



**Fredericton Botanic Garden
Association Newsletter**

**Bulletin du Jardin botanique
de Fredericton**

Vol 32 No 1

Spring 2020

Message from the President – Stephen Heard

Dear members,

These pandemic times may be strange, but the Fredericton Botanic Garden is still here for you – we’ve remained open and welcome your visits (with appropriate physical distancing, of course). Not only is the Garden still here for you – we’re very glad that you’re still here for it. Membership is important to us, as it is to all community organizations. Thank you for being part of the Garden – and if you would, please consider recruiting another member or two from amongst your family, friends, and colleagues!

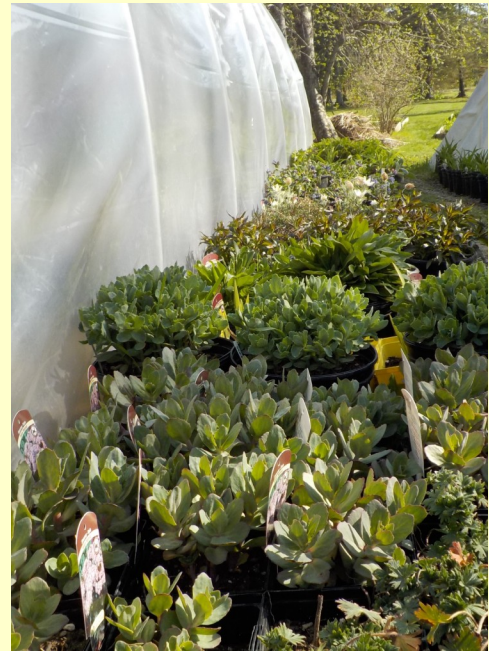
Before going much further, I should introduce myself. I’ve just taken over as President of the Fredericton Botanic Garden Association, succeeding Jim Goltz, who served us admirably and to whom we’re all grateful. I’m a professor of Biology at UNB, and a lover of plants, gardens, and nature. (What I’m not, somewhat ironically, is a very good gardener!) As FBGA President, I will



work to continue the progress we’ve made over the last few years, adding new beds and improving old ones, and reaching for the Garden’s potential in educating the public and engaging citizens with nature.

Speaking of recent progress – you’ll see us at work again this season. We’ll be putting the finishing touches on our new Pollinator Garden and our even newer Rock and Crevice Garden. If you haven’t seen the latter yet – it was built just last fall – you’ll want to! Our major goal for this year is to build and begin to plant the Wabanaki Healing Garden, a bed dedicated to plants used in Indigenous culture and medicine. We’re excited to have new projects, and we’re sure the Garden will reward your every visit. Our Garden is built and maintained by volunteers,

**Spring Plant Sale
Modified for the State of Emergency
Details on Page 2**



and we are always looking for ways to get you involved. Last summer we held regular “Weeding Wednesdays”, and look for those to begin again soon (with appropriate Covid-19 precautions, of course). You can also support us with donations, with suggestions for Garden improvements, and with offers to take on regular volunteer roles. Please contact us and learn how you can move from membership to something more.

Getting outdoors and interacting with plants and nature is always good for the human spirit. It’s even more so during times of uncertainty, and the pandemic has certainly been that. So come enjoy the Garden – *your* Garden!

Sincerely,
Stephen Heard
President, FBGA



Spring Plant Sale

Greetings & Happy Spring Everyone!

I hope this finds you all well & staying safe.

As you know things have been a bit different this year thus far!

Therefore so will our Spring Plant Sale be a bit different.

The current state of emergency & limits on gatherings, social distancing etc... has put us in a strange place!

So we have devised a plan so that the show can go ahead.

Part 1

Part 1 of the show this year will be presented to you via our web site. A Plant List with varieties, prices and photographs will be available at frederictonbotanicgarden.com/plant-sale.

Orders will be accepted:

- **via email (fredbotanicgarden@gmail.com) from 10 am Tuesday May 26th through 4pm Thursday 28; OR**
- **by phone (Garden office, 506-452-9269) Wednesday, May 27, 10am – 4pm and Thursday, May 28, 10am – 4 pm**

Please note that early orders cannot be accepted. We'll process your order, then call you to arrange a pickup time for you Wednesday, Thursday, or Friday. (No pickups on Saturday).

