



Gypsy Moth

Photos (except male Gypsy Moth) and text by Geoff Carpentier

Male Gypsy Moth courtesy of Butterfly Conservation

Last year the Gypsy moth reared its fuzzy little head and this year promised to be even more problematic for our battered forests. Millions of them were here last summer and now it seems to have increased exponentially as the hatch was excellent this spring. The devastation is widespread and far-reaching, but not evenly spread across the province. I travel widely at this time of year doing breeding bird surveys so have had many opportunities to watch them as they munch their way across the landscape. I recall one of the first impressions they left when I was in a soybean field bordered by mature oaks. The trees were not badly damaged yet but the ground was covered by tiny granular crunchy blobs, which I soon realized were caterpillar poop. When I started to listen and look, I could see the caterpillars in the canopy and feel the tiny granules dropping all around me – time to put my hat on! On another occasion I looked in awe as they marched across a roadway on their way to the next host tree. Not only were the furry little blokes on the move, but they had been for some time as the crushed carcasses indicated. Car tires and feet had killed many of them.



Here's a bit of a backgrounder on their biology and history.

Right now the caterpillars are still active and can be characterized as varying in size, depending on which instar (juvenile stage) they are in. They grow rapidly, shedding their skin several times (five times in males and 6 times in females), as they gradually, over the next 6-7 weeks, get larger. The caterpillars are gray with small tufts of hair along their sides and several diagnostic pairs of red or blue dots (tubercles) on their dorsal surface, which are blue towards the head and red along the middle and back end. As they grow larger, they may start feeding more during the day and that's when we often notice them. Finally they enter a pupal stage near the host trees, choosing rocks, trees trunks, buildings and other hidden places and may even be wrapped into folded leaves. This is the phase where they will transform over the next 10-14 days into adult moths, which will carry out the reproductive part of their life cycle.



The female is a white moth (see photo to left) with small black flecks on the wings and is flightless. Soon you will see her sitting on the bark of a tree with a pale sandy coloured fuzzy looking mass underneath her. This mass is her eggs, 100 to 1000 of them, that will survive the winter. Next April they will hatch and start to disperse by a mechanism known as ballooning, where they move to the ends of branches and let the wind carry them to a food tree. Newly hatched caterpillars are small and are often overlooked.

Look for a light to dark brown, medium-sized moth flying around in a seemingly erratic way. These are the males (see below). They are 'sniffing' the wind while being drawn to the females by pheromones she releases.

Originally from Europe this invasive insect was accidentally released near Boston in 1868, and then spread throughout much

of northern and west-central USA and central and eastern Canada. There were few predators to stem their expansion and many birds and other organisms hadn't developed mechanisms to feed on them yet. But spread they did!

Flash forward – in the 1970s and 1980s, they were a huge problem as they emerged in the millions in many areas including Durham and the Kawarthas. Huge swarms of them could be seen feeding on virtually any type of tree, but favouring maple, birch, oak and aspen. They are called outbreak species and may be present for two or three years then seemingly disappear. Longer events are the ones that are most devastating to trees. As trees are defoliated year after year, they weaken and can die and other diseases and insects can attack them. The Gypsy moth rarely seems to cause the widespread fatal damage that the Emerald Ash Borer causes.



From a human perspective, they can be irritating because of the damage they do, but also the hairs of the caterpillars can be irritating to human skin (see photo to the right).



So what should you do? This is a tricky question and really depends on the value you put on your trees and the environment in general. Most healthy deciduous trees will start to refoliate as soon as the caterpillars are gone and can

survive 1 or 2 seasons of heavy defoliation, so doing nothing can be an option. That also is beneficial to other wildlife because many birds and other animals now feed on them. I did a study in the 1970s and found over 70 species of birds feeding on the larvae in the Peterborough area, although it was not a favoured food. Insects are already in serious decline throughout the world, so unnecessarily killing insects seems ill-advised. The use of insecticides is indiscriminate and will kill many beneficial insects as well. Many biological organisms from parasitic wasps, fungal and viral pathogens, birds, mice and shrews are doing their part to stem the spread naturally, so nature is hard at work!



