



Since 1923

TORONTO FIELD NATURALIST

Number 622 October 2016



Marsh. Watercolour by Eva Davis

REGULARS

Children`s Corner	17
Coming Events	23
Extracts from Outings Reports	8
For Reading	19
From the Archives	22
In the News	21
Keeping in Touch	16
Monthly Meetings Notice	3
Monthly Meeting Report	7
President`s Report	6
TFN Outings	4
Weather – This Time Last Year	22

FEATURES

Board of Directors Slate for Election	3
Q&A: How do Toronto`s Plants Cope with Drought?	10
TFN Financial Statements	11
Toronto`s Rose Family Part I	15
TFN`s <i>Toronto the Green</i> and Ravine Surveys	18
Why I Joined TFN	19
The Dog Days of Summer	20

Mission Statement:

Toronto Field Naturalists connects people with nature in the Toronto area. We help people understand, enjoy, and protect Toronto's green spaces and the species that inhabit them.

Toronto Field Naturalist is published by the Toronto Field Naturalists, a charitable, non-profit organization. Issued monthly September to December and February to May. Views expressed in the Newsletter are not necessarily those of the editor or Toronto Field Naturalists. The Newsletter is printed on 100% recycled paper.

ISSN 0820-636X

IT'S YOUR NEWSLETTER!

We welcome contributions of original writing (between 20 and 500 words) of observations on nature, especially in the Toronto area. We also welcome reports, reviews, poems, sketches, paintings and digital photographs. Please include "Newsletter" in the subject line when sending by email, or on the envelope if sent by mail.

Please re-name digital photographs with the subject and your name (abbreviations ok). In the accompanying email include location, date and any interesting story or other information associated with the photograph.

Deadline for submissions for November issue: Oct. 1

NEWSLETTER COMMITTEE

Kate Belmore, Jenny Bull, Vivienne Denton, Karin Fawthrop, Nancy Fredenburg, Elisabeth Gladstone, Judy Marshall, Lynn Miller, Toshi Oikawa, Jennifer Smith, Wendy Rothwell (editor).

Printing and mailing: Perkins Services Inc.

BOARD OF DIRECTORS

President & Monthly Lectures	Nancy Dengler
Past-President & Outings	Margaret McRae
Vice-President, Nature Reserves & Outings	Charles Bruce-Thompson
Secretary-Treasurer	Charles Crawford
Communications	Alexander Cappell
Newsletter & Membership	Vivienne Denton
Outreach	Stephen Kamnitzer
Webmaster & Newsletter	Lynn Miller
Finance and Special Projects	Anne Powell
Newsletter	Jennifer Smith

MEMBERSHIP FEES

	ONLINE NEWSLETTER	MAILED NEWSLETTER
YOUTH (under 26)	\$10	\$20
SENIOR SINGLE (65+)	\$30	\$40
SINGLE	\$40	\$50
SENIOR FAMILY (65+)	\$40	\$50
FAMILY	\$50	\$60

No HST. Tax receipts issued for donations. Send membership fees and address changes to the TFN office.

Please note: TFN does not give out its membership list.

Toronto Field Naturalists

1519-2 Carlton St, Toronto M5B 1J3

Tel: 416-593-2656

Web: www.torontofieldnaturalists.org

Email: office@torontofieldnaturalists.org

The office is open 9:30 am to noon on Fridays



TFN is on Twitter and Facebook! Got something interesting to share? We'd love to get your photos and insights on TFN activities, Toronto nature events and interesting nature news. Just email media@torontofieldnaturalists.org and be sure to include what your photo is and where it was taken.

To read posts, go to the website torontofieldnaturalists.org and click on Twitter or Facebook.

Rebuilding Nature's Relationships at Home

Speaker: Douglas Tallamy

Toronto Botanical Garden, Tuesday, October 25, 7:30 p.m.

Introduction by Lorraine Johnson, renowned environmental and garden writer and advocate, 7 p.m.

Specialized relationships between wild animals and plants are the norm, not the exception. These relationships provide birds with insects and berries, disperse bloodroot seeds, pollinate goldenrod and so on. Plants that evolved in concert with local animals provide for their needs better than plants that evolved elsewhere. Doug will explain why this is so and how we can create beautiful gardens that support native biodiversity.

Register online at www.torontobotanicalgarden.ca/learn/adult/tbg-lectures1/. Public: \$15. Free to TBG members but registration required.

TFN MEETING

Sunday October 2, 2:30 pm

Plant Exploration: The Search for Novel Floral Diversity

*Spencer Barrett, University of Toronto,
searches the world for novel flowers
to understand their role in plant sexual reproduction*

VISITORS WELCOME!

SOCIAL: 2:00 – 2:30 pm

ANNUAL GENERAL MEETING: 2:30 - 2:45 PM

Emmanuel College, Room 001, 75 Queen's Park Cres

Just south of Museum subway station exit, east side of Queen's Park. Enter at south end of building, down a few steps on outside stairwell. Wheelchair entrance: second door south on Queen's Park. Elevator inside to the right. Room 001 is one floor below street level.

For information: call 416-593-2656 up to noon on the Friday preceding the lecture.

2016-2017 BOARD OF DIRECTORS SLATE PRESENTED BY THE NOMINATING COMMITTEE

President:	Charles Bruce-Thompson	Vice-President:	Charles Crawford
Past President:	Nancy Dengler	Secretary-Treasurer:	Bob Kortright
Directors:	due to retire in 2017: Anne Powell, Elizabeth Block, due to retire in 2018: Lynn Miller, Alex Wellington, Bob Kortright due to retire in 2019: Vivienne Denton, Jason Ramsay-Brown, Jane Cluver		

UPCOMING TFN LECTURES

November 6:
Toronto's Urban Bird Programs,
Emily Rondel, Bird Studies
Canada.

December 4:
Wolf and Coyote Behaviour,
Dennis Murray, Trent
University.

Urban Ravine Restoration: Plants, plans and progress

Toronto Botanical Garden
Friday, October 28, 9 am to 5 pm

This one-day symposium will bring together advocates, stewards and scientists to discuss ravine-focused initiatives and research underway in and around the city. Come to learn, connect, be inspired and find your place in this exciting movement. Several TFN members will be presenting.

Register online at www.torontobotanicalgarden.ca/events/urban-ravine-restoration-plants-plans-progress/
Public \$75; members and students \$65. Lunch provided. Parking free.

TFN OUTINGS

- TFN events are conducted by unpaid volunteers.
- TFN assumes no responsibility for injuries sustained by anyone participating in our activities.
- Children and visitors are welcome at all TFN events. Children must be accompanied by an adult.
- If you plan to bring children in a stroller, be aware that there may be steps or other unsuitable terrain.
- Please do not bring pets.
- To get to outings on time, check TTC routes and schedules (www.ttc.ca or 416-393-4636).
- Outings go rain or shine: check the weather by calling 416-661-0123 so you will know what to wear.
- Wear appropriate footwear for walking on trails which may be muddy, steep or uneven.
- *Please thoroughly clean your footwear before each outing to avoid spreading invasive seeds.*

We recommend you check with the TTC for any schedule disruptions which may occur most weekends this fall. Allow extra time if necessary.

- Sat
Oct 1
10:00 am **L'AMOREAUX PARK – Nature and Heritage**
Leader: Jonathan Harris. Meet at the entrance to L'Amoreaux Community Centre on McNicoll Ave just west of Kennedy Rd for a circular walk, mostly flat with gentle slopes and some stairs. Walk will encompass L'Amoreaux Pond, Passmore Forest and loop around a tributary of the Bendale branch of Highland Creek. Primarily a nature walk to check out fall wildflowers, wildlife and trees. We will share some historical tidbits about L'Amoreaux Park and the neighbourhood such as the Alexandria site, a Huron-Wendat village circa 1350. Bring binoculars, lunch and water.
- Sun
Oct 2
2:30 pm **ANNUAL GENERAL MEETING and LECTURE: Plant Exploration: The Search for Novel Floral Diversity**
Speaker: Spencer Barrett, University of Toronto.
Meet at Emmanuel College, Room 001, 75 Queen's Park Cres. See details on page 3.
- Tue
Oct 4
1-3 pm **SCARBOROUGH WATERFRONT PROJECT**
Special TFN meeting with TRCA staff to discuss plans for the Scarborough Waterfront, including protection of natural heritage of its bluffs and beaches. TRCA staff will make an informal presentation followed by ample opportunity for questions and answers.
- Meet at home of TFN member Anne Leon, 16 Copping Rd, Scarborough (near Markham and Ellesmere). Contact the TFN office for car-pooling or take Lawrence East bus #54B on Orton Park Rd at Brimorton Dr .
- 
- Photo of Scarborough Bluff by Augusta Takeda
- Wed
Oct 5
10:30 am **ASHBRIDGE'S CREEK AND A LOST OAK SAVANNAH – Nature and Heritage**
Leader: Joanne Doucette. Meet outside Greenwood subway station for a 2-hour linear walk on mostly paved surfaces with some gentle slopes ending at a cafe on Gerrard St. Ashbridge's Creek is now underground but we will follow its course south through Monarch Park to Gerrard St, learning about the history of the creek and the neighbourhood that used to be called Midway. Bring binoculars if you wish to look at birds.
- Sat
Oct 8
1:30 pm **LAKE IROQUOIS SHORELINE, Caledonia Park Rd to Bathurst – Nature Walk**
Leader: Alexander Cappell. Meet at the southeast corner of Caledonia Park Rd and St Clair Ave W for a linear walk on mostly paved surfaces, flat with some steep slopes and stairs. We'll walk south along Caledonia Park Rd, the former east bank of ancient Humber Bay which, when the ice age ended, reached north to today's 401. We'll turn east at the Davenport hill, which was the Lake Iroquois shoreline, and cross two ravines under which tributaries of buried Garrison Creek now flow in sewers. We'll look south towards today's Lake Ontario, visit the Wychwood Park pond and then head for a coffee shop near Bathurst and St Clair. Washrooms at end of walk.
- Mon
Oct 10
11:00 am **CENTENNIAL PARK – Nature Walk**
Leader: Claire Bergeron. Meet outside the LCBO at Burnhamthorpe Mall. From Islington subway station, take Burnhamthorpe bus #50 to Old Burnhamthorpe Rd just past Renforth Rd, and cross the street to the mall. A 2-hour circular walk. Bring lunch. Washrooms at the Conservatory in the park (approx 20 minutes from start of walk).
- Thurs
Oct 13
1:30 pm **PROSPECT CEMETERY – Nature and Heritage**
Leader: Pleasance Crawford. Meet at the cemetery gate at 1450 St Clair Ave W (via #512 St Clair streetcar or #47 Lansdowne bus) for a circular walk lasting about 2 hours. Bring binoculars.

