



Les Amis du Parc de la Gatineau
Friends of Gatineau Park

Amis Friends

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www.friendsofgatineaupark.ca

Biodiversity

Rare plant species of Gatineau Park

By André Lapointe of FloraQuebeca

How many people realize that Gatineau Park has within its boundaries the highest concentration of rare plants native to Quebec? This makes it one of the greatest biodiversity hotspots in all of eastern North America.

No curious naturalist could ignore this. Accordingly, a group of botanists, amateurs as well as professionals, has pursued a goal of shedding more light on this biodiversity focusing primarily on the rare and endangered species. This group is called FloraQuebeca, an association founded in March 1996. The group's interest in the Outaouais region began at their annual meeting held in August 2006 during which several areas of the Park were visited thanks to a special understanding with the National Capital Commission. The main goal was to confirm the presence of species that have not been observed over the last 25 years.



The Ram's-head Lady's Slipper is among the Gatineau's great beauties. Its solitary flower hides under a large lanceolate upper sepal, a convenient shelter for its visiting pollinators.

In early 2007, the NCC invited FloraQuebeca to propose a series of new research projects on endangered species with two species as priorities; an

orchid called Ram's-head Lady's Slipper, and a heath called Pine Drops. Both these species have special requirements with regard to the type of soil they prefer as well as for a close relationship to the watershed. These special requirements result in the species not being widely distributed. Thus, most of the research was focused on the factors that make these species highly selective. To achieve this goal, it was essential to first examine the growth conditions of these plants. Both are calcium-loving. That is, they prefer limy soils. As well, the Lady's Slipper requires moist soil and indirect sunlight while Pine Drops seems restricted to White Pine stands along moderate slopes.



An unusual cluster of Pine drops, each individual showing a wand-like stem supporting a long bracted raceme of nodding pinkish flowers.

These growth conditions exist sporadically in the Park. Examination of geological maps of the Park helped

identify sectors with a high probability of surface lime deposits. These out-crops only occur in the vicinity of Pink Lake and south of Lac La Pêche.

The field work was carried out by a group of eight botanists who gathered information in the areas offering the greatest potential for the two plants. Half of the work was conducted in the western sector of the Park near Lake Fairburn and Lac La Pêche. The trail going toward "Le Gouffre" was also visited. This survey work indicated that the entire western part of the Park shelters poorly developed forest stands, some a result of lumber activities with selective cuts. After consulting maps of forest ecosystems, it was possible to pinpoint several promising pine stands. However, investigation of these was not successful and no new populations of the two designated plants were found.

Was all this effort a waste? I would say "no". Rather, it was a success. Keep in mind that, even though the occurrence of both species outside of the Pink Lake area has yet to be confirmed, it has encouraged cross-examination of much of the information concerning the specific requirements of these plants. Rare plant populations usually occupy a habitat for many generations; new populations can occur only if growth conditions, similar to those involving well established ones, are met. The dissemination of such species is not a simple phenomenon and seed dispersal alone doesn't guarantee the emergence of a new population.

Even though both species may still be discovered elsewhere in the Park, it is still critical to maintain those populations at Pink Lake. They are quite unique and endangered and we do not know the long term trend for these populations; increasing or decreasing?



Beyond the rocky cliffs of the Eardley Escarpment may be many unexplored habitats. A keen eye will surely make new discoveries.

The Eardley Escarpment also represents a good habitat for rare species. We can hope to find new, isolated populations but more intense investigation will be required to probe various micro-habitats. Botanists

must be patient and persevere knowing that some clues cannot be detected at first glance.

New discoveries are certainly possible. The recent field campaign revealed occurrences of eight other rare plant species. Urgent effort must be made to investigate these as changes can occur rapidly and sometimes drastically as with a forest fire. We must be able to adapt!



Cardinal flowers by the hundreds inhabit the rich bank of a former beaver pond.

Southern Quebec has no less than 280 rare plant species of which 90 are potentially present in the Outaouais region.

The Friends of the Park enjoy the great privilege of sharing a vast territory with great diversity.

This article has been prepared following the 2007 Research Forum.

