

FRIENDS *of the* Central Experimental Farm

Winter 2025 Newsletter | Volume 37 No. 1

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Leaves of the Ginkgo or
Maidenhair Tree. *Pathways to
the Trees, Friends of the Farm*

The Gymnosperms— Ancient and Diverse

By Clayton Shearer

A Friends of the Farm tree tour held in August highlighted Gymnosperms, a group of seed-producing plants that include conifer trees, ginkgo trees, and cycads. They are among the earliest forms of seed plants, originating more than 300 million years ago. The name comes from a compound of two ancient Greek words and means naked seed.

Of all the Gymnosperms, the conifers are most familiar to us. Most people tend to group pines, spruce, cedar, and fir together, calling them “evergreens” as opposed to deciduous trees such as oak and maple, that shed their leaves. Conifers are named after their cones, which can vary significantly in size, shape, colour, and texture. Conifer cones are either male or female and they differ in size, shape, and longevity.

In the cone, the seeds are “naked,” unlike in a fruit, where they are protected by the ovary. This is the main distinction between Gymnosperms and the other group of seed plants called Angiosperms. “*Angio*” means “vessel” and refers to the ovules being enclosed in an ovary.

Gymnosperms are often described as being primitive, and not having the same diversity as the Angiosperms. Anyone who

was present on the Gymnosperm tree tour would have had that notion thoroughly debunked, with their diversity in evidence all around the Farm. That should not come as a surprise, since there are 12 families among the Gymnosperms and over 1000 species. They include the oldest (Bristlecone Pine), tallest (Coast Redwood), and largest (Giant Sequoia) organisms on earth.

I began the tour on the main campus of the Farm, in the Tropical Greenhouse on Maple Drive. There we saw a Norfolk Island Pine, *Araucaria heterophylla*. This specimen, about four metres high, represents one of the two conifer families found in the southern hemisphere. Although it’s called a “pine,” it is not related to any of the pine trees that grow in the northern hemisphere. In 1994, a surprising new species called the Wollemi Pine, a relative of the Norfolk Island Pine was found growing in a gorge in the Blue Mountains of Australia. There were fewer than 100 trees of this new species in existence and although they remain on the edge of extinction, the tree is now being propagated internationally.

The next tree we visited was a Ginkgo located across the street from the greenhouse. The Arboretum has many mature Ginkgos, with the oldest being



Conifers inside the Circle loop at the
Arboretum. *R. Hinchcliff*

planted over a century ago. It was thought that the Ginkgo was extinct in the wild and only preserved in temples across China, Korea, and Japan, until a small population was found in China. Remarkably, these trees were found growing in similar ecology to those in the fossil record; the trees can live well over 1000 years. They are the last remaining species within an entire taxonomic order.

Continued on page 3...

R. Hinchcliff

Message from the President Message de la présidente

In this issue of our newsletter, you'll see that there's a lot of focus on trees. This reflects the Friends' love of trees and our deep appreciation for the complex, beneficial role they play in nature's ecosystems, their critical contribution to cleaning the air and mitigating climate change, and the peace and beauty they bring to our everyday lives.

By now, you may have seen our latest 'love letter' to trees—our new book *Pathways to the Trees at the Central Experimental Farm*. Released this past October, the book celebrates 125 rare and familiar tree species in the Arboretum, the Farm's main campus, and the Merivale Shelterbelt. The book profiles these trees along eight different exploratory walks, through close-ups of their shapes, leaves, flowers, bark and fruit, and discussion of their growing conditions and native habitats. We're thrilled that sales of the book have been brisk. If you haven't purchased your copy yet, it's available on the Friends' website, at our offices in Building 75, and at independent bookstores in Ottawa.

The Friends' love of trees is evident in so much of what we do. Our tree donor programs help to renew the Dominion Arboretum's tree collection, by allowing donors to 'sponsor' trees in acknowledgement of a person or event that is special to them. The first program, which ran from 1991 to 2005 was followed by the Shelterbelt tree donor program from 2005 to 2018 and has now been succeeded by the modernised CelebriTree program. Launched in 2023, CelebriTree added 16 new, young trees to the Arboretum that year. A second wave of the program in 2024 added another 21. Soon you can learn about the 21 new trees—species' names and descriptions, locations, and photos—on our website.

And, of course, there's the ongoing work in the Arboretum by our dedicated team of volunteers, under Agriculture and Agri-Food Canada direction. In particular, the Arboretum team is starting to turn more of its attention to the woodland. The woodland is a small

area—it spans the hill between the upper and lower levels of the Arboretum—that connects us to 'native forest' ecology found in the Ottawa area. Our FCEF team and AAFC staff collaborate closely in the woodland, to address challenges like the loss of significant trees to Emerald Ash Borer, and to achieve the shared objectives of restoring the tree canopy, replacing lost or missing species, and ensuring that invasives (especially dog-strangling vine, buckthorn, and goutweed) are kept at bay.

We invite you to come and explore the Arboretum this winter. Without their leaves, you can better see the interesting structure and form of the deciduous trees. And, in my mind, there is nothing more beautiful than snow on the green boughs of coniferous trees. Enjoy!

Dans ce numéro de notre bulletin, vous constaterez qu'une grande attention est portée aux arbres. Ceci dénote, chez nous les Amis, l'amour que nous inspirent les arbres et notre profonde appréciation du rôle complexe et bénéfique que ceux-ci exercent dans les écosystèmes de la nature et de leur contribution essentielle à la purification de l'air et l'atténuation des changements climatiques, sans compter la paix et la beauté qu'ils nous offrent au quotidien.

