President's Message

Although we did not acknowledge it, September 2023 was North Durham Nature's tenth anniversary. Back in 2013 several like-minded people came together to see if there was interest in starting a nature club in this area. Durham already had two naturalists' clubs: Durham Region Field Naturalists and Pickering Naturalists, but their area of interest focussed on the southern more urban parts of the Region. Other nature clubs had their home bases to the east and west of us but there was a void in Brock, Scugog and Uxbridge Townships. We are blessed with many accessible natural areas in North Durham that include Nonquon Provincial Wildlife Area, Beaver River Wetland, East Cross Forest, Uxbridge Countryside Preserve, Walker Woods and Glen Major Forest to name a few, so it seemed natural to have a nature club here.

The idea of the club came from several local naturalists that were participating in a variety of citizen science projects such as Christmas Bird Counts, the Ontario Reptile & Amphibian Atlas, CBCforKids, The Brook Never Sleeps, bluebird nest box trails and butterfly counts. Alan Wells was the first president, who was succeeded by Derek Connelly and then Cara Gregory. The first official meeting was held at the Greenbank United Church with Geoff Carpentier making the first presentation on hawks. This meeting was well attended, so clearly there was a lot of local interest. Geoff Carpentier produced the first newsletter in January 2014 and has edited every one since.

Initially called "North Durham Nature Club", the name was eventually shortened to "North Durham Nature". Since most of the membership lives in Scugog or Uxbridge, we have decided to alternate our regular meetings between Port Perry and Uxbridge. I know of no other club that routinely alternates the venue for its meetings in this manner.

To me, it feels like NDN has been around for more than 10 years, with all of our presentations, outings and activities. I believe that NDN has become quite well known in the community and we have attracted a substantial membership of local residents interested in nature. No organization can operate without the help of its members, so an active executive board has been instrumental in keeping the club going since its inception. There is much to do: securing meeting venues, arranging speakers, scheduling hikes, tracking the membership, looking after finances, updating the website, publicizing our events and producing the newsletter. I am grateful to all the members who complete these tasks to keep NDN going.

Well, our first decade was a success, so let's keep it going for the next 10 years (and more).

James Kamstra, President, North Durham Nature

Upcoming Events – January to March 2024

Upcoming Meetings

April 23, 2024 – Dale Leadbeater, Botanist, Kawartha Field Naturalists
"Completing the Flora of Kawartha Lakes"

May 28, 2024 – Jay Thibert, North Durham Nature
"Bruce Trail: A Ribbon of Wilderness"

June 25, 2024 – Michael Pavan, Kawartha Farmer
"Managing Agriculture for Biodiversity"

Upcoming Walks and Outings

Saturday, April 13, 2024:	Sunset on the Beaver River: Geese and Early Marsh Birds (evening)
Saturday, April 27, 2024:	Spring Ephemerals (Part I) (afternoon)
Wednesday, May 1, 2024:	Frog Walk (evening)
Saturday, May 4, 2024:	Spring Ephemerals (Part II) (afternoon)
Saturday, May 11, 2024:	World Migratory Bird Day (morning)
Saturday, May 18, 2024:	Beauty & the Beast – Wildflowers & Garlic Mustard (morning)
Wednesday, June 5, 2024:	Bobolinks and Meadowlarks (morning)
Saturday, June 15, 2024:	Butterfly Count Primer

It's time to get ready to welcome back the bluebirds

By Carly Davenport
Photo by Geoff Carpentier

This article was adapted with permission from the British Columbia Bluebird Society.

Several species of birds are harbingers of spring, including Red-winged Blackbirds, American Robins, Osprey, swallows and others. But probably the prettiest and most revered and anticipated is the return of the bluebird. Here in Ontario, we look forward to the return of the Eastern Bluebirds.

Humans have been building bluebird nest boxes for several decades, which has been the main reason for the bluebird population's resurgence during the last 50 years. If there was ever a community-based initiative to help save an endangered species, the establishment of bluebird nest boxes all over North America is a good example! The decline of the bluebirds was primarily due to the lack of adequate nesting sites, which was caused by several factors. These include changes in farming practices and the removal of fence posts that used to provide hollow cavities; apple

orchards no longer having older trees with hollow trunks and branches; competition from other non-native birds (e.g. European Starling), pesticides and the general practice of people removing dead and hollow trees from their yards and landscapes add to the decline.