Biodiversity

Fish Census Overview

by Wayne Sawtell

Following successful sampling in 2006, the second field season of the University of Ottawa's research project, Small Lake Fish Communities in Gatineau Park, began in June, 2007. Last year, water chemistry was analyzed, and both fish and minnow populations were sampled in the following lakes: Black, Bourgeois, Brown, Carman, Fortune, Hawley, Kidder, Kingsmere, Leblanc, Loutre, Meech, Mulvihill, Petit Renaud, Pink, Ramsay, Renaud, Richard, Sandy, Taylor, and Vase. The overall goal was to assess the state of small lake ecosystems using minnow and fish biodiversity variables. For populations of each species, population size was to be used to estimate relative species abundance. Within each community, the number of species identified was to be used to calculate species richness. The researchers then wanted to assess factors that may affect temporal and spatial variation in

minnow and fish biodiversity and to consider conservation and management strategies that might preserve this biodiversity. Additional data was required from lakes Bourgeois, Brown, Carman, Hawley, Kingsmere, Leblanc, Loutre, Meech, Pink, Ramsay, and Sandy, so these will be revisited this summer, along with lakes Ben, Clair, Curley, Edouard, Kelly, and Lusk. Current fieldwork is being conducted by M.Sc. candidate James Aiken and undergraduate research assistants Wayne Sawtell and Harvinder Singh under the supervision of Professors Francois Chapleau and Scott Findlay.

The 2007 season fieldwork involves accessing some of the more remote and less visited lakes of the park as well as the scientifically unique Pink Lake, a meromictic lake with deep sedimentary sequences dating to the last ice age. Current challenges have included driving a pick-up truck along disused roads, and portaging a canoe and heavy nets to remote lakes. Special anthropogenic factors of interest include introduced predator species of fish (for example, smallmouth bass), acidification of lake water, and impacts of roads and recreational trails. Dissolved oxygen, total dissolved solids, and water temperature are also variables being considered. The methods employed are the same as last year: seine net, gill net, and minnow trap.

This article has been prepared following the 2006 Research Forum.

Biodiversity

Beauties of the night

By François Leduc

If you had the opportunity to visit Gatineau Park Visitor's Center last summer, you were probably amazed by the exhibit that was featured in the Mason room. This room, dedicated to thematic or seasonal exhibits, was invaded by moths that were larger than life. These creatures of the dark exposed their unsuspected beauty through the lens of a powerful scanner. Using state of the art technology, the exhibit transformed those small insects into creatures worthy of the dinosaur era. Some pictures shown had a span of over one meter and revealed incredible detail.

This unusual look, at a generally neglected world, was brought to us by Jim DesRivières, a self-taught researcher, who developed a passion for this specific portion of the Park biodiversity. As a speaker for the Friends of Gatineau Park Research Day Forum in October, Jim demonstrated that the Summer exhibit showed only a part of his spectacular photo collection. Here is how Jim started his lecture on that day:

"Some enchanted evening, you may meet a stranger...

The nocturnal habits of moths mean that they rarely cross the path of humans. When we do meet, the encounter is usually fleeting and under bad light. Not surprisingly, most people would not recognize the moths from their region, and tend to think of moths as small, drab, and uninteresting. Nothing could be farther from the truth. Moths outnumber their butterfly cousins 10 to 1, and come in an even wider range of shapes, colors, and sizes.



Source: Jim des Rivières / moths.ca

A Waved Sphinx Moth (*Ceratomia undulosa*) collected at Camp Fortune in 2004.

For this project, I've been collecting and photographing moths in the National Capital region, including Gatineau Park. To date I've imaged over 250 of the over 1000 moth species found in these parts. For this presentation, I'll shine a spotlight on these enchanting creatures, letting you see their fine structure, rich colors, and intricate patterns as if peering through a low-power microscope. I'm hoping the viewer take away an increased appreciation of biodiversity, grounded in our local environment."

Did you miss the Friend's Research Forum? You didn't have the chance to see Jim's exhibit at the Visitor Center? You can still see Jim's work by visiting his web site at: www.moths.ca.

This article has been prepared following the 2007 Research Forum.

Heritage

An Evening at the Wakefield Mill

By Shawn Graham

I have often argued that the only way to preserve an historic building is to find it a new use in the community. The Wakefield Mill is one such structure.

