-foraging. If you observe a juvenile opossum in late autumn that is less than the size of a guinea pig (likely from a second litter), contact a Wildlife Centre. They may choose to over-winter the animal. Access to water, especially after a prolonged den confinement, is even more important for survival than food. An accessible heated bird bath or pet dish can meet this need.

Metabolic Bone Disease: Well-meaning but misinformed supplementation of an opossum's natural diet can result in metabolic bone disease. This painful, crippling, and often fatal condition, resulting from too little calcium and too much phosphorus, is commonly caused by feeding them boneless meats such as hot dogs.

Poisoning: Rodenticides can harm all wildlife. Opossums are at particular risk because they hunt small rodents, eat carrion, and may sometimes be mistaken for rats when young. If opossums frequent your yard, educate your neighbours about their appearance, non-aggressive, non-destructive nature, and beneficial consumption of insects, slugs, and ticks. If rodenticide poisoning is suspected (i.e. black toenails, narrow black rings on the tail, abnormal gait), contact a Wildlife Centre immediately.

Predation: Cats and dogs are the main urban predators of opossums and can cause injury, infection and death. For the safety of all wildlife, dogs should be on a leash and cats should be kept indoors or leashed.

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TREE OF THE MONTH: IRONWOOD (*OSTRYA VIRGINIANA*)

Though I have always known ironwood by this name, its alternate common name of eastern hop-hornbeam is equally well used in conversation and in print. Both common names refer to outstanding features of the tree, and these will be my main focus in this account of one of our most common and recognizable understory trees.

While its leaves are pretty similar to those of many of its birch family relatives, its fibrous, strippy bark is not, and this makes it always recognizable. Even though barks of northern white cedar and eastern red cedar are similar, there is no chance of confusion of this broad-leaved, deciduous hardwood with those scale-leaved evergreen conifers.

Because it grows up under the canopy of larger trees, highly shade-tolerant ironwood typically has a slender, straight trunk. The accompanying photograph shows an atypical tree that was left as a solitary



Left: Typical strippy bark borne by ironwoods of many ages and sizes.

Photo: Ron Dengler. Right: 'Wolf tree.' Photo: Susan Eckenwalder

boundary marker after forest clearance. Like other such individuals of many different species, it has a "wolf tree" appearance, with an uncharacteristically short and thick trunk and wide-spreading major branches.

Many tree species around the world with hard, dense woods are known as ironwood and ours is no exception to that profile. With a specific gravity (s.g.) of 0.70 when air-dried (and 0.78 when oven-dried), ironwood is one of our heaviest common woods. Specific gravity is the ratio of the weight of a certain volume of a substance (usually 1 cubic

centimetre) to the weight of the same volume of water (1 millilitre, which weighs 1 gram). Anything with an s.g. less than 1 floats in water, while objects exceeding it sink. Thus, a block of ironwood bobs much higher in the water than an iceberg (ice has an s.g. of 0.92) and fails to live up to the heavy, sinking feeling of its namesake, iron, which has an s.g. of 7.5 or more. There are much heavier woods in the world than our ironwood, like Ceylon ebony (*Diospyros ebenum*, s.g. 0.91, rivalling an iceberg) or lignum vitae (*Guaiacum sanctum*) of the West Indies (s.g.

1.05), one of the few woods that sinks, even in ocean water which (because of its salts) has an s.g. of about 1.026, depending on its temperature. At the other end of the spectrum, balsa wood, from the American tropics, can barely get its toes in the water, with an s.g. of 0.17.

While the wood of ironwood may fall far short of iron in density, its name actually comes from how hard it is to

saw through, though, once cut, it can be sanded to a very smooth finish. Both of these properties reflect its wood structure: a very high proportion of the wood volume occupied by dense, hard, thick-walled fibres and lighter, water-conducting vessel elements arranged in a diffuse porous pattern, each smaller in diameter than average vessels among our hardwood species. This provides both a very fine texture and a high proportion of dense, tough cell wall material.

continued on page 12

OPOSSUM *continued*

Drowning: Opossums can swim but will have difficulty exiting a hot tub, smooth-lined pond or swimming/wading pool. To prevent drowning: a) provide a water bowl nearby as an alternative water source; b) use night-time hot tubs covers that can support 15 pounds; and c) drape a towel or highly textured hose over the side of the pond/pool and secure it firmly with a heavy object.