There are 5 species of birds that routinely use the bluebird nesting boxes – Eastern Bluebirds, Tree Swallow, House Wren, Black-capped Chickadee, and unfortunately the House Sparrow (which isn't really a sparrow, but an invasive species of weaver finch that originates in North Africa and Eurasia). Allowing the House Sparrow to successfully raise a brood of young does more damage than good for the bluebird population! So, if you aren't going to keep these sparrows out, please consider taking down bluebird nest boxes on your property. House Sparrows frequently trap bluebirds in a nest box and kill them. Please also remember to install nest boxes on freestanding poles with effective predator guards affixed to them to keep mammalian predators out. Now is the time of year when preparations need to be made for the bluebirds' upcoming nesting season. So, get out there to clean out your boxes and complete any repairs that might be needed from the winter months.

There is so much to learn about bluebirds, and watching out for their return is an exciting part of every spring. If you would like to participate in NDN nest box monitoring, please contact Derek Connelly at ndnature7@gmail.com. And if you would like to learn more about Eastern Bluebirds, please check out the Ontario Eastern Bluebird Society at www.oebs.ca

Why Linear Thinking is Dangerous

A recent study published in the journal Biotropica[1] shows just how complex interspecific relationships can be.

By Geoff Carpentier

In its simplest forms, linear thinking presumes that, if you have a problem, a simple analysis or quick fix can lead to a solution that, when applied, solves the issue. Systems level thinking, on the other hand, goes beyond that and presumes that all aspects of a system must be considered and thought through both from an implementation and consequences perspective. All components of the system influence each other and therefore must be considered with a multidimensional approach.

Too often our planners and politicians try to fast track our decisions and diminish our obligations as we try to preserve the natural environment, while still trying to permit needed development. This got me thinking and I found an interesting article that demonstrates how linear, uninformed thinking can have catastrophic results when complicated interspecific systems are not fully considered.

There is a species of acacia in East Africa called the Whistling Thorn tree (*Acacia drepanolobium*) which has an interesting relationship with birds and ants. The interaction with Acacia ants was previously well-studied and it was known that the ants protected the tree from herbivores in exchange for access to nesting sites in the hollowed out bases of some of the thorns on the trees. Additionally, the tree produces droplets of nectar upon which the ants feed.

The new study revealed a much more complex relationship involving at least three species of birds in addition to the ants. Superb Starling, Gray-headed Sparrow and Gray-capped Social-weaver also benefit by the presence of the ants. Researchers in Kenya found that these birds chose to nest almost exclusively in Whistling Thorn trees where two of the most aggressive of these ant species also nested.

The study showed that out of 60 nests built by the three species of birds only one was built in a Whistling Thorn tree occupied by a less aggressive species of Acacia ant. Due to their aggressive protection of the tree, the ants provide unwitting protection to the birds as well by defending them against predators such as snakes and tree-climbing predators. The mechanism of defence is simple – when predators attempt to raid birds' nests, the parent birds mob the attackers and therefore the trees shake and the ants are alerted and attack the interlopers.

The ants provide other benefits to birds beyond this defense against predators. At least one species of Acacia ant actually prunes the trees so that its branches don't intersect a neighbouring tree's branches. The reason is to prevent other species of ants from simply climbing over the branches to nest in the pruned tree! The pruning results in denser leaf cover that likely gives greater protection to the birds' nests against predators. Surprisingly perhaps, the ants never harm the birds nesting in the tree.

The author of the study is quoted as saying "A deceptively simple ecosystem, dominated almost exclusively by Whistling Thorn trees and a small number of grass species, harbors complex relationships. Without the ants, the trees, songbirds, and some nest predators wouldn't be there".

So you can imagine by this one example that if any one of these influencing agents was removed from the equation related to this complex relationship, the outcome will likely be catastrophic for all the entities. In this case, a new threat is on the horizon – the Big-headed Ant has invaded this part of Kenya and is a very aggressive rival that will kill even the most dangerous of the Acacia ants and that, in itself, will assuredly affect these pre-existing interactions.