- Sat **HURRICANE HAZEL AND THE HUMBER RIVER – 62 Years Later**
 Oct 15 **Leader: Madeleine McDowell.** Meet at Old Mill subway station and explore the Humber between Bloor and
 10:30 am Dundas Streets for evidence of one of Canada's worst flood disasters and its shadow on our world now. Possibly see some salmon leaping and some remnants of past cultures, along with our current 21st century one as it evolves on Mother Earth under Hazel's lasting influence. Stairs down at Bloor, but they can be avoided by individuals who wish to make an optional detour. End at Lambton House with some tea. #55 Warren Park bus stops at the door and goes to Jane subway station. Bring snacks or lunch and binoculars.
- Sun **GERRARD PRAIRIE: STILL INTACT, BUT HOW LONG? – Lost Rivers**
 Oct 16 **Leaders: Richard Anderson and John Wilson.** Meet in front of Victoria Park subway station for a circular walk that
 2:00 pm includes some uneven, rough ground. Three years ago we toured this remnant prairie on the Birch Cliff Quarry lands, scheduled for redevelopment despite years of community objection. We'll see what's left of wild nature and learn what's threatened. We'll learn how this uncommon ecosystem formed and how it has survived cycles of use and neglect. Washrooms only available in businesses en route. A joint outing with Toronto Green Community.
- Thurs **VALE OF AVOCA – Nature Walk**
 Oct 20 **Leader: Alexander Cappell.** Meet at the entrance to Davisville subway station for a 2 1/2 hour linear walk on mostly
 1:30 pm unpaved surfaces and gentle slopes with some steep stairs. From Mount Pleasant Cemetery, we'll walk south along the west bank of the Vale of Avoca, where Yellow Creek flows, and compare it with what we saw a few weeks earlier when we went north along the east bank towards the cemetery. At Roxborough St E, we'll exit the ravine and go down into the Rosedale Ravine on our way to a coffee shop near Yonge and Bloor.
- Sat **RENATURALIZATION IN TAYLOR CREEK PARK – Restoration Project**
 Oct 22 **Leader: Jason Ramsay-Brown.** A walk with a twist – the opportunity to help improve biodiversity and habitat
 9:00 am along Taylor Creek! First, we'll spend some time taking in the amazing Taylor Creek Park wetlands, the result of almost two years of ecological restoration work. Then, for those who are interested, we'll help the City improve Taylor Creek Park by planting some wetland edge species like dogwoods, ninebark, swamp rose, and purple-flowering raspberry. No previous experience is necessary; all instruction and materials will be provided. Event is suitable for all ages, and you may plant as little or as much as you like! We'll meet at the park entrance on the west side of Victoria Park, just north of Victoria Park subway station. An easy 1-km linear walk through the wetland will provide ample opportunities for birding, photography and lively discussion. Planting site will be located along Taylor Creek just west of Dawes Rd. Bring water, camera, binoculars, and a snack if you like.
- Sun **ALONG ETOBICOKE CREEK – Nature and History**
 Oct 23 **Leader: Ed Freeman.** Meet at the Long Branch Loop (west of #501 streetcar route) for a walk from Marie Curtis Park
 1:30 pm northward along Etobicoke Creek to Tim Horton's at Sherway Garden Mall.
- Thurs **COLONEL SAMUEL SMITH PARK – Birds**
 Oct 27 **Leader: Anne Powell.** Meet at the southwest corner of Lake Shore Blvd W and Kipling Ave for a circular walk.
 10:00 am Morning only.
- Sat **ALONG THE OLD SHORE OF LAKE ONTARIO – History**
 Oct 29 **Leader: Ed Freeman.** Meet at the southeast corner of Jarvis St and The Esplanade for a walk along industrial infill,
 1:30 pm past dreams, and current change. We will walk east along streets and trails, ending at Leslie St.
- Sun **E T SETON PARK – Nature Walk**
 Oct 30 **Leader: Margaret McRae.** Meet at the parking lot down the stairs from the south side of Eglinton Ave E at Leslie St.
 1:30 pm A circular walk through the pine woods by the pond behind the Science Centre and along some other wooded trails. No washrooms. Some hills and narrow dirt paths.

BOOKKEEPER WANTED

TFN requires a Bookkeeper with hands-on experience using QuickBooks or similar software. Individual is a TFN member who will work under the supervision of the Treasurer and be responsible for entering transactions in QuickBooks, reconciliation of general ledger accounts, including bank account, and issuing tax receipts.

Time commitment in TFN Office: September to May, 2-3 hours twice a month. May to August, 2-3 hours weekly.

FINANCE COMMITTEE MEMBER WANTED

Person with knowledge of accounting and financial procedures is wanted to sit on TFN's Finance Committee that advises the board on financial policies and procedures in the investment and management of funds. An accounting or designation or relevant degree would be an asset.

Commitment: Committee meetings (2-3 hours) held two to four times a year.

PRESIDENT'S REPORT

TFN depends on dedicated volunteers to maintain our membership records, handle communications, and keep our financial transaction records. I am very grateful for the dedication and expertise of long-time TFN office volunteers Nancy Fredenburg, Judy Marshall, Corinne McDonald, Sandy Cappell and Wendy Rothwell who keep the behind-the-scenes work of the TFN running smoothly.

I am especially grateful to the newsletter co-editors Jenny Bull and Wendy Rothwell and the editorial committee for producing our consistently attractive and informative newsletter eight times per year. Under Jenny's leadership over the last eleven years, the *Toronto Field Naturalist* has fulfilled its mandate to convey information about the aims, activities and achievements of TFN. The newsletter has provided information about many aspects of nature, including ecology in the series by Allan Greenbaum, birds by Marilyn Murphy, wildflowers by Peter Money, fungi by Harvey Medland and weather by Gavin Miller. Other regular features are prepared by Judy Marshall (*Children's Corner*), Lynn Miller (*In the News*) and Vivienne Denton (*Extracts from Outings Reports*).

The newsletter keeps members informed about environmental issues, both locally and further afield, including recommendations of what members can do to help. It encourages members to explore nature in greater depth by publishing book reviews and links to websites. It also informs members of nature-related events in and near the Toronto area and keeps them in touch with one another by sharing their nature experiences.

Remarkably, in almost 80 years of publication, the TFN Newsletter has been led by just four editors: R.M. Saunders (1938-1968), Ilmari Tavila (1968-1976), Helen Juhola (1976-2005) and Jenny Bull (2005-2016, with co-editor Wendy Rothwell since 2007). Jenny's appointment as editor coincided with the acquisition of TFN's first computer, which made it possible to produce a more modern and professional-looking publication while providing continuity in appearance. I am pleased that we now have electronic copies on the TFN website of all newsletters since 2005.

Jenny's knowledge of nature, especially botany, has enabled her to ensure that the Newsletter includes accurate scientific information. Her enthusiasm for sharing her natural history knowledge comes through in every issue and I especially appreciate the way she is able to link newsletter content with every day experience for both experienced naturalists and newcomers. In 2011, Jenny received a Richards Education Award from Ontario Nature, recognizing her many contributions to helping people understand the natural world, including editing the TFN newsletter.

Regrettably, Jenny has decided to retire from her role as editor, but I am pleased that she will continue to serve on the editorial committee. I am delighted that Wendy Rothwell is willing to assume the role of editor. As a past president, long-term member of the board, and active volunteer with TFN finances, Wendy knows TFN very well, and brings that insight to the editorial position, along with her strong writing skills and experience with editing, design and layout. Many TFN members have enjoyed Wendy's wildflower photographs, her newsletter articles and the wildflower outings she has led in High Park. I am very happy to welcome

Wendy as editor of the *Toronto Field Naturalist*.

With this issue, I am reaching the end of my term as TFN president. Over the last two years I have enjoyed working with the many other volunteers who make TFN programs and activities possible, including board members, outings leaders, outreach volunteers, lectures committee, and even the by-laws revision committee (ONCA). However, I am looking forward to spending more time in the field and less sitting at a computer! I am very pleased that Charles Bruce-Thompson has agreed to serve as the next TFN president. As many members know, Bruce has been an active volunteer at Todmorden Mills Nature Reserve, has served as TFN nature reserves coordinator, and has worked along with Margaret McRae to coordinate the TFN outings program. I would like to extend a warm welcome to Bruce and look forward to his leadership in advancing TFN's goals to help people enjoy, understand and protect Toronto's natural heritage.

Nancy Dengler



Members of the Editorial Committee enjoying an outing on Ward's Island. L-R: Elisabeth Gladstone, Karin Fawthrop, Jenny Bull, Jennifer Smith and Wendy Rothwell.

Photo: Vivienne Denton.

MONTHLY MEETING REPORT

Five Great Extinctions - Are we facing another?

September 11, 2016

Kevin Seymour, Royal Ontario Museum

Kevin Seymour, assistant curator in Vertebrate Palaeontology and the Collection Manager for the ROM vertebrate fossil collection, is an extremely knowledgeable and engaging speaker. This topic is one that could be a real downer, but instead it was an exploration of earth's biological and geological history through the fossil story.