Orders placed this way will get first crack at all the wonderful plants.

Part 2

Saturday, May 30, we will open to the public at the Resource Center/ Greenhouses, 10 Cameron Court off Hanwell Rd. with the remaining plants for sale.

The hours of the outdoor show will be:

- Saturday, May 30, 10am until 2pm
- Sunday - May 31, 12 noon until 4pm

If you plan on attending the outdoor part of the show, we ask that you be considerate of our neighbours in Cameron Court as space is restricted and we do not want to block anyone's drive or park where you should not be! Maybe walk in and arrange a pick up of your order later if possible?

All inquires/ questions please contact us here at the office, fredbotanicgarden@gmail.com

What do we have for you?



The perennials are coming along beautifully, and a selection of herbs & peppers as well. The tomatoes are a bit behind as we started them a bit late in a unheated greenhouse with late snow falls. They should be good but a bit smaller than normal by show time.

We're still waiting to see if we can get trees this year from the Canadian Forest Service but were not sure yet.

Please help us run a safe and efficient sale and email in your orders, call in or come by the Open Air Sale on Saturday, May 30 and Sunday, May 31.

This is our biggest fundraiser & your support is greatly appreciated! Thank you!

Wishing you all the very best!

John Welling - Chair
Plant Show Committee

Membership

Visit the website frederictonbotanicgarden.com to renew your membership or purchase a gift membership. Privileges of Membership include a 10% Discount at the following local garden centers:

- Co-Op Country Store (Northside)
- Corn Hill Nurseries
- Currie's Greenhouses
- Kent Garden Center
- Scott's Nursery



Science in the Garden

What, if Anything, is an Azalea?

By Steve Heard (Professor, Biology, UNB)

As the spring weather warms each year, we look forward to the spectacular floral show put on by our rhododendrons. Wait – or are those our azaleas? And what's the difference, anyway? What, if anything, is an azalea?

You could be forgiven for thinking this question is trivial. Rhododendrons and azaleas are close relatives, similar in ecology and appearance, and both heart-stoppingly beautiful. But for two reasons, it's a question worth answering. First, it's the kind of question that nags at you, especially if you're a gardener, or a botanist. And second, there's some important biology lurking in the answer.

To start with: in one sense, azaleas and rhododendrons are the same thing: they're all members of the plant genus *Rhododendron*. *Rhododendron* belongs to the heath family, Ericaceae, along with heather, blueberries, cranberries, and many more. There are over a thousand species in *Rhododendron*; but that's just the wild types. At least ten thousand cultivars have been bred and named – a feat of horticultural enthusiasm that should impress us all.

Within *Rhododendron*, though, people have drawn distinctions. Plenty of them. To keep things as simple as possible: “azaleas” have five stamens (the male structures dispensing pollen), while “rhododendrons” have ten. This distinction was first made by Carl Linnaeus, the Swedish botanist who drew up one of the earliest systems of plant classification. Linnaeus sorted plant species into larger groups by counting their male and female reproductive structures (stamens and pistils). This “sexual system”, incidentally, enraged the Prussian botanist Johan Siegesbeck, who published his opinion that it was “lewd”. Linnaeus named a scraggly, ugly weed after Siegesbeck in revenge.

The azalea/ rhododendron distinction we still try to draw is a vestige of Linnaeus's sexual system. Linnaeus sorted the five-stamen rhododendrons into a genus *Azalea*, and the ten-stamen ones into a genus *Rhododendron*. Since then, the species have been re-sorted repeatedly as we've understood better how they fit together. One of the first things to happen was the lumping of the azaleas into the genus *Rhododendron*. For many years, though, we tried to keep the distinction alive anyway, using two “subgenera” within *Rhododendron* to hold the azaleas: subgenus *Tsutsusi* for the 80 species of deciduous “azaleas”, and subgenus *Pentanthera* for the two dozen evergreen “azaleas”. But these groups haven't held up. It turns out that the evergreen azaleas include several different evolutionary lineages that independently evolved the

5-stamen count. The deciduous azaleas aren't a natural group either, for the opposite reason: a 10-stamen count has evolved more than once within them. Confused yet? So are many botanists, and our classification of *Rhododendron* will surely change again. But one thing is clear: an “azalea” isn't really anything at all, because a group consisting of 5-stamen species is an artificial one that doesn't respect the evolutionary history of *Rhododendron*.