[1]***Original article entitled "****Symbiotic acacia ants drive nesting behavior by birds in an African savanna" by Ema Lujan, Ryen Nielsen, Zoe Short, Samuel Wicks, Wilson Nderitu Watetu, Leo M. Khasoha, Todd M. Palmer, Jacob R. Goheen, Jesse M. Alston in Biotropica*

Spring Butterflies in North Durham

Text and photos by James Kamstra

Arctic Skipper

With spring comes a return of birds but also wildflowers and butterflies. The peak season for butterfly diversity and numbers is June and July into early August, which is the time when butterfly counts take place. A number of species can also be encountered in North Durham earlier in spring, however. A few can even be seen in March and as the season progresses the number of butterflies increase in number and variety. See the table (below) which shows the approximate date when the first individuals of each spring species can be expected to appear in North Durham and the number of generations per year.

Note that the table only shows species that fly before June. The very earliest species can be seen on the wing on warm sunny days in March. These include the Mourning Cloak, Compton's Tortoiseshell and Eastern Comma, all of these species emerge as adults in autumn and then find a place to spend winter such as in a tree crevice or a hollow log. A few others, which include Red Admiral, American Lady and Question Mark, are migrants that winter in the southeastern United States and head north earlier than Monarchs. The numbers of these species fluctuate significantly between years. They may be abundant one year and then rare or completely absent the next.

Eastern Pine Elfin

Most of the others in the Table overwinter as pupae, which are well-hidden to avoid detection by predators, and then emerge in warm spring weather. Their larvae grow through the summer, and then pupate late in the season. Species which can appear in April include Cabbage White, Mustard White, Eastern Pine Elfin and Northern Azure. These may be familiar to most, except for the Eastern Pine Elfin. It is a small brown, easily overlooked butterfly that resembles a moth. But do not confuse it with the Infant Moth, a medium-sized moth that is seen flying on sunny days in April and early May.

More species emerge as May progresses, particularly once the trees and shrubs leaf out. Note that the start flight time shown in the Table can vary from one year to another depending on how early spring arrives. With a warming climate some of the butterflies may appear earlier.

Mourning Cloak

Silvery Blue

Species	Start of Flight Time	Broods / year
Black Swallowtail	Mid-May	two
Canadian Tiger Swallowtail	Mid-May	one
Mustard White	Late April	two
Cabbage White	Mid-April	multiple
Clouded Sulphur	Early May	three
American Copper	Mid-May	two
Eastern Pine Elfin	Late April	one
Eastern Tailed Blue	Mid-May	three
Northern Azure	Mid-April	two or three
Silvery Blue	Early May	one
Meadow Fritillary	Early May	two
Pearl Crescent	Mid-May	three
Northern Crescent	Late May	one or two
Question Mark	Early May	two
Eastern Comma	Mid-March	two
Gray Comma	Mid-April	two
Mourning Cloak	Mid-March	two
Compton's Tortoiseshell	Mid-March	two
American Lady	Early May	three
Painted Lady	Early May	three
Red Admiral	Mid-April	three
Viceroy	Late May	two
Little Wood Satyr	Mid-May	one
Inornate Ringlet	Mid-May	two
Silver-spotted Skipper	Mid-May	two
Northern Cloudywing	Late May	one
Dreamy Duskywing	Early May	one

Juvenal's Duskywing	Early May	one
Arctic Skipper	Late May	one
Least Skipper	Late May	two
Tawny-edged Skipper	Late May	one
Hobomok Skipper	Late May	one

Nature Quiz – What am I?

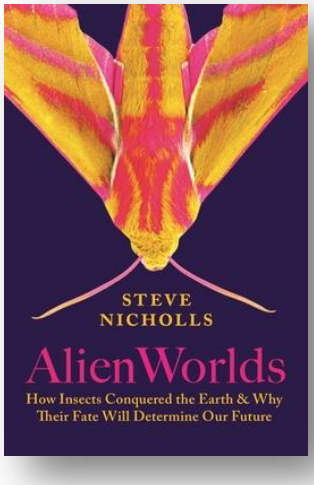
Hmm looks pretty snakey or maybe wormy?!? Right shape and colour is good but is it a snake? I'll give you a hint, this was not photographed in North America but rather in Paraguay – yeah I know my hint sucks, but ….

I like to eat a wide variety of insects, spiders and other invertebrates as well as small reptiles and sometimes small baby rodents.