The Five Great Extinctions were only five of many showing how extinction really is normal. Before exploring the extinction events, Dr. Seymour took us through a brief Fossils 101. In summary:

- All geological periods are based on fossils and their extinction.
- Fossils are rare.
- Only certain environments (generally shallow, saline water) allow for fossil formation.
- Most fossils consist only of hard parts: bones, shells, teeth.
- Most fossils start in the Cambrian period.
- There are challenges in studying fossils, e.g. while the fossil record shows the loss of a genus, some live today, albeit in slightly different environments.

The Five Great Extinctions:

Ordovician, 445 million years ago (mya), saw the loss of 50%-60% of marine genera in a step-wise series of events thought to be a result of a cooling of the climate. The resulting lowered sea levels impacted the shallow marine water and planktonic larval species.

The **Devonian** period, 360 mya, characterized by marine reef systems, saw the loss of most of these as well as pelagic marine life. Terrestrial plants and insects were largely unaffected. This 25 million year cluster of extinctions which resulted from sea level drop and ocean anoxia (from underwater volcanic action), didn't impact the vertebrates until the very end.

The largest mass extinction of all occurred at the end of the **Permian** period, 252 mya, with 95% of the marine invertebrates and 70% of the terrestrial vertebrates lost, along with the trilobites and, for the first time, some of the terrestrial insects. The three phases of this were characterized by sea level fall, volcanic action, then sea level rise. Pangaea formed which reduced overall shallow, marine areas.

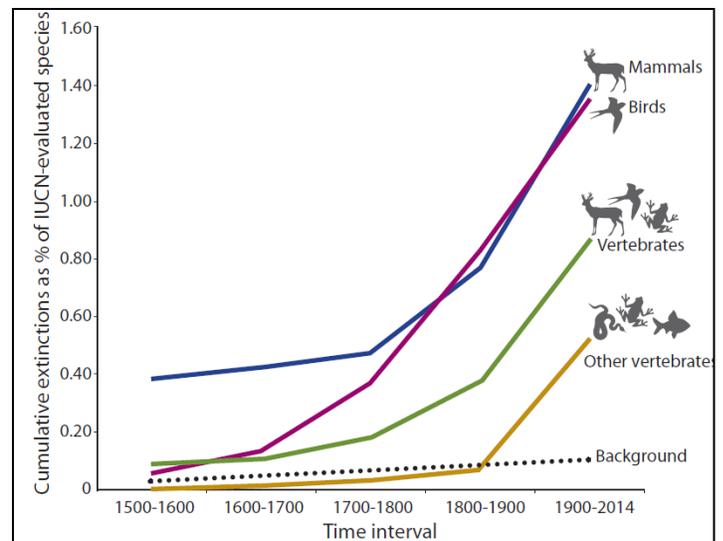
The end of the **Triassic** period, 201 mya, is the least understood extinction event. Dinosaur competitors were some of the 76% of species lost (terrestrial and marine). To the despair of scientists, the unique conodont group also went extinct; their phosphate (vs calcium) teeth having been a key biostratigraphic indicator in the geological fossil record.

The smallest but most famous extinction event, which saw dinosaurs disappear, occurred at the end of the **Cretaceous** period, 66 mya. Marine life was the most heavily impacted, while snakes, lizards, turtles and crocodiles were largely unaffected.

Since the end of the **Pleistocene**, 12,000 years ago, it has been noticed that the more recent extinction events relate strongly to warming and cooling periods, with extinctions occurring at the beginning of warm periods (e.g. cold-adapted mammoths). While humans had made their appearance by this time, the extinction events correlate directly with the combination of warming periods and the appearance of humans.

When the extinction of groups of vertebrates (think bones here) is compared to a calculated background extinction rate, the results can be seen in the graph below. Are we, as humans causing the 6th great extinction? Yes!

Meg O'Mahony



Rate of disappearance of vertebrates since 1500 as compared to the calculated background rate (represented by the dotted line). From: G. Ceballos, P. R. Ehrlich, A. D. Barnosky, A. Garcia, R.M. Pringle and T. M. Palmer. 2015. Accelerated modern human-induced species losses: Entering the sixth mass extinction. *Science Advances*. AAAS 1(5): e1400253 DOI: 10.1126/sciadv.1400253.

*Instead of flowers
where there used to be woodlots
I look at towers*

Haiku by Helen Juhola

EXTRACTS FROM OUTINGS LEADERS' REPORTS

East Don Parkland, May 28. Leader: Philip Goodwin.

We focussed on Bestview Forest and adjoining meadows. We saw many flowers concentrated on the edge of the forest and meadows: cranesbill, Virginia waterleaf, Canada anemone, meadow-rue, may-apple, wild ginger, fleabane, dame's-rocket, white baneberry, jack-in-the-pulpit, herb-robert, false Solomon's-seal, Solomon's-seal and Virginia bluebells.

Gates Gully, June 4.

Leader: Jason Ramsay-Brown.

Having followed the Doris McCarthy trail to the lake, the group spent time talking about both Moore's sculpture, "Passage," the geology of the bluffs, and watching the bank swallows in action.



Photo "Eroding Bluffs" by Augusta Takeda

Humber River, June 5. Leader: James Eckenwalder.

Black locust was in full flower, perfuming the air. Eastern cottonwood, crack willow, Manitoba maple, white elm, white ash, and silver maple were present with just a few young common buckthorn. Among other woody plants, lianas of riverbank grape and Virginia creeper were plentiful, but poison ivy was just in the form of a low shrub. Winged euonymus was in flower and there were great swathes of introduced plants in the herbaceous understory. Dame's-rocket, garlic mustard, orchard grass, and forget-me-not were all in flower. Among the natives, Virginia waterleaf was in full flower and swamp milkweed was nearly there. The leaves of one smallish elm tree were nearly completely consumed by innumerable fall cankerworms, in both green and handsomely striped dark morphs. Other larvae observed included goldenrod slugs and introduced euonymus caterpillars. We saw chimney swifts by the subway station, a female downy woodpecker on a cottonwood at the bridge and a great egret down on the flood plain, and there was a report of a white-crowned sparrow song.

George Leslie and the Great Trees of Leslieville, June 11. Leader: Joanne Doucette. We began at Lesliegrove Park where we saw a few trees (Scotch elm, English elm, horse chestnut and silver maple) planted by George Leslie

in the 1840s and 1850s. Similar to the mythical American John Chapman known as Johnny Appleseed, Canadian George Leslie was a skilled nurseryman who grew, sold and promoted trees, supplying nursery stock that started orchards across Canada. Both men were trained professionals who carefully selected and tested varieties of fruit trees that would thrive around the Great Lakes, and were generous with their trees, giving thousands away. George Leslie lives on in the name Leslieville. We visited the only survivor of a row of basswoods planted by Leslie and a crab cherry from his Toronto nurseries. Both will soon be cut down to make way for a condo. We also went to Maple Cottage to see the "Maple Leaf Forever Tree" that inspired the song.

Joanne Doucette has published a new book *Leslieville*. See www.leslievillehistory.com.

Rouge Park and the Waterfront Trail, June 14.

Leader: Blair Campbell. A highlight of our trip was watching many bank swallows, nesting in the high banks near the mouth of the Rouge, and cliff swallows, under the foot bridge at Rouge Marsh, bringing food to their chicks.

Bugs and Crayfish in the Humber – Exploration of Benthic Diversity, June 21. Leader: Holly Brose.

We used D-nets to collect and analyze benthic macro invertebrates (BMIs) found in the river using the "kick-and-sweep" method. BMIs have varying tolerance levels to poor water quality. The species we found had mid to high tolerance of poor water. We saw several small crayfish (none of which appeared to be the invasive rusty crayfish), scuds, caddisflies, blackfly larvae, mosquito larvae, midges, aquatic worms, aquatic beetles and mites.

Butterflies at the Bluffs, June 22. Leader: Bob Kortright.

The newly reconstructed Doris McCarthy trail in Gates Gully made it easier to see butterflies without twisting ankles. In the forest at the top of that trail we enjoyed seeing a pileated woodpecker and a great crested flycatcher. In the meadows along the lake we identified 15 kinds of butterflies: fiery (very early), tawny-edged, hobomok, European and silver-spotted skippers, and monarchs, viceroys, ringlets, wood-satyr, red admirals, northern crescents, silvery blues, tiger swallowtails and eastern commas, as well as many cabbage whites.

Windfields Park, June 26. Leader: Nancy Dengler.

Our walk started at York Mills Rd where Wilket Creek exits its enormous trunk storm sewer. As we walked south along the creek's floodplain we saw several textbook examples of creek meanders. With storm water runoff, the stream bank on the outside of these curves was being cut

away, bringing down large trees, including an enormous black maple. Deposition of sediments on the inside of the curves formed numerous sandbars and beaches. Near the southern end of our walk, we observed an intermediate step in the formation of an oxbow lake where a new stream channel had cut off the narrow neck of a meander forming a new island.

One highlight was hearing a wood thrush singing just as we entered the woods. Most of our group had clear views of this beautiful species-at-risk in Ontario as it hopped up the slope adjacent to the trail. We saw and heard a good diversity of other birds, including mockingbird, great crested flycatcher, eastern kingbird, flicker, catbird and song sparrow. Gray dogwood, Canada elderberry, purple-flowering raspberry, spreading dogbane and honeysuckle were in full bloom along the way.

Rouge River Park, June 29. Leaders: Petra and Jim Grass. We observed over 50 species of plants, the highlight being a single poke milkweed at the top of the "hogback" past the hemlock woods. We saw 8 species of butterfly, highlights being a white admiral and a great spangled fritillary. Of the 35 bird species heard or seen during the pre-walk on June 28, unfortunately only about 15 were seen or heard during the outing. A highlight for the group was a clear sighting of a mourning warbler.