For more info see NDN's Nature Nugget *Invasion of Gypsy Moth* <https://fb.watch/6qZFalbxhA/>

Birdathon Update

Well Covid coupled with a strange migration phenomenon turned my annual birdathon adventure into something unexpected – a non-event. That's not to say I didn't see birds or that I didn't try. The strong and persistent south winds that buffeted us for much of late May pushed the birds through at high speed onto their breeding grounds. They moved through so quickly that the expected concentrations of birds at migration hotspots never occurred. That left me looking for stragglers.

So, ever innovative, I decided to see how many species I could see in the month of May. And what a great number it was – 212 species in fact. Included amongst these were many rarities or difficult to find species, such as Eurasian Collared Dove, Black-necked Stilt, Snowy Egret, Yellow-crowned Night-Heron, Yellow Rail, Glossy Ibis, Chuck-wills-widow, and Yellow-throated, Prairie, Kirtland's, Prothonotary & Cerulean Warblers, Painted Bunting and Blue Grosbeak. Now that's a high-tech list! And even more importantly thanks to all of you and your much appreciated support I've raised almost \$3500 – incredible generosity on the part of NDNers and others who gave so generously. Your \$\$\$\$ will help so many birds. Thank-you!

Focus on Nature

Planting Tips and the UN Decade for Ecological Restoration

Text by Pat Baldwin

Photo of Goldenrod by Geoff Carpentier

The United Nations has kicked off its new *Decade of Ecosystem Restoration* this month. There are new projects happening worldwide, focussing on the remediation of the damage to global ecosystems. The aim is to prevent, halt and reverse the degradation on every continent and in every ocean. But any homeowner can do their part in helping the planet to recover. Replacing lawns with native plants can provide food and shelter for local insects and other fauna that could have lived on your property before a house was built there. Trees can provide shading to reduce our need for air conditioning in the summer or block winter winds to reduce heating costs and your carbon footprint.

Planting wildflower gardens has become enormously



popular in the last few years and is expected to expand this decade. Whether you are interested in planting on your own property or for a community project, sourcing your plant material is important. Never dig up wildflowers or other plants from public spaces as they are less likely to survive the transplant than they are to survive in the spot they are currently growing. Even collecting native seeds should not be done in public spaces such as parks and along trails where the seeds are used by local wildlife for food and where numerous seed collectors could congregate. There is also the risk of depleting the seed supply to allow natural regeneration to occur in the wild.

There are many opportunities to obtain ethically sourced seeds through local native plant nurseries or even the native plant department in your local grocery store nursery! Ethically sourced seeds come from areas where only 10% of the seed supply is removed. Usually a minimum of six plants to retain genetic diversity are used for the private collector. More plants are needed for commercial seed companies to ensure genetic diversity and seed health. North Durham Nature will be selling seeds again next year using ethically sourced seeds from local plant material. We also check if the plant seeds are indigenous to the area. This means that they do not include such seeds as wild poppy from California that have been added to some commercial seed mixes but sold where that plant doesn't normally grow. Regional plants are the best supports for regional bird and insect species that live in North Durham.

Climatic change is affecting plants and animals that now call Durham Region home but we must do our best to pick the right plants for the right space.

Dog Strangling Vine: Can We Control It?