Book Reviews

By Geoff Carpentier and Derek Connelly as noted below

Alien Worlds - How Insects Conquered the Earth and why their fate will determine our future. Steve Nicholls. 2023. Princeton University Press, Princeton, New Jersey, 08540. 496 pages. $39.95 USD. ISBN: 978-0-691-253589.



Reviewed by Derek Connelly

The full-page tilting head shot of the African mantis is a definite alien, as if to say "hello, welcome to our world". It's a creepy but funny enticing start. You can pick it up and start on any chapter but the rich content is all connected. It's an entertaining read even if you have no science background, but the science is still all there.

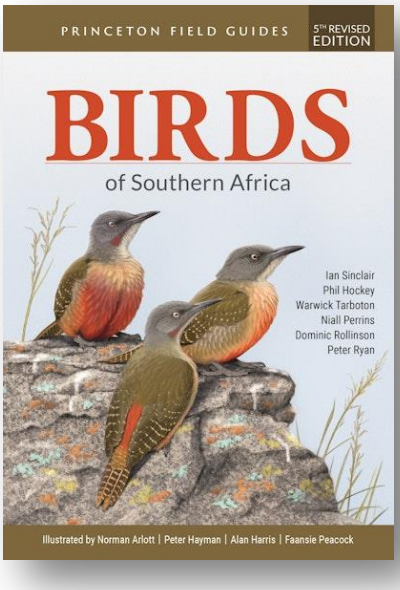
I spotted this book on the shelf in the Uxbridge library and picked it up. The title and photographs lured me in. I started reading it and was amazed at the detail and lighthearted writing. It's packed with fascinating insect facts and short personal experiences from

this successful Emmy award winning professional naturalist. With a Doctorate in Entomology, the author branched out to direct and produce wildlife documentaries first with BBC Nature and now across the world (Appalachia: The Endless Forest). Nicholl's is also the author of a number of books (Flowers of the Field: A Secret History of Meadow, Moor and Wood; and Paradise Found: Nature in America at the time of Discovery).

This book is loaded with over 500 notes and references at the back connecting biological and historical facts he uses with scientists, poets and other experts or notable characters. The book is broken into 11 chapters - each another journey into insect evolution. The first few pages of photos and graphs let you know you are in for a treat. The photographs are incredible and overall follow along with the text. I wanted more photographs, but as he writes not every insect described has been photographed, perhaps in further editions! I found the chapter on flight particularly interesting describing not only the ideas of the evolution but the intricacies of the wing movements and their pros and cons from an engineering success. We can learn so much from insects. As I read the last chapters about the social insects I wondered if their ordered structure is the only way for humanity to survive too.

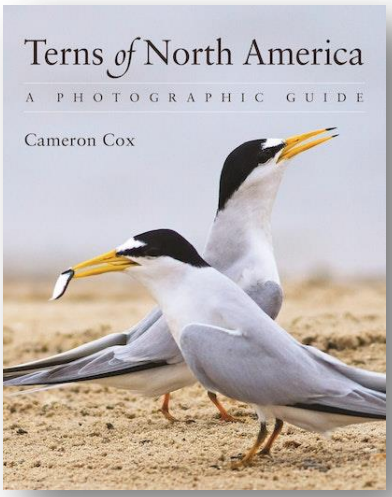
Geoff would now like to introduce you to three new titles from Princeton – two on birds and one on butterflies.

The Birds of Southern Africa. Ian Sinclair, Phil Hockey, Warwick Tarboton, Niall Perrins, Dominic Rollison and Peter Ryan. 2023. Princeton University Press, Princeton, New Jersey, 08540. 488 pages. $39.95 USD paperback. ISBN: 978-0-691-248493.