E T Seton Park, July 2. Leader: Ken Sproule. We saw few birds but noted some plants including blue-stemmed goldenrod, and insects such as red milkweed beetle, plume moth, mating robber flies (bumblebee mimics in this case) and a glow worm beetle. The glow worm was either a larva or adult female, both of which resemble a millipede more than a beetle and are usually bioluminescent. They are related to the inappropriately named fireflies.

East Don Parkland, July 10. Leader: Barbara Jackson. We looked at the remnants of a dam site across the East Don river which had, until the 1950s, provided a swimming hole in summer and skating pond in winter. The area had been farmland until the 1960s. Since the 1980s, a phased parkland and naturalization process has been undertaken. A small pond near



Acadian hairstreak butterfly at East Don. Photo: Iris Hsieh

the trail afforded us the opportunity to observe water lilies, dragon- and damselflies such as green darners, ebony jewelwings, bluets and common whitetails. A highlight of the Newtonbrook Creek part of the walk was the sighting of a coyote!

Birds and Butterflies, Morningside Park, July 12. Leader:

Carol Sellers. First sighting was a portly groundhog sitting up and eating a banana. All cameras were out in a shot. Next we watched barn swallows which had nested around the washroom.

Butterflies were scarce, quite a surprise for mid-

July. This may be due to the preponderance of dog-strangling vine and crown vetch which push out the nectar and larval food plants. Two indigo buntings were singing and a couple of hummingbirds were posed at the top of dead trees. More cameras out. Our final sighting was a large orange grapevine scarab beetle which posed nicely.



Grapevine scarab beetle, Morningside Park.

Photo by Carol Sellers. Note the interesting antennae.

Don Valley to Forks of the Don, July 23. Leader: Margaret McRae. In flower were scarlet pimpernel, fringed loosestrife, motherwort, stinging nettle, wood nettle, tansy, Queen Anne's lace, bittersweet nightshade, white vervain, blue vervain, goldenrod, goutweed, cup-plant, elecampane, wild bergamot, bouncing-bet and swamp milkweed. Among other things we saw goldfinches, catbird, great blue heron, kingfisher, red admiral butterflies and ebony jewelwing.

Nordheimer Ravine and Surrounding Area, July 24. Leaders: Kayoko Smith, Susan Aaron. Along the path there were some invasives (e.g. buckthorn, Manitoba maple), but burdock, DSV and Canada thistle had been removed by the Stewardship team. On the east slope wetland we observed a patch of turtlehead and skunk cabbage leaves. There was showy tick-trefoil in bloom, pale and spotted jewelweeds, purple-flowering raspberry, elderberry, snowberry in bloom, Joe-pye-weed, arrowhead, cattails and an abundance of fringed loosestrife.

Extracts from Outings continued on page 17

Q&A: HOW DO TORONTO'S PLANTS COPE WITH DROUGHT?

This is the first in what we hope will be a series where members submit questions. Is there something in nature that intrigues or puzzles you? Perhaps it's the behaviour of a bird or other animal, or a strange insect you keep seeing. Please send your question to the TFN office and we will refer it to a member who has knowledge in that field. Ed.

Question: While walking in High Park this summer, I have been distressed to see how unhappy many of the wildflowers look due to the extended drought. Do plants have strategies to cope with such adverse conditions, enabling them to survive and reproduce?

Wendy Rothwell

Answer: Plants lose most of the water taken up by their roots in a process called transpiration. Plants have tiny pores called stomata, found mostly on the underside of leaves. Water evaporates through stomata when they open to exchange gases for photosynthesis (which provides energy for growth). Evaporation through stomata can cool a plant in hot weather but, if water is lost faster than it can be replaced by the roots, plants wilt. Wilted plants often recover, but if there's not enough moisture in the soil to replace the lost water, such as in drought conditions, a plant may die.

Plants have evolved various strategies to reduce the rate of evaporation from stomata. For example, hairs on the underside of leaves slow the movement of air across stomata (e.g. silverweed); some plants that grow where summer temperatures are very hot have evolved more efficient ways of photosynthesizing that result in less water loss through stomata (e.g. big bluestem).

Further, to avoid a water deficit during a drought, plants may:

- close stomata when leaves start to wilt.

- drop leaves, reducing the total number of stomata.
- roll their leaves into a tube to slow the movement of air across stomata (e.g. marram grass).
- go dormant. For example, a lawn may look brown and dead during a drought but the grass plants' meristems – the growing points – are still alive (so long as the drought doesn't last *too* long). When the grass plants receive water, they come out of this summer dormancy and quickly grow new leaves.

Many of these responses affect photosynthesis, reducing the potential for growth and/or energy storage. In a very dry year, *annual plants* may therefore be smaller and produce fewer viable seeds. However, annuals usually produce huge quantities of seed so even half the amount of seed can still be a lot! Seeds also have thick coats to reduce water loss. *Perennial plants* store energy in their persistent parts. A mature plant can handle reduced energy input for a year or two but young plants are more vulnerable as they have a smaller energy reserve to rely on (as well as less extensive root systems). That's why you are urged to water newly-planted trees.

You can actually review environmental conditions over the last few years by checking out twigs on trees. Yearly growth of the twig is marked by rings of bud scale scars; shorter twig length between sets of bud scale scars indicates poorer conditions such as lack of rain.

Jenny Bull



The silvery hairs of silverweed (*Potentilla anserina*) not only reflect sunlight and help keep the temperature of the leaf down but also slow the movement of air across its stomata.



Big bluestem (*Andropogon gerardii*) photosynthesizes in a more "water-efficient" way than most of Toronto's plants. It flowers in late summer.



Marram grass (*Ammophila breviligulata*), a plant that binds sand dunes, can roll its leaves into a tube, slowing the movement of air across its stomata.

Photos taken on Toronto Island dunes and beach strands.



Peter W. Hogg

Chartered Accountant

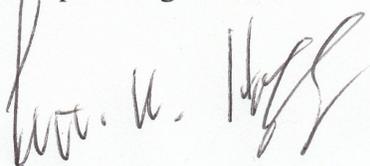
REVIEW ENGAGEMENT REPORT

To the Members,
Toronto Field Naturalists
TORONTO,
Ontario.

I have reviewed the statement of financial position of Toronto Field Naturalists as at June 30, 2016 and the statements of general fund operations, nature reserve and projects fund and cash flows for the year then ended. My review was made in accordance with Canadian generally accepted standards for review engagements and accordingly consisted primarily of inquiry, analytical procedures and discussion related to information supplied to me by the organization.

A review does not constitute an audit and consequently I do not express an audit opinion on these financial statements.

Based on my review, nothing has come to my attention that causes me to believe that these financial statements are not, in all material respects, in accordance with Canadian accounting standards for not-for-profit organizations.



PETER W. HOGG,
Chartered Accountant
Licensed Public Accountant

TORONTO, Canada
September 8, 2016

TORONTO FIELD NATURALISTS
STATEMENT OF GENERAL FUND OPERATIONS
 For the year ended June 30,

	2016	2015
REVENUE		
Memberships fees	\$ 20,810	\$ 20,850
Publications	461	69
Donations	14,762	10,550
	<u>36,033</u>	<u>31,469</u>
EXPENSES		
Newsletter, printing and mailing	10,150	9,950
Lecture series	4,941	5,380
Administration and member services	2,521	2,503
Financial review fee	1,771	2,071
Outings	1,173	1,158
Telephone and internet	1,021	1,169
Office rent	17,993	16,995
	<u>39,570</u>	<u>39,226</u>
DEFICIENCY OF REVENUE OVER EXPENSES	(3,537)	(7,757)
Transfer from Nature Reserve and Projects Fund	3,537	7,757
FUND BALANCE - BEGINNING OF YEAR		
FUND BALANCE - END OF YEAR		

See accompanying notes and review engagement report dated September 8, 2016. - 3 -

TORONTO FIELD NATURALISTS
STATEMENT OF FINANCIAL POSITION
 As at June 30,

	2016	2015
ASSETS		
Current		
Cash - Operating fund	\$ 74,257	\$ 73,987
Guaranteed investment certificates	145,000	183,375
GST/HST receivable	3,390	3,321
Publication inventory (Note 2(e))	1,200	1,200
Photo library (Note 6)	10	10
Prepaid expenses	3,214	3,214
	<u>227,071</u>	<u>265,107</u>
Capital (Note 2(b))		
Nature reserve properties	281,702	281,702
	<u>\$ 508,773</u>	<u>\$ 546,809</u>
LIABILITIES		
Current		
Accounts payable and accruals	\$ 1,937	\$ 2,000
Prepaid membership fees (Note 2(c))	8,999	8,830
	<u>10,936</u>	<u>10,830</u>
FUND BALANCES		
Nature reserve and projects fund (Note 2(e))	\$ 497,837	\$ 535,979
General fund (Note 2(a))	497,837	535,979
	<u>\$ 508,773</u>	<u>\$ 546,809</u>

Approved by the Board:
 Charles L. Caspell, Director
 A. M. Caspell, Director

See accompanying notes and review engagement report dated September 8, 2016. - 2 -

TORONTO FIELD NATURALISTS
STATEMENT OF CASH FLOWS
 For the year ended June 30,

	2016	2015
CASH PROVIDED BY (USED FOR):		
Excess (deficiency) of revenue over expenses:		
General fund operations	\$ (3,537)	\$ (7,757)
Nature reserve and projects fund operations	(38,142)	(41,244)
	<u>(41,679)</u>	<u>(49,001)</u>
Changes in non-cash working capital balances:		
GST/HST receivable	(69)	(3)
Inventory	-	-
Prepaid expenses	-	(38)
Accounts payable and accruals	(63)	(1,459)
Prepaid membership fees	169	822
	<u>(38,105)</u>	<u>(49,679)</u>
Total Cash From Operations	<u>(80,784)</u>	<u>(98,670)</u>
NET DECREASE IN CASH	<u>(80,784)</u>	<u>(98,670)</u>
CASH - BEGINNING OF YEAR	<u>257,362</u>	<u>307,041</u>
CASH - END OF YEAR	<u>\$ 176,578</u>	<u>\$ 208,371</u>
Comprised of:		
Cash	74,257	73,987
Guaranteed Investment Certificates	145,000	183,375
	<u>\$ 219,257</u>	<u>\$ 257,362</u>

See accompanying notes and review engagement report dated September 8, 2016.

