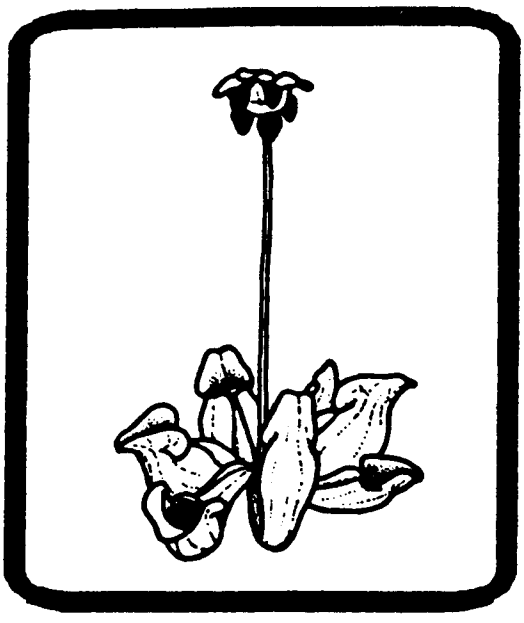


SARRACENIA

Newsletter of the Canadian
Wildflower Society,
Newfoundland Chapter

Winter 1990/91.

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

The balmy Fall of 1990 did not herald balmy CWS meetings. We have been introduced to a variety of topics, including plant and mushroom identification and the plants of the limestone barrens of the Northern Peninsula. The winter meetings will take us from Diapensia in Newfoundland to the wildflowers of Alberta. For a thoroughly enjoyable and inspiring time, join us at 8.00 p.m. on the third Tuesday of each month in Room S-3125A, Science Building, MUN.

Some people have queried the appropriateness of the day that we meet. It would be difficult to change the arrangements for the meetings through to May, but could members please reply to the questions at the end of this newsletter.

We have written a couple of letters to the powers-that-be; both in praise! The first went to Premier Wells expressing our support for the decision to maintain Sundays as hunting-free, particularly in non-remote areas. The second went to (the then) Mayor Murphy to express our approval of the City's decision not to mow the embankments along the arterial road, the resulting show of wildflowers was glorious.

We are still awaiting a copy of the Canadian Wildflower Society's constitution in order to develop our own. In its absence the executive will meet to begin drafting a constitution which will be presented to members in the next newsletter. Your suggestions and comments would be much apppreciated both now and later. We hope to be able to ratify a constitution at the Spring Annual General Meeting.

Those of us who are concerned about plant conservation should note Coleen Leeder's section and think about joining the conservation working group.

Parks Division, Department of Enviroment and Lands administer a programme of which all nature conservationists should be aware. The Provincial Government legislates the Wilderness and Ecological Reserves (WER), to preserve and protect

significant representative and unusual natural features of the Province for the benefit of present and future generations. Expertise and advice for the programme is offered by the Wilderness and Ecological Reserves Advisory Council.

Two areas of particular floral significance, are amongst several being considered as Ecological Reserves.

- Watt's Point Calcareous Barrens Provincial Reserve on the Northern Peninsula has representative limestone barren flora.
- Hawke Hill Provisional Reserve, to which a CWS field trip was held in the summer of this year. This area, near the Holyrood turn-off on the TCH has some of the most southerly distributions of alpine flora in Eastern North America.

The Newfoundland Chapter of the CWS wishes to support the designation of these areas as Ecological Reserves.

Enjoy ~~this winter as~~ you pore over seed catalogues and field guides. This 'brief' hiatus gives us the chance to plan and dream of the seasons to come. And remember, winter twigs and snowy landscapes offer lots of opportunities for nature lovers.