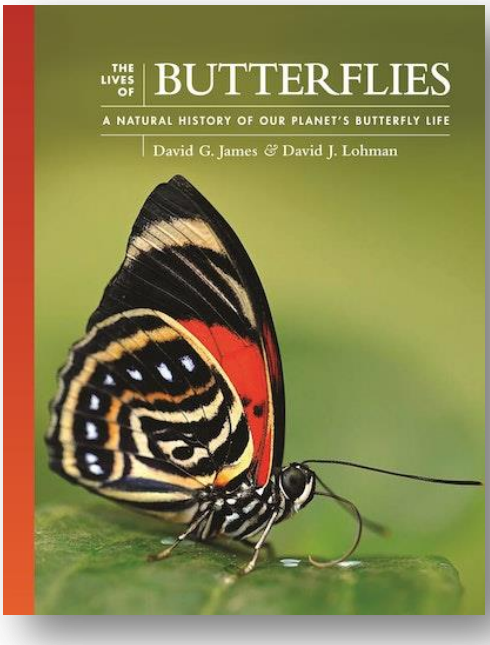
Briefly this book lives up to the standards set by Princeton to produce accurate and useful field guides that are well illustrated and informative in all regards. What I liked most were: (1) the paintings were concise and clear; (2) the authors used arrows to show salient field marks for confusing species (much like Peterson did in his ground-breaking early field guides from the mid-1900s; (3) the range maps showed seasonal distributions that were color coded and (4) the little bar chart of expected months of occurrence were most useful. All this, together with a quick index at the front of the book and text that briefly explains habitat, field marks, behaviour, migratory status and voice, makes for a book with a lot of information packed into a guide book that covers the countries of Namibia, Botswana, Mozambique, Zimbabwe and South Africa. I'm hoping to field test this on in late 2025 when I head to that part of the world!

Terns of North America. Cameron Cox, 2023. Princeton University Press, Princeton, New Jersey, 08540. 360 pages. $27.95 USD paperback. ISBN: 978-0-691-16187-7.



I find the terns one of the hardest groups of birds to identify, since so many look almost identical when seen from a distance. The subtleties of wing tip colour, underwing patterning, tail length and more make them very challenging. I must admit as soon as the book was described as being a photographic guide, I was skeptical. This is simply because usually few photos support the text and the ones chosen may be pretty but not necessarily diagnostic. Well, when reviewing this book I can throw that assertion aside. There are hundreds of top quality photos in this book that show every angle, every moult pattern, every age and most lighting conditions. Additionally, the author has carefully chosen many photos to show comparisons with other terns and gulls so we can learn about size and structure. The accompanying text explains in detail how the plumage may change seasonally and geographically. I was particularly impressed with some comparisons of hybrid birds and more so with the detail afforded a common species such as the Common Tern, where you might be shocked to see the variation that a single Common Tern might demonstrate in the course of a few months in the spring and early summer! A great book if you love (or hate) terns!

The Lives of Butterflies – A Natural History of our Planet's Butterfly Life. David G. James and David J. Lohman. 2024. Princeton University Press, Princeton, New Jersey, 08540. 360 pages. $35.00 USD paperback. ISBN: 978-0-691-24056-5.



I have many butterfly field guides but few tell the story of the lives of these marvelous creatures. The field guides are great to show features and give details of habitat and range, but what about the intimate details of their lives? Worldwide there are about 15,000 species of butterflies, but luckily they can be lumped into families and groups that have similar habitats, breeding cycles and behaviour. This book builds on the premise as it introduces us to the major groups explaining life histories, habitat preferences, population trends, seasonality, defense, natural enemies, threats and conservation. The seasonality conversation is particularly useful as anyone who studies butterflies knows their appearance varies throughout the summer season. They have very specific flight periods. (Editor's Note: See James Kamstra's article on pages 4-6 of this newsletter for more on that). Okay sounds easy enough – there are

only 7 families of butterflies and within those 39 subfamilies – how hard can it be? Let me just say "Skippers" – even within that small group of butterflies, you will be greatly challenged. This book won't tell you everything but by the end of it you will certainly know a lot more than before you picked it up. I like to get the "back story" on things I've studied for decades as I move beyond just seeing and identifying them to understanding them! I think you will really like this book. I did.

Fact or Fiction?

Text by Lynda Kamstra
Photos by Linda and James Kamstra

Monarch Butterflies are not the only insect migrants in Ontario

FACT: Monarch Butterflies are celebrity long-distance migrants, but other less famous insect migrants do exist in Ontario. Amongst the butterflies, migrant species include the Red Admiral, Painted Lady, American Lady, Orange Sulphur, American Snout, Question Mark and Common Buckeye. These species tend to occur in lower numbers and demonstrate significantly greater population fluctuations than our resident species.