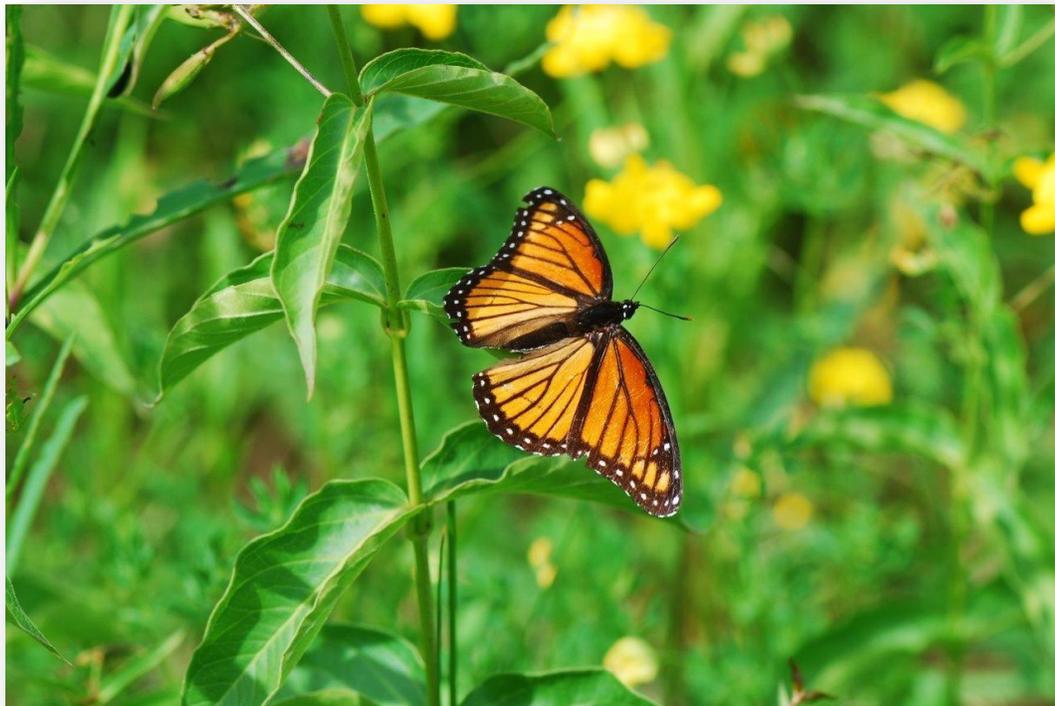
Text and photos by Derek Connelly

If you have walked the trails at the Countryside Preserve or elsewhere in the Uxbridge area you may have noticed dense patches of a climbing plant known as Dog-strangling Vine (DSV) or Black Swallowwort (*Vincetoxicum rossicum*) covering much of the ground. This is a non-native, highly invasive plant that forms uniform stands, taking over meadows to the exclusion of all other plant species. It wraps itself around shrubs and trees, where it produces a profusion of wind-blown seeds. As such it lowers the native diversity and upsets the ecosystem.



Controlling DSV is no mean feat. People have tried mechanical removal by hand pulling and digging, and by applying chemical herbicides only to see it come back again the following year or be replaced by another invasive plant. There must be some effective way of dealing with this notorious plant!

In 2013 Canada approved the release of a moth which does not even have a common name. It is *Hypena opulenta* from the Ukraine, which is also from where Dog Strangling Vine originates. The moth lays up to 400 eggs which turn into caterpillars that only feed on DSV; no other plants are affected. Field tests in nearby Kirkfield, York Region and Ottawa are ongoing. Preliminary results, though slow, are encouraging. “Biological control” or “biocontrol” is the term used to describe this approach. It’s not new and it can be effective. Remember that attractive invasive plant that spread all over the marsh lands called Purple Loosestrife? Two species of beetle from its European home were introduced to North America twenty years ago and it’s now considered a biocontrol success story. These beetles can remove 90% of the loosestrife growth in one season without showing any impact on our native plants. Biocontrol may be the long-term answer for dealing with invasive plants to achieve some kind of balance without constant input of herbicides or physical work.



Biocontrol must be approached very cautiously however. There are many examples where a species has been introduced to control an intended organism, only to become a new invasive problem itself. More information: <https://dogstranglingvine.weebly.com>

<https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/2688-8319.12022>

<https://www.ontariowoodlot.com/publications-and-links/featured-articles-news/dog-strangling-vine-in-ontario-caterpillars-to-the-rescue>

Butterfly Count – Oshawa & Sunderland 2021

Photos (Dion Skipper and Eyed Brown) and text by James Kamstra



The two butterfly counts that lie partially within North Durham were done in early summer. Both counts cover 24 km diameter circles that are covered by groups who tally all butterflies that they can see and identify, which is part of a North American wide effort. This marked the 28th year for Oshawa and 25th for Sunderland.

