



Fall 2015

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The Leaflet

The Arboretum: still changing, still the same

by Jim Fyles

Director of the Morgan Arboretum

In the last issue of the Leaflet we reflected on the Legend of John Watson on the eve of his retirement after decades of caring for the Arboretum's woodlands and collections. John was a master of keeping things going. With bits of real or metaphorical baling wire, leverage or lubricant he kept the woodlots, collections, equipment and relationships working together as smoothly as possible. In doing so, he gave us, the members and visitors, years of uplifting Arboretum experiences. But behind the last Leaflet was a feeling of worry about how we could possibly get along without him.

One thing that is impressive about forests is their ability to respond to change. Even though we often see them as eternal and unchanging, diverse and healthy ecosystems are never constant. They are always adjusting to changes, large and small. And our Arboretum organization is similar and although John's retirement is a big change, we are adjusting.

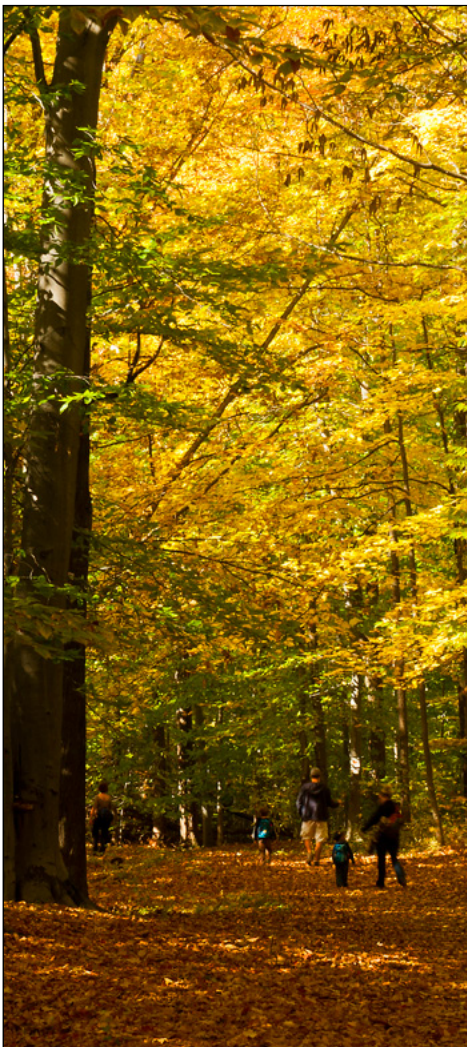
This spring and summer we have been re-thinking and re-organizing how we do things. We have welcomed Scott Pemberton into the role of field manager. Scott has worked with John in the field and with Chris on guided walks and school tours for the last couple of seasons. He is also a great writer of Arboretum news and social media content. This summer Scott has overseen the site maintenance along with the tour program and in-house research, and has coordinated filming activities in the Arboretum. He has been a busy guy but is always up for the next thing to do.

Anne Godbout has made time to coordinate the care and development of the Arboretum gardens and the nursery, working with volunteers and our crew of summer students. The colours and patterns of the entrances and Blossom Corner reflect their work, as will a new butterfly garden that is beginning to emerge.

Many of you, well trained on Montreal roads, pay close attention to the number of potholes you have to avoid while entering the Arboretum. Maintaining the road was one of our main concerns coming into our first spring thaw without John. We have contracted to a local company for road maintenance and, with spot-repairs by Scott and his crew, it has been smooth riding most days.

Looking forward, we are pleased that Peter Kirby, McGill technician and one-time Arboretum resident, has agreed to take on the task of caring for the ski trails

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Abuzz at the Arboretum

By Chris Cloutier, Naturalist

As I gazed into the small spring puddles, I couldn't help feeling the itch of summer creeping its way into my mind. The tiny minnow-shaped creatures skittering through the water column are in fact the tiny progeny of probably the Arboretum's most hated fauna, the mosquito.



