



**Fredericton Botanic Garden
Association Newsletter**

**Bulletin du Jardin botanique
de Fredericton**

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Spring encourages us to get outside and for those of us with gardens there is much to do. In the Fredericton Botanic Garden the daffodils are in bloom, the forsythias are looking magnificent and the earliest magnolias are in bloom.

Volunteers are busy preparing for the Spring Fair, Plant Sale and Raffle and there is much more about this event elsewhere in this Newsletter. Watch for further details on our website, our Facebook page, or in your email. The volunteer efforts of our members and friends are essential for the success of this fundraiser so please consider how you can help – taking a shift selling raffle tickets at the Market, donating plants, potting up plants at our greenhouse or helping with the set-up on Saturday, May 28, and during the Fair on Sunday, May 29. During the Fair there are a variety of jobs including selling plants, managing a check-out, and helping our customers in other ways. Remember those who contribute to Spring Fair preparations and at the event itself (we keep track of participation) are eligible for prizes that will be drawn at the end of the afternoon on May 29.

This Newsletter also contains a report on our annual general meeting held in February. In March Steve Stehouwer hosted an extremely successful “Seedy Saturday” that attracted over 70 participants.

Looking beyond the Spring Fair, plans are being completed for the formal unveiling of James Boyd’s “Rhodo” sculpture of Saturday, June 11. Later we are looking forward to another Treasured Garden Tour - watch for further information.

Board member Marg Routledge has agreed to lead our membership team and has already met with her committee. Expect to hear more about membership as Marg is developing ambitious plans to build our membership. This, in turn, should help us grow the

Spring Fair and Plant Sale
Entrance Garden
Sunday, May 29, noon – 4:00 pm

Come See What's Sprung (evening foray)
May 19, 2016, 7:00 pm
at the Resource Centre on Cameron Court

Leader: Jim Goltz
Enjoy a leisurely evening foray to check out what garden plants, wildflowers, birds and other spring residents can be seen in the Fredericton Botanic Garden in mid May.

Rhodo Sculpture unveiling and Rhodo tour
Saturday, June 11
Details TBA

Treasured Garden Tour
Date TBA

Botanic Garden and a variety of programs based on the Garden.

Richard Tarn
Chair, Board of Directors

facebook

Join the Fredericton Botanic Garden group page on Facebook to see announcements of events, pictures of the Garden and watch for our upcoming contest.



The Spring Fair, Plant Sale and Raffle What You Need to Know

The Spring Fair takes place on Sunday May 29, from noon to 4:00 pm, in the Entrance Garden off Prospect Street. We will again have a selection of purchased perennials, herbs and heirloom tomatoes, young trees donated by the Canadian Forest Service, plants donated by area nurseries, material from our own propagation beds and, importantly, perennials and some house plants donated by members. We again have our Raffle and this year the prizes are first—a beautiful copper and stained glass obelisk crafted by Mitch Bourque that will be a beautiful addition to any garden, - second a BBQ, - and third a hypertufa planter with a selection of alpine plants made and planted by Brian Parker. The Raffle draw takes place at the end of the Fair. There will also be entertainment (including the Big Bubble Guy – John Williamson), educational displays, artists (including Helen Stanley Pottery, Seeleys Cove, and Jamie Brown, blacksmith, of Valley Welding, Knightville) with garden related items for sale, and the BBQ. Further details will be shared in the coming weeks on our Facebook page and by email.

The fundraising success of the Fair, Sale and Raffle is dependent on the support of members and below are some of the ways in which you can help. Remember that when you volunteer your time to help the Spring Fair, Plant Sale and Raffle, for every shift you work at the greenhouse, selling Raffle tickets at the Market, helping at the Saturday set-up and Sunday Spring Fair, your name is entered in a draw for garden related prizes. The draw takes place at the end of the Fair on May 29.

Plant donations Please look at the perennials in your garden and consider donating some plant divisions to our sale. Such donations have greater value, and we can charge a higher price, if they are labeled with a plant name; a word on the colour and height is an added bonus. Plants should be taken to the Resource Centre, Cameron Court, and left in the roped receiving area in front of the greenhouse. The sooner we receive your plants, the more established and better looking they will be by the time of the Sale. If you need pots for your plants, you can pick some up at the greenhouse (it is open most days), or potting up can be done at the greenhouse.