Ten counters in six parties recorded 43 species in the Oshawa circle on June 27. The highlight of the count was Silvery Checkerspot, a rare species in Durham that had only been recorded on three previous counts in 27 years. Both Rayfield Pye and Tom Mason spotted individuals. Overall, the numbers were lower than average for most species, particularly skippers. It was the first time in 27 years that no Viceroy's were reported.

Meanwhile, the Sunderland count was attended by 21 participants in ten parties on July 4, producing 50 species. Butterfly numbers were considerably higher than on the Oshawa count with highest ever counts for Mourning Cloak and Delaware Skipper as well as very high numbers of over 700 Mustard Whites (highest since 1999), 160 Eastern Tailed Blue (second highest), and 64 Dion Skipper (second highest). One surprise was Compton's Tortoiseshell that was found by all parties with a total of 41 individuals. It had only been recorded on three previous counts in very small numbers.



Special thanks to all participants that spent the day counting butterflies. Numbers and names of species and participants will appear in the next newsletter.

Fact or Fiction?

Text by Dave Mudd and Cara Gregory

Pollinator photo by Cara Gregory; bird photos by Geoff Carpentier

1. ONLY FEMALE BEES STING
2. NEVER HANDLE A BABY BIRD AND PUT IT BACK IN ITS NEST. THE ADULT BIRDS WILL DETECT HUMAN SCENT AND ABANDON THEIR CHICK.

What do you think? Please see page 10 to find out if these statements are fact or fiction.

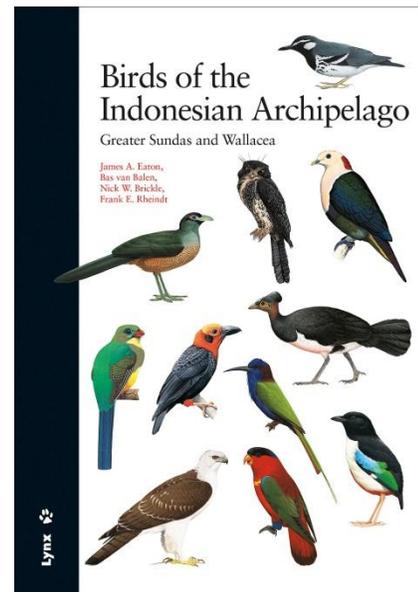
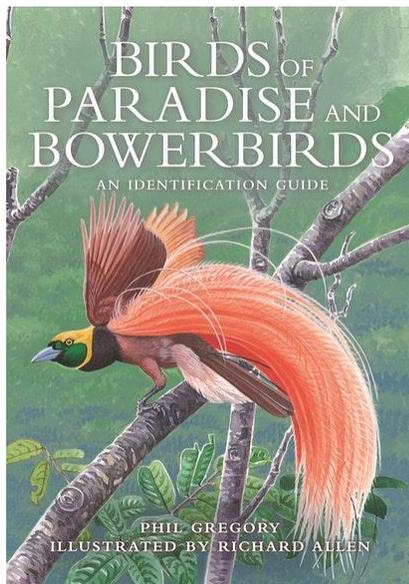
Book Reviews

By Geoff Carpentier

The following two books represent the same part of the world but differ greatly in their scope and structure.

Birds of Paradise and Bowerbirds. Phil Gregory with illustrations by Richard Allen. Princeton University Press, Princeton, New Jersey, 08540. Hardcover 416 pages. \$45.00US. ISBN13:978-0-691-20214-3.

Birds of the Indonesian Archipelago, Greater Sundas and Wallacea (Second Edition). James A. Eaton, Bas van Balen, Nick W. Brickle & Frank E. Rheindt. Lynx Edicions, Barcelona, Spain. 2020. Limited time sale price 28.95€. 536 pages, Softcover. ISBN: 978-84-16728-44-2.



The Birds of Paradise and Bowerbirds is of design much more thorough in scope than the more general *Birds of the Indonesian Archipelago*. It covers only 108 species, while the Indonesian book covers 1458 species.

So you can imagine that the *Birds of Paradise* book will provide substantially more detail – and you would be right! The 200 or so colour photos complement the 41 beautifully artistic plates to help describe the various age and sex related plumage differences. And even without the extra photos that augment the text of this lovely book, each plate features several postures and plumages offering a very complete picture of what these birds look like both in flight and at rest. For example, Plate 20 depicts the Greater and Lesser Birds of Paradise. The former is showcased with four paintings of a male in display, one of an adult male at rest, another of a subadult male and finally a female.



