

Sarracenia

Volume 15, Number 2

Summer 2007

Newsletter of the Wildflower Society of Newfoundland and Labrador
C/O Botanical Garden, Memorial University of Newfoundland, St. John's, NL,

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Any articles from members would be most welcomed and may be sent via email to todd.boland@warp.nfld.net or via regular mail

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SCHEDULE OF SUMMER 2007 WALKS:

June 10th, 2007 Sunday 10:30 AM
Botanical Interpretive Hike- St. Phillips-Beachy Cove. Leader: John Maunder. 3-4 hours duration. 5 km. Moderate Hike. Meet: Parking lot on St. Phillips Beach.
Reminder: Maximum of 20 participants- if

more than 20 register, preference will be given to ECTA members. Co-Leader: Allan Stein. John can be reached at: jem@nl.rogers.com or 335-2462.

June 14th, 2007 Thursday 6:00 P.m. **Bill Titford Wildflower Walk.** "Exploring along the Johnson Foundation Trail"- Penney Crescent to Major's Path. Leader: Carmel Conway. Meet: foot of Penney Crescent, off Torbay Road - at Johnston Foundation Sign. Parking across the street, near My Brother's Restaurant. Carmel can be reached at: abcrhynd@nl.rogers.com or 722-0121.

Mid-Late June, 2007 Digital Photography Outdoor Workshop (Time and Date to be Announced). Leader: Helen Jones. Bring your camera. Ideal for members competing in Digital Photography Competition. Helen can be reached at: helenjones@nl.roger.com or 437-6852.

July 6 (optional overnighter)/ **July 7, 2007 – July 13th, 2007. Southwesterly Breezes Summer Field Trip.** Western NL. Meeting time: 10 A.M. SHARP Steady Brook- at Marble Mountain Gas Station and Gift Shops. Leader: John Maunder. John can be reached at jem@nl.rogers.com or 335-2462.

August 1st, 2007 Regatta Day Returning to General Protestant Cemetery. Time: 10:00 AM Meet: Old Topsail Road entrance to cemetery. Leader: Todd Boland. Todd can be reached at: todd.boland@warp.nfld.net or 753-6027.

August 18th, 2007 Exploring the Southside Hills. Time: 10:00 A.M. Meet: parking lot for Fort Amherst. Leader: Howard & Leila Clase. Howard can be reached at: hclase@mun.ca or 753-6415.

September 3rd, 2007 Monday, Labour Day. **Exploring Gallows Cove and Traverse Trails.** Leader: Howard Clase & Ross Traverse. Meet: 2:00 P.M. Sharp. Meet: Parking lot at beginning of Gallows Cove Trail. Potluck and Barbecue scheduled for 6 pm at Traverse Gardens. Ross can be reached at: Ross can be reached at: traversegardens@nf.aibn.com or 437-5539.

September 9th, 2007 Sunday. "**Looking for Erioderma in Ocean Pond.**". Leader: Lichen expert Eugene Conway. Meet at entrance of Ocean Pond. 10:30 AM Sharp. Eugene can be reached at: econway@personainternet.com or Carmel at 722-0121 or abcrhynd@nl.rogers.com

PRESIDENT'S MESSAGE:

Without a doubt this feels like one of our coldest springs! However, a few members are reporting Tussilago farfara in bloom. A little bit of warmth and the plants will hurry along (hopefully).

Let me begin by announcing that we are delighted to be offering, for the first-time, a Digital Photography Competition. We are encouraging all members (amateur as we are) to give it a try, even if submitting in only one category. I am sure it will be a great learning experience and lots of fun. Photographers Lydia Snellen, Helen Jones and Ken Knowles have all agreed to assist in the judging.

There are four categories that you may consider. You may enter in any or all of the categories but you are only allowed one entry in each. The categories are as follows:

1. Any picture of a wildflower (native or introduced) growing in a natural setting
2. A habitat/scenic shot where some plant/plants are clearly evident
3. Any plant/animal interaction such as pollination, herbivory, etc.
4. Any plant/people interaction ...you can have fun with this category!