The Wakefield Mill is an important part of the Gatineau Park historical scene. It's been the focus and anchor of the community at the junction of the Lapêche Creek and Gatineau River since 1838. That was the year that William Fairbairn petitioned Sir John Colborne, Governor of Upper and Lower Canada, for the right to erect a mill, there being no local government to decide such matters at that time. John and James Maclaren bought the mill from Fairbairn for 300 pounds sterling (no small sum), although the purchase was not without controversy (it was alleged that alcohol may have been involved to make the purchase go easier). James Maclaren had arrived in Canada in 1824; John Maclaren had moved to Wakefield in 1840. From 1841 to 1861 the Maclarens became the community's pre-eminent industrialists (bank notes from the Bank of Ottawa carry James Maclaren's signature). Under their direction, the mill became a complex including the flour mill, a sawmill, a woolen mill, a brickyard, and workers' homes. They also owned a general store in the village proper.

Fire was always a danger, and in 1877 a fire in the woolen mill spread to the grist mill, destroying the woolen mill entirely and causing nearly \$30 000 damage. The Maclarens recovered from this disaster and were soon back in operation. The latest technology was installed at the turn of the century, converting the flour mill into a 'roller mill'. Instead of powerful stones grinding against each other, the grain was fed through a series of rollers (the Clarendon Roller Mill near Shawville is the only surviving roller mill in West Quebec, to my knowledge, though the mill itself has been poorly maintained). A generator was also installed at that time using the creek to generate electricity which was also sold to the village. Another fire in 1910 – which required the aid of the Ottawa Fire Brigade due to its fierceness - caused nearly \$60 000 damage.

The mill remained in the hands of the Maclaren family until the death of Alexander Maclaren in 1939. Ken and Ernie Young took it over, making grist for animal feed for a few years. In 1943 J.P. Henderson began operations, converting parts of it into apartments. It was acquired by the National Capital Commission (NCC) in 1962, and by the late 1970s it had become a museum, operated by the Gatineau Valley Historical Society. At the turn of the 21st century its function has changed completely, but its role as an anchor in the community continues. As the Auberge Wakefield Mill

Inn and Spa, the mill welcomes tourists and locals alike with its warm hospitality.

But how did it transform from a mill-museum to a mill-hotel? That was the subject of an after dinner talk given to the Friends of Gatineau Park and guests by Mr. Robert Milling at the 'Harvest Heritage Dinner' on Sunday, November 4th. The dinner and lecture was a fundraiser for the Friends, organized by Mr. Ken Bouchard, to support the restoration of the Mill model once exhibited in the mill, depicting the structure in its heyday as a working flour mill, and to support the Friends' new heritage interpretation programmes. The assembled group of over 50 people was treated to a fantastic dinner of butternut squash soup, followed by a main course of pickerel with brandade potatoes and turkey with truffle potatoes and seasonal vegetables. The dessert – which was fantastic – was a shanty camp sugar pie. Kudos to the chef!

The evening concluded with the drawing of door prizes – framed original flour bags from the Mill – and an auction for a spa package for two. We would like to thank and recognize again the generosity of Mr. Robert Milling for hosting the event, the professionalism of his staff, and all our guests who attended. We hope to have the model of the mill restored by next summer, and to display it in rotation namely at the Chelsea Visitor's Centre, the Mill itself, and the Fairbairn House Museum.

Some time to give?

Last September, Mario Simard took over the role of volunteer coordinator. Mario thanks those who have responded to his requests for volunteers. He asks current and prospective volunteers to contact him at simard.m@sympatico.ca or 819-770-0931. He wishes to review your interest (i.e. nature interpretation, heritage interpretation, "adopt-a-trail" communications, membership, translation, office help) and ensure that contact information is current and complete. Volunteers are essential to our increasing visibility and success.

Les Amis du parc de la Gatineau/Friends of the Gatineau Park, a registered charity publishes in *Amis/Friends* articles on a selection of ecology and heritage research undertaken in the Gatineau Park, particularly that funded by us as well as related to our other educational programs. Published twice a year, the *Bulletin* is archived at friendsofgatineaupark.ca and deposited with the National Library - ISSN number: ISSN 1913-7648.

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