Additionally, the Lesser is shown offering the same four views. Having these two species on the same plate is beneficial as they are similar but the differences become evident due to this shared depiction. Plate 34 deals with the Masked and Flame Bowerbirds, which again are similar. Each is shown as an adult and subadult male, and a female. But additionally the nesting bower is shown as well. The value of the proximity again becomes clear when one looks at the very similar females depicted side by side. In addition to these paintings and photos, the text details ID tips, habitats, taxonomy, ecology and distribution.

The newly revised *Birds of the Indonesian Archipelago, Greater Sundas and Wallacea* covers a broad geographic area including Borneo, Java and Sumatra and the thousands of islands that encompass its land mass. The challenge of producing a book of this nature is that recent genetic work has determined that many islands now hold unique but similar species that were once thought to be simply subspecies of each other. To sort through the science and produce a fabulous book like this is a monumental task, but the authors were up to the challenge! Every single species is given adequate coverage, detailing size variations, number of subspecies and where to find them, conservation status, descriptions and ID tips and voice. These brief write-ups are supported by beautiful plates depicting several poses to show plumage variations or sex. The small but clear distribution maps add value when trying to determine where to look for these birds.

I can't really compare the books any further since the Bowerbirds and *Birds of Paradise* don't occur in Indonesia, even though they are very close to each other. So I guess you're left with needing to own both! Maybe you'll see the Magnificent Bird of Paradise pictured its fine above...

Fact or Fiction – Answers Revealed

FACT OR FICTION?

ONLY FEMALE BEES STING

This is **FACT**. Many people don't know that only female bees can sting, as the "stinger" is a modified ovipositor used for egg laying, but not all species of female bee can sting. It is the wasps, for which bees are often mistaken, that are more aggressive and territorial, and that are more likely to sting. Bees are herbivores, unlike the carnivorous wasps, and are more interested in visiting flowers, than inspecting a sweet drink you are sipping or sandwich you are eating. They rarely sting unless provoked.



NEVER HANDLE A BABY BIRD AND PUT IT BACK IN ITS NEST. THE ADULT BIRDS WILL DETECT HUMAN SCENT AND ABANDON THEIR CHICK.

This is **FICTION**. Most birds have a very poor sense of smell. If a nestling (e.g. flightless and under-developed baby bird – see photo of nestling Red-winged Blackbirds below in nest) has fallen and you can reach the nest, it's fine to put the baby back in. Fledglings on the other hand are in a life stage where they are learning to fly (see fledgling Savannah Sparrow below on right), so they have likely deliberately left the nest.



If you observe a fledgling that is out of the nest, you will most assuredly notice that the parents aren't far away, and will come to feed and care for it where it is. If you place a fledgling back in the nest, it will soon leave again.

The 3rd Ontario Breeding Bird Atlas Update

If you haven't signed up for the atlas yet, please consider doing so. There's four more years to go and lots of work to be done! Visit <https://www.birdscanada.org> or reach out to Geoff at Geoff.carpentier@gmail.com as he's one of the Durham Regional Coordinators for the atlas. Everybody at all skill levels is welcome. It's fun and you will learn about birds (such as the Song Sparrow nest pictured here) and help contribute to this amazing Citizen Science project.



Nature Quiz

Text and photos by Geoff Carpentier

This one is a bit of a tough – can you even see the critter?



Nasty & Nice Nature News

By Geoff Carpentier

Minister Zoning Orders - a New Twist

Last year the media and the public were abuzz with a new power being utilized by the Minister of Municipal Affairs and Housing. The Minister was permitted by law to override all public opinion, all public meetings and bypass any and all processes that permitted objections to a planned zoning application. The tool used was designed to be implemented only in situations of extraordinary urgency. It overrides local planning authority to approve development without expert analysis, public input, or any chance of appeal. It seems few knew of the existence of this Minister's Zoning Order (MZO) but it has been around since at least 1969, but was only infrequently issued. But its popularity has increased dramatically in recent times. Since 2019, more than 30 of these have been issued.