The executive would like to extend a sincere thanks to our winter speakers, Ken Knowles, Eugene Conway, Dave Yetman and MUN Research Staffers, Tim Walsh, Madonna Bishop, Costa Kosimos and Joy Barfoot for their very informative presentations.

I hope the Summer 2007 Walk Schedule excites everyone. Helen Jones will be leading our first Outdoor Digital Photography Workshop and I feel that many members will find this particular walk helpful with our coming competition. We are also delighted that Eugene Conway will be taking us to the Ocean Pond Area to view the felt lichen-Erioderma. We should be so grateful that Eugene had the insight to recognize this endangered species and to actively pursue its survival.

Members are gearing up for our "Southwesterly Breeze" Field Trip to the West Coast. Due to such a large contingent this summer, John has advised us that at specific locations the group will likely be split into two groups. This measure is to ensure the protection of delicate habitat. In addition, there will be strict rules regarding start times for daily hikes. We are encouraging members to try and car-pool as much as possible, which should enable the group to move around faster.

All members of the executive have agreed to maintain their positions for another wildflower year. I personally would

like to thank everyone for their hard work and helpful advice. Have a healthy & happy summer!

Carmel Conway

VOLUNTEER REQUIRED

Assistant –to- Treasurer

As our treasurer, Jackie Feltham is unable to attend all meetings, we are presently looking for a volunteer, someone who attends most meetings, and is able to accept membership payment and write receipt in Jackie's absence. The person would need to be available 10-15 minutes before/after meeting. He/she would then pass on monies and information to Jackie. No experience required, duties start October month. Please contact: Carmel Conway at 722-0121 or abcrhynd@nl.rogers.com

WILDFLOWER DESIGN RUG-HOOKING COURSE (Beginners)

Renown rug-hooker, *Elizabeth Dillon*, at the Anna Templeton Centre, has offered to instruct us in a beginners course in rug-hooking with a theme of Wildflowers for the Fall 2007 Season. (depending on the interest). Elizabeth has an array of wildflower patterns i.e. pitcher plant, sweet pea, cattails etc. to choice from, or members had create their own design. The cost will be determined by the number of interested people. Cost includes wooden frame and hook. Elizabeth suspects that the cost will run somewhere between \$50-70, with 8 hours of instruction (offered in two sessions). Further details will be available by September. If interested please contact: Carmel Conway at 722-0121 or abcrhynd@nl.rogers.com

Book Review: “Orchids On The Rock: The Wild Orchids of Newfoundland” by Andrus and Maria Voitk.

Reviewed by Henry Mann

For years botanical enthusiasts have bemoaned the lack of popular field guides that focus on the unique flora of our Island. Good colourful works that incorporate our northern floral elements with the more common species of the boreal forest are distinctly lacking in our province. A comprehensive illustrated field guide for our flora is still many years down the road, but this publication on orchids begins to fill the gap. The authors have chosen to deal with only a single family, but admittedly one of our most interesting and photogenic families whose members can be found throughout our barrens, wetlands and forests.

The book’s cover reads as follows: “This pocket guide is a pictorial overview of the most exotic family of flowers - the Orchids - covering all of the species, hybrids, and varieties known to grow wild on the Island of Newfoundland. Two pages are devoted to each plant, with several photographs to display blossoms, seed capsules, habitat, and different forms. Information about habitat, size and blooming period is augmented by brief comments about each plant, and a checklist is included at the back of the book.”

Following the title page and table of contents is a brief three page introduction to orchids and then two pages of superbly composed color photographs for each of our species and varieties, totalling 96 pages in all. The colour plates and brief descriptions will allow even the novice to easily identify all our orchids. Species are arranged alphabetically by genus names

and specific epithets. No keys or systematic procedures for identification are provided, but this is not a problem with only 43 species whose flowers and leaves are so distinctive that a “flip-through” visual system is quite adequate.