Opossums are gentle and beneficial creatures that deserve a special place in our hearts and the environment. Local

wildlife centres (Toronto Wildlife Centre, Shades of Hope Wildlife Refuge) provide valuable support with information, rescue, treatment and rehabilitation, and should be contacted regarding any ill, injured or abandoned animal. If an opossum is admitted for care, consider making a donation to offset the costs.

Theresa Moore

For more information see www.opossumsocietyus.org

WHAT HAS TECHNOLOGY DONE FOR US LATELY?

True confession: I have often been a grump about technology. The past two years have taught me a lot. When the world went into lockdown in March 2020, technology came to the rescue. Virtually overnight, we had to learn to connect online. TFN was lucky that a prescient board and volunteers had already built us a strong online presence. Thanks to their foresight, TFN could switch to online lectures and committee meetings (via Zoom), and pre-register members for walks (via Eventbrite). Of course, we have no staff and no IT department, so we owe all of these program-saving innovations to a handful of dedicated volunteers. They donated their know-how and long hours in the early weeks of the pandemic, while also dealing with their own business and family situations.

Our systems are working. Almost 95% of our members have an email address, with access to the internet. That means 95% of our members can:

- enjoy our beloved newsletter's digital version online
- attend our excellent virtual lectures, offered eight times a year
- pre-register for our guided walks
- explore the TFN website
- attend the February Nature Images event showcasing members' photos and videos.
- scroll through digitized back issues of the newsletter, reaching back to the 1930s
- enjoy TFN's mindful drawing classes, offered virtually

We do have tech hiccups of course, but overall, technology has delivered strong benefits. The print version of the newsletter also remains available as an option for members. I love the print version, and typically have two or three past issues floating around on my desk as souvenirs of seasons past.

For the remaining TFN members (about 6%), who don't have an email address, and probably don't have access to the internet, volunteers have been going the extra mile to keep them connected. Here's how:

- phone help thanks to office and membership volunteers
- mailing out hand-addressed reminders and membership renewal forms
- providing a phone-in number for lectures, so people can listen live on the phone
- continued write-ups of lectures for the newsletter

The pandemic has stretched everyone. I encourage you to support and thank TFN's office and tech volunteers every way you can. Get yourself an email address, if you haven't already, and share it with our office. If you have tech skills yourself, please sign up as a volunteer. We're looking for folks to write blog posts, update web pages, make social media posts, upload to YouTube, manage WordPress, use MailChimp, and a whole lot more! contact webmaster@torontofieldnaturalists.org.

Ellen Schwartzel

TREE OF THE MONTH *continued*

The other common name, hop-hornbeam, references both its (very) close relationship to the hornbeams of the genus *Carpinus* (which include our blue-beech or American hornbeam, *C. caroliniana*, whose flowers and leaves are exceedingly similar to those of ironwood) and the rather looser similarity of its fruits to those of more distantly related beer-flavouring hops. These fruits are unique among our trees, though clearly connected to those of its birch family relatives, blue-beech, birch (*Betula* spp.) and alder (*Alnus* spp.). They consist of a catkin of closely-spaced nutlets, each completely surrounded by its own puffed-up, parchment-like, bladdery bract. The pale green to brown fruiting catkins, 3 to 6 cm long, are very conspicuous against the darker green foliage and provide additional confirmation of identification.

Look for ironwood as a small tree in any of Toronto's parks and ravines, usually as single individuals, but sometimes in sociable gatherings of a few trees standing at least two metres apart from each other.

James Eckenwalder



Left: Two male (R) and one female (L) catkins at pollination.