TORONTO FIELD NATURALISTS
STATEMENT OF NATURE RESERVE AND PROJECTS FUND OPERATIONS
 For the year ended June 30,

	2016	2015
REVENUE		
Investment income	\$ 3,054	\$ 4,151
Bequests	-	5,000
Rental income	(500)	(500)
	<u>3,554</u>	<u>9,651</u>
EXPENSES		
Property taxes and maintenance	2,496	679
Promotional events and materials	663	216
Grants - Royal Ontario Museum	7,500	-
Grants - High Park Nature Centre	5,000	10,300
Grants - Ontario Nature Youth Programs	5,000	5,000
Grants - Toronto Zoo	6,900	5,000
Grants - Eco Sparks Environmental Organization	6,000	2,500
Grants - Toronto Botanical Garden	4,600	5,000
Grants - Forests Ontario	-	5,000
Grants - Bird Studies Canada	-	5,000
Grants - Fitch Light Awareness Program	-	5,000
Grants - Heritage York	-	4,700
Grants - Toronto Wildlife Centre	-	2,500
	<u>38,159</u>	<u>50,895</u>
DEFICIENCY OF REVENUE OVER EXPENSES	<u>(34,605)</u>	<u>(41,244)</u>
Transfer (to) Operating Fund	(3,537)	(7,757)
FUND BALANCE - BEGINNING OF YEAR	<u>535,979</u>	<u>584,980</u>
FUND BALANCE - END OF YEAR	<u>497,837</u>	<u>535,979</u>

See accompanying notes and review engagement report dated September 8, 2016.

TORONTO FIELD NATURALISTS**Notes to Financial Statements, June 30 2016****1. PURPOSE OF THE ORGANIZATION**

The Toronto Field Naturalists (the organization) is a registered non-profit charity. The purpose of the organization is to stimulate public interest in natural history and to encourage the preservation of our natural heritage. For income tax purposes the organization qualifies as a not-for-profit organization which is exempt from income taxes under the Income Tax Act.

2. SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations, the more significant of which are outlined below.

a) Fund Accounting

The organization follows the restricted fund method of accounting. Separate funds are maintained to account for and to report on the separate activities or objectives as determined by donors or by resolution of the Board. The organization currently operates a General Fund and a Nature Reserve and Projects Fund. The General Fund is for the unrestricted funds received and expended for the day-to-day operating transactions of the organization. This fund is set to zero at the beginning of each fiscal year with any excess or deficiency of income over expenses being transferred to or from the Nature Reserve and Projects Fund. The Nature Reserve and Projects Fund reflects the income and expenses relating to the nature reserves, special events or purchases outside the normal day-to-day activities, and grants to other charitable organizations for purposes consistent with the organization's objectives. This is a restricted fund.

b) Capital Assets

Capital assets are stated at cost and consist of nature reserve properties. No annual amortization has been taken on these properties.

c) Revenue Recognition

Donations and bequests are recorded when received. Donations are allocated to the Operating Fund and bequests are allocated to the Nature Reserve and Projects Fund.

Membership fees are recorded for a specific fiscal year and are amortized over the number of months remaining in the fiscal year at the time the membership fees are received.

Membership fees received in advance are included in deferred revenue. All other income is recorded when received.

d) Use of Estimates

The preparation of the financial statements in conformity with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. These estimates are based on management's best knowledge of the current events and actions that the organization may undertake in the future. Actual results could differ from those estimates.

e) Inventories

Inventories are valued at the lower of cost and net realizable value.

f) Contributed Services

The organization depends heavily on the use of volunteers to provide services. Contributed services are not recognized in the financial statements due to the difficulty in determining their fair value.

3. FINANCIAL INSTRUMENTS

The organization's financial instruments consist of cash, accounts receivable, investments, accounts payable and accrued liabilities. The organization has designated its cash as held for trading, which is measured at fair value. Accounts receivable is classified as loans and receivables and accounts payable and accrued liabilities are classified as other financial liabilities, both of which are measured at amortized cost. Unless otherwise noted, the organization is not exposed to significant credit or currency risk arising from these or other financial instruments.

Fair Values

The carrying values of cash, accounts receivable and accounts payable and accrued liabilities approximate their fair value due to the relatively short periods to maturity of the instruments.

Credit Risk

Credit risk arises from the potential that one party to a financial instrument will fail to discharge an obligation and cause the other party to incur a financial loss. The maximum credit exposure to the organization is represented by the fair value of the amounts receivable as presented in the statement of financial position.

4. CAPITAL MANAGEMENT

The organization's capital consists of cash and unrestricted net assets. The organization's capital structure is intended to meet or exceed internally set capital targets while addressing the need to meet a demand for cash or fund its obligations as they come due. It monitors its capital by preparing annual budgets and monitoring actual results at regularly held Board meetings and is not subject to any externally imposed capital requirements.

5. COMMITMENTS

The organization entered into a lease agreement for office space, at a cost of approximately \$16,500 per year through January 2017. On February 1, 2017 the rent will increase to approximately \$17,780 per year. The lease will expire February 28, 2019.

6. PHOTO LIBRARY

The Photo Library consists of an estimated thirteen thousand 35-mm colour slides, focussing on Toronto valleys, watercourses, shorelines, plants and animals and on the organization's properties and activities. The collection began in the early 1970s.

TORONTO'S ROSE FAMILY: PART I

The Rosaceae (rose family) contains 88 genera and about 3000 species (Flora of North America, www.efloras.org). Family members are the source of many fruits including apples (genus *Malus*); cherries, peaches, and plums (*Prunus*); blackberries and raspberries (*Rubus*), etc. Ornamentals include roses (*Rosa*), the most widely cultivated garden flower, and many others. The TFN's *Vascular Plants of Metropolitan Toronto* (1994, 2nd ed.) reported about 40 species in this family native to Toronto. I plan to write several articles on species selected either as distinctive or as representative of closely similar species.

Toronto currently has three native roses, *Rosa carolina* (Carolina or pasture rose), *R. blanda* (smooth rose), and *R. acicularis* (prickly rose) all locally rare and summer blooming. *R. palustris* (swamp rose) was only reported in the Rouge valley but, according to the recent BioBlitz report, has been extirpated.

The species shown is *R. carolina*, photographed at East Point and also reported at Etobicoke Creek, Wigmore Park and Taylor Creek (Don), and High Park. Its full range is from Ontario to Nova Scotia and across the eastern half of the U.S. (U.S. Dept. of Agriculture database). *R. blanda* was reported at Highland Creek, Toronto Islands, High Park and the Rouge valley. *R. acicularis* was only reported at Black Creek (Humber).

The genus *Rubus* was reported by the TFN to include 7 species native to Toronto, four common and three locally rare. Illustrated are a typical common species, *Rubus allegheniensis* (common blackberry), and the atypical *R. odoratus* (purple flowering raspberry). The latter is readily identifiable by flowers unlike any other local *Rubus* species. The species shown are summer blooming. Not shown are two other common species, *R. occidentalis* (black raspberry) and *R. strigosus* (wild red raspberry) and the locally rare species (see last paragraph).

R. allegheniensis' range includes Ontario to Nova Scotia, the eastern U.S., plus disjunct populations in B.C. and California. *R. odoratus* has the same Canadian distribution, occurs in most of the eastern third of the U.S., and has a disjunct population in Washington state.

I encourage TFN members to record and photograph the other *Rubus* species, including the three locally rare species. *R. hispidus* (trailing blackberry) and *R. flagellaris* (northern dewberry) were only reported in High Park. *R. pubescens* (dwarf raspberry) was reported in the East Don drainage, High Park, and the Rouge valley. Our native roses also need further investigation.

Article and photos by Peter Money



Top: Carolina or pasture rose, *Rosa carolina*, East Point, June 1996

Centre: Common blackberry, *Rubus allegheniensis*, June 1997

Bottom: Purple-flowering raspberry, *Rubus odoratus*, June 1995

Newsletter Volunteer Needed

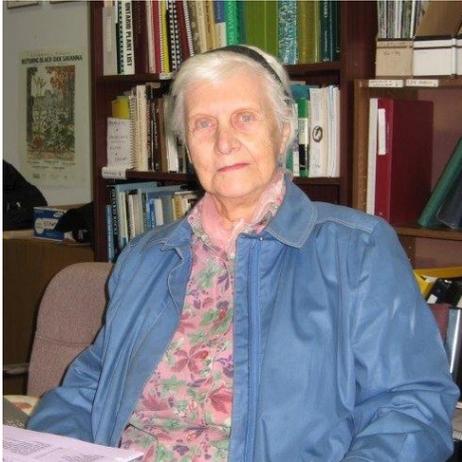
TFN is looking for a volunteer to help set up the newsletter, entering and arranging material in an MS-Publisher file. PC skills required. MS-Publisher is easy to learn for anyone familiar with MS-Word. Training will be provided. This position would involve spending time in the TFN office on several days leading up to publication deadlines 8 times a year.

To volunteer, or for more information, please e-mail the TFN office, attention Wendy Rothwell.

KEEPING IN TOUCH

Congratulations to Eva Davis who celebrated her 97th birthday on September 3rd. Eva joined TFN in 1976 and played an active role in the Newsletter

Committee for many years, providing delightful articles and nature drawings (see page 22). This photo was taken a few years ago as she helped with proof-reading.