Assistance is available if you require help digging plants. Please call or email our office and leave a message (452-9269 or fbga@nb.aibn.com) and we'll contact you to arrange a convenient time.

House plants are accepted only on the set-up day, Saturday, May 29 at the big tent.

Carry out boxes are needed for our customers to carry their purchases. Particularly useful for this purpose are the low-sided corrugated cardboard boxes used for shipping produce and grocery products, and which are available from stores such as Costco. It will be very helpful if you can collect such boxes between now and the Sale and take them to the Resource Centre on Tuesday or Thursday afternoons.

Help at our greenhouse In the weeks leading up to the Plant Sale we pot up and label material grown in our own propagation beds. The need for help potting up and labeling is particularly great during the two weeks leading up to the Sale; a work group will be busy many afternoons and evenings. We invite members to join us in this task – if you are able to help please drop by or leave your name and contact information at our office (452-9269 or fbga@nb.aibn.com). Work group schedules will be shared by email closer to the time. Also watch our Facebook page for more news and information.

Saturday, May 28 Set-up Our tent will be put up on Saturday morning. In the afternoon, starting at 1:30 help will be needed to set up tables, move and organize plants, and related tasks. At the end of the afternoon a pizza supper is provided on-site for the volunteers.

The Fair and Sale Staffing the plant tables, answering customers' plant questions, working the cashes and helping with the membership and raffle tables are some of the jobs for volunteers. Volunteers are asked to be on-site no later than 11:30 am for assignment of tasks and final instructions before customers enter. At the end of the Fair help is required to clean up.

Raffle Tickets The Raffle continues to be an important fundraiser for us and if you have sold Raffle



tickets in previous years or you are a new member you have already received some tickets in the mail. Raffle tickets are \$2 each or three for \$5; a book of 12 tickets sells for \$20. We greatly appreciate your support in selling them. If you require additional tickets for colleagues at work, members of groups or teams, or family and friends, please contact the FBGA office (452-9269 or fbga@nb.aibn.com). Please be sure to return your ticket stubs and money, plus any unsold tickets, before the draw; you can do this by taking them to our Market table (see below) or to the Garden Resource Centre on Cameron Court on Tuesday or Thursday afternoons.

Market Shifts We are selling Raffle tickets at the Boyce Farmers' Market on the remaining Saturdays in May: May 14, May 21 and May 28. Volunteers are still needed for some of the two hour shifts (7:00 - 9:00, 9:00 - 11:00 and 11:00 - 1:00) on these dates; we like to have at least two people for each shift so please consider signing up with a friend. This year in an effort to make it easier for you to sign up we are using a web-based scheduling site, VolunteerSpot, designed specifically for such volunteer activities – you can reach our Market schedule at <http://vols.pt/R67QJ8>. You will be asked to submit your email address, your name and phone number after which you will see the days and times that are open. Once you have marked the time(s) you wish to volunteer you will receive an email confirming the date and time. You will also receive a reminder three days before your shift. (Beware of the ads and uncheck the invitations to receive further emails.) If you wish to volunteer to work a shift without using this site please email Peter Gorham at Peter.Gorham@nbned.nb.ca or leave a message at the FBGA office. Your help will contribute to the success of the Raffle.

Let's join in making this year's Spring Fair, Plant Sale and Raffle a fundraiser success for the Botanic Garden and an enjoyable event for all participants. If you are unable to help in any of the ways described above, please consider making a charitable donation . . . your Botanic Garden needs your help.



Canada's Celebration of Gardens
June 17 to 19, 2016

Garden Days is Canada's three-day celebration of gardens and gardening that takes place over the Father's Day weekend. The program's objective is to draw attention to our cultural garden landscape, history and innovations and to underscore the importance of public and private gardens, the values of home gardening and the promotion of environmental stewardship. Garden Days is a joyful, country-wide celebration of the role of gardens in our communities and in our lives.

Check out the Garden Days website - <http://gardendays.ca> – to learn more and see the activities taking place in New Brunswick and across the country.

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.

To obtain information on membership and to become involved in FBGA activities please contact us: **506-452-9269 PO Box 57, Stn. A, Fredericton, NB E3B 4Y2 or fbga@nb.aibn.com**
Web: www.frederictonbotanicgarden.com

**Fredericton Botanic Garden Association
Board of Directors**

**President - Richard Tarn Vice-President - Jim Goltz
Secretary—Kim Hill Treasurer - Stephen Heard
Past President - Wendy Bourque
Peter Gorham Marg Routledge John Welling**



Science in the Garden

Spring, light, and strategy on the forest floor

By Steve Heard (Professor, Biology, UNB).