When it was brought into force one of the first projects that was impacted by the issuance of an MZO was the lands in Pickering adjacent to Toy Avenue. Public outcry however eventually softened the blow and changes were made to protect a wetland that was being threatened.

Now another application is being considered – but this time, nature may win. In Oakville, ClubLink which owns Glen Abbey Golf Course wants to bulldoze the course and turn it into 3000+ homes and supportive office buildings. The Town of Oakville and many concerned citizens want the Minister to impose an MZO and order the developer to leave the lands as greenspace. The Region of Halton is supportive of the protection of these lands as well. Time will tell if this beautiful and historic feature is preserved. More info is available at www.saveglenabbey.ca.

The Ford government has now committed to compensate for land lost to development from a controversial land zoning power (MZOs), but critics say it is not enough and the facts are exaggerated. Ontario Municipal Affairs Minister Steve Clark promised to protect two acres of land for every acre the province develops using the Minister's Zoning Order. Clark didn't directly answer when asked how the province will ensure the protected land has the same ecological value as that lost to development.

To support this new initiative, Clark said the province would use an MZO to transfer 360 hectares (nearly 890 acres) of privately owned land in the North Gwillimbury Forest to the Lake Simcoe Conservation Authority. But again critics say that much of the land (about 92%) was already protected.

Jack Gibbons, the chair of the North Gwillimbury Forest Alliance, a local group that fought for eight years against an attempt to develop the land said “The new nature reserve will be a priceless ecological asset for the Town of Georgina, the Lake Simcoe watershed and the Province of Ontario.” (Source: CBC news and the National Observer and others)

Good News from Around the Globe (*gleaned from a column by Emma Taggart for MyModernMet.com*)

- Up to 48 species of birds and mammals have been saved due to conservation efforts resulting from global agreements to protect biodiversity.
- Germany is turning disused military bases into wildlife sanctuaries that will result in an increase of 25% of their protected lands.
- A company has built a robotic dolphin that could result in thousands of “show” dolphins being replaced by this mechanical creature in water parks around the world.
- Newly developed fabrics made from living algae can generate as much oxygen as a 6-year old oak tree.
- Wanna be a cow hugger or as they are called “Koe knuffelen”? Go to the Netherlands - it’s good for you and the cows apparently.
- Vietnam has created a new nature reserve to protect 40 globally threatened species.
- Several Amazonian indigenous tribes have been trained to use drones to spot illegal activities in the Amazonian jungle.
- Villagers in Sri Lanka broke a Covid curfew to help rescue 100 whales that beached on their shores.
- Feeding cows seaweed can reduce the methane in their burps and toots by 99%!
- In Rome you can pay to ride the subway using plastic bottles – 350,000 have been cashed in to date.
- Diego – the successor of Lonesome George - has sired over 800 offspring now, doing his part to save the Galapagos Tortoises.

Genetically altered mosquitoes released in Florida. In an attempt to control *Aedes* sp. mosquitoes that are responsible for the spread of Dengue Fever, Yellow Fever and the Zika Virus, the company Oxitec, working with the Florida Keys Mosquito Control District, have released the mosquitoes in the Florida Keys. Oxitec created male mosquitoes that when mating result in the death of female offspring so that future generations are eliminated before they start. Similar projects in Panama, Brazil, the Cayman Islands and Malaysia have had a 90% success rate. (Source Reuters News).

