



**NEWSLETTER OF THE CANADIAN WILDFLOWER SOCIETY
NEWFOUNDLAND CHAPTER**

Goowiddy - News from the President.....Judith Quigley

The Newfoundland Chapter of the C.W.S. is off to a great start. After a couple of organisational meetings in the Spring, we eagerly anticipated discovering our flora on field trips. Summer took its own sweet time coming this year, but it really was worth the wait. Many thanks to all who helped organise and lead a great set of field trips.

The great news is that we now have a treasurer to keep us in line. Janet Craske kindly volunteered to do the job that no one else could face! Janet is also editor of this quarterly newsletter, so she's the one to contact with any submissions. Please do try to submit articles and notices because the success of this newsletter depends on it.

Thus we now have a functional Executive Committee;

President	Judith Quigley	895-3120
Treasurer	Janet Craske	895-2071
Secretary	Peter Scott	739-1450 737-7498
B.G. Rep.	Anne Marie Madden	754-7714
Directors	Todd Boland	
	Leila Clase	753-6415
	Sue Meades	(1) 335-2669
	Ron Payne	737-6659

We are also hoping to have Directors from the West Coast, Central NFld. and Labrador. Sue is organising our upcoming program of meetings, so any inspired suggestions for topics and/or speakers can be passed along to her. Leila and Anne Marie are looking after meeting refreshments, so if any of you would like to donate goodies for meetings, please let them know.

In this newsletter you will find a membership form. If you have not already paid your membership fee, please do so A.S.A.P. Because we operate on the basis of these fees, we will only be able to send future newsletters to paid members. Please note that you do not have to be a member of the national organisation to be a member of our group, but obviously, the more people who support the national group the better. The membership year for our chapter begins on October 1st, but for those of you who paid on or before Sept. 30th 1990, your membership is good until Sept. 30th 1991.

We have made our presence felt in a number of areas over the summer. We made formal submissions to the Green Plan consultation sessions requesting comprehensive plant protection legislation and the consideration of the importance of habitat to all organisms. In addition we wrote to local nurseries informing them of our existence and about the plant collection/nursery trade problem. For those of us who are in a quandry about wanting to grow wildflowers, but not wanting to use plants collected from the wild, we can consider ordering from Aimer's wildflower catalogue. As far as we can discern, they are not selling material unless it is truly nursery propagated. Just give me a call if you would like Aimer's address.

Thanks to Sue we have a great set of meetings to keep us "wild" during the fall, winter and spring. Please join us as we discover the wonders of Newfoundland's remarkable wildflowers. And, as a final note, we request you to please bring your own mug to meetings so that we keep our garbage output to a minimum. We will store the mug for you between meetings.

Here's to a great group of enthusiastic plant lovers!
Judith.

Thoughts from the editor.....Janet Craske

Two other local societies have newsletters with names that begin with "O". But I have failed to think of a suitable name to form a trio with "Osprey" and "Orchis". After reading Ron Payne's article I wondered about "Ruderal". Any suggestions for an appropriate name would be very welcome.

Many thanks to all the contributors, who with very short notice sent me the articles and news you see here, using paper, disc, telephone and electronic mail, but nothing via carrier pidgeon or quill pen yet.

The deadline for the winter newsletter is November 24th. Line drawings can be included with text, but please send them on separate sheets and indicate where (approximately) they should be placed. Any questions please call me at 895-2071.

The Northern Peninsula in Spring.....by Leila Clase

The Annual General Meeting of the Canadian Rhododendron Society was hosted by the Botanical Garden at Qxen Pond in early June this year. To provide the registrants with a chance to see Newfoundland native rhododendrons and other ericaceous plants in their native habitat, a post-conference tour was organized to the west coast of Newfoundland. I was one of the lucky 28 people to take part in that tour. We saw many beautiful and interesting plants during the trip. The following is a summary of the highlights.

The first thrill came as soon as we had left the Isthmus: graceful trees covered in red haze standing here and there among the mixed forest, still deciduously bare. The bus was abuzz with 'What is it? What is it?' as we leafed through "Glen Ryan's" (**Trees and Shrubs of Newfoundland**), but of course it was difficult to identify for sure from a fast moving bus until Dianne McLeod confirmed that it was Red Maple (Acer rubrum), one of the two native maples in Newfoundland. This is not the nurseryman's Red Maple, which name refers to the red foliage. Acer rubrum gets its name from the red female flowers, which cover the tree like a red veil before the green leaves appear. The male flowers, usually on a separate tree, are yellowish.