Despite the ever increasing availability of computer wildflower images, books that can easily be carried and used in the field will continue to remain popular for the foreseeable future. This book is “real” field guide size (13 x 16.5 cm) and will easily fit into pocket or packsack. It contains just enough information for positive identification of species and also sufficient to “wet the appetite” of amateurs to seek out more detailed publications. Even seasoned botanists will find it a handy field reference when encountering unusual variations, hybrids, or new locations for many of the species. Orchids seem to exhibit an almost endless variation in colour, shape and form, even within species, and new observations are always exciting for the botanical enthusiast. Undoubtedly, the careful observer will find additional variants in our flora and perhaps even species not yet known from the Island. With the exception of two rare species which could not be relocated, all the photographs are by the authors and are taken in Newfoundland of Newfoundland plants.

This guide fills a real need and hopefully will be a model for more publications like it . Other distinctive groups and families could be dealt with in similar fashion, for example the buttercups, the pinks, the mints, or if one wishes to be really challenged, the ferns, grasses or *Carex* sedges. Alternately, photographic guides to specific ecological groups or habitats would also be valuable additions (e.g. carnivorous plants, peatland wildflowers, aquatics, etc.). Even a colourful photographic guide to our woody

species is still lacking in our province. With the advent of digital photography and computer image manipulation, the production of colourful guides is within the grasp of many naturalists. When such undertakings are approached as adventures to fulfill our innate curiosity about nature, great things can be accomplished as is adequately demonstrated by this new publication.

The authors should be congratulated on the production of such a fine work. Often the time, effort and personal expense involved are not fully appreciated. Even with today's marvelous digital cameras, obtaining those superb wildflower photos is still much of an art honed through time and experience. More often than not, the photographing challenge also includes hordes of blackflies alternating with gale-force winds! Hopefully this publication will be an inspiration to the rest of us wildflower enthusiasts to help make available our wonderful and unique flora to the general public and to visitors from away. This book will definitely find a place in my packsack. It is certain to become popular as part of the provincial ecotourism literature.

The authors have donated the proceeds from the sale of this guide to the Gros Morne Co-operating Association to support the association's work with Parks Canada. It may be ordered from:

Gros Morne Co-operating Association
P.O. Box 130
Rocky Harbour, NL
A0K 4N0
(\$12.95 plus tax and shipping = \$16.86)



The above illustration of *Platanthera dilatata* is by Warwick Hewitt, graphic artist, Sir Wilfred Grenfell College (Retired).

BOOK REVIEW: “MISS RUMPHIUS”

By: Barbara Clooney

Reviewed by: Carmel Conway

When my sons Alex and Robbie were young, booking reading was always a source of great pleasure for them, as well as myself. While they were more intrigued by adventure and mystery than nature, we nevertheless read everything. Many times at the end of a long day, feeling tired and sleepy, it would be relaxing to just admire the beautiful pictures of far-off places. Alex and Robbie are young adults now and the extent of reading is mostly limited to school work and sport statistics, but I continue to miss those times.

Recently I dropped by children’s bookstore, Granny Bates, for a visit. Oh what a delight! The store is so cozy and inviting and literally jammed- packed with wonderful books. The glorious jacket covers bring the books to life. The book that caught my eye was *Miss Rumphius* by Barbara Clooney. First published in 1982, it is now a classic. Winner of the American Book Aware, both story and illustrations are by the author.

This picture book is all about Miss Alice Rumphius. Alice is awed by the adventures of her grandfather as she listens to his many tales. Her grandfather immigrated to America on a large sailing ship and worked as an artist and carver. Like her grandfather, Alice longs to travel and live by the sea. Her grandfather encourages her to not only enjoy the world, but to make certain that she do something to make the world more beautiful.

Alice becomes a librarian, but she does not choose the stereotypical lifestyle of her time. She does not marry, have children, cook, sew or fuss about her

appearance. Instead, she travels the world learning about different cultures. However, getting old and bothered by a bad back, Alice decides it is time to settle down and live by the sea.

From her bedroom window she spies a beautiful cluster of lupines, her favorite wildflower and they become a great source of pleasure to her. It is while admiring their beauty in fabulous shades of pink and purple, the idea for making her world more beautiful comes to life and so the story unfolds..

Miss Rumphius is a simply gorgeous book. The independent character of Alice makes it an unforgettable read. It would not only make an excellent gift for a child, but also a treat for yourself.