Just wanted to share pix from the Bruce Peninsula over the August 12 weekend. Beautiful time for a sojourn.

Kathleen Brooks



Ed. The light colour identifies it as a young northern water snake. (Thank you, Roger Powley, for the ID.)

In late July I saw a female hummingbird gathering nest material in Milliken Park. I have been observing this park, and my neighbourhood nearby, for over 30 years and have never seen this before. Of course we have seen these birds in spring and fall migration, but never in the middle of summer. In very early August we saw a female hummingbird feeding at our scarlet runner bean flowers. These sightings are very special for this area, as unusual plant and animal occurrences are very rare indeed.

Al Roffey

As soon as the red-flowered bergamot (or bee-balm, *Monarda didyma*) starts flowering in my garden, we immediately see ruby-throated hummingbirds almost every day. It's amazing to watch them circle the flowers, pushing their long tongues into each tube. When the patch of cup-plant flowers later in the summer, families of goldfinches come to rip off the developing seeds and monarch butterflies sit sipping nectar for minutes at a time. The hummingbirds briefly check out the cup-plant flowers but don't seem too interested. However, if a goldfinch or a monarch is there, the feisty little hummingbirds fly aggressively at them till this "competition" moves away from the patch!

Jenny Bull

Re Rob Spindler's article on Yellow Creek Ravine in the September issue, we just received this update from him.

Thought you might be interested. City Councillors Wong-Tam and Matlow put forward a motion to the Parks and Environment Committee asking for a feasibility report on developing and implementing a Master Plan to remediate the ravine. The motion was adopted and the report is due February 2017. There's no commitment and no budget but it's progress. I suspect there will be some "sticker shock" when people realize the terrible state and needed work. I was somewhat disheartened by discussions with the committee councillors who are frustrated and pessimistic due to the lack of any real funding for annual maintenance, let alone capital projects. City council as a whole doesn't seem to be supportive — it's not a priority. Too bad really because the City within a Park is fast becoming the City within a Sewer.

Rob Spindler

REMEMBERING BARBARA KALTHOFF

We were sorry to learn of the death, on August 26, of Barbara Kalthoff, a TFN member since 1981. Barbara was a keen birder, also interested in nature, photography and hiking, who led outings for us.

TFN and its members in the news this summer

A 2-page spread in the Toronto Star (Aug 7) featured Toronto's ravines, with many quotes from TFN member and author of *Toronto's Ravines and Urban Forests*, Jason Ramsay-Brown. More at: thestar.com/news/gta/2016/08/07/why-our-ravines-are-the-city-below-toronto.html.

An article in the Toronto Star (Aug 28) reviewed the history of Sunnybrook Park, opened in 1928. The article says, "In 1930, the Toronto Field Naturalists opened Canada's first urban wilderness trail in Sunnybrook." More at: yourtoronto/once-upon-a-city-archives/2016/08/26/once-upon-a-city-from-foxhunts-to-foxholes.html.

CHILDREN'S CORNER

WORD SEARCH: Camouflage - Spots and Stripes

Spots and stripes are two examples of protective patterns which can help wild animals blend in with their surroundings. This makes it harder for predators to find and eat them. For example, in late spring a mother deer leaves her fawn in a sheltered place in the forest, returning only to feed it. The white spots on its brown back mimic the sun dappling through the leaves of the trees, so the fawn is less visible to enemies. Some wildlife with spots are spotted turtle, little wood satyr (and many other butterflies!) spotted sandpiper and northern leopard frog. With stripes: American kestrel, chipmunk, raccoon and garter snake. Why not take a notebook on your next nature walk? You will probably be able to list many more examples. You might have to look really hard to find them though, because... they are camouflaged!

Find and circle the underlined words.
 May be running across, down, diagonal or backwards.

G	F	S	L	S	R	O	T	A	D	E	R	P	C
O	S	A	T	A	D	M	I	M	I	C	Y	T	A
R	A	R	W	O	B	U	G	A	B	C	U	D	M
F	N	A	E	N	P	F	G	L	H	R	I	J	O
D	D	C	K	L	M	S	E	N	T	O	P	Q	U
R	P	C	R	S	T	R	U	L	V	W	X	Y	F
A	I	O	Z	A	T	B	E	R	Y	T	A	S	L
P	P	O	C	S	D	S	T	R	I	P	E	S	A
O	E	N	E	E	F	G	H	I	J	K	L	M	G
E	R	K	N	O	K	N	U	M	P	I	H	C	E
L	G	A	R	T	E	R	S	N	A	K	E	P	D

From the remaining letters, find the name of an orange insect with black spots. These colours are not for camouflage, but to warn predators that it tastes bad and could make them sick.



Fawn, White-tailed Deer.
 Photo: Marg McRae



Northern Leopard Frog.
 Photo: Ken Sproule



Eastern Chipmunk.
 Photo Ken Sproule



Little Wood Satyr.
 Photo: Marg McRae

by Judy Marshall

EXTRACTS FROM OUTINGS REPORTS *continued*

Woodbine Park to Kew Gardens, Jul 26. Leader: Bob Kortright. Our focus was trees and flowers. Woodbine Park was created from the western half of the old Woodbine (subsequently Greenwood) racetrack about 15 years ago, so the trees reflect what city staff were planting at that time, including native maple, oak, spruce, sandbar willow, dogwood, ninebark, viburnum, sumac and ash (despite the advent of Emerald ash borer at the time) and near-native trees such as buckeye, tulip-tree, hackberry, pin oak, swamp white oak, but also many non-natives such as Colorado and Serbian spruce, silver fir, European birch, Amur and field maple, dawn redwood, horsechestnut, lilac and magnolias. East of Woodbine Park, the new residential development that occurred at the same time was planted mostly with ash, crabapple and Eurasian hazel. In Kew Beach park and Kew Gardens, we noted sycamore and Norway maple, Kentucky coffee-tree, crack and peachleaf willow, and two cherry birch.

Ecological Restoration in the Don Valley, July 30. Leader: Jason Ramsay-Brown. We wandered by Cottonwood Flats, Beechwood Wetland and the Todmorden Mills Wildflower Preserve, taking a look at the results of over two decades of stewardship and ecological restoration projects along the lower Don. Highlights included: clear views into Beechwood thanks to recent removal of a huge bed of invasive phragmites by site stewards; perusing the first proposed plan for Cottonwood Flats, compliments of Natural Environment and Community Programs, Urban Forestry; and chatting about recent stewardship experiments at Todmorden. We spotted an eastern black swallowtail butterfly, American goldfinch, downy woodpecker, yellow warbler, belted kingfisher, cup-plants in bloom, and a raccoon napping in a 160+ year-old bur oak.

TFN'S TORONTO THE GREEN AND RAVINE SURVEYS

Forty years ago, the Toronto Field Naturalists published *Toronto the Green*, a statement of the TFN's vision for the future of Toronto's green spaces. Toronto is uniquely blessed in having ravines and many natural areas that provide green space and even semi-wild areas in the heart of the city. *Toronto the Green* described Toronto's natural areas watershed by watershed, detailing the background geology, geography and flora and fauna found in Etobicoke Creek, Mimico Creek, Humber River, Don River, Highland Creek and the Rouge River, plus other natural features such as High Park and the Toronto Islands. In reading over *Toronto the Green* now in 2016, I am struck how important this publication is as a forerunner to the City of Toronto's current Ravine Strategy and how it foreshadows current recognition that Toronto is unique amongst major urban centres because of our ravines and other green spaces.

In *Toronto the Green*, over 30 individual natural areas were identified as 'of special interest' for the diversity of habitats and wildlife found. When I compared these 30 locations with the current listing of Environmentally Significant Areas (ESAs) in the City of Toronto Master Plan (2014), more than half (17) have received special protection as ESAs. Each of these has met one or more criteria, including:

1) home to rare or endangered species, 2) large, diverse and relatively undisturbed, 3) unusual or high quality landforms, 4) provide ecological functions such as stopover location for migratory wildlife.

Of the natural areas mentioned in *Toronto the Green*, over 20 were the subject of preliminary biological surveys by TFN members. Ultimately, nine of these were published as a series of Ravine Surveys (listed below). In each, TFN authors described location and access, human history, topography, watershed features, major habitats, flora and fauna, and made recommendations for future protection. Based on several years of field observation, checklists of plants, birds and mammals were added as appendices. Reading over the Ravine Surveys now, I am impressed by the dedication and efforts behind this premier example of citizen science by TFN members. Each of the nine ravines

represented in the TFN Ravine Surveys series are now ESAs and have undergone more intensive recent study by professional conservation biologists. As an example, both Park Drive Ravine and Burke Brook Ravine are subjects of the current Ravine Revitalization project of

the Faculty of Forestry, University of Toronto (www.torontoravines.org). Such current work makes the TFN Ravine Surveys additionally valuable in that they provide a comparative baseline and an opportunity for long-term monitoring.

Toronto the Green and the nine TFN Ravine Surveys are available online at the TFN website (see below). Paper copies are available at monthly meetings or on Friday mornings at the TFN office. Or send a cheque, adding \$2 for postage and handling.

Nancy Dengler

The need for "islands of peace" provided by natural areas, for places to go to escape temporarily from the pace and crowding of city life, and for contact with the natural world will be felt more as residential densities increase. We must set aside spaces where people can simply "be" rather than "do", which means planning for this kind of land use.