The same day, still on the bus journey, we got a glimpse of a big patch of Marsh Marigolds (Caltha palustris) in boggy ground along the Trans Canada Highway after the Springdale turn-off. Later we were to see them again and again in great profusion in

the Gros Morne area in roadside ditches, where willow bushes grow, and other wet places.

The first of the two whole days at Gros Morne was devoted to the Western Brook Pond boat trip, which also meant pleasant 3 km hiking and botanizing each way. The plants that stand out from this trip in my memory include Three-leaved False Solomon's seal (Smilacina trifolia), Twisted-stalk (Streptopus amplexifolius), Alder-leaved Buckthorn (Rhamnus alnifolia) and Wild Sarsaparilla (Aralia nudicaulis). The last one of these particularly made an impression on me in the way its newly emerged still purple leaves glistened in the afternoon sun. There were also three different kinds of violets and three or four different kinds of currants /gooseberries to be seen. I remember those if only as an opportunity lost to sort out what they were, because of shortage of time, knowledge and technical aids.

The second day in Gros Morne was largely devoted to climbing the mountain. Only about half of our party went right to the top and were justly rewarded with sights of rare alpine plants. I particularly coveted them the sight of Mountain Heath (Phyllodoce caerulea) because the chances of seeing it else where are slim. However even those of us who went only to the upper plateau enjoyed our climb tremendously and the sights it afforded us, both plants and scenery. The blueberry flowers in their multiplicity were at their prettiest. Many of the small plants of the boreal forest floor such as Starflower (Trientalis europeus), Canada Mayflower (Maianthemum canadense), Clintonia (Clintonia borealis) and Goldthread (Coptis groenlandica) were just emerging but recognizable in mid-June. Here, too, the spring had been very late. Undoubtedly the star attraction was the Trailing Arbutus (Epigaea repens). I remember in the past crawling on all fours trying to catch glimpse of it at the Oxen Pond peat beds and even then usually missing the best bloom. No such need here. It spread everywhere its fragrant luminous, sometimes pink-tinged flowers and ever-green leaves along the steeply rising slopes.

The next day we travelled further north along the coast stopping in selected places to look at the flora. The species that augmented my list on that day were Starry False Solomon's Seal (Smilacina stellata) by a picnic site at the entrance to the Western Brook Pond trail and such calcium loving plants as Saxifraga aizoides, S. oppositifolia and Mountain Avens (Drus integrifolia). As we travelled further north to Hare Bay and to Boat Harbour, both recognized sites for arctic plant communities, we had many more exciting sightings of rare plant species, above all Lapland Rosebay (Rhododendron lapponicum) and Alpine Azalea (Loiseleuria procumbens). We also saw a little blue anemone Anemone parviflora and two native primulas Primula laurentiana and P. mistassinica, both very delicate and tiny. At Boat Harbour we had the good fortune of spotting all three bearberries close together. There was the evergreen Arctostaphylos uva-ursi, the alpine A. alpina and the red-berried A. rubra, the latter still complete with last year's berries.

On our way west the Rhodora (Rhododendron canadense) - to my mind the Newfoundland rhododendron par excellence - was not much in evidence, but a week had done the trick so that the bright pink and purple patches by the road-side caused our mainland and

overseas visitors nearly to miss their flights at Deerlake as they searched for the best specimen to be photographed. The next plant always seemed more beautiful than the one before.

For the most part I have mentioned only those species which seem "exotic" from the vantage point of St. John's and vicinity, but naturally one could make a plant list as long as one's arm and then multiply it by the seasons. It was an inspiring start for a summer's botanizing, and I hope there will be many more such trips, perhaps under the auspices of the Wildflower Society?

The Botany Column.....by Peter J. Scott

The Newfoundland Chapter of the Canadian Wildflower Society has gotten off to a roaring start and we have spent many pleasant hours this summer wandering through bogs and heathlands. Field trips are very important as we want to know our wildflowers first-hand and appreciate them in situ where they have to struggle with neighbours and deal with the environment in general. We have a full slate of indoor activities for the autumn and winter where we will consider skills needed for outdoor activities and look at some interesting aspects of plants (see Sue Meades' section for full details!).

I would like to have my column deal with the interesting things that plants do. I will try to tell you about something each time and I would like to record things that have come to your attention. The first flowering date, the last flowering date, last frost and first frost, tallest grass, largest or smallest flowers seen in a species, and 'Siamese Twins' in plants. These sorts of facts are interesting to read and even more fun to collect but by collecting them we will start to build up a collection of data and facts about our flora which will enable us to follow trends and develop cases when we are confronted with environmental 'incidents' or other situations of which we do not approve. By forming this chapter, we have taken on the joy of joining together to discover all sorts of things about our flora but we have also assumed the role of stewards.