Published by: Puffin Books/1982
Softcover \$11.99

Additional suggestions:

The Twelve Days of Summer

Story by: Jan Andrews
Illustrated by: Susan Rennick Jolliffe
Orca Book Publishers, 2005
Softcover \$9.95

A Seed of Sleepy

By Dianna Hutts Aston
Illustrated by: Sylvia Long
Chronicle Books, 2007
Hardcover, \$21.95

What do Roots Do?

By: Kathleen V. Kuklinski
Illustrated by: David Schuppert
Northwood Books, 2005
Hardcover, \$21.95



Rapid Pond Revisited: Wild Rice and Wapato

by Henry Mann

In a previous article I reported on the occurrence of Yellow Floating Heart (*Nymphoides peltata*) in Rapid Pond, Humber Valley, and indicated that it was probably a human introduction of unknown origin. The pond lying within the heart of Little Rapids community has had a long history of human influence, but it still retains many of the features of a relatively “pristine” low nutrient, softwater pond, often known as a “Lobelia Lake”, probably because of low basin solubility and high rates of flushing via drainage from the south side valley hills. Aquatic plants that are known to inhabit the pond are listed in Table 1. This list is not exclusive and certainly other species will also be located during a thorough sampling. Only “true” aquatics are listed in the table; wetland species that grow along the margins and

are sometimes inundated are excluded, such as Reed Canary Grass, Swamp Candles, Sweet Gale, and others.

Despite the lack of early botanical pond history, records do exist for two recent introductions. The first is that of Wild Rice (*Zizania palustris* L.). Wild Rice is a member of the Grass Family (Poaceae). Two species occur in Canada, *Zizania aquatica* L. and *Z. palustris* L., the latter being the predominant species harvested for its grains, occurring throughout eastern and central boreal Canada (Figure 1). It is a tall annual grass, 1- 2 meters in height, growing in shallow waters of lakes, marshes and sluggish streams, preferring a soft muddy bottom, an optimum water depth of about 30 - 60 cm, and a near neutral pH (Small and Catling 2004). Because it is an annual, it must produce viable seed each year in order to maintain a population. The nutritious grains of Wild Rice have been harvested as a staple food by indigenous North American peoples since time immemorial. Its grains are also sought after by waterfowl leading wetland managers and conservationists to widely plant it for habitat improvement. Today it is commercially harvested from the wild or from agriculturally maintained artificial “rice-paddies” for the epicurean market where it commands a relatively high price. It is not known as an aggressive or weedy species, but as a species that tends to enhance habitat quality and complement the native vegetation of a water body.

With encouragement of individuals from several provincial departments, a trial planting of Wild Rice was made in the shallow muddy eastern end of Rapid Pond in September of 1986. Shoal Lake Wild Rice Limited of Keewatin, Ontario provided seed for the trials. Seed must not be allowed to dry between harvesting and planting otherwise viability will be lost.

Plants have continued to seed themselves and to flourish in this site despite heavy grazing by moose who seem to relish the species. At least one other Wild Rice introduction is known in the Humber Valley on private land.

Although the planting demonstrated that Wild Rice will flourish in our climate, growing season, and in our relatively nutrient poor ponds, as far as I am aware, no public or private organization has proceeded with expanded trials either for waterfowl habitat enhancement or for potential commercial productions. Understandably there are more factors involved than a simple demonstration of potential. At least one individual suitably positioned must be interested in championing such a cause and there are further political and ethical concerns of introducing non-native species to the Island, although in the case of Wild Rice such concerns would surely be minimal. Much of the commercial production of Wild Rice in North America is from cultivated rice-paddies where water depth can be controlled throughout the season. It would seem that such commercial endeavors could also be viable here on the Island of Newfoundland. Highly recommended for individuals interested in Wild Rice production is the booklet "Wild Rice in Canada" by Aiken et al. (1988) as cited in the reference section.