This nomenclatural chaos is frustrating for anyone trying to keep track of the terminology, but there's fascinating biology behind it. Linnaeus didn't know it, but the reason we can organize plants (and other creatures) into groups in the first place is that all life on Earth has evolved from a single common ancestor, diversifying under the action of



natural selection. That history is why we can recognize the heath family as distinct from the lily family or the rose family; and it's why within the heath family we can recognize *Rhododendron* as distinct from *Vaccinium* (blueberries and their relatives). But evolution by natural selection turns out to be a remarkably powerful process, and in some groups it generates an astonishing diversity of similar forms. That's what's happened with the 1,000+ species of *Rhododendron*, the 1,500 of *Begonia*, and the 3,000 of milkvetches (*Astragalus*). What turns up the evolutionary heat in groups like these? The short answer is that we don't know. The quest for a longer answer keeps evolutionary biologists busy, and will for a long time to come.

The confusion over azaleas vs. rhododendrons, then, is a direct result of evolution working at warp speed. Azaleas or rhododendrons? Let's not worry. Let's, instead, enjoy their rainbow of colours, and appreciate the power of evolution by natural selection — the process that's generated that rainbow and so much more.

Photo: Pinkshell azalea, *Rhododendron vaseyi*, public domain via [Wiki-media.org](https://commons.wikimedia.org/wiki/File:Rhododendron_vaseyi.jpg)



The Arrival of Spring and our Pollinators

By: Holly Abbandonato, FBGA Board Member

Tis the season to begin planning, organizing and tidying up around the garden. This may be some simple pruning of dead branches, removing hay or mulch to see what is sprouting underneath or getting a head start on weeding. Spring gardening is somewhat of mystery as you never know what life may be uncovered. New visitors are also arriving such as birds, butterflies and bees looking for sources of food, nesting material and shelter. Pollen is in short supply in the spring months, but there are certain species that do flower early in the season.

Salix

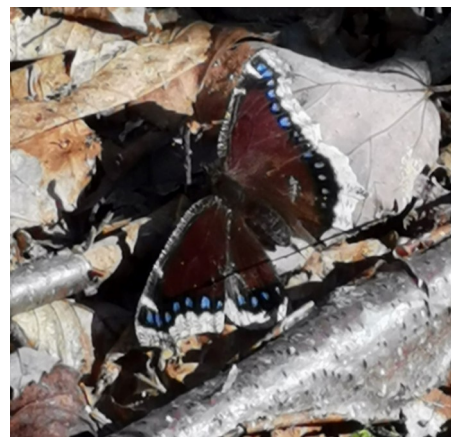
Currently in our native wet meadow (part of the pollinator garden) as well as around the Fredericton Botanic Garden, you can find willow catkins (*Salix* spp.) in full bloom. These willow flowers are an excellent source of tree pollen and nectar for birds and bees alike. They may not be very showy, but they are a well-used food supply for bees especially, and in some countries you can even buy willow honey! Other plant species that provide food for pollinators in the spring are: crocus, grape hyacinth, lungwort, primroses and trout lilies to name a few. Can you spot any of them flowering in our garden beds?



Mourning Cloak Butterfly

This April, I had the chance to spot my first spring butterfly, the Mourning Cloak (*Nymphalis antiopa*). This butterfly species overwinters (it hibernates) as a fully emerged adult with black/ purple wings, yellow tips and blue iridescent spots. Unlike other pollinators, its preferred food source is tree sap from oaks as well as rotting fruit, though the caterpillars will feed on plant leaves in the summer from willows, elms, aspens and birches. This butterfly's unique name

came from a British entomologist, who was reminded of a young girl wearing a dark cloak in mourning. However the tips of her bright yellow dress could be seen at the bottom of her mourning cloak, similar to the colours seen on the wings of this butterfly!