Spring is upon us, and it's a great time for a walk in the woods that are part of our Botanic Garden. In a deciduous forest, spring finds the forest floor sprinkled with green and with flashes of colour from blooming "spring ephemerals". The trout lily pictured above is an example, as are wood anemone, trillium, bloodroot, and a bunch of my other favourites. But if you walk the same trail in July, you'd be hard pressed to know some of these spring bloomers were ever there – not only is their flowering finished, but their green leaves and stems have withered and gone. Why?

The forest floor is a challenging place for a plant to grow. For most of the growing season, it's a very dim place, with most sunlight intercepted by the leafy canopy above. Light matters a lot to plants, of course, because they harvest light to power the making of sugars by photosynthesis (and in doing so, they produce the oxygen we all breathe). More light, more photosynthesis; less light, less photosynthesis. But the key insight is that as light is reduced, a plant can't just photosynthesize slower. That's because plants *also* respire, burning sugars with oxygen to fuel their metabolism, just as you and I do. The green tissue required to photosynthesize has a respiratory cost – and that cost is there in light and in dark, in sun and in shadow. Plants need to run at a sugar profit, and the amount and kind of green tissue that can achieve that profit changes with available light.

There seem to be two distinct strategies for plants to deal with the forest floor. Some plants (like seedling maples) are slow and steady: they remain green on the forest floor all summer, but they economize. Slow-and-steady plants grow slowly, support relatively little green tissue and, in that tissue, build relatively little of the respiration-expensive photosynthetic machinery. With low sugar *consumption*, they can afford low sugar *production*. Spring ephemerals play a very different game: hurry-while-you-can. They poke their heads above ground very early in the spring, and grow rapidly to take advantage of the short period of high light before the forest canopy leaves out. Spring ephemerals

run expensively: lots of leaf tissue and lots of photosynthetic machinery to harvest light and make lots of sugar quickly. But this expensive machinery can't be maintained through the long, dim summer – so spring ephemerals stow their sugar profits underground in bulbs, corms, or rhizomes and spend the rest of the year waiting for the next spring's sunlight bonanza. Slow-and-steady and hurry-while-you-can both work, but no single plant does both. In this, as in many ecological contexts, the jack-of-all-trades would be master of none.



Image: Trout lily, *Erythronium americanum*, dw_ross via flickr.com, CC-BY-2.0

And the *evergreen* forest floor? Without that sunlit window in early spring, our evergreen forests don't allow the hurry-while-you-can strategy, and have little if any spring flora. Actually, when the evergreen canopy is dense enough, the slow-but-steady strategy doesn't work either; like the deep ocean, a dense evergreen forest isn't a place where photosynthesis can make a sugar profit. *These* forest floors belong to the fungi (and a few weird and wonderful plants that don't photosynthesize at all). More about those in a future Newsletter.



The Botany of Henna

By Steve Heard (Professor, Biology, UNB).

A lot will be happening at our Spring Fair and Plant Sale, and we invite you to come to enjoy the afternoon. We'll have plants for sale, of course, but there will be other vendors and lots of fun. One vendor new to the Spring Fair is Neeta Hathi, who offers henna body art (temporary tattoos using henna dye). You're probably quite familiar with henna art, which has had thousands of years of history in India, Africa, and the Middle East – but you may not know the botanical backstory. Our Garden is run by people fascinated by plants, and we like to think we can make you fascinated too!



*Henna flowers and leaves J.M. Garg
via wikipedia.org CC BY-SA 4.0*

Henna is prepared from the dried and ground leaves of the henna plant (sometimes called Egyptian privet). It's a heat-loving tropical plant (so unfortunately, you won't find any in our Garden) related to loosestrife. It originated in western India, where it still grows wild, but because it's been prized and widely cultivated, it now occurs worldwide in the tropics.