À ce moment-ci, vous avez sans doute déjà pris connaissance de notre récente « lettre d'amour » aux arbres – le nouveau livre, *Pathways to the Trees at the Central Experimental Farm*. Le livre, qui a paru en octobre dernier, célèbre les 125 espèces rares et mieux connues que l'on découvre dans l'Arboretum, le campus principal et le brise-vent Merivale. Le livre nous fait découvrir les arbres sur huit différents parcours à explorer selon certains critères : la taille, le feuillage, les fleurs, l'écorce, les fruits, sans oublier la discussion que l'on aborde en lien à leurs conditions de croissance et d'habitats naturels. Nous sommes ravis que les ventes

du livre aient été aussi rapides. Si vous ne vous en êtes pas encore portés acquéreurs, vous le trouverez sur le site Web des Amis, à nos bureaux à l'immeuble 75 et dans les librairies indépendantes d'Ottawa.

L'amour des Amis à l'égard des arbres se transcrit dans bon nombre d'activités. Nos programmes de dons d'arbres aident à renouveler la collection d'arbres de l'Arboretum du Dominion, en donnant aux donateurs l'occasion de « parrainer » des arbres en hommage à des personnes chères ou en souvenir d'événements particuliers. Le premier programme, exécuté entre 1991 et 2005, a été suivi d'un autre entre 2005 et 2018 dans le cadre du brise-vent, et d'où découle le tout nouveau programme du nom de CelebriTree. Selon le mandat de ce programme inauguré en 2024, 16 nouveaux jeunes arbres ont été plantés à l'Arboretum cette année. Une deuxième vague de ce programme permettra d'en ajouter 21 autres cette année. Bientôt, vous pourrez en apprendre davantage sur ces nouveaux arbres (noms et descriptions des espèces, emplacements et photos) en visitant notre site Web.

Et bien sûr, notre équipe de bénévoles poursuit son travail à l'Arboretum sous la direction d'Agriculture et Agroalimentaire Canada (AAC). Cette équipe de l'Arboretum commence notamment à s'intéresser au milieu forestier. La forêt est une petite zone (elle s'étend sur la colline entre les niveaux supérieur et inférieur de l'Arboretum) qui nous rattache à l'écologie de la « forêt indigène » se trouvant dans la région d'Ottawa.

Cette équipe de bénévoles et le personnel d'AAC travaillent en étroite collaboration dans la zone forestière afin de surmonter des défis comme la perte d'arbres importants sous les effets dévastateurs de l'agrile du frêne et d'atteindre des objectifs communs tels la restauration de la canopée des arbres, le remplacement d'espèces perdues ou manquantes et de veiller à ce que les espèces envahissantes (en particulier le dompte-venin de Russie, les rhamnacées et l'herbe aux goutteux) soient tenues à distance.

Nous vous invitons à venir explorer l'Arboretum cet hiver. Vous pourrez ainsi mieux voir la forme et la structure intéressante des arbres à feuilles caduques... dénudés de leur feuillage. Et pour moi, il n'y a rien de plus beau que la neige sur les branches vertes des conifères. Venez en profiter!

DIANNE CALDBICK

President, Friends of the Central Experimental Farm
Président, Les Amis de la Ferme expérimentale centrale

HAPPY NEW YEAR!

The Board of Directors of the Friends of the Farm send best wishes for 2025.

BONNE ET HEUREUSE ANNÉE!

Les membres du conseil d'administration des Amis de la Ferme vous expriment leurs souhaits les meilleurs pour 2025.

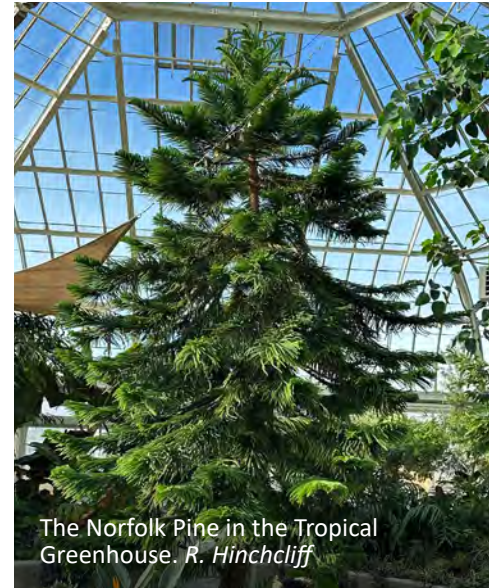


Clayton with a Cycad in the outdoor tropical garden near the Cereal Barn. *Eric Jones*

Today Angiosperms are more abundant and can out-compete Gymnosperms in most environments. Darwin considered the rapid rise of flowering plants “an abominable mystery.” There are various theories for this, including increased diversity due to pollination by insects, but the science is not decided.

There is some cause for concern, however, about rising threats—both environmental and diseases—to Gymnosperms. We can take some heart from the examples of species, like the Ginkgo and the Dawn Redwood, that nearly disappeared but are flourishing once again.

Clayton Shearer, who led the Friends of the Farm tour of Gymnosperms last summer, is a Research Associate at Fragile Inheritance. He is interested in natural history, biogeography, and assisted migration. For more information, visit <https://www.fragileinheritance.ca>.