One thing that occurred to me on several of our rambles is that most people are not aware of some of the niceties of blueberry species. When you walk through a patch of blueberries there are some tall ones in more sheltered areas and shorter ones out in the wind but then there are some which seem dwarfed and most of us just dismiss these as part of the variation. I always did. Most people did.

The 'dwarf' blueberry is Vaccinium boreale and it was collected as early as 1766 by Sir Joseph Banks at Chateau Bay, Labrador and Croque, Newfoundland. It was identified as Vaccinium sp. When you do not know; call it sp.(=species)! It then was pushed from pillar to post until 1961 when Drs. Hall and Aalders did a big survey of blueberries in eastern North America. They found that these little ones are diploids ($2n=24$; having the usual number of chromosomes - we are diploid) and the ordinary blueberries are tetraploids ($2n=48$; twice as many chromosomes; suggesting a hybrid origin). They called the little ones Vaccinium boreale (boreale means northern) and based their

description on a specimen from Avondale. The ordinary ones remained Vaccinium angustifolium (angustifolium means narrow-leaved). Dr. Sam vander Kloet of Acadia University in Nova Scotia is the world's authority on blueberries and he has suggested that Vaccinium angustifolium started as a hybrid between Vaccinium boreale and Vaccinium pallidum. Put those in your pies and think on them!

Just to help you make decisions I will include the part of the key in my Flora of Newfoundland and Labrador which covers these two species:

- 1. Leaves 6-9 mm long and 3-4 mm wide (ratio of 3:1);
corolla 3-4 mm long; berries 5-8 mm in diameter
.....V.boreale
- 1. Leaves 11-31 mm long and 8-11 mm wide (ratio of 2:1);
corolla 5-11 mm long; berries 9-13 mm in diameter
.....V.angustifolium

Please send all of your observations, facts, questions, etc. to me, please, so that I can get them in the column.

Growing wildflowers from seed.....by Ron Payne

Every serious wildflower gardener is faced eventually with the problem of growing plants from seed for it is no longer acceptable to remove specimens from the wild except in very special circumstances and growing from seed becomes the only way to acquire many interesting species. Some wildflowers, particularly the species purchased in commercial wildflower seed mixtures, do germinate as readily as weeds; probably because they are weeds, or "ruderals" to be polite, but many are far less accommodating. The secret to germinating these more difficult species is to look at life from their point of view and then attempt to provide conditions that are as close as possible to what they would experience in the wild. Some understanding of plant physiology and ecology is essential for success.

Unlike vegetables and typical flower border plants, which have been selected by countless generations of garden cultivation to germinate quickly and consistently as soon as moisture and warmth are provided, the seeds of many wild species are programmed to germinate only at a specific season, usually spring. Also, a generation of wild flower seeds may germinate unevenly over a period of several years. This strategy ensures that a whole generation of seedlings is unlikely to be destroyed by a sudden deterioration in the weather. A late frost may kill the majority of young plants but there will always be some seeds that will remain ungerminated until at least the following year. The longevity of many seeds is remarkable, particularly those of ruderals which can commonly survive in cool, moist soil for tens or even hundreds of years. The record for longevity is held by *Lupinus arcticus*, seeds of which were successfully germinated after 10,000 years burial in permafrost, but 500 years is probably more typical for ruderals under optimum conditions. Therefore, the wildflower gardener has two basic problems to contend with: inactivating the mechanisms which space seed

germination over several seasons and setting their internal biological clocks to spring.

Delayed dormancy is usually due to either a water-impermeable seed coat or a specific requirement for light. Mechanical impermeability is common among members of the pea family. Most seeds in this category are large and can easily be handled. My personal strategy is to hold such seeds individually in a pair of eyebrow tweezers and gently rub the surface with a nail file until sufficient of the seed coat has been abraded to expose a small area of the tissue below. It is important not to file close to the embryo lest it be damaged. A tiny scratch on the seed coat is all that is needed. Alternatively, one can put the seed in a glass bottle along with some dry sand and shake the contents vigorously for several minutes. The need for light to trigger germination, which incidentally is the reason why a new crop of weeds always appears soon after we dig our vegetable gardens, is easily satisfied by ensuring that seeds are just covered with compost in the seed pan and by exposing the seed pans to daylight.