Coming soon to the pollinator garden

This summer we will be installing our bee hotels and information signage, so that you can learn more about saving our pollinators. These hotels will include nesting habitat for both solitary bees and bumblebees. Did you know that we currently have two at-risk solitary bee species in Atlantic Canada? -the Macropis Cuckoo Bee and the Sable Island Sweat Bee. Our pollinators need our help and we have carefully selected species for food, habitat and shelter for the magnificent pollinators found here in Fredericton. If you spot any pollinators in our gardens this summer, please share it with us on [Facebook](#), [Instagram](#) or [Twitter](#) #FredBotGarden

Children's Corner Bee Hotels

Many native bees (which do not sting or swarm!) nest in tunnels. These tunnels can be underground, in dead trees or in the hollow stems of plants like raspberries.

Attract native bees to your backyard by bundling the hollow stems of last year's plants. Place the bundle out of the rain and where the bees can catch the



Bee hotel photo CC by Heisabe, Pixabay.



Time to get Back to Nature

By Cynthia Stacey, FBGA Board Member

Nature is not a miracle cure, but by interacting with it, spending time in it, experiencing it and appreciating it we can all reap the benefits of feeling happier and healthier as a result. The Botanic Garden is one of the settings in the City that provides the space and the opportunity to connect with nature.

While we all may be intuitively aware that nature is good for us, there is a growing body of knowledge that explores and validates the health benefits people derive from nature. After several weeks of isolation and social distancing a reminder of some of the benefits associated with being in nature might help deepen our appreciation of natural outdoor settings, such as the Garden, and entice you to get outside.

Being in Nature:

Reduces Stress

Stress reduction is one of the most well-known benefits of being in nature. Studies have shown that after being exposed to a stressful situation, spending time in nature can actually help lower the physiological effects of stress such as heart rate, muscle tension, blood pressure and pulse transit times.

Improves Mental Capacity

When a person is exposed to nature, the brain is better able to relieve itself of “excess” activity, allowing us to feel relaxed, alert, focused and present. In other words, nature can help clear your head. Additionally, experience with nature can help strengthen the activities of the right hemisphere of the brain and help restore harmony to the brain as a whole. Research has linked spending time in nature with helping to improve short-term and working memory, as well as, increase creativity and problem-solving and decision-making abilities.

Relieves Depression and Anxiety

Anxiety, depression and other mental health issues may all be eased by some time in the outdoors. Simply sitting in a green space or going for a walk has been shown to be a natural pick-me-up as humans elicit positive psychological responses to nature. Studies have found that people have decreased negative emotions such as anger and are more caring, calm, and positive when they are exposed to nature.

Encourages Physical Activity

Accessible parks and green spaces are connected with people's increased frequency of physical activity. Such spaces motivate people to be active and provide environments conducive to a wide variety of physical activity experiences and we all know the benefits of physical activity to our minds and bodies. There is evidence that proximity to natural environments is a better predictor of people's activity



Magnolia in Memorial Garden, May 2020

than proximity to even community centres or indoor gyms. Studies have also found that exercise outdoors holds specific advantages over indoor venues. For example, outdoor exercise has been shown to lower systolic blood pressure more than treadmill training.

Improves Health

There have been several studies proving that experiences in nature benefit people's health. It has been shown that people exposed to nature recover from surgery faster, require fewer medications and are sick less often. It has also been found that being in nature helps set the sleep cycle and mitigates sleep problems. In addition, being outdoors aids in the acquisition of natural forms of vitamin D, which helps the body absorb more of certain minerals such as calcium and is important for bones and blood cells. Further, research has found that many plants put substances, including organic compounds called phytoncides, into the air that help boost immune functions.