The Norfolk Pine in the Tropical Greenhouse. *R. Hinchcliff*

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Walking south, the group encountered some of the conifers on the main lawn of the campus. Conifers are typically found at high elevation and in the cold, dry north. Canada’s Boreal Forest is dominated by conifers. When seed plants first appeared on earth, much of the landscape was warm and wet. It is believed the transition from warm and wet coal forests to a drier and cooler landscape provided an environment in which Gymnosperms could thrive.

The best-known conifers are members of the *Pinaceae* or pine family – e.g., spruces, pines, and firs. In the Arboretum, there are many specimens of these species inside the Circle loop. But on the western side of Prince of Wales Drive, an unusual pine stands in the Ornamental Gardens. The Rocky Mountain Bristlecone Pine (*Pinus aristata*) is situated among other conifers in the Rock Garden. A relative of this tree, Great Basin Bristlecone Pine (*Pinus longaeva*), is the longest-lived tree on earth, over 5,000 years old!

Another interesting conifer in the Arboretum is the Dawn Redwood.

Like the Ginkgo, it was known only to paleobotanists before it was observed in nature growing in China in the 1940s. This is in the same subfamily as the Giant Sequoia and the Coast Redwood. All three species had a much greater range in prehistoric times, and now they are again planted all over the world.

Finally, we went to look at cycads. Every year, Agriculture and Agri-Food Canada staff bring two specimens of *Cycas revoluta*, a Japanese species of Cycad, outside for the summer months. Cycads had their heyday in the Jurassic period but are now drastically reduced and much endangered. Poaching is a major threat, along with climate change and habitat loss. These plants resemble palms but can be differentiated by their large woody cones. When giving talks on Gymnosperms, a key point I try to make is the generally overlooked fact that the non-conifer families contain incredible diversity. Although Gymnosperms are thought of primarily as trees, just like flowering plants they occur in many forms: vines, broad leaves, parasitic plants, and even herbaceous plants.



Rocky Mountain Bristlecone Pine. *R. Hinchcliff*



LEFT: Dr. Gilles Saindon, Assistant Deputy Minister, Science and Technology, AAFC, and author Eric Jones at the book launch in October. Heather Webster

BELOW: Photo by Liz Lumsden



More Than a Beautiful Book

Published in the fall, *Pathways to the Trees at the Central Experimental Farm* is selling fast and has become a popular gift for tree lovers. It showcases the Farm's remarkable collection of trees in the Arboretum, on the Farm's main campus, and in the Merivale Shelterbelt.

It celebrates 125 rare and familiar tree species and features over 800 colour and archival photographs. The text and accompanying maps guide visitors along eight different exploratory walks. Selected trees are profiled through a close-up view of their shape, leaves, flowers, bark, and fruit, accompanied by a discussion of their growing conditions and native habitats.

Promoted in the *Kitchissippi Times*, the *Winnipeg Free Press*, and other media, the book has received the following reviews:

"Pathways to the Trees ... provides laymen like myself with a blueprint for understanding and appreciating the trees of Ottawa's spectacular Arboretum ... The wonderful photography in this book, as well as the clear, concise description of each tree variety, is enough to satisfy most nature lovers. But many will find the crowning touch to be in the featured eight walks – six in the Arboretum, one on the Main Campus, and one along the shelterbelt at Merivale.

"The Arboretum is a national showpiece. One we take for granted. Pathways to the Trees is more than a beautiful book, it's an opportunity to get out, touch, feel and learn about our trees; a chance to reacquaint with our national gem, the Dominion Arboretum."

The Mainstreeter, October 2024

"Pathways to the Trees at the Central Experimental Farm is part of an explosion of interest in urban forests and the individual trees within them. (It) is an enjoyable love letter to the trees of the Experimental Farm at a time when they are increasingly at risk from urban stressors like road salt, air pollution and development.

"I ended my literary tour of the book's eight walks with renewed appreciation for the Farm's collection of urban trees and the Friends of the Farm's efforts to keep them in our hearts and minds as they and our city continue to grow and change."

Emma Bider, Glebe Report, November 15, 2024, p.23

"This book is a treasure trove of information, not only about the trees, but also Ottawa history and natural history. Historical photos and information about The Farm also dot the book. Use it to find out about a specific tree species or open it at random and be surprised by a stunning photo or a new fact ... If you're looking for a gift for a tree lover or Farm fan, this is it!"

Sandy Garland, The OSCAR, November 2024, p.16

The book is priced at \$25 including tax and is available at the office of the Friends of the Farm. [Check here for details.](#)

It is also available at local independent bookstores including Perfect Books, Books on Beechwood, World of Maps, The Spaniel's Tale, and the store at the Museum of Science and Technology.



Need Gardening Inspiration?

The very popular spring lectures by the Master Gardeners of Ottawa-Carlton, hosted by the Friends of the Farm, will return this spring. The virtual lectures will be held from March 4 to April 29.

This year's theme, "Inspired Gardening", covers everything from garden design, vegetable gardening, Wildscaping, and Japanese Gardens.

GROWING VEGETABLES IN ANY SITUATION – Judith Cox
Tuesday, March 4, 2025

WILDSCAPING: WILD PLANTING IN A STRONG DESIGN – Lea Ann Smith
Tuesday, March 18, 2025

NATURE'S TURF: CULTIVATING ECO-FRIENDLY LAWNS – Maryanne Ambroziak
Tuesday, April 1, 2025

SOWING THE INSPIRED GARDEN – Rob Stuart
Tuesday, April 15, 2025

NOTES ON A JAPANESE GARDEN – Barbara Sibbald
Tuesday, April 29, 2025

All lectures start at 7pm and will be held online. A link for each lecture will be forwarded by mid-day on the day of the lecture.