The second species for which there are records of introduction to the pond is Wapato or Broad-leaved Arrowhead (*Sagittaria latifolia* Willd.). In this case tubers were collected from a Newfoundland population discovered in the Stephenville Crossing area and planted in the shallow margins at the east end of the pond to determine whether the species would readily transplant vegetatively. All of the transplanted tubers sprouted and the species has continued to flourish in the

pond since the introduction of 1986. An article describing Wapato from the Stephenville Crossing site can be found in the Osprey Volume 17(4); 166-177, 1986, which was the first published report of the species from the Island. Subsequently a specimen was located in the Ivan Green Collection now housed in the Sir Wilfred Grenfell College Herbarium dated August 5, 1975 collected at the Humber River Bridge, Deer Lake. More recently the species has been located flourishing in the shallows of the upper Humber River above Deer lake. Because of its limited distribution on the Island it is classified as a rare species in Bouchard et al. (1991). However, since the publication of the Osprey article, the Trapper's Association has dispersed it vegetatively on the west coast in the greater Corner Brook area to improve muskrat habitat, but it is still considered a species of very limited range on the Island. The seeds and tubers of Wapato are known to be sought by ducks, geese, and muskrat.

At the end of this article is attached sheet #6 of the "Rare Newfoundland Wildflowers" series which provides a brief description distribution, and illustrations. I wish to thank summer students Gail Martin and Danica Jackson for collections made from Rapid Pond and the area.

References Cited:

- Aiken, S.G., P.F. Lee, D. Punter and J.M. Stuart. 1988. Wild Rice in Canada. Agriculture Canada Publication 1830, New Canada Publications, Toronto.
- Bouchard, A., S. Hay, L. Brouillet, M. Jean and I. Saucier. 1991. The Rare Vascular Plants of the Island of Newfoundland. Syllogens No. 65, Canadian Museum of Nature, Ottawa.

Mann, H. 1986. The Arrowhead *Sagittaria latifolia* Wild. in Western Newfoundland. *The Osprey* 17(4): 166-177.
 Small, E. and P.M. Catling. 2004. Poorly known economic plants of Canada - 42. Wild Rice (*Zizania aquatica* L. and *Z. palustris* L.). *The Canadian Botanical Association Bulletin* 37(3): 45-52.

Table 1: Aquatic Plants of Rapid Pond

- Callitriche verna*
- Chara virgata*
- Eleocharis palustris*
- Eleocharis quinqueflora*
- Equisetum fluviatile*
- Eriocaulon aquaticum*
- Isoetes echinospora*
- Isoetes lacustris*
- Lobelia dortmanna*
- Myriophyllum tenellum*
- Nitella opaca*
- Nuphar variegata*
- Nymphoides peltata*
- Potamogeton amplifolius*
- Potamogeton epihydrus*
- Potamogeton gramineus*
- Potamogeton obtusifolius*
- Sagittaria graminea*
- Sagittaria latifolia*
- Sparganium angustifolium*
- Sparganium emersum*
- Typha latifolia*
- Utricularia intermedia*
- Utricularia macrorhiza*
- Zizania palustris*