Toronto the Green, 1976

Publications now available online www.torontofieldnaturalists.org/v-resources.htm	Price for paper copy
<i>Toronto the Green</i> (1976) by Toronto Field Naturalists	\$10
<i>Brookbanks Ravine</i> (1974) by Bruce Cruikshank, Bruce Parker	\$2
<i>Burke Ravine</i> (1974-6) by Jack Cramner-Byng, Robin Cunningham, Emily Hamilton	\$2
<i>Chapman Creek Ravine, Etobicoke</i> (1975) by Clive E. Goodwin, Joy E. Goodwin	\$2
<i>Chatsworth Ravine</i> (1973) by Jack Cramner-Byng, Emily Hamilton and Stewart Hilts	\$2
<i>Humber Forks at Thistledown</i> (2000) by Joan O'Donnell	\$5
<i>Park Drive Ravine – Rosedale</i> (1976) by Dale Taylor, Paul Scrivener	\$2
<i>Taylor Creek – Woodbine Bridge Ravines</i> (1977) by Linda Cardini, Helen Juhola	\$2
<i>West Don River Valley</i> (1978) by Diana Banville, Linda Cardini	\$2
<i>Wigmore Park Ravine</i> (1976) by David Kelly, Allan Greenbaum	\$2

WHY I JOINED TFN

I was an enthusiastic, if disorganized, naturalist in my youth. Living deep in the Kentish countryside, free and unsupervised, I could hardly fail to be. Sadly, nature appreciation and I parted ways when employment, girls and golf intervened. I felt a sense of loss and a certain absence in my life thereafter, but time and energy were limited, whereas distractions were plentiful. Nature and I drifted apart but never completely out of sight of each other.

One of the more positive effects of the 2008 recession was that, with down-sizing and then self-employment, I found myself with more spare time than I expected or knew what to do with. Without pausing to think too much about it I looked for ways to reacquaint myself with the natural world.

I found TFN by entering the search words “nature, Toronto, walks”, or something to that effect. There was TFN, third on the Google list of results. I clicked. I joined. It wouldn’t be too much of an overstatement to say

that that one mouse click changed everything. In short, my views on the relationship between the natural world and human activity underwent a complete sea change.

But why TFN? Mainly because of TFN’s resolutely generalist policy: birds, insects, lichens, mosses, the built environment, weeds – all of nature, that is, and not just one to the exclusion of all the others. This is, after all, how nature is organized: an interdependent, complicated system of relationships, which includes us humans.

As Stephen Jay Gould said: “We cannot win this battle to save species and environments without forging an emotional bond between nature and ourselves as well – for we will not fight to save what we do not love.” And we can’t forge those emotional bonds without experiencing, and, we hope, gaining some understanding of, the natural world in all its forms. Thanks to TFN, I’ve at least started on this journey.

Charles Bruce-Thompson

FOR READING

Bringing Nature Home, How Native Plants Sustain Wildlife in our Gardens

by Doug Tallamy, Timber Press, 2007, 2009

I recently read this book which Eric Davies mentioned at the Ontario Nature regional meeting (see May 2016 newsletter). Though first published in 2007, it is still pertinent to our mission.

Tallamy’s book provided a long overdue treatment of a vital and under-appreciated subject – the importance of replacing non-native plants with native ones. Given the evidence he marshals, it could have been titled “How Traditional Horticulture is Wiping out our Wildlife,” because traditional horticulture is largely based on non-native plants which cover an ever-increasing portion of the landscape around us.

While the impact of invasive plants on native plants is acknowledged, at least by naturalists, I think most of us still don’t appreciate that non-native plants have contributed to the decline of our birds and other wildlife, whether they are invasive or not. Non-native plants support fewer insects than native plants, because native insects did not evolve with them, so usually cannot eat them. Most of our birds depend almost entirely on insects to feed their young. There are some insects feeding on non-native plants (either generalist herbivores or non-native insects that were imported with the non-native plants). And there are a few non-native plants that are

similar enough to related natives that our insects do not appear to be able to tell the difference. Why would we import Asian crab-apples when our native crab-apples are so similar that our insects cannot tell the difference? Especially when every plant import carries the risk of bringing a plant disease or pest, like those that have devastated our elms and the American chestnut (the commonest tree in eastern deciduous forests one hundred years ago), and those that are devastating our butternuts, beech, and ash. However, the fact that some insects eat some plants of alien origin does not change the argument – non-native plants support fewer herbivores than native plants, and therefore fewer omnivores and carnivores in turn. So we need native plants to sustain our wildlife.

While our society is unlikely to reject the use of non-native plants in agriculture, I see no excuse for using non-native plants in our gardens and parks, for which there are excellent native substitutes. Non-native tree, shrub and vine species which are invading natural areas (ailanthus, Siberian elm, Manitoba and Norway maples, black locust, European birch, Asian bittersweet and Asian honeysuckles, European buckthorn...) should be removed and replaced with native species ASAP, unless they are shading streets where they are unlikely to spread to natural areas.

Bob Kortright

Doug Tallamy is speaking at the TBG
on October 25.

See notice on page 2.

THE DOG DAYS OF SUMMER

Most people are probably familiar with the buzzing mating call of the male dog-day cicada (*Neotibicen canicularis*) on a hot summer or early fall day.

Dog-day cicadas are also known as annual cicadas or harvestflies. (These terms refer to the dog-day cicada in particular, but also to the entire *Neotibicen* genus.) The term ‘dog-day’ refers to the fact that they appear during the hottest days of summer. ‘Annual’ refers to the appearance of adults every year (a bit of a misnomer as their life cycle is longer than 1 year, but broods overlap and adults appear every year) in contrast to the periodic cicadas which have 13- or 17-year life cycles. ‘Harvestfly’ refers to their appearance during the harvest season.

Cicadas undergo incomplete (or simple) metamorphosis, from egg to nymph to adult, bypassing the pupa stage of complete metamorphosis. The adult cicada inserts eggs into tree twigs where they later hatch into nymphs and fall to the ground. The nymph then burrows underground where it spends the majority of its life feeding on the sap from tree roots. After a number of years, depending on whether it is annual or periodic, it emerges. Insect nymphs usually resemble the adult without wings, as opposed to the larvae of insects that undergo complete metamorphosis which look quite different from the adult, e.g. a caterpillar becomes a butterfly or moth.



Left: Dog-day cicada emerging from nymph stage. The exoskeleton (shed skin) it leaves behind is known as an exuvia. You may have seen these clinging to tree trunks. Right: Cicada fully emerged and resting while its wings dry.



The short-lived adult dog-day cicada (approx. 3 cm body). Both the male and female die shortly after mating.



Left: Newly-emerged dog-day cicada nymph (about 2.5 cm) searching for a vertical surface to climb. Right: Nymph has found a tree, secured itself and begun transformation. Wings are beginning to show.

References:

- 1) *Field Guide to Insects of North America*, ISBN 978-0-618-15310-7
- 2) *Insects: Their Natural History and Diversity*, ISBN 978-1-55297-900-6
- 3) BugGuide: www.bugguide.net
- 4) Images – Ken Sproule: www.toronto-wildlife.com
- 5) Periodical Cicadas: en.wikipedia.org/wiki/Periodical_cicadas
- 6) Dog Days: en.wikipedia.org/wiki/Dog_days

You may also have heard the swamp cicada (*Neotibicen tibicen*) which has a lower frequency sound compared to the dog-day. The swamp cicada is rarer in Ontario – at least I have only heard it a few times and seen it only once. There are 30 *Neotibicen* species and over 160 cicada species in North America.

Incidentally, the phrase "dog days of summer" does not originate from the fact that a dog will find a shady tree to lie under on a hot day. It originates from a belief that the rising of Sirius (the dog star), the brightest star in the sky, contributes to the heat of summer. In North American summers Sirius is above the horizon during the day. Sirius is a star in the constellation Canis Major (Latin for “greater dog”). The species name *canicularis* is from *canicula* and *canis* (Latin for “little dog” and “dog”).

Why do periodic cicadas have a life cycle of 13 or 17 years? Hint: they are both prime numbers. For a possible explanation see reference 5.

For an explanation of how the cicada makes sound, see reference 2.

Article and photos by Ken Sproule

According to Tim Coe, a biologist with the Ontario Science Centre, a bumper crop of cicadas is emerging now due to this year’s warm temperatures. Reported in Metro News, Sept. 8. www.metronews.ca/news/toronto/2016/09/07/bumper-crop-of-cicadas-buzzing-around-toronto.html

IN THE NEWS

The Effects of City Living on Birds

First there were studies of urban birds that discovered that they raise their “voices” to be heard over city noise (*Journal of Animal Ecology*. 2004. Vol 73, p434). Then studies found that birds living in cities sing their songs faster and in higher pitches than in nearby forests (*Current Biology*. 2006. Vol 16, p 2326). The shorter, more varied, higher pitched sounds are to make themselves heard above train, aircraft and road traffic, which tends to be louder at low frequencies. So what next for urban birds? The latest study shows that urban birds are angrier than their rural counterparts (*Biology Letters*. 2016. 12:6). Researchers from Virginia Tech found urban birds exhibit significantly higher levels of territorial aggression than country birds.

In a *Science News* interview, Scott Davies, a postdoctoral associate in biological sciences at Virginia Tech, remarked that, "A possible reason for this is that these birds have less space but better resources to defend. Living near humans provides better food and shelter, but it also means more competition for these limited resources."

In the study the researchers played a recording of a male song sparrow within another male's territory. The urban birds responded aggressively. "They approached and remained near the speaker, flapped their wings furiously, engaged in loud singing and then began to produce 'soft song' – a term that researchers use to describe the quiet, garbled noise that a bird makes, which is predictive of an impending attack." Rural birds also responded to the recording, but with much less aggression.



Tree swallows. Photo by Norah Jancik

Are the Days Numbered for Dog-strangling Vine?

It's hard to miss dog-strangling vine (DSV) at this time of year. Thick mats of the vine cover the edges of many park paths and choke out native plants. So far this invasive plant has resisted control by mowing, digging up its roots and applying pesticides. Researchers haven't given up, and are testing a biological control in the form of *Hypena opulenta* caterpillars. These insects are native to Ukraine, just as DSV is, and feed on the leaves in the caterpillar stage. The

adult moths do not eat. Test sites in Ottawa have proved promising, and the pupae were able to overwinter.