Fees for the series are \$45 for FCEF and MGOC members, \$55 for non-members. Individual lectures are \$10 and \$12, respectively.

WATCH FOR MORE DETAILS AT THE FRIENDS' WEBSITE



Cucumber Magnolia



Arnold Buckeye.
Photos by R. Hinchcliff



Help with Bloom Times for Trees

By Eric Jones

The study of how seasonal and climate variations affect the life cycles of plants and animals is called “phenology”. One example of phenology would be the determination of how the environment influences the time when plants go into flower. To shed light on this, the annual recording of bloom times is carried out at many arboreta and botanical gardens around the world.

An 1895 report from William Macoun, Dominion Horticulturist for the Central Experimental Farm, listed flowering times for some shrubs and trees and other plants growing there at the time, including fruit trees and lilacs. Much later, in 2009, the Friends of the Farm initiated a project to measure bloom times for a wider selection of tree species.

Why record bloom times? In addition to giving us useful information about when one can enjoy a tree’s flowers, these records provide insight on the effects of weather and climate change on trees. We do expect some normal amount of variation in flowering times due to influences such as temperature, moisture, and light levels. But there is a clear trend to earlier blooming in our area due to global warming. This can be

a concern not just for the trees, but also for the insect pollinators and birds that depend on them—and ultimately for us.

The Friends of the Farm Bloom Time Team volunteers were active for several years shortly before the pandemic. The records of this work were collected but not presented. Now the data is being digitized and it is expected to be available in the near future.

The Bloom Time Team wants to get this data collection going again. We need people to help us restart this important

activity. Volunteers would be expected to record flowering during the season, and a team leader is needed to help set up the tree groups in coordination with AAFC and our volunteers. If you’re interested, please contact: volunteer@friendsofthefarm.ca and let us know how you’d like to participate. Thanks!

Former Friends of the Farm president Eric Jones is co-author of the new book Pathways to the Trees at the Central Experimental Farm (see page 4).

Another indicator of climate change is the time at which trees leaf out in the spring, a phenology that is also measured in many arboreta. An article published in a US science magazine a few years ago reported results measured in Canada, China, Germany, and the US, showing clear trends. Data for this study included bloom times from Ottawa’s Dominion Arboretum, compiled by Dr. Zoe Panchen who was then attached to the Department of Biology at Carleton University.

The results showed that the same tree species leafed out in the same order, not just in one location but all over the world. It also compared data from some of the same species measured over 150 years ago by Henry David Thoreau in Massachusetts and demonstrated that leaf-out was occurring weeks earlier now. The study was reported in our newsletter in Spring 2017.

Eric Jones.



Tour of the Merivale Shelterbelt

Roman Popadiouk, leader, and tour group members at the Shelterbelt, October 27, 2024. Roman talked about biodiversity at work; how North American, European, and Asian tree species are adapting to environmental extremes at the edge of large fields and beside a busy roadway.

A hardy strain of Rose of Sharon, grown from seed donated by Tony Beane. *Robert Glendinning*

The People Behind the Plants

By *Robert Glendinning*

Many of the trees and plants in the impressive living collection of the Farm have a basic origin story. Our records will say something like “arrived as seed or plant from an institution or commercial nursery.” But sometimes there are interesting histories behind those simple record entries. During the time I have been working at the Farm, it’s become clear that it is the people and the stories behind the search for and acquisition of seeds that add so much to the collection.

One of my favourite stories involves manilla envelopes. I started requesting seeds from various arboreta or botanical gardens early on in my career at the Farm. Many institutions publish something called an ‘index seminum’ i.e., a list of seeds from their collections. Acquisitions from this index have enriched our collection greatly. Often the process involved is quite impersonal, but occasionally it marks the beginning of a correspondence and a relationship, and sometimes the receipt of manilla envelopes. These contain seeds

that are not from a list but arrive as a result of conversations. I especially recall two gentlemen, from European institutions, who provided seed in this manner. Both are now retired. The peculiarity of these seed transactions was that they were ‘off the book’ – the seeds could not be attributed to these men or their institution and they were sent through personal mail. I was once told that they should not be doing this and could be reprimanded. This made me feel like a spy and I will not reveal their identities.

Kristl Walek ran Gardens North, a well-regarded seed business located just outside of Ottawa. She has retired from the seed business, but she had a huge impact on the collection and on me. I learned so much from her regarding seeds and horticulture in general. I now see the offspring from her seeds dotting the Arboretum, my personal garden, and that of my friends. There is not enough space to list all the woody plants and perennials she gave to the Farm via seed. She has a passion

for wild collected seed and the website she created with her friend Graham Page <https://wildplantsfromseed.com/index.php> is worth a visit.

One of the many varieties that she had given me was an Eastern Redbud (*Cercis canadensis*) ‘Ozark Strain’. It has proven very hardy here, perhaps the best performer of our northern strains. Amazingly, it turned out that the mother plant is located five minutes from my home, and it was a mere two years ago that I was given a tour of the garden by the owner. Someone was harbouring quite the Arboretum in their backyard.