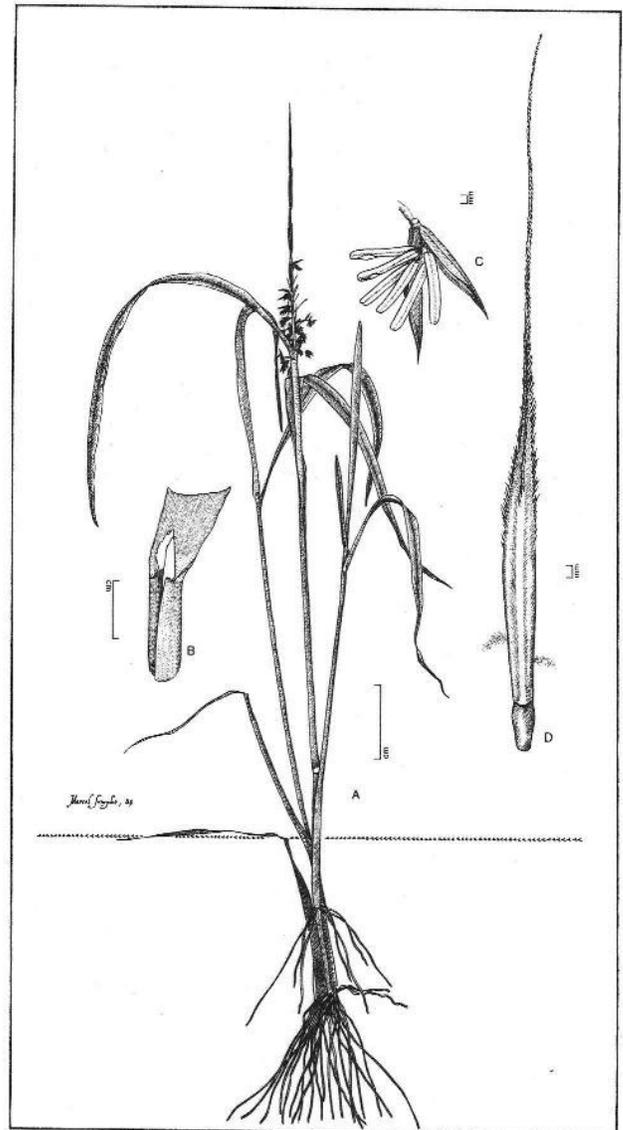


Figure 2. *Zizania palustris* L. from Aiken et al. (1988). Reproduced with the permission of the Minister of Publication and Government Services Canada, 2007

The Green Orchids – *Platanthera aquilonis* and *Platanthera huronensis*

Vascular Plants of Newfoundland and Labrador - Identification Clinic #1
John E. Maunder

It used to be that *Platanthera hyperborea* was the only Green Orchid we needed to worry about in our region.

However, nothing is ever as simple as it seems.

It has long been suspected that this highly-variable, primarily North American “species” was, in reality, a “bewildering complex” of many separate entities. But, despite many attempts throughout the last century and a half, no orchid expert had ever been able to tease these separate entities apart! Finally, in 1999, Charles J. (“Chuck”) Sheviak made a major breakthrough, in a rather complicated paper published in the journal *Lindleyana*.

The key to Sheviak’s breakthrough was, in part, his realization that plants within “the greater *Platanthera hyperborea* complex” possessed two different “chromosome numbers”.

[* Definitions: The nucleus of a fertilized egg usually contains *two* copies of each chromosome – one contributed by each parent. Organisms that develop from such fertilized eggs are referred to as “diploids” (from “*diplos*”=“two”). In plants, in particular, it is not unusual for the fertilized egg to contain *extra copies* of each chromosome. Plants that develop from a fertilized egg that contains four copies of each chromosome are referred to as “tetraploids” (from “*tetra*”= “four”.)]

Sheviak’s initial separation of all of the *diploid* plants resulted in his recognition of a new entity, which he named *Platanthera aquilonis*.

However, the remaining *tetraploid* plants still seemed to fall into two natural groups, separated both morphologically and geographically (ie. “North America” [*exclusive of Greenland!*] versus Greenland-Iceland). In order to address this lingering dichotomy, Sheviak resurrected the old species name “*huronensis*” [originally coined in 1818, by Thomas Nuttall, for green orchids growing in the Great Lakes region], and applied it to all of the “North American” *tetraploid* plants. The remaining Greenlandic-Icelandic *tetraploid* plants were allowed to retain their original name, *Platanthera hyperborea*, since the Icelandic populations were the first of the complex to be described.

All well, and good! But, are Sheviak’s “North American” *tetraploid* plants *really* different enough from their Icelandic and Greenlandic *tetraploid* cousins to merit species-level distinction? Quite possibly, although, by Sheviak’s own admittance, the relationship between the two remains poorly understood.

It *may* eventually be concluded that the “North American” plants, now called *Platanthera huronensis*, should *continue* to be called *Platanthera hyperborea*, along with their closely-related Icelandic and Greenlandic cousins? But, for now, the name *Platanthera huronensis* has been accepted by the editors of the “Flora of North America” series, and, consequently, by most orchid biologists.