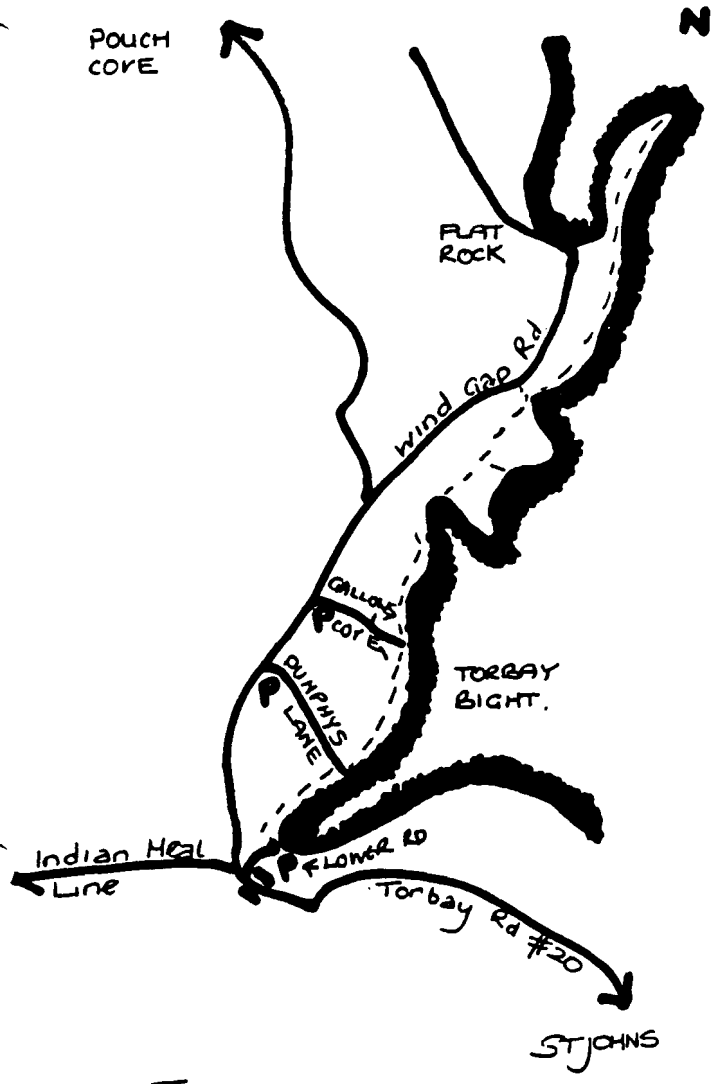
Conservation Working Group.....Colleen Leeder

One of the objectives of the Canadian Wildflower Society is to promote the conservation and protection of rare/endangered plant species and populations. This objective can be fulfilled in a number of ways here in Newfoundland: making submissions to Government, producing status reports, and working with other interest groups to provide information and direction are just a few of the ideas we could try. As Judith outlined in the previous Newsletter, the Society's formal submission to the Green Plan consultations requesting plant protection legislation was the beginning of our conservation effort. A Conservation Working Group within the Wildflower Society would continue this effort in a creative and sustained manner. Members interested in establishing and participating in such a working group are asked to bring their ideas to the January meeting.

Field Scabious and Chanterelles.....Pat Leader

This is one of the many picturesque walks within a short distance of St, John's. It encompasses beautiful vistas of Torbay Bight and Bay reaching out into the Atlantic. There is an easy trail to follow and it is passable at all seasons unless extremely icy. In summer the walk is rich in colour but it is also worthwhile when there are heavy seas, cliff icicles or swirling mists and distant icebergs. You can spend from one to several hours on the walk depending on how much photography, picnicing or gazing you may wish to do.

Drive to Torbay on Route 20 and then down the long hill to



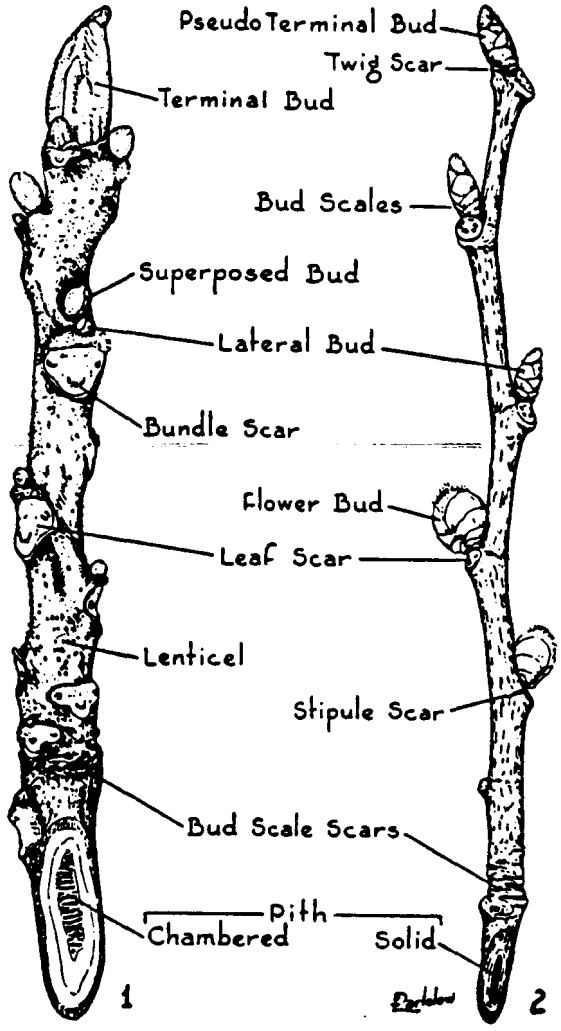
the bridge. Once over turn immediately to the right on to Lower Street. (You will notice that Indian Meal Line is to left of the bridge if you prefer the roue via Portugal Cove). Proceed down the narrow road towards the sea and park in the vicinity of the sign "The Battery". If you prefer not to make the return trip on foot, park a second car at Gallows Cove or Dunphys Lane (see map). Leaving the car, you can see the road continuing as a pathway, north and then north east around the cliffs. Proceed along the cliff pathway, sometimes shared by a few goats, and eventually come to Tappers Cove. (This is best viewed from Marine Drive across the Bight). A wooden staircase leads you down to beach level.