A person worthy of mention is Anthony (Tony) Beane, a former professor of Veterinary Medicine in upstate New York. He has brought us so many interesting specimens. Plants are this man’s passion. I first met him because of our having an incorrectly labelled *Catalpa bungei* tree. He gave us seed from the real *C. bungei* and we now have it represented in our collection. Unfortunately, the trees are slow to flower, but they are lovely pink catalpa flowers.

His work took him all over the United States and he made time to stop at places such as Boston’s Arnold Arboretum. We received some treasures from those adventures. His sleuthing regarding hardy specimens in upstate New York has and will continue to enrich our collection. He brought me seed from a hardy Flowering Dogwood (*Cornus florida*) and it germinated well. Unfortunately, due to theft we only have one specimen that has made it into the collection. I am hoping it flowers this year. As well, we now have a completely hardy strain of Rose of Sharon (*Hibiscus syriacus*), thanks to his efforts. I collected seed this fall from the offspring of the seeds he gave me, and we will start the next generation. Among many other contributions, he



Robert and tour group members at the Pawpaw trees in the Arboretum, September 2024. A donation of new Pawpaws by Frank Handforth last spring has provided “new genetic material.” *Eric Jones.*

gave me a Sweet Bay Magnolia (*Magnolia virginiana*), which is almost ready to be planted out. He has been so generous with seeds and his enthusiasm is contagious. Some years ago, I was given a tour of his arboretum on the campus where he taught. A fantastic collection of trees that he single-handedly purchased, planted, and cared for. He is a busy guy!

Some years ago, we were contacted by Mary-Sue Haliburton, whose father had worked at the Farm. He had taken pieces of Isabella Preston's original 'Geneva' crabapple home and successfully grafted it. Fast forward to this autumn when she donated six beautiful specimens of the crabapple back to the collection. Her enthusiasm for the Farm and this plant is special.

Some years ago, I was very impressed by an Agriculture Canada scientist's gift of a wonderful collection of tropical plants that he obtained on his travels. Most of these we did not have in our collections. He was Dr Aleš Smetana, and currently two Hoyas that he gave us flank the entrance to the tropical greenhouse. He and his wife Lise donated some plants when they moved house, and Lise donated more after his passing. I will be providing further information on his passion for plants and his unique collection in the future.

This spring, a gentleman named Frank Handforth kindly donated young Pawpaws (*Asimina triloba*) and Northern Persimmon (*Diospyros virginiana*). We have both, but the new genetic material is always welcome. I gave him a tour of the Arboretum and it was fantastic to see his delight in the collection.

I have also been in contact with two individuals who are growing some very interesting things locally that by rights should not be growing here at all. Both are interested in donating material to us, but more on that later.

I have not touched on the all the tropical donations we have received, including a wonderful specimen of Queen of the Night Cactus (*Epiphyllum oxypetalum*) from Elizabeth Atkinson, a member of the Friends of the Farm.

Last year we had a generous couple from Manotick donate a Dawn Redwood – they just wanted it to have a good home. Then there was the large pomegranate and two huge frangipanis from folks in the west end who found the plants had outgrown their space. This fall we acquired a lovely banana tree from Wanda Condren, who again had no space.

I know I am forgetting other people and the plants they donated, and for that I apologize. We can and do not accept everything, but often people realize what they have is special and want to give it to the Farm. Over the years many of our staff

have brought in unusual specimens from their collections. Possibly there is a story or two of seed smuggling that I will not go into.

I am always looking forward to connecting with people who will lead me on further plant and seed adventures.

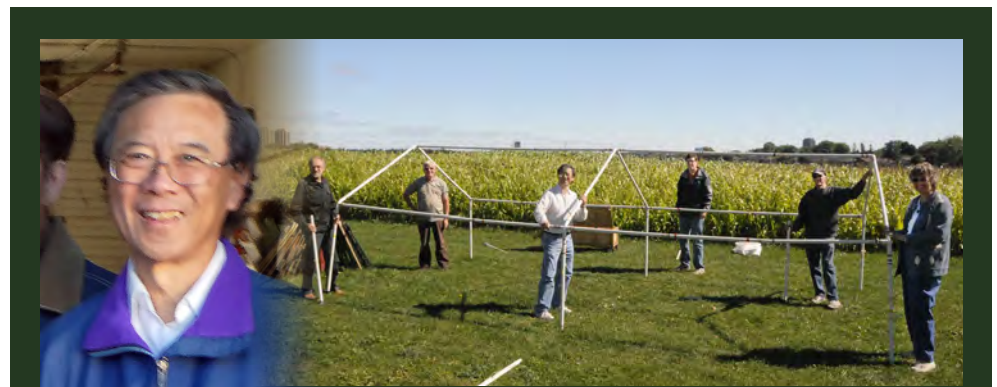
Robert Glendinning is a Propagator/ Groundskeeper with Agriculture and Agri-Food Canada.



A sample of seed packages received for the Arboretum. Robert Glendinning



Grafted 'Geneva' crabapple trees in Mary-Sue Haliburton's garden, 2020. Last fall she donated six specimens of this Rosybloom crabapple originated by Isabella Preston. Mary-Sue Haliburton



In Memory – Roger Taguchi

Sadly, on November 8, 2024, Roger Taguchi died at the age of 78, as a result of a fall. He was a volunteer with the Friends of the Central Experimental Farm for over 15 years, helping provide the crucial labour needed to set up and take down all the elements needed for a successful event, e.g., screens, tables, tents, and signs.