Mosquito larvae by Chris Cloutier

Mosquitoes can be found in all corners of the Arboretum, from the deep dark hemlock groves to the beautiful sunlit meadows where the Bobolinks sing. They are truly everywhere and need to be. Despite the well-deserved hatred that we all bear for these two-winged parasites, they play many critical roles in the ecology of the Arboretum, from feeding the baby birds of spring and the young newts of

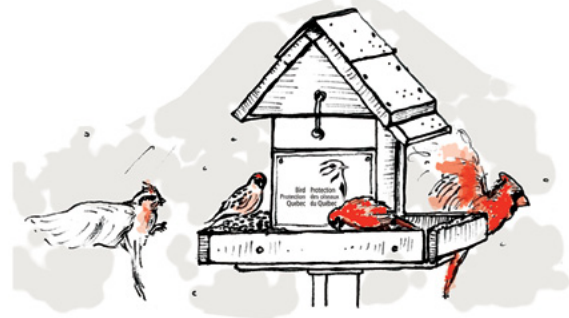


Illustration : Nature Artistica

The birds of the Arboretum are fed by



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the summer to pollinating many of our wildflowers. Those pesky "skeeters" are vitally important.

In the spring of 2014, I began a Master's degree in hopes of better understanding where mosquitoes can be found. The Arboretum, with its multitude of habitat types (and unfortunately abundant mosquito population) seemed like the ideal site for my research. With the help of some specialized trapping equipment designed to collect blood-hungry female mosquitoes, I began weekly collections in several different habitats, including forested sites, fields, and even adjacent neighborhoods. In order for their eggs to develop completely, females have to feed on blood from humans or other vertebrates. Knowing this allows for easy trapping, which involves the use of dry ice. Dry ice is the solid form of carbon dioxide, which is the same substance we exhale every time we breathe, and unfortunately, the same substance that mosquitoes use to find us.

A total of 43,000 mosquitoes were collected during the summer of 2014. Wow! In the grand scheme of things, however, this represents a rather small number compared to the actual number of mosquitoes in the Arbo, which is likely in the millions. To date, we have identified 28 differ-

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Green Matters for Grey Matter or “It’s good for you”

By Scott Pemberton, Naturalist and Field Manager

Shovel the drive way, it’s good for you. Mow the lawn, it’s good for you. Clean the pool, it’s good for you. Rake the leaves, it’s good for you. Go outside, it’s good for you.

Since the dawn of parenthood, Moms and Dads have coerced their kids into doing outdoor chores with the bullet-proof argument of “It’s good for you”. Accordingly, children have complied while thinking that that argument alone is a tad vapid. Until now...

Recent research provides evidence that exposure to nature has distinct benefits to mental health. While this may not completely justify our parent’s demands (let’s face it, most backyard lawns hardly constitute nature), it surely reinforces the idea that humans need to interact with nature and the great outdoors. At least far more than we city dwellers and suburbanites tend to do.

The study, lead-authored by doctoral student Gregory Bratman at Stanford University, indicates that exposure to nature reduces neural activity in the subgenual prefrontal cortex. In plain old English, the subgenual prefrontal cortex is an area of the brain associated with repetitive, self-directed and negative thoughts which psychologists call rumination. We’ll call it the “rumination station”. Obsessing over past arguments, replaying embarrassing scenarios, or reliving past “failures” are just some examples of ruminating. While focusing critically on problems or negative thoughts is normal, to a certain extent, over doing it cyclically is unhealthy and has been linked to depression and other mental illness. Remarkably, the brain scans from Bratman’s study shows that a brief 90-minute walk in nature decreases activity in the “rumination station” of



Enjoying a pause in Blossom Corner by Paul Scheiwiller

the brain, but a 90-minute walk in an urban setting had no such impact. We are starting to see physical evidence that being in nature “is good for you”. Maybe our parents were right all along?!