Photo: Ron Dengler

Right: Fruiting catkin. Photo: James Eckenwalder

WEATHER (THIS TIME LAST YEAR)

February 2021

This winter was in some ways a late bloomer in North America, as the most serious weather of the season did not arrive until mid-February when a massive Arctic outbreak moved down through the Prairie Provinces and Great Plains, reaching all of Texas and even down into Mexico by the 15th. The core of the cold stayed west of Toronto, but we had a moderately cold month overall. A storm track extending northeast from the Gulf of Mexico brought a couple of snowstorms resulting in monthly (and seasonal) snow totals slightly above normal.

Fairly cold weather with persistent below-freezing temperatures lasted until around the 21st while thaw conditions prevailed on the 23rd-24th and 27th-28th. The monthly mean temperature was -3.9° downtown and -5.3° at Pearson Airport. This is about 1° below normal and the coldest for February since 2015. However, there was no extreme cold: the lowest temperature recorded was -18.0° (at the Environment Canada office in Downsview and at

Buttonville Airport in Markham on the 18th). The warmest day was the 24th with a high of 9.1° downtown and 9.0° at the Environment Canada office.

February was slightly dry overall with total precipitation of 39.5 mm downtown (normal is 55.3 mm) and 45.2 mm at Pearson (normal is 50.5 mm). This came largely as snow, which fell several times during the month, but there was a cluster of significant snowfalls on the 16th, 18th-19th, and 22nd. Pearson had 39.2 cm of snow, about 11 cm above the average. Snow pack was present all month, though thin early on. Downtown peaked at 20 cm of snow cover on the 20th and 22nd.

The winter as a whole was slightly milder than normal, with a mean December to February temperature of -1.5° downtown and -2.8° at Pearson. This is about 0.8° above the 30-year average.

Gavin Miller

ABOUT TFN

TFN is a charitable, non-profit organization.

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NEWSLETTER

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**Submissions deadline for March issue:
February 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.

BIODIVERSITY GRADIENTS IN ONTARIO. PART 4, AMPHIBIANS AND REPTILES

With fewer than 25 species each, amphibians and reptiles are our least species-rich vertebrate groups, dwarfed in numbers by birds (about 350 species), freshwater and marine fishes (about 165 species), and mammals (about 85 species). This reduced diversity is partly due to our cold climate since, in contrast to birds and mammals, amphibians and reptiles are cold-blooded (poikilothermic), unable to raise their body temperature through their own metabolic activity.

Both amphibians and reptiles in Ontario are divided between two main subgroups, which differ in biological characteristics that somewhat affect individual species distributions, but with relatively little perturbation of the overall pattern. Salamanders and frogs fairly evenly divide the amphibians, while snakes outnumber turtles two to one. The reptiles also include a single lizard, common five-lined skink, here confined to southern Ontario, and belonging to the same subclass as snakes.

Within the expected pattern of decreasing diversity northward, there are several interesting points of comparison between the two maps. Both amphibians and reptiles reach their greatest diversity in Essex County in the southwest, the warmest part of the province. However, that maximum diversity includes every species of reptile but only three-quarters of the amphibians, so some of the latter are not so dependent on heat as are all of the reptiles.