Roger was our events director's ever-reliable "go-to guy." Roger could be

depended upon to get things done. He would take charge, organize the task and make the experience enjoyable for the other volunteers. His wonderful warmth and sense of humour, as well as the store of fascinating trivia he loved to share, enriched every occasion. It was clear to us why he was renowned as an extraordinarily gifted and popular high school teacher.

Our deepest sympathies go to his family.

Conifers in the Arboretum, nine years after their first planting.
Experimental Farms Report for 1898,



Seeking Seeds in the 1880s

In his article on page 6, Robert Glendinning writes about generous people who have donated seeds and plants to the Arboretum. They have contributed to the beauty and interest of the current collection. Similarly, seeds and plants were obtained from other arboreta, botanical gardens, or individuals in the early days to help establish the new Dominion Arboretum.

William Saunders, the visionary who founded Canada's system of experimental farms, had a personal interest in trees and shrubs and made sure there was space set aside at the Central Experimental Farm for an Arboretum. He also began gathering seeds for the plants that were to be featured in it. When he was preparing a report to Parliament in 1885 to recommend that experimental farms be set up, he contacted arboreta and botanical gardens in other countries. Once he had made these contacts, he used them to seek seeds. Thus, in a speech to local farmers in 1889, Saunders was able to claim that "some 400 different sorts of trees and shrubs have been imported from European and Asiatic countries to supply material for the establishment of an arboretum and botanic garden where information relating to the hardiness and adaptability of useful and ornamental trees and shrubs will be obtainable."

Saunders had a willing colleague in James Fletcher, who was appointed early in 1887 as botanist and entomologist to the

experimental farms. Although his attention initially was closely focussed on insects injurious to crops and on experiments to determine grasses' hardiness and usefulness as fodder, he soon began to join Saunders in seeking plant material to test in the Arboretum. In his annual report for 1887 Fletcher wrote that "collections of seeds have been received from the Department of Agriculture, Washington, U. S. A.; the Arnold Arboretum, Boston, U. S. A.; the Royal Gardens, Kew, England; the Imperial Gardens, Tokyo, Japan; and Dr. Regel of St. Petersburg, Russia."

Fletcher was interested in plants already growing in the local area and wrote that in 1887 "large quantities of the seeds of our local forest trees were collected and planted in the autumn, as well as others received from different parts of the Dominion." These seeds were placed in nursery rows until they were ready to be planted in the Arboretum. The next year, Fletcher wrote that "large numbers of plants from northern climates have been grown from seed and are now ready to be located in their proper places." (1888 *Annual Report*) Meanwhile, Saunders and Fletcher had laid out a plan for the Arboretum and preparations were made for planting to commence in the spring of 1889. "About 200 species of trees and shrubs, two specimens of each," wrote Fletcher in that year's annual report, "have been set out where they are intended to be grown."



James Fletcher strikes a pose at the Notman Studio in Montreal in 1876, two years after coming to Canada from England. *McCord Museum, Montreal.*

See the article about James Fletcher's relationship with Catherine Parr Traill on page 10. For more on the past and current collections of trees at the Arboretum, see the new *Friends of the Farm* book *Pathways to the Trees at the Central Experimental Farm*.

The spruce tabletop with its blue epoxy-filled cracks. *Bryan Cook*



Spruce Spirit

An Irish labourer heels a spruce sprig into the landscaping of the new arboretum on Ottawa's Experimental Farm, where plants are being hybridized to feed and build the freshly-minted northern Dominion of Canada. Rings record its birth before the Boer War and a life as Canada comes of age through two World Wars.

Many decades later, lightning splits its lifeline, and a chainsaw logs the bole. Its basal slab is saved for twenty years in a botanist's laboratory, a long-forgotten academic curiosity. Now it's destined for firewood. The memory of a tree with such an historic pedigree should not be so fated! Months of

preservation, planing, sawing and sanding create an heirloom table.

Mystically, the ancient memory of the spruce manitou emerges in its blue epoxy-filled cracks. Three rivers, the Rideau, Gatineau and mighty Kichi-Sibi confluence below Akikodjiwan Falls. There the Algonquin Anishinaabe portage to fill the Great Creator's pipe bowl, and hunt and fish the spring marshes. A forested hinterland with scattered homesteads, farms and villages; pine logs rafting to sawblades or timber boats destined for the Old World. And a rowdy lumber town gentrifying into this Nation's capital.

*sipping coffee
at a spruce wood table
sunrise meditation*

(From **Haibun Chowder: A Collection by Bryan D. Cook**, p. 85, 2023)

A former director of the federal government's Energy S&T laboratories and contracted programs of the CANMET Energy Technology Centre, Bryan Cook recently won the prestigious GenJuan International Haibun Poetry Competition. Besides his interests in Canadian history, genealogy and genetics, fishing, gardening, poetry and fine woodworking, he loves cosmology, the physics of relativity and quanta, and the bluegrass banjo.

Bryan told the story of the spruce tree struck by lightning at the Farm and his creation of the table from a sawn slab of the destroyed tree in the Volume 32, No. 1, Winter 2020 issue of this newsletter.