Encourages Social Engagement

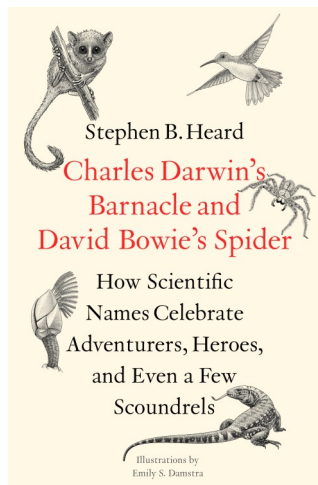
When we are outside it is not only Mother Nature that we see, but we also have the opportunity to connect more with other people in the community. Human contact, even from a two-meter distance, is important to mental health, self-esteem and a sense of belonging.

So – do your mind and body a favour. Get outside, maintain physical distancing if appropriate, and aim for less screen time and more green time.



A New Book from our FBGA President

Have you ever wondered how plants and animals get their (scientific) names? Our FBGA President, Stephen Heard, has just released a book that dives into the fascinating stories of species that are named after people. Did you know that the name *Magnolia* honours Pierre Magnol, a French botanist who suffered religious persecution? Did you know that Carl Linnaeus named his favourite flower *Linnaea*, after himself? Or that Linnaeus named another flower a rather scraggly and unattractive one—*Sigesbeckia* after a rival botanist he wanted to insult? The stories behind scientific names can be funny, or infuriating, or poignant; many of those stories are told in *Charles Darwin's Barnacle and David Bowie's Spider*.



Here's what Outlander author Diana Gabaldon had to say about the book: "*More fun than you've ever had with taxonomy in your whole entire life! Delightfully written, thoroughly researched, makes you want to learn Latin, and will give good dinner party stories forever.*" Interested? Copies are available locally through Westminster Books (call 454-1442), or signed copies can be arranged by emailing the Garden of-

The FBGA welcomes a new Office Manager

When things run smoothly at our Garden, it's usually because our part-time Office Manager is on the job. This spring marks a big transition for the FBGA: our long-time Office Manager, Graham Allen, has retired. We're all grateful to Graham for his many years of service – and we're sure we'll see him in the Garden from time to time. As the state of emergency changes, stay tuned for details on a chance to say thank you to Graham and recognize his many contributions to the Garden.

On May 1st, we welcome a new face to the role: Andrea Flemming. Andrea is a lover of plants, nature and books who has returned to New Brunswick after many years away. She worked as a librarian at the Iowa City Public Library and on the Content Team at MedTouch. She currently works as a Seed Purchaser for Jolly Farmer Products and is working towards a Certificate of Native Plants and Ecological Horticulture from the Coastal Maine Botanical Gardens. She recommends Doug Tallamy's new book, *Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard*, (because one never really stops being a librarian).

We're excited by the energy and experience Andrea brings to the job, and the entire Board looks forward to working with her. If you see Andrea around the Garden, please say hello (from two metres away, of course!) and welcome her to the team.



Call for Volunteers

The number of specific plant beds in the Botanic Garden has expanded greatly over the past few years to more than fifteen. These all need varying amounts of care from May to October. In order to keep these beds looking their best, volunteers are needed throughout the growing season for planting, weeding, invasive species removal, watering and winter preparation.

Weeding Wednesday

Weeds of all types keep growing all season and love to compete with the plants in our garden beds. "Weedy Wednesdays" provide an opportunity for members and friends of the garden to enjoy the outdoors, meet other volunteers, and still practice social distancing in a serene setting. Everyone is asked to meet the evening's coordinator at the Resource Centre, off Cameron Court, at 6:00 pm every Wednesday starting June 10th. Garden gloves, bug spray and a weeding tool are recommended.

If you have not already done so, please take a moment to fill out the Volunteer Survey at frederictonbotanicgarden.com/volunteers.

For further information call Marg Routledge (506) 459-7541 or Cynthia Stacey (506) 454-2591.

The Fredericton Botanic Garden Association Newsletter is published four times a year by the Fredericton Botanic Garden Association, Inc. The FBGA is a registered charitable organization for tax purposes. The objectives of the FBGA are to guide the establishment of the Fredericton Botanic Garden and to foster an awareness and appreciation of plants.

For information on membership and to become involved, please contact us:

fredbotanicgarden@gmail.com

(506) 452-9269

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Resource Centre Hours

Wednesday and Thursday, 1-4 p.m.