Providing conditions to convince the embryonic plant that spring has indeed sprung is a more complex problem. Most spring-germinators require a definite period of low temperatures under moist conditions before germination can be triggered by subsequent warmth. During this cold, moist period a seed may seem quite inactive but in reality it is busy preparing the embryo for germination by mobilizing energy reserves and also probably breaking down various hormonal germination inhibitors that were incorporated into the seed while it was maturing in the seed pod. At the end of this cold, moist period the seed is fully activated and will respond to rising temperatures and light by germinating. Usually 30 days at 4 C are adequate but a few species require as long as 3 months. I provide these conditions by placing seeds evenly on damp (not wet) tissue paper in a clean screw cap jar in the fridge but it is equally satisfactory to mix the seed with moist (not wet) sand, peat, or horticultural vermiculite. Each jar should be carefully labelled with the name of the plant and the date. It is important to keep the seeds cool but not frozen as the biochemical changes that take place during seed maturation can not happen if the seed is frozen. If you start this process in March the seeds should be ready for sowing in late May in pots of suitable compost outdoors under cover from rain and strong sun. These dates apply to eastern Newfoundland where the weather is unpredictable through April and early May and may be adapted to suit local climatic conditions. Many species will begin to germinate in the fridge, in which case they should be sown without delay. Most wildflower seeds do not require warm temperatures for germination, indeed many prefer quite cool conditions (10 C or less) or they will assume it is summer and promptly go into dormancy again. Permitting the seed pans to dry out often has the same effect. This secondary dormancy is difficult to overcome and the seeds may refuse to germinate unless the complete cold treatment is repeated. A few species, such as some lilies, paeonies, and viburnums, take two full seasons to germinate. Following the first cold treatment they need about 12 weeks at 20 C in order to mature the embryo or

develop a root depending on the species, and then a second cold treatment before they make any aerial growth. With careful planning one can start these seeds in the fridge in October, expose them to gentle warmth over January to March, and have the second cold treatment complete by early June when they can finally be sown. Seeds of these species with double dormancy are best kept in damp peat. In general, the need for one or more cold treatments is characteristic for seeds of species from temperate latitudes. Species from arctic, alpine or desert climates usually germinate without prior chilling but many of them require a period of cool, dry storage for a month or more after collection before they are capable of germination. It is believed that these seeds may contain volatile germination inhibitors. Finally, most seeds can be stored in a cool, dry place until you are ready to sow them but some primulas, anemones, aquilegias and buttercups must be sown as soon as the seed pods are ripe. Often they will germinate immediately if sown in the warmth in which case they can be difficult to overwinter but most can be kept safely until spring in the fridge provided they are never permitted to dry out. Even if they do germinate in the fridge, growth is slow so there is no need for panic seed sowing in mid-winter.

Much has been written about seed-sowing composts but in reality plants are far from fussy. For wildflowers, the rules are simple: the compost should have an open texture so it drains well after watering, the degree of acidity should be appropriate, and fertility should not be excessive. Unless I have a very good reason to decide otherwise I use a 1:1:1 mixture of sieved garden loam, horticultural peat, and sand. For heath plants the mixture is about 1:2:1 and for dry-land plants 1:1:2. The sand used on building sites is quite unsuitable as it is too fine to provide adequate drainage properties. A medium grit with particle diameters of 1-2 mm is about right. Heath plants insist on an acid soil but species growing naturally on calcareous soils are less fussy in cultivation so a slightly acid reaction (about pH 6.5) seems to suit almost everything. There has been much debate on the merits of using sterilized loam. Seedlings growing on sterilized composts are less likely to succumb to fungal infections but if such infections do happen the effects are often severe. With unsterilized composts, fungus infections are more common but less devastating. The reason for this would appear to be that unsterilized soils contain a balance of beneficial and deleterious fungal species but sterile soils permit uncontrolled growth of any fungal spores that happen to arrive. If the first arrival happens to be a deleterious species the consequences can be devastating for the seedlings. My preference is to use unsterilized composts but I like to spread the ingredients out thinly in the hot sun for some hours to kill any earthworms and insect larvae that may be present. With this approach one is forced to learn to recognise the local weed seedlings so they can be snipped out with pair of fine-point scissors. There is a slight complication in the case of heaths because these species can only grow vigorously if they can form root associations with specific fungi. For these plants I inoculate each seed pan of compost with a tablespoonful of fresh soil in which heaths are

already growing. This approach might also be successful with terrestrial orchids which have very demanding requirements for specific fungal associations but I have never tried it.