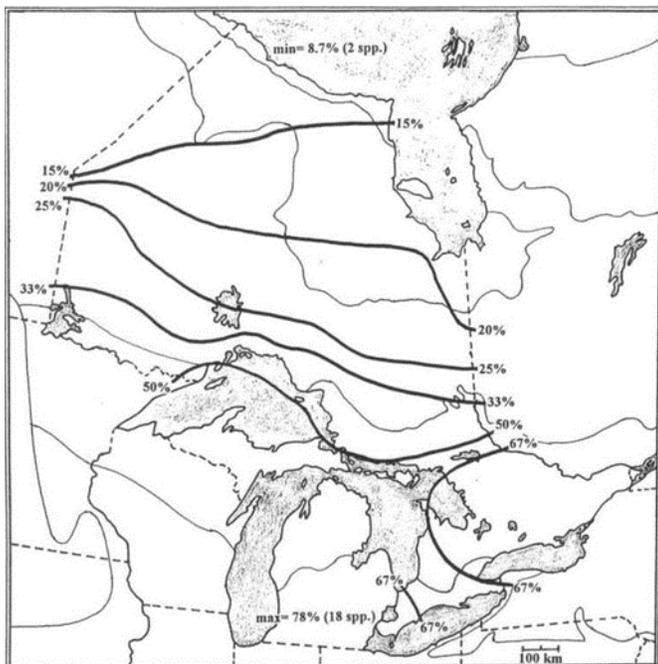
In the northern portion of their distribution, amphibians go much further north than reptiles. Two species of frog,

boreal chorus frog and wood frog, reach the northern tip of the province near Hudson Bay, and four occur north of the northernmost reptile, common garter snake. These differences reflect underlying overwintering strategies and capabilities.

Frogs are much more cold-tolerant than snakes because they can overwinter underwater (absorbing oxygen through their skins) where the minimum temperatures are nowhere near the bone-chilling lows experienced in the forest, even with shelter. While water in the lake bottom sediments in which they settle may freeze, these hardy frogs accumulate antifreeze compounds in their cells that lower the temperature at which their bodies freeze. The very hardest frogs can even freeze solid over winter and thaw back into life in the spring. In the less frigid southern boreal forest and southward, many frogs and salamanders overwinter in the soil, sometimes digging themselves in below the frost line.

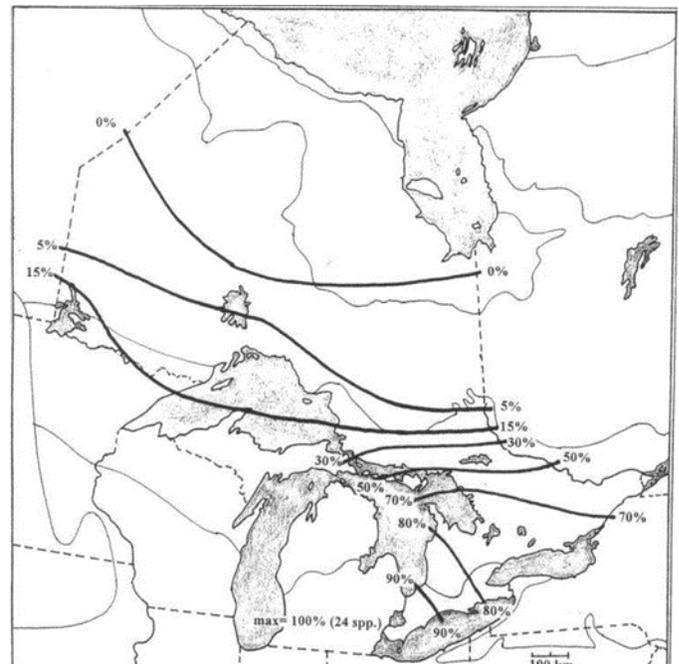
Snakes overwinter in communal hibernacula, underground rock shelters in which they aggregate in dense, intertwined masses that provide some mutual insulation. That's not enough to allow most of them to survive north of the southern boreal forest. For turtles, even though they overwinter in the water, their inability to absorb oxygen through their skins the way amphibians do also keeps them out of most of the boreal forest.

continued on page 15



Diversity of Amphibians in Ontario (23 species total)

Raw data from Smith (1978), Conant & Collins (1991) and MacCulloch (2002)



Diversity of Reptiles in Ontario (24 species total)

Raw data from Smith (1978), Conant & Collins (1991) and MacCulloch (2002)