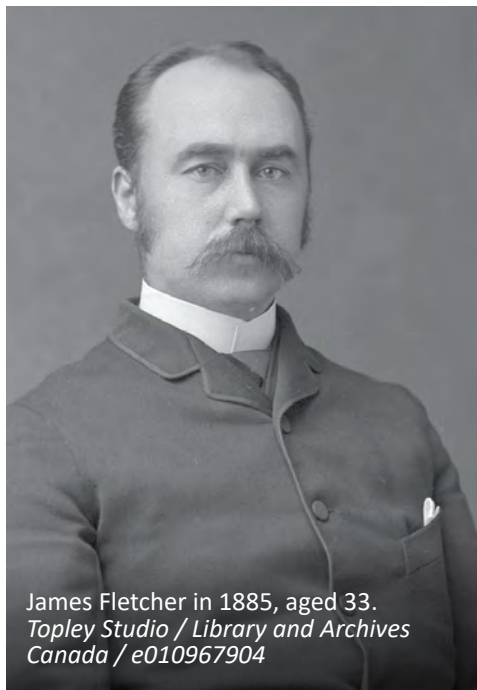
The former spruce tree beside the William Saunders Building.
Jean-Pascal Gratton

A Botanical Friendship: James Fletcher and Catherine Parr Traill

By Patricia Jasen

It was a soirée at Rideau Hall hosted by Lord and Lady Lansdowne that brought Catherine Parr Traill and James Fletcher together in conversation on a winter night in 1884. Fifty years Traill's junior, Fletcher was then parliamentary sub-librarian, a young man devoted to the study of botany and co-founder of the Ottawa Field Naturalists' Club. He was soon to become Canada's first dominion botanist and entomologist and a leading light at the Central Experimental Farm, created two years later. Eighty-two-year-old Traill was a popular chronicler of immigrant life in Ontario's backwoods and author of *Canada's Wild Flowers* (1868), the first such book in English-Canada. Her passion for indigenous plants had blossomed with her arrival in Upper Canada in 1832, and her growing fear was that the precious mosses, ferns and flowers of the forest were being swept aside by advancing settlement.

As Charlotte Gray recounts in her biography, Traill had been invited to Ottawa by her niece and great champion, Agnes Fitzgibbon Chamberlin, to explore



James Fletcher in 1885, aged 33.
Topley Studio / Library and Archives
Canada / e010967904



Traill's family cabin at Stony Lake. Traill family / Library and Archives Canada / C-067353

prospects for an expanded botanical work that would bring together her fifty years' study of native plants. Fletcher and Traill had already corresponded for nearly a year, and she had sent him drafts of a manuscript that would soon become her magnum opus. Dodging the flock of admirers who pressed to meet her at Rideau Hall, Traill's seized the opportunity to discuss her new project with the young man himself.¹

Traill's goal was to create a Canadian work in the style of the 18th century naturalist Gilbert White, author of the immensely popular *Natural History of Selborne*. Accordingly, she combined her close observations of each plant's features, environs, and uses with poetic quotations, evocative anecdotes, and religious references, aiming to inspire a love of plants in the general reader. Having read her manuscript, Fletcher was full of praise. During the months that followed he diligently and tactfully corrected errors, helped edit her manuscript and secure its publication and, through his connections, promoted *Studies of Plant Life in Canada* (1885) in high places. Traill was aware that she could be viewed as an amateur enthusiast, but Fletcher dismissed her modest suggestion that she was not a "real" botanist. He went so far as to call her book "one of the greatest botanical triumphs which anyone could achieve."²

Fletcher's admiration for Traill's work was grounded partly in his dislike of the late 19th century drift towards a Darwinian approach in botanical studies, which held that species originated through "natural selection" rather than divine creation. Fletcher was, in most respects, a modern

man of science, an economic botanist and entomologist devoted to helping new farmers succeed in the Canadian West. During his career, he published innumerable reports on weeds, pests, and plant pathology which won international regard. But those who knew him well spoke of another quality. "Aside from the practical aspect of his work Fletcher was of the type of the old naturalists," wrote one. "He loved nature deeply."³ As for Traill, while he admired her powers of observation and her ability to engage the reader through her "plant biographies," just as important was her conviction that botany was, above all, the study of divine goodness. He told her that "I am charmed with your style and find it so attractive after the irreverent materialistic philosophy ... of too many of our contemporary naturalists. It is very charming for me to see such love for our beneficent creation, & reverence for his perfect works."⁴

On a quite different plane, Fletcher also valued Traill's contribution to his work at the Farm. When he joined the Department of Agriculture in 1887 he donated his own collection of about 3000 specimens to form the basis of the Farm's herbarium, a facility essential to research and for answering queries from farmers across the country. To expand the collection and make it representative of different localities, Fletcher depended on a host of correspondents, many of them women, who sent him specimens and shared their own expertise. Traill was a "particularly generous and regular donor" and an exceptionally informed one, and this was another basis for their friendship.⁵

Although the majority of Traill's albums of specimens are housed elsewhere, the National Collection of Vascular Plants in the William Saunders Building retains a small collection of grasses and a sedge gathered when she was summering in a rough cabin on an island in Stony Lake, just north of her Lakefield home. Thanks to Collections Manager Shannon Asencio, I was able to view this collection, along with Fletcher's acknowledgment of her contribution in *The Ottawa Naturalist*: "I have received with much pleasure a beautiful collection of the native grasses of Central Ontario from my honoured and talented correspondent, Mrs. Catherine Parr Traill." He added that, although in her ninety-third year, she remained a "remarkable and untiring lover of nature." Fletcher affectionately waved away her admission that she "was only able to go over the more important islands, not being quite as strong for climbing the rugged dangerous rocks as formerly."⁶

Catherine Parr Traill died in 1899 at the age of 97. Although the popularity of her botanical works faded in the 20th century, she had accomplished what she had set out to do in creating, for the general reader, a guide to Canadian wild plants and their place in botanical culture. James Fletcher dedicated his life to research and the mission of the Central Experimental Farm until his untimely death in 1908 at the age of 56. He is memorialized at the Farm by a plaque at the Fletcher Wildlife Garden honouring him as a Person of National Historic Significance; his portrait in the William Saunders Building; and the granite fountain, bearing his likeness cast in bronze, located on the NCC Driveway near the Friends' new offices in Building 75.