Nature also has a direct impact on brain development. A recent study, lead-authored by Dr. Payam Dadvand of The Centre for Research in Environmental Epidemiology in Barcelona, Spain demonstrates that green space around schools correlates with a higher level of cognitive development in primary school children. Students exposed to nature in their daily environment experienced more progress in enhancing their memory capability and more progress in decreasing their inattentiveness. While the reasons for this correlation are less clear than the correlation itself, the authors offer a number of possible explanations. They suggest that green spaces offer direct influences including “unique opportunities for inciting engagement, risk taking, discovery, creativity, mastery and control, strengthening

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The calendar 2016

will include tips on nature events to watch for...



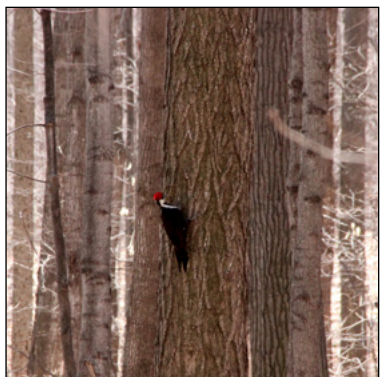
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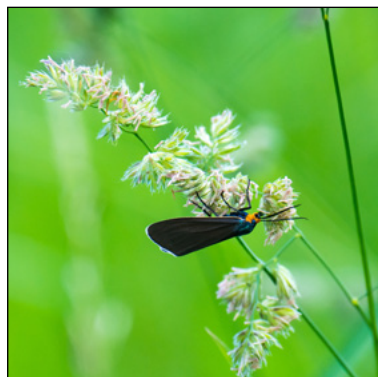
03 Michel Bourque



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05 Manon Boily



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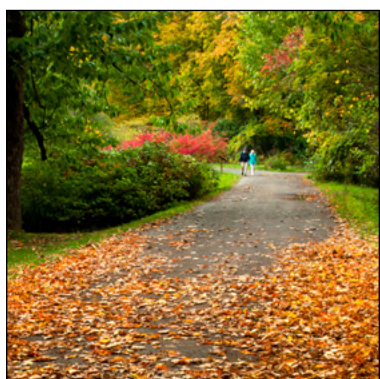
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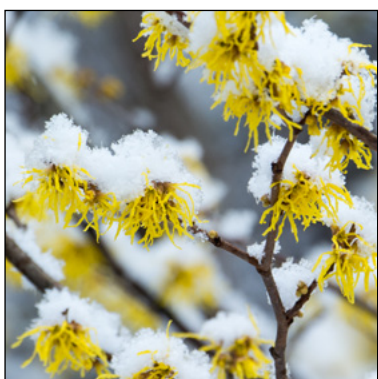
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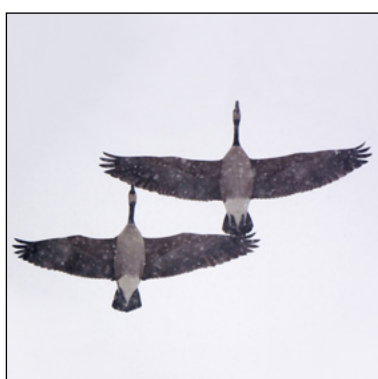
09 Michel Daoust



10 Paul Scheiwiller



11 Michel Bourque



12 Michel Bourque

Gardening the summer away

By Anne Godbout, Liaison Officer

As we all know, going into the garden does not solve all the problems of daily life but puts them into perspective and makes them more bearable. Towards the end of his life, Sigmund Freud bemoaned the fact that he had not spent more time in his garden: "I've wasted my time; the only important thing in life is gardening." [translation]

— Francis Hallé,
Aux origines des plantes (The Origins of Plants)

As I write these words, July that has felt, for the most part, more like August is fast disappearing. No one is complaining about the cooler than usual temperatures, or the regular and abundant rainfalls. Fungi, plants, insects, amphibians and reptiles are thriving in these moist conditions. Most crops are also doing very well, as the harvest begins to appear at the market.