Below are Sheviak's rather fine distinctions that supposedly separate the tetraploid species-pair *Platanthera huronensis* - *Platanthera hyperborea* (the table includes additional comments extracted from Sheviak's 2003 treatment of the genus *Platanthera* in the "Flora of North America"):

[* Definitions: The reproductive parts of orchids are generally fused together to form a central structure called a "column". Orchid pollen is not free-dispersing, but, rather, is consolidated into compact sticky pollen masses called "pollinia". In green orchids, there are only two pollinia. Each is part of a more complex structure called a "pollinarium" which consists of three component parts, arranged vertically: a "pollinium" on top, a "caudicle" or "stalk" in the middle, and a sticky disc-like "viscidium" at the bottom. The job of a viscidium is to stick to the surface of would-be pollinators. The pollinaria are housed, at least initially, within anther sacs [the two "eyes" on the "face" of the green orchid flowers] on the upper part of the column. The sticky female pollen receptor, the "stigma" (or "stigmatic surface"), is located on the lower part of the column below the anther sacs.]

	<i>huronensis</i>	<i>hyperborea</i>
plant size	consistently larger; 10-100 cm tall	consistently smaller; 7-35 cm tall
leaves	5-30 x 0.6-7 cm	3-14 x 0.4-4 cm
flower colour	whitish-green, whitish lip	whitish-green, sometimes with a creamy lip
flower smell	sweet pungent scent	"sweet fragrance"
lip	proportionately narrower [5-12 x 2-4 mm] and less obtuse	proportionately broader [4-5.5 x 2-2.5 mm] and more obtuse
lip base	often dilated	variable, but usually strongly dilated
lip descent	descending tardily: with a marked period when the tip is connivent with the apex of the hood	descending immediately and fully: without a marked period when the tip is connivent with the apex of the hood
spur	4-12 mm, about equaling the lip, cylindrical to slightly club-shaped, tapering to tip, sometimes curved forward	4-6 mm, about equaling the lip, cylindrical to somewhat club-shaped, somewhat tapering to obtuse tip
pollination	does not self-pollinate (at least in our region)	uncertain, possibly self-pollinates, possibly variable
column*	upright	upright
anther sacs*	prominently elevated, and not much spreading below	prominently elevated, and not much spreading below
pollinia*	oblong, remaining within the anther sacs, not easily fragmenting	linear to linear-oblong; movement uncertain
viscidia*	oblong	linear to linear-oblong
chromosome number	84 (tetraploid)	84 (tetraploid)

While Sheviak's distinctions between *Platanthera huronensis* and *Platanthera hyperborea* seem worthy of further discussion, his distinctions between *Platanthera huronensis* and *Platanthera aquilonis* [see the below] are much more convincing (the table includes additional comments extracted from Sheviak's 2003 treatment of the genus *Platanthera* in the "Flora of North America"):

	huronensis	aquilonis
plant size	consistently larger; 10-100 cm tall	consistently intermediate; 5-60 cm tall
leaves	5-30 x 0.6-7 cm	2.7-23 x 0.4-4 cm
flower colour	whitish-green; whitish lip	yellowish-green; lip dull yellowish, or whitish-green in cooler conditions
flower smell	sweet pungent scent	no scent in our region
lip	proportionately narrower [5-12 x 2-4 mm] and less obtuse	proportionately narrower [2.5-6 x 1-1.5 mm] and more obtuse
lip base	often dilated	not much dilated
lip descent	descending tardily: with a marked period when the tip is connivent with the apex of the hood	descending tardily, or sometimes not at all: with a marked period when the tip is connivent with the apex of the hood
spur	4-12 mm, about equaling the lip, cylindrical to slightly club-shaped, tapering to tip, sometimes curved forward	2-5 mm, about $\frac{3}{4}$ the length of the lip, club-shaped, blunt tip, often strongly curved forward
pollination	does not self-pollinate (at least in our region)	self-pollinates; but hybrids occur
column*	upright	Somewhat lowered
anther sacs*	prominently elevated, and not much spreading below	scarcely elevated, and spreading below
pollinia*	oblong, remaining within the anther sacs, not easily fragmenting	rotating forward and downward from the anther sacs*, to come directly in contact with the stigma*; and/or, readily fragmenting so that loose pollen masses trail and tumble downward onto the stigma
viscidia*	oblong	orbiculate
chromosome number	84 (tetraploid)	42 (diploid)