OUTINGS EXTRACTS *continued from page 7*

Humber Bay East and West, Dec 9. Leaders: Kayoko Smith, David Creelman. Snow from the previous day remained on trails and plants. We talked about the history of Humber Bay Park created by former Metropolitan Toronto and TRCA and opened on June 11, 1984. Humber Bay Park East is undergoing a revitalization project with a timeline from fall 2021 to spring 2024. The southern part is scheduled to be open in summer 2022. Highlights of the day were a Killdeer in the parking lot, a Northern Mockingbird perched on a bare branch out in the open and a Cooper's Hawk trying to ambush song birds in the thicket. American Wigeon and Hooded Merganser were bobbling in the north part of the storm pond. In total, we observed 23 species of birds this cloudy winter day including Northern Cardinal, Song Sparrow, Mourning Dove, Downy Woodpecker, House Sparrow, Rock Pigeon, hawk, chickadee, Bufflehead, Mallard, Common Goldeneye, Red-breasted Merganser, Mute Swan, American Black Duck, Peking Duck (white), Long-tailed Duck, Herring and Ring-billed Gulls and Canada Geese.

Cherry Beach and Villiers Island, Dec 21. Leader: Charles Bruce-Thompson. Most of the walk was around the massive construction site bordered by the Don Roadway, the Port Lands Ship Channel, Toronto Harbour and Keating Channel. We saw the newly excavated Don



Killdeer, Leslie Street Spit, June 2012. Photo: Ken Sproule

River bed parallel to Keating Channel. We admired the several smart new bridges that will connect Villiers Island to the city, two on Cherry Street and a double bridge on Commissioners. All this is part of the Port Lands Flood Protection Project. Construction began in 2017 and is expected to be completed in 2024. At the moment it's a scene of utter devastation. Walking along Cherry Beach, we saw rafts of Common Goldeneye and Redheads along with some Red-breasted Mergansers. We later saw a Northern Mockingbird and two Song Sparrows.

Necropolis and Riverdale Farm, Dec 28. Leader: Ellen Schwartzel. This Necropolis-Cabbagetown walk allowed a wintery perspective on two of Toronto's oldest cemeteries: St James and the Necropolis, each with a lovely Gothic revival chapel. Fresh snow and a bit of sun provided atmosphere, but also made for icy pathways. A robin called from a crabapple tree. Red-tailed Hawks were seen overhead. Our route through Cabbagetown included Wellesley Park, one of many Toronto parks with an industrial past. In the 19th Century, the site was a tannery and glue factory, owned by Daniel Lamb, the founder of the Riverdale Zoo. Washrooms – clean, warm and kept open all winter by the City – are a welcome feature at Riverdale Farm.



Northern Mockingbird, Humber Bay, Dec 2010. Photo: Ken Sproule

BIODIVERSITY *continued*

The upshot of the differences in overwintering abilities of amphibians and reptiles means that, while about 30% of Ontario's amphibian species extend north of the southern boreal forest, only 5% of the reptiles do so. At the other end of the temperature spectrum, summer warmth certainly impacts the abilities of amphibians and reptiles to complete their breeding cycles, not least through

availability of prey, but this does not appear to be much reflected in their collective distributions. Instead, the overwhelmingly dominant factor in the species richness of our two cold-blooded terrestrial (and amphibious) vertebrate groups would appear to be winter cold.

James Eckenwalder

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TFN LECTURE

Sunday, February 6 at 2:30 pm

See page 3 for information about lectures via Zoom

Conserving Caribou — Matters of Space, Time, and Scale



Jim Schaefer, Professor of Biology, Trent University will speak about “one of the most mobile pedestrians on the planet and also one of the most daunting challenges in conservation.”

Upcoming Lectures:

Photo: Jenny Bull

- March 6 Trumpeter Swans: Back in Ontario's Ecosystem.
Donna Lewis, Swan Keeper at Adena Springs North
- April 3 Mushrooms: An Introduction to Field Identification.
Kathy Vatcher, Course Instructor, Mycological Society of Toronto
- May 8 Restoring the American Chestnut in Ontario.
Ron Casier, Chair, Canadian Chestnut Council