For my part, I have metamorphosed into an improvised farmer, waking up at sun rise and organizing the daily field work while considering the changeable weather. I have had the fortunate opportunity to work with new and interesting people, in particular, a dedicated group of three summer students. They are briefly: Stacey Olynick, born-organizer, workaholic and plant cheerleader; Luke Gossage-Bleho, maestro-machinist and food strategist, and Erik Louridas, home-lover and wildlife gardener at heart.

I have spent many lunch hours learning of their interests, taking part in their eclectic conversations and gaging whether or not they are working with or against each other. After hours of observation, my conclusion is that all three are on the way to wisdom as they seem to roll out of apparent conflicts fairly gracefully to achieve the necessary end.

The greatest reward has been to feel

Commemoration


Contact Anne Godbout at 514.398.8697



their genuine interest in what needs to be done. Whether the work was challenging or repetitive, fun or daunting, they have managed to keep cool heads most of the time. In addition to pruning, sowing, planting, mulching, painting, cleaning and grass cutting, they have blessed the beds with a home-made organic fertilizer, organized plant sales, compiled an inventory of the tree nursery, measured trail distances to improve our signage system, mapped the shrubs in Blossom Corner and labelled perennials in the new bed dedicated to native plants which is nestled by


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Nature Outings

Visit www.morganarboretum.org for complete up-to-date info

Sunday, September 20, 2015

10 am - 12 pm

Family Nature Discovery Walk

Get up close and personal with the wildlife and plants of the Arboretum. Learn where to find interesting creatures.

Sun. Oct. 4, Sat. Oct. 10 and Sun. Oct. 18, 2015

10 am - 12 pm

Fiery Foliage

Naturalist Scott Pemberton will discuss the phenomena of leaf color change, why it happens and how it differs.

Saturday, September 26, 2015

10 am - 12 pm

Spider Walk "Webs of Deceit"

Naturalist Chris Cloutier will show some of the common ones and discuss their importance in the web of life.

Saturday, October 24, 2015

9 am - 12 pm

Fascinating Forest Ecosystems

Find out about the complex interactions of forest organism and what shaped the landscape through history.

Continued from page 1

this coming winter. We have added a new, tracked ATV to our trail grooming equipment, which will allow us more control over track grooming when the snow is wet and heavy. We are looking forward to great skiing this winter!

demanding and somewhat dangerous to make; it requires a lot of know-how. Our equipment is old and needs replacing. The easiest route is to give it up, but we are just not ready to take that decision yet. Perhaps in the spring I will be able to write that we have found a sweet solution!

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There remain a few things that have been in John's domain over the years that are still problems to be solved. Firewood is one. Never a money-making venture and a lot of work, we have decided not to sell firewood this year. Many of us will miss it. But the woods continue to produce, and trees still need to be cut for trail safety so firewood may come back in some form in the future. Our biggest concern is the maple syrup. Our signature product and the first sign of spring, syrup is

In the meantime I would like to thank everyone, staff, students, volunteers, members and visitors, for pitching in as we respond to the changes we are facing. We have accomplished a lot. With your help, the Arboretum is still here; still changing, still the same. 🌱

Astronomy Lecture and Stargazing Events

Star parties: Saturday Sept. 26 & Nov. 21

Spooky Halloween: Friday Oct. 30

Geminids: Sun. Dec. 13 or Monday Dec. 14

Find updates on www.rascmontreal.org

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the stone bridge in Blossom Corner. They have accomplished a great deal of work, some of which will have a positive long-term effect on the management of the Arboretum.

Other gardeners were involved in enhancing the charm of our flower beds. In the spring, Jenny Anderson, Carolyn Fletcher, Vicky Coupal and others provided many of the perennials that are now flourishing around the Con-



Arbo heroes : Erik Louridas, Stacey Olynick and Luke Gossage-Bleho

servation Centre. Two volunteers Jenny Richardson and Helen Carrol, otherwise known in the office as the Rose Ladies (dixit Mary Ann Pavlik) have for several years cared for the two rose beds along the west side of Blossom Corner. The result of their skilled attention is very evident!