Recently, Lisa Wallace (2004) examined the molecular (ie. DNA) and morphological relationships between *Platanthera huronensis*, *Platanthera aquilonis*, and *Platanthera dilatata*. She concluded not only that *Platanthera huronensis* is indeed a distinct entity; but, also, that *P. dilatata* [the "bog candle" or "scent bottle"] is the closest relative of *P. aquilonis*, and clearly belongs within the greater *P. hyperborea* complex! She further concluded that *Platanthera huronensis* arose, in some ancient time, from the combining together of the genetic complement of *Platanthera aquilonis* and *Platanthera dilatata*.

This very close relationship between *Platanthera aquilonis* and *Platanthera dilatata* probably explains the fact that these two species hybridize readily when they occur together. Wallace (2006) found about 5% *Platanthera aquilonis*-*Platanthera dilatata* hybrids, in one study!

[Hybrids between *Platanthera aquilonis* and *Platanthera dilatata* have long been referred to as "*Platanthera ×media*". However, this name should NOT be used for this purpose, since *Platanthera ×media* is, in fact, an exact synonym of *Platanthera huronensis*. So, at present, this hybrid no longer has a validly-published name.]

According to Sheviak (1999), unnamed hybrids also occur between *Platanthera huronensis* and *P. dilatata*; and, moreover, at least in the west, the somewhat whitish flowers of this hybrid have a strong scent of cloves, reminiscent of the scent of *Platanthera dilatata*! Sheviak (1999) has further stated that *Platanthera huronensis* may also hybridize with *Platanthera aquilonis*.

A few selected illustrations by the author, appended to the end of this article, will hopefully serve to clarify things further!

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Sheviak, Charles J. 1999. The identities of *Platanthera hyperborea* and *P. huronensis*, with the description of a new species from North America. *Lindleyana* 14(4): 193-203.

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[Left] *Platanthera huronensis*: Whole plant. [Right] *Platanthera aquilonis*: Inflorescence.



Platanthera huronensis generally exhibits a broadly dilated lip base [left], while *Platanthera aquilonis* generally exhibits a rather narrow one [right]. Note also: the whitish-green flower colour of *Platanthera huronensis* and the yellowish green colour of *Platanthera aquilonis*.



Classic Poses:

[Left] *Platanthera huronensis* flower from the front, showing a maximum expression of downcurling of lateral sepals – reminiscent of a bodybuilder’s arms-down shoulder flex pose! Note also, the peculiar inward arching of the lateral (ie. upper) petals - reminiscent of the up-raised arms of a ballet dancer.

[Right] *Platanthera aquilonis* flower from the side, showing a maximum expression of back-sweeping of lateral sepals – reminiscent of a child’s head-down/arms-back stance often struck just before leaping into a swimming pool. Note also the up-curved lip still tardily connivent with the tip of the “hood”.



[Left] *Platanthera huronensis* flower closeup: Note the erect column with long, narrow, semi-parallel anther sacs which are somewhat separated at the apex, and not much spread apart below [note that the “stigmatic surface” is located within the broad, dark area]. Note also: the lateral (ie. upper) petals longer than the dorsal sepal and arched “out-and-then-back-over”.

[Right] *Platanthera aquilonis* flower closeup: Note the somewhat lower, more arched column with decidedly oval anther sacs which are quite closely-placed at the apex but spread more widely apart below. Note also: the erect lateral (ie. upper) petals shorter than the dorsal sepal.



Platanthera aquilonis flowers, from the side, showing [left] a pollinium beginning to droop, on its flexing caudicle, towards the stigmatic surface below; and [right], loose pollen masses lodged upon the still undescended, connivent lower lip.



Top views of the inflorescences of *Platanthera huronensis* [left] and *Platanthera aquilonis* [right].

Note that the 'hood' of *P. huronensis* is somewhat roundish (a bit like a ping-pong paddle) with a slight bump at the tip. The 'hood' of *P. aquilonis* is mostly narrower, with a tapered tip (a bit like the blade of a pointed shovel).

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