Several dragonfly species also migrate: Green Darners, Black Saddlebags, Wandering Gliders, Spot-winged Gliders and Variegated Meadowhawks. Over the years, there have even been irregular reports of migrating flower flies; in particular, the Common Drone Fly, migrating on both the east and west coast of North America but little is known about them. [1]

American Ladies are migrants to Ontario (Photo: Lynda Kamstra)

Recently, Jeff Skevington and Matthias Buck documented migration of potter wasps while at Point Pelee during September bird migration season. Here they observed thousands of potter wasps *(Ancistrocerus adiabatus)* moving in a southwesterly direction along the Lake Erie shoreline when the winds became northwest. This is an area known to concentrate bird and other insect migrants. That same day, they witnessed other congregating insects: six species of flower flies and two species of dragonflies. There were few wasps to be seen the next day. The conclusion was that the wasps had left with the other migrants riding the wind southward. The point was made that further observation and research is needed to delve deeper. [2]

Compared to bird and mammal migration, insect migration is not widely studied. As you can imagine, researchers are faced with great difficulties when tracking the seasonal movement of large numbers of small delicate organisms over long distances that may involve several generations! With advances in technology, there have been recent intriguing studies that do delve deeper.

A 2018 study using stable-hydrogen isotopes and data from both museum specimens and citizen science, revealed that there are three generations involved in the migratory cycle of the Green Darner *(Anax junius)*. Note: There are two populations of Green Darners in Ontario that are genetically distinct: resident and migratory forms. The resident population was not part of the study. Findings: The first generation migrates northward, reproduces and dies. The second generation migrates back south, reproduces and dies. Finally, the third generation remains resident in the south, but its offspring represent the next cohort to migrate back north to begin the cycle again. Green Darners that you see in early spring and later in the fall are likely migrants. [3] A 2019 University of Guelph study tagged Monarchs and Green Darners with tiny radio-transmitters that ping off Motus towers. It was discovered that in one day, with wind assistance, one Monarch travelled 143 km and a Green Darner travelled 122 km. They also discovered that higher temperatures resulted in faster speeds. [4]

Both resident and migrant populations of Green

Future insect research will benefit from the following emerging technologies:

a) computer visioning (e.g., developing AI to identify digital images of insects)
b) acoustic monitoring (e.g., vocalization and flight sound recording observatories)
c) Radar and Lidar (e.g., large scale monitoring of insect movement)
d) molecular methods (e.g., DNA metabarcoding, eDNA, eRNA). [5]

It is estimated that 80% of insects are not even described and knowledge about their migration is even more poorly known. It is exciting to know that new technology is giving entomologists the potential to leverage access to new areas of research and methodologies!

[1] https://www.rom.on.ca/en/collections-research/magazine/insect-migrations

[2] https://www.canadianfieldnaturalist.ca/index.php/cfn/article/view/2667

[3] https://royalsocietypublishing.org/doi/10.1098/rsbl.2018.0741

[4] https://royalsocietypublishing.org/doi/10.1098/rsbl.2019.0327

[5] https://www.sciencedirect.com/science/article/pii/S0169534722001343?ref=pdf_download&fr=RR-2&rr=85c346b4aa497114#bb0495

Nasty & Nice Nature News

Compiled by Geoff Carpentier

Baby Monkeys in Peril: We've known for a long time that palm oil and the plantations on which it grows have devastating negative impacts on biodiversity. A new study with a team made up of representatives from Universiti Sains Malaysia (USM), the German Centre for Integrative Biodiversity Research (iDiv), Leipzig University (UL), and the Max Planck Institute for Evolutionary Anthropology (MPI EVA) has found that the impacts may be even more severe than we thought. Palm oil is used in various consumer products such as food, cosmetics, detergents, and biofuel. Over half of all packaged products consumed by Americans contain palm oil, according to the World Wildlife Fund (WWF). The Southern Pig-tailed Macaque, an Asian species of monkey, is experiencing alarming rates of infant mortality due to exposure to pesticides used in palm oil plantations. Shockingly, researchers discovered that 57 percent of macaque infants born between 2014 and 2023 died before reaching one year of age. This mortality rate is significantly higher than that observed in other wild primate populations and researchers found that baby macaques, with higher exposure to these chemicals, were three times more likely to die prematurely. (Source: www.onegreenplanet.org) Perhaps we all should be more aware of environmentally unfriendly practices in the agricultural industry and choose products that don't harm wildlife.