Patricia Jasen is co-author of *Building Canada's Farm*, published by the Friends of the Farm in 2021. Her other publications include *Wild Things: Nature, Culture, and Tourism in Ontario, 1790-1914*.



Catherine Parr Traill in 1884, aged 82. Topley Studio/Library and Archives Canada/PA-802715



PHOTOS:

(ABOVE) Memorial to James Fletcher, "a pioneer Canadian naturalist," on the NCC Driveway near the Main Barn. It reads: "A tribute of affection from the Ottawa Field Naturalists Club and his many friends." Patricia Jasen.

(RIGHT) A group of grasses from Minni Wa Wa [Minnewawa] Island, Stony Lake. The island was bought by Traill's daughter, Kate, in 1893. Image provided by National Collection of Vascular Plants (DAO), ©His Majesty The King in Right of Canada, as represented by the Minister of Agriculture and Agri-Food, licensed under the Open Government Licence – Canada



FOOTNOTES:

1. Charlotte Gray, *Sisters in the Wilderness: The Lives of Susanna Moodie and Catherine Parr Traill* (2008), 270-75.
2. Michael Peterman, "Catherine Parr Traill: A Natural Historian in Changing Times," in Ann Shteir, ed., *Flora's Fieldworkers: Women and Botany in Nineteenth Century Canada* (2022), 234-5.
3. L.O. Howard, "James Fletcher," *Science* (25 Dec. 1908), 917.
4. Peterman, 234-5.
5. Amber Loydlangston, "Women in Botany and the Canadian Federal Department of Agriculture, 1887-1919," *Scientia Canadensis* 29/2 (2006), 109.
6. *Ottawa Naturalist* (22 Dec. 1894).

Mr. Gard Visits the Arboretum

Mr. Anson Gard visited the Central Experimental Farm in 1904. It was one of the places he went to in the Ottawa region and wrote about in a book entitled *The Hub and the Spokes, Ottawa of Today*. He had previously written a book called *The Wandering Yankee* about other travels in Canada. After a guided tour of the agricultural experiments at the Farm, he urged American farmers to adopt a similar scientific approach to farming.

“Now that my ‘lecture’ is over,” he wrote, “we will go out with the botanist*, to the Arboretum and Botanic Garden departments of the Farm, which give to it a rare beauty. ‘We have here,’ said he, ‘over 3,000 varieties of trees and shrubs from all parts of the world, and more than three-fourths of these are suitable for this climate.’

“He was very kind and pointed out to us many of the varieties. ‘This is a fine specimen of *Ulmus glabra scampstoniensis*,’ said he, pointing to a tree that all my life I had innocently looked upon as an Elm, and never until that day did I dream that I had been calling it the wrong name ever since my boyhood.

“And a little further on he stopped and said, ‘This is one of our specimens of *Salix*

Babylonica Annularis,’ and there stood a tree from whose branches I had often taken twigs upon which to string fish, but I had never called it that awful name; if I had I’m sure it would have taken too long to string the fish. I had always thought it a water willow, but I had again found I had made a whole life’s mistake – and so it was with all the trees of my early youth. He even called the noble oak a ‘*quercus*’ – which was hardly fair to the oak.

“I have ever wondered why those apple limbs father used to use hurt so, but now see, they were not apple limbs at all, but ‘*Pyrus malus floribunda atra-sanguinea*’ – especially ‘*Sanguinea*,’ as they did so make the blood tingle.

“These are but a few samples of the three thousand or more varieties in that Arboretum. I don’t now wonder why that over three-fourths of them can stand this climate; their names should keep them alive in any climate.”

** The botanist (and entomologist) at the Farm at that time was James Fletcher. Responsibility for the Arboretum lay with the Horticulturist, William T. Macoun.*

PHOTO: On a visit to the Arboretum in December, Maggie Mamen captured this fine photo of a Barred Owl.



EDITOR: Richard Hinchcliff
ASSISTANT EDITOR: Joan Butcher
DESIGN: Kat B. Design Studio | www.katbdesign.com
PRINTING: Nancy Poirier Printing
CONTRIBUTORS: Bryan Cook, Robert Glendinning, Patricia Jasen, Eric Jones, Clayton Shearer.
TRANSLATOR: Lise Anne James

The Friends of the Central Experimental Farm is a volunteer organization committed to the maintenance and protection of the Ornamental Gardens and the Arboretum of the Central Experimental Farm in Ottawa, Ontario, Canada.

The Friends of the Central Experimental Farm publish the Newsletter (ISSN 1702 2762) four times a year (Winter, Spring, Summer, Fall). All members receive the newsletter and it is sent by regular mail or e-mail.

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We also accept donations to support our activities and events, which also support the garden teams that maintain the cherished Ornamental Gardens.

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info@friendsofthefarm.ca | 613-230-3276 | CHARITABLE NUMBER 118913565RR0001
Building 75, Central Experimental Farm Ottawa, ON K1A 0C6

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