Henna's scientific name is *Lawsonia inermis*. Scientific (or "Latin") names come with stories, and henna is no exception. The genus *Lawsonia* was named by Linnaeus – the brilliant pioneer who, in the 18th century, regularized the scientific organization and naming of plants and animals. He named henna for his friend

Isaac Lawson, a Scottish physician and botanist. Linnaeus was very much in Lawson's debt, because Lawson was a patron as well as a friend. In particular, Lawson financially supported publication of Linnaeus' masterwork, *Systema Naturae*, in 1735. It's hard to exaggerate the role of the *Systema Naturae* in kick-starting modern biology – perhaps it's best to say that the *Systema Naturae* was to biology's 18th century what Darwin's *Origin of Species* was to its 19th and 20th. Lawson seems otherwise to have been forgotten, so it's heartening to see him honoured in henna's Latin name.

Henna can be used for body art because its leaves contain lawsone, a chemical that binds to proteins in skin cells and produces an orange-brown colour. (While the binding is permanent, skin cells are naturally and gradually shed, along with their bound lawsone, which is why the art is temporary). Why the lawsone? Like most of the interesting chemistry that plants produce, lawsone is almost certainly defensive. In lab experiments, it has antifungal and antibacterial properties; in nature, it may defend *Lawsonia* against microbial pathogens or against insect herbivores (or both). In this function it's joined by thousands of chemicals we use in industry, medicine, cuisine, and recreation. Think of latex from the rubber tree, aspirin from birch twigs, eugenol from clove flower buds,



*Henna body art NYHENNA
via flickr.com CC BY-NC-SA 2.0*



caffeine from the coffee bean – all chemicals that plants have evolved to synthesize as weapons against their enemies, be they microbial, insect, or even mammalian.

Henna is one of many familiar dyes with plant origins. Perhaps the dye we now know best is indigo – the colour of blue jeans – and while most indigo is now synthetic, it was originally extracted from the indigo tree or from dyer's knotweed. Before indigo, woad (from a European mustard) was the common blue; the Picts of ancient Britain are reputed to have used it much in the same way that other cultures used henna. Among familiar reds, madder is of plant origin; and cochineal (the dye that put the "red" in British red-coats) is extracted from scale insects that live only on their cactus hosts.

Food, medicine, industry – but also, the colour in our lives. We owe plants a lot. Mightn't a visit to our Spring Fair be a good way to celebrate that?

Report of the 2016 Annual General Meeting of the Fredericton Botanic Garden Association

The well attended AGM of the Fredericton Botanic Garden Association was held on Saturday, February 20, 2016, at the Unitarian Fellowship on York Street.

Board Chair Richard Tarn reported on the highlights of the past year. Top of the list was the announcement that The Honourable Jocelyn Roy Vienneau had accepted the invitation to become Honorary Patron of the Association. The sculpture 'Rhodo' by Hampton artist James Boyd arrived on site in October after a number of delays. This public art was possible through a grant from the Sheila Hugh MacKay Foundation overseen by the City of Fredericton. The formal unveiling will take place in June 2016. Also during 2015 the board entered into an agreement with Ducks Unlimited to construct a designated wetland area on the lower part of the pond site. The City supports this development which will take place as soon as funding is in place. Once the wetland is created, horticultural plantings will be created for parts of the site. The resumption of the Treasured Garden Tour, organized by James Whitehead, was a resounding success.

Committee reports were received. The Association finished 2015 with assets of \$22,683, and members

approved a 2016 budget with an income of \$63,490 (including a \$25,000 fundraising target which has been included for several years but not met) and expenses of \$35,120. Nancy Beltrandi and Carla Ward were approved to review the financial records for 2015 and 2016.

James Whitehead resigned from the board during the year as he moved away from Fredericton, and was recognized for his contributions to the Association. Board member Jim Goltz had completed a three year term and was re-elected for a further term; Marg Routledge was appointed to the board during the year and was elected to a full three year term. Board members Wendy Bourque, Peter Gorham, Stephen Heard, Kim Hill, Richard Tarn and John Welling continue their terms.

In a board meeting following the AGM Richard Tarn was elected President, Jim Goltz the Vice-President, Kim Hill the Secretary and Stephen Heard the Treasurer.

The silent auction held during the afternoon was successful in raising \$1579.00. Following the AGM Steve Stehouwer spoke on "The Hidden World of Seeds" and shared some surprising seed facts and practical information on cleaning, storing and germinating seeds.

Summer student

Charli LeBlanc is returning to work with us in the Garden this summer. She worked with us last summer and we are pleased to welcome her back. She will be working alongside City employee Morgan Doucet. When you see them in the Garden please speak to them and make them feel welcome.