Maple Sugar Production May Be Shifting Northward: According to the Ontario Maple Syrup Producer's Association, early spring and late winter thaws are upsetting the cycle of maple syrup production and harvest. The regular and predictable cycle has for generations been consistent and maple syrup producers could rely on it. With climate change however the cycle is disrupted in some years (e.g. 2022) and it may be that the industry needs to look further north if maple syrup is to continue to be a staple of the Canadian economy. (Source: The Canadian Press)

Kiwis Should Not Be used as Dog Treats: A chain of New Zealand hardware stores, Mitre 10, has removed dog toys shaped like kiwi (birds) from their shelves. Their removal was prompted by complainants who found the toys offensive in light of the kiwi's population decline and their significance to indigenous communities and New Zealanders at large. Who ever thought this was such a great idea that they'd market it? (Source: www.onegreenplanet.org)

Fluorescent Frogs – a Concept New to Science: According to a report published in the scientific journal Nature, a creature absorbs high-energy light wavelengths and then re-emits that as light wavelengths that have lower energy. This results in the creature glowing. Often these glows are perceived by humans as greens, reds or blues. Frogs have fluorescent proteins, pigments and other chemicals in their skin. When a living thing gives off light in this manner, it's called biofluorescence. This fluorescence in frogs was only discovered in 2017, primarily due to the fact that scientists previously only looked at violet and ultraviolet light. When they expanded the studies to include three additional colours of light the outcome was shocking as it seems most/all frogs (151 species in this study alone) utilize bioluminescent triggers in their life processes. The study found that most of the frogs' fluoresce was seen under blue light. In nature, this type of light is found at twilight. Much of the fluorescence is linked to mating, but other types of fluorescence may be intended to deter predators (e.g. orange). (Source: www.nature.com) More on how animals perceive colour can be viewed at https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3002444

Hermit Crabs Call Trash Home: Studies out of two universities in Poland have shown that about 2/3 of the 16 species of land dwelling hermit crabs are utilizing plastics and glass as a substitute for traditional abandoned seashells as their home. This response is global in nature according to the study and may simply have to do with the fact that seashells of suitable size and shape may be limited, while plastic is everywhere. Additionally and perhaps more to the point, hermit crabs seem to be attracted to odours emitted from certain types of plastics and this may be the draw that leads them towards these man-made products. (Source: Journal of the Science of the Total Environment)

Over One Million Animals are Killed on GTA Roadways Every Year! The highest mortality rates are seen in reptiles and amphibians (e.g. American Toad, Green Frog, Gray Treefrog and Northern Leopard Frog) according to research work being conducted by TRCA and the U. of Toronto. (Source: Postmedia)

The 3rd Ontario Breeding Bird Atlas Update

Okay it's April and spring has sprung for sure … so let's get out there and see how our birds are doing. Any questions let Geoff Carpentier know … check out the website below for more info and instruction at https://www.birdsontario.org

Answers to Nature Quiz – What am I?

This critter was out and about in the daytime in a dry habitat in the Chaco region of Paraguay and is in fact a species of Glass Lizard (*Ophiodes intermedius*).

Glass lizards are long, slender, legless lizards that superficially resemble snakes. They differ from snakes though in that they have moveable eyelids, external ear openings and inflexible jaws.

Glass lizards forage actively by day in open habitats but are commonly found taking refuge beneath boards and other debris. When seized, glass lizards commonly break off all or part of their tail (which makes up more than half of their total length) and will later regrow it. With the predator distracted by the wriggling tail, the lizard is free to escape.

Glass lizards earned their name by their propensity to "shatter" by breaking their tail, often in several pieces. The common belief that these pieces can rejoin is a myth, although the tail will slowly regrow over a period of months or years. The picture above gives you an idea of scale as this is a small lizard.

Nature's Pretty Side

A Medley of Squirrels *By Geoff Carpentier*

Previous page: Gray Squirrel (Black morph); This page: Top Row: Groundhog and Red Squirrel; Second Row: Northern Flying Squirrel and Gray Squirrel (Gray morph); Third Row: Eastern Chipmunk

For more information about NDN

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and our website
www.northdurhamnature.com

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