Biological controls have a bad reputation, as many releases in the past have created worse problems (e.g., cane toads in Australia, Asian lady beetle in the U.S., mongoose in Hawaii). The researchers from Carleton University and the University of Toronto understand this, so the caterpillars were tested for 8 years to see if they would eat native plants, particularly those biologically close to DSV like milkweed. They found the insect is a picky eater and just forages on DSV. Tests of the effectiveness of *Hypena opulenta* are continuing at monitored sites, so it might be a few years until we see any large-scale releases planned.

Migratory Birds Threatened by Great Lakes' Wind Turbines

This July saw the release of a 2013 migratory bird study by the U.S. Fish and Wildlife Service that calls for wider wind turbine-free corridors along the Great Lakes' shores. The study used radar to track bird and bat movement both horizontally and vertically. It found that, not only do migrating birds concentrate along the shorelines to refuel and rest before crossing the Great Lakes, but they also make wide flight paths up and down the shoreline to explore wind conditions and orient themselves for migration. These behaviours, and the altitude they fly at, put them into the rotor-sweep zone of wind turbines.

The report suggests that a 16 km buffer should be set around the Great Lakes. The current US Fish and Wildlife Service standard is 5 km. Ontario has no restriction on how close to lakes wind turbines can be.

The release of the study is timely, as Apex Clean Energy is proposing to construct *Lighthouse Wind*, which would see up to 71 turbines built on the south shore of Lake Ontario extending 7 km inland. The turbines would be near Somerset and Yates, New York, which would put them in the middle of a bird migratory corridor.

The study can be found at www.fws.gov/radar/documents/Avian%20Radar%20Sp2013%20Ontario%20Full.pdf

Lynn Miller

Ostrander is saved!

Over the years, we've reported on the fight by Prince Edward County Field Naturalists, along with groups such as Ontario Nature and Nature Canada, to save Ostrander Point from wind turbines. The area is an IBA (Important Bird Area), providing habitat for migrating birds, bats, and butterflies, and species-at-risk such as the whip-poor-will and Blanding's turtle. It appears the project is now dead after the energy company failed to convince the appeal court this summer that they had "appropriate remedies" for the environmental damage that the project would cause. More at: naturecanada.ca/news/blog/victorious-and-glorious-ostrander-is-saved/

FROM THE ARCHIVES

Exchanges by Eva Davis
From TFN 540, May 2006

Reading the extract from Emily Hamilton's "Beginnings" (TFN 538, March 2006), started me thinking of my particular "Lost and Founds" when I first came to Ontario in 1955. My childhood had been divided between Wales and Hong Kong, between the green hills of rain overkill and The Gorgeous East. The East, in fact, is not all that gorgeous, being home to malaria, dysentery and alarming creepy-crawlies, but I still carry vivid memories of Easter lilies growing wild on the hillsides, of the brilliance of Flame of the Forest trees, of an enormous growth of bougainvillea. My predominant memories, however, remain those of Wales: dark scented bluebell woods, primrose and purple orchis along railway embankments, meadows riotous with foxgloves as tall as my seven-year-old self, fields blood-red with poppies which died the minute they were picked.

And what has Ontario to offer in exchange? The packed white trilliums of Bronte Park. The occasion up north, when I stumbled upon a small lake thickly fringed with what I took to be a Canadian version of wild iris. They were, in fact, fringed gentians. Nor have I viewed such a massing



Fringed gentian. Drawing by Eva Davis

of cardinal-flowers as I once discovered in a wet meadow in Tobermory. Then there are the patches of golden trout lily in the spring. Stretches of dame's rocket in public parks. And of course the "taken-for-granted": Canada goldenrod and New England asters (both cultivated in gardens in Wales). Then there are the exotic-looking plants: beech drops, squirrel corn, Dutchman's breeches, Indian pipe, squawroot, pinesap, sundews and prairie smoke. I have only ever seen prairie smoke once: an enormous massing of it when the TFN took a bus trip to the Carden Alvar years ago. It is, of course, long-plumed purple avens (*Geum triflorum*), but the common name is more evocative, a trailing wind-blown sight to behold.

Algonquin Park. The French River. Tobermory. The Bruce Trail ... Toronto's Rouge Valley, and all the special places which each of us has found. I will always remember the magic of my first trip to Killarney. We arrived to find luna moths with the prevalence of cabbage-white butterflies and the Park office windows literally plastered with huge black sphinx moths.

When Ontarians rave about the beauty of foreign parts, I ask them if they have taken the Algoma Central Railway to the Agawa Canyon. This usually draws a total blank. Ontarians! They do so need enlightening!

WEATHER (THIS TIME LAST YEAR)

October 2015

October gave the impression of a mild month but it was actually seasonable and trended much cooler compared to September. Warmth over Thanksgiving and fairly abundant sunshine (no longer measured in Toronto) supported the impression of a calm, mild month. Temperatures downtown averaged 10.7° and at Pearson 9.7°. These were actually a tiny bit below the long-term average. Thanksgiving weekend was largely in the low twenties. Rainfall was 86.0 mm downtown and 67.6 mm at Pearson Airport, slightly above normal.

There was one sharp cold spell mid-month (16th-19th) during which lake effect snow off Georgian Bay brought flurries to Toronto on the 17th-18th. At this time, most of

the GTA had its first general frost (Pearson Airport dropped to -2.9° on the 19th before rapid warming resumed).

The other main player this month was the remnants of Hurricane Patricia. This was a storm of record intensity but very small size in the east Pacific that crossed Mexico with relatively little damage. It then morphed into a large low-pressure system that brought rain from Winnipeg to the east coast. The rains fell on the 28th and were heaviest eastward. Downtown had 58.3 mm and Pearson had 37.4 mm. Patricia accounted for most of the month's precipitation. By Hallowe'en the weather was benign again.

COMING EVENTS

If you plan to attend any of these events, we recommend that you contact the organizing group beforehand to confirm time and place.

Jim Baillie Memorial Bird Walks – Toronto Ornithological Club (www.torontobirding.ca)

Aimed at the intermediate birder, but beginners also welcome. Free to the public.

Sat Oct 15, 8 am to afternoon. Durham Waterfront. Leaders: Geoff Carpentier and Henrique Pacheco. Meet at Lynde Shores parking lot. Hwy 401 east to Salem, south to Bayly, then east past Lakeridge. Continue past Hall’s Rd and turn right onto Lynde Shores parking lot (fee required). Fall migrants, shorebirds, waterfowl.

High Park Walking Tours (www.highpark.org)

1st and 3rd Sundays of each month from 10:30 to noon. Meet at the benches south of the Grenadier Restaurant.

Information: 416-392-6916 or walkingtours@highpark.org

- Oct 2. Who Goes To The Park : A poetic visit to sites from the well-known book.
- Oct 16. Autumn Splendour Photo-Buff Walk. Leader: David Allen

Our Fragile Planet Series – Toronto Public Library (www.tpl.ca/green)

Thurs Oct 27, 1-2 pm. Downsview Branch. Heritage Trees: Preserving our Natural Roots. Speaker: Edith George, Advisor to Ontario Urban Forest Council.

City of Toronto Tree Planting Opportunities (Toronto tree planting)

Phone 311 or email greentoronto@toronto.ca for information. Cedarvale Park: Oct 1; Eglinton Flats: Oct 15; Taylor Creek Oct 22.

Mycological Society of Toronto (www.myctor.org)

Forays occur every Saturday and Sunday. Check their website for details.

Parks Canada Guided Outings in Rouge Park (www.rougepark.com/hike)

The Market Gallery (www.toronto.ca/marketgallery)

To Nov 12. When the Beatles Rocked Toronto. South St Lawrence Market, 2nd floor, 95 Front St E. Admission \$10 (seniors \$5). Gallery closed Sun, Mon and holidays.

Lost Rivers Walks (www.lostrivers.ca)

Walking tours limited to 20 participants. To ensure a spot on the tour, please email in advance to info@labspacestudio.com.

Ian Wheal Walks

- Sun Oct 2, 11 am. French Ontarienne Heritage on Toronto’s shoreline. Meet at northwest corner of Queen’s Quay and Spadina Ave. 5km walk.
- Sat Oct 8, 10:30 am. CN Rail’s Unique Children’s Education and Safety Trail (1924), Ashbridge’s Bay. Meet at entrance to Greenwood subway station.
- Mon Oct 10, 10 am. Cherry Beach to Scarborough shores. A geological hike of Toronto’s vanishing sandy shores. Meet at the southwest corner of King St E and Parliament St. 14 km walk.
- Sat Oct 15, 1:30 pm. Toronto Police special duties at CPR’s Gladstone Ave train station (1880-85). Parkdale heritage. Meet at northeast corner of Gladstone Ave and Queen St W.

Answers from page 17

G	F	S		S	R	O	T	A	D	E	R	P	C
O	S	A	T			M	I	M	I	C		T	A
R	A	R	W	O							U		M
F	N	A		N	P			L		R			O
D	D	C				S	E		T				U
R	P	C				R		L					F
A	I	O			T		E	R	Y	T	A	S	L
P	P	O		S		S	T	R	I	P	E	S	A
O	E	N	E										G
E	R	K				K	N	U	M	P	I	H	C
L	G	A	R	T	E	R	S	N	A	K	E		D

Insect with black spots: ladybug (or “ladybird beetle”)



Asian ladybug beetle. Photo: Ken Sproule

Toronto Field Naturalists
1519—2 Carlton St.,
Toronto, Ontario, M5B 1J3

Publications Mail
Registration No. 40049590



Cooper's hawk photographed by Miriam Garfinkle in her garden in downtown Toronto, Aug 31 2016