Cheers to our keen gardeners, for all of the energy they exert in bringing beauty to this world and in providing food

and shelter for wildlife. 🌿

Continued from page 2

ent species of mosquitoes in the Arbo, or half of all the species known to occur in the province, an impressive number indeed! As expected, the highest number of mosquitoes are

found in more complex habitats, such as forested areas and surrounding fields, which provide more places for mosquitoes to breed. Mosquitoes lay their eggs in standing water in such places as ponds, roadside ditches and even a tea cup if you leave it out long enough!

A selection of efficient insect repellents

Recent studies have shown that DEET is not the only efficient repellent against mosquito and tick bites. According to tests recently published by International Consumer Research and Testing, Consumer Reports (U.S.) and Que Choisir (France), lotions with picaridin (20%) or lemon eucalyptus extract (30%) are equally or more efficient than those in which DEET is the active ingredient. In the U.S. study, picaridin and lemon eucalyptus extract ranked first and second. They both repelled mosquitoes (West Nile virus vector) for at least 7 hours and black-legged ticks (Lyme disease vector) for at least 6 hours. In this study, sprays with 15% and 25% DEET respectively got third and fifth position -note that a higher concentration or a greater quantity of lotion does not necessarily translate into a more effective protection. So if you get a skin rash or become spatially disoriented from DEET or you would just rather avoid using it, this is no reason to stay indoors, check out the alternatives.

Active ingredients memo:

DEET: N,N-diethyl-3-methylbenzamide

Picaridin: 2-(2-hydroxyethyl)-1-piperidinecarboxylic acid 1-methylpropyl ester

Lemon eucalyptus (*Corymbia citriodora*) extract: p-menthane-3,8-diol

<http://www.protegez-vous.ca/sante-et-alimentation/sante-et-alimentationingredients-anti-moustiques.html>

Sampling has already begun for 2015 and will terminate at the end of September. Hopefully this year will be as successful as last year. If you happen to come across some of my traps, please feel free to have a look inside to see what the weekly catch looks like, but please refrain from touching the traps as they do have several sensitive components.

If you would like to follow some of my mosquito adventures or keep up with what is happening in the world of biting critters, please follow me on Twitter (@C_Cloutier15). If you have any questions about my research or would like to know more, please send me an email at christopher.cloutier@mail.mcgill.ca 🌿

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sense of self, inspiring basic emotional states including sense of wonder, and enhancing psychological restoration". Looks like those

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Top Pollinator by **Stacey Olynick**;
Bottom Walkers by **Paul Scheiwiller**;
On page 6: Forest by **Paul Scheiwiller**

teachers were right who said, "Do homework outside, it's good for you".

As the evidence showing how nature can help mental health grows, there is unfortunately also evidence that a lack of natural interaction can cause mental and behavioral problems. In the 2005 book "Last Child in the Woods" author Richard Louv referred to this lack of natural connection as "Nature Deficit Disorder". While not an official diagnostic condition, this popular term has served a valuable purpose in characterizing the negative impact of the public's divorce from nature. Studies suggest that without regular interaction or exposure to nature, individuals are more at risk of physical distress, anxiety, depression and obesity. Children especially are at risk of developing attention deficit disorders, communication problems and learning disabilities. Maybe there's a reason I've never heard my parents say "Stay on the computer, it's good for you".

With cases of mental illness on the rise and most of us spending too much time on Netflix, Facebook, Twitter, Snapchat, Email, TV and Instagram it is important to remember the link between nature and the brain. We only get one brain and we only get so much nature, let's make sure to take care of both.

Be in Nature. "It's good for you". 🌿

Peaked your interest?

Louv, Richard. "Last Child In The Woods: Saving Our Children From Nature-deficit Disorder". Chapel Hill, NC : Algonquin Books Of Chapel Hill, 2005. Print.

Dadvand, Payam et al. "Green Spaces and Cognitive Development in Primary School Children." PNAS (2015). 112 (26): pg.7937-7942. Web. July 6 2015.

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