I use plastic pots which I crock with a 2 cm layer of coarse gravel, fill to within 2 cm of the rim with compost, and then gently firm with my fingers. Very small seeds may be mixed with a spoonful of sand which is then scattered over the surface of the compost and larger seeds are individually spaced as far apart as possible. Where possible, I sow seeds individually in small pots as this prevents transplant shock later. Seeds should only just be covered with compost. The pots are then watered from below, covered with a sheet of glass, and placed in a cool, shady spot (but not in the dark) to germinate. As soon as the first true leaves have appeared the glass covers can be removed for gradually increasing periods each day. One can then slowly accustom the young plants to the sun as appropriate to their final location in the garden.

Report from the Botanical Garden..... Anne Marie Madden

Although the approach of spring and summer to the province this year seemed a rather chilly and long-awaited one, this certainly did little to curtail events, activities, or even visitors to the Memorial University Botanical Garden. Granted, we had to wait a little longer and perhaps exercise a little more patience than normal. However, the flowers did eventually bloom, our migrating birds finally did return, and the cold memories of winter were soon all but forgotten.

The 1990 season proved to be a particularly busy one, with the Garden hosting the Canadian Rhododendron Society's Annual Conference in June. Our regular activities, such as the Sunday morning birdwatch, and the various flower shows held by the Orchid Society and the Newfoundland Horticultural Society were attended by many enthusiastic and interested visitors. One event, which was a new addition to our interpretive program this year, was the Wildflower Walk, led by Todd Boland. Reaction to the first Wildflower Society walk held at the Garden was so favourable, we decided to make it a fairly regular Garden event. However, it wasn't until over sixty participants appeared for the next walk, did we realize just how much the appeal and popularity of wildflowers has increased with the general public. Indeed our wildflower display in our Field Centre has prompted many interested inquiries from our visitors concerning the Wildflower Society.

As fall approaches, our season will certainly not slow down, as this time of year brings daily visits from various youth and school groups from across the province. In addition to the continuance of the birdwatch and wildflower walks, there will be a show by the Newfoundland Orchid Society at the end of September, as well as a Dried Flower Workshop sponsored by the Friends of the Garden. And of course, as the summer draws to a close, many of our visitors are busy in their preparations for our 13th Annual Exhibition of Garden and Nature Photographs and Illustrations. Submissions from all age groups and skill levels

are more than welcome. And we would certainly enjoy receiving some "wildflower art", whether the medium be photography, sketches, embroidery, etc.. Deadline for entries is Sunday, October 28. And even if you're not inclined to enter something, by all means drop by the Field Centre between November 10 - 30, view the exhibition and enjoy the beauties of nature throughout the seasons.

Society Meetings.....Organized by Sue Meades

Meetings will be held in the Science Building at M.U.N. in room S-3125A starting at 8.00 p.m. Normally these will occur on the third Tuesday in each month from September to May (no December meeting), but please note that in October the meeting is on the fourth Tuesday.

September 18th.....Fall Wildflower Workshop

Sue Meades will lead a workshop on the basics of plant identification plus what to include in simple plant drawings for identification purposes. If you wish to try your hand at the latter bring unlined paper, pencil and eraser! Samples are needed at this workshop so please bring some common flowering wildflowers with you.

October 23rd.....Mushrooms

Dr. Gary Warren who is a mycologist with Forestry Canada will give a talk and slide presentation on this area of plant life. Please bring any mushroom, toadstool and fungi samples that you can find.

November 20th.....The limestone barrens of the Northern Peninsula

This discussion and slide presentation will be given by Dr. Bill Meades, a plant ecologist with Forestry Canada. It will include the lower plants so any local samples of mosses and ferns would be appreciated.

January 15th.....Winter Botany Workshop

February 19th.....Flowers of Alberta: a talk by Tod Boland

March 19th.....Diapensia: a talk by Dr. Peter Scott

April 16th.....Wetland Ecology: a lecture by Doyle Wells

May 21st.....Spring flowers identification Workshop

**Canadian Wildflower Society (Newfoundland Chapter).
Membership Form**

Name(s) _____ Telephone _____

Address _____

MUN Address (saves on stamps!) _____

Membership Fees: \$10.00 Individual, \$15.00 Family. Please make cheque payable to Canadian Wildflower Society, (Newfoundland Chapter), and send to Treasurer CWS(NC), P.O. Box 278, R.R. 1, Paradise, NF, A1L 1C1.