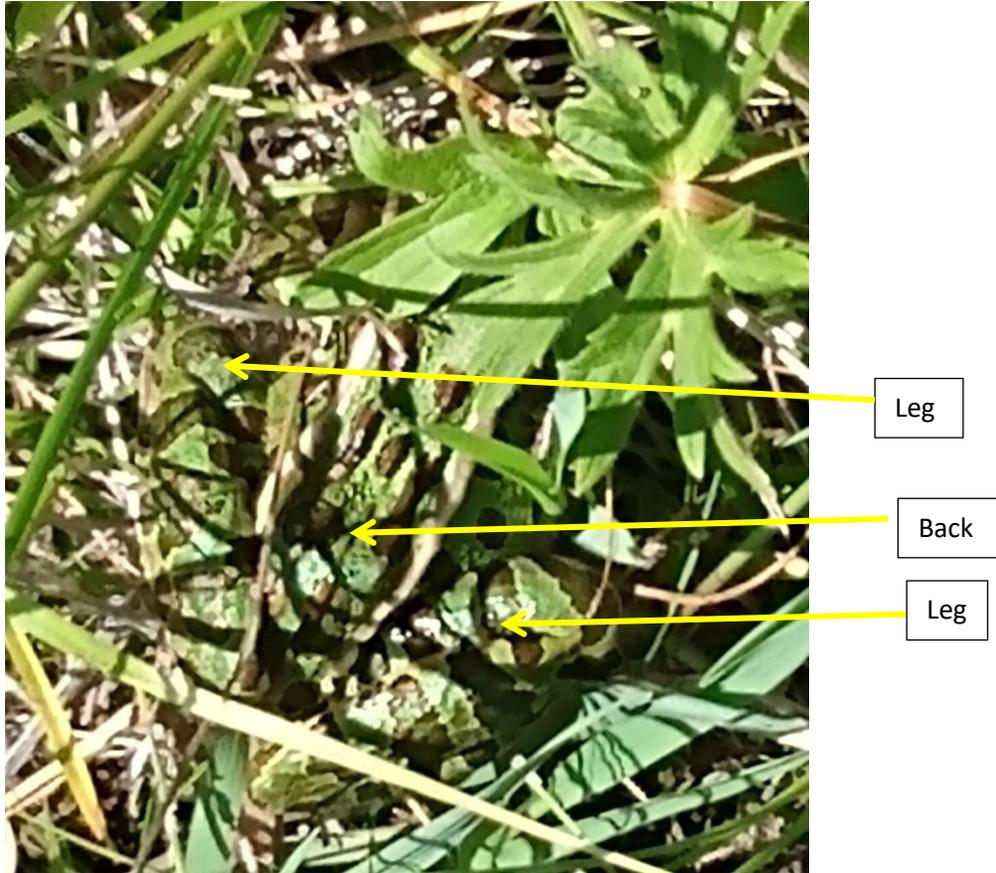
Canada Jays in Trouble. The future is bleak for the Canada Jay. A study out of the University of Guelph has shown that the frequent freeze/thaw cycles that climate change is initiating is ruining their food caches which they rely on to survive the winter and raise their young when other foods are scarce. Algonquin populations have been reduced by about 50% in the last 40 years. (Source The Toronto Sun).

A Coelacanth surprises scientists. Thought to have gone extinct about 65 million years ago this strange fish was rediscovered in 1938 near the African coast. It was until recently believed to live only about 20 years but is now known to live for a century – and that’s a good thing as they carry their young for 5 years before they’re born and don’t breed until they’re about 55 years old! (Source Reuters News).

Answers to Quiz

Photos and text by Geoff Carpentier

Zooming in makes it a bit easier for you ...



So this is a frog – what great camouflage! In this area we might find the following species: Spring Peeper, Wood Frog, Green Frog, Bullfrog, Gray Treefrog, Chorus Frog, Mink Frog, Northern Leopard Frog and Pickerel Frog.

Most of our frogs have subtle brown colours but this one is quite brightly marked. So we can immediately eliminate everything but the Treefrog, Bullfrog and Leopard and Green Frogs. The Gray Treefrog (which is often very green by the way) is a small frog with blotches on its back but never defined spots such as this one shows .. so it's gone. The Green Frog and Bullfrog are olive green on the back with ill-defined and small spots – so they're gone. This frog has the irregular patches on the legs but they have a pale border that can be seen on the right leg pictured above. So this is a Northern Leopard Frog. As a side note, the Pickerel Frog, although brown, also has spots on its legs, but they are square spots on the back and dark banding on the legs without a pale border.

Nature's Pretty Side – Red-headed Woodpecker

Photo by Geoff Carpentier

Although now an uncommon breeder in Durham, this beautiful bird still nests here. It never fails to evoke awe in all who see it!



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