If your time is limited or if you want to see how fit you are, you might wish to return to Torbay Road by going uphill on Tapper's Cove Road and turning right onto Dunphys Lane. This leads to Torbay Road. If not, cross behind the wharf area to the second flight of stairs and regain the pathway. Soon the path is bordered on the right by meadows sloping down towards the cliffs. In one meadow, close to the edge of the pathway you will find blue scabious (Knautia arvensis) in midsummer. A few have seeded themselves on the left-hand side of the path too. Cows and horses add to the pastoral scene.

Further on, opposite a fenced field a gravel path enters from the left - Gallows Cove Road. Passing raspberries (Rubus sp.), wild mint (Mentha sp.) and often muddy holes you can return to Torbay Road, left of the craft shop. The distance from The Battery to this point is less than 3 km.

The junction of path and road provides yet another photographic scene and is also a good area for spotting whales in the bay, If you continue north there are some wet spots but in this area you may search for edible chantarelle mushrooms (Cantharellus cibarius). The path continues a little inland, past fields and wooded areas to Flat Rock Point. Like the early part of the trail, the walker is rewarded with fine coastal views and returning by the same route is no hardship.

Winter Twig Identification Workshop.....Sue Meades



Twig details of (1) butternut, (2) elm.

In January, we will be having a workshop on winter twig identification. Please feel free to bring along twigs (non-horticultural varieties please) if you would like. The following diagram and information may help beginners to prepare for this workshop. Definitions of the terms are given after the list of key-characters. A hand lens is usually needed to see all the features of the twigs. Key-characters which you may need to observe to make a proper identification include:

twigs:
- number of leaf scars and buds per node (including whether alternate, opposite or whorled),
- shape of twig in cross-section (rounded or 4-angled),
- colour and texture of bark,
- presence or absence of hairs, thorns, bristles etc.,
- presence or absence of lenticels.

buds:
- presence or absence of true terminal bud,
- shape of buds (rounded versus pointed, stout or elongate,
- are buds scaly or naked?
- are buds sessile or stalked?
- arrangement of scales (imbricate versus valvate),
- colour of bud scales.

leaf scars:
- shape of leaf scars (narrowly U-shaped or shield shaped),
- number and arrangement of bundle traces,
- presence or absence of stipule scars,
- shape of stipule scars.

pith:
- shape of pith in cross-section (rounded versus star-shaped),
- condition of pith in longitudinal section (continuous versus chambered or spongy),
- colour of pith.

GLOSSARY

alternate - with one leaf, leaf scar or bud at each node.
axil - the angle above a leaf; the point above a leaf scar.
axillary - positioned in the axil.
bud - the overwintering growing tip of a branch. Usually, the bud occurs at each leaf axil.
bud scales - modified leaves or stipules protecting the inner parts of the bud. Bud scales are usually small and hard.
bundle traces or scars - the points (dots) on a leaf scar where the vascular traces passed from the stem into the leaf. The number and relative position of bundle scars (or bundle traces) is constant for a given species.
chambered pith - pith with cavities separated by thin layers of tissue.
continuous pith - pith unbroken by spaces; solid.
imbricate scales - bud scales overlapping like shingles.
internode - the part of a stem between two nodes.
lateral bud - the side buds, located along the twig.
leaf scar - scars located on the twig where leaves were attached. The size, shape and arrangement of leaf scars are among the most important winter characteristics to observe.
lenticels - wart-like dots or short lines breaking through the bark of most young twigs.
naked bud - a bud without scales. The growing tip of the bud is surrounded by the thickened first pair of leaves.
node - the point of leaf attachment on stem or twig.
opposite - with two leaves, leaf scars or buds at each node.
pith - the central, soft part of a woody stem.
scabrous - rough to the touch.
sessile buds - not stalked, buds situated adjacent to leaf scars.
spongy pith - porous, like a sponge.
stipule scars - scars on the twig where stipules have fallen. These paired scars, located one on each side of a leaf scar, are usually small. However they may be of unequal size, or in some species, form a continuous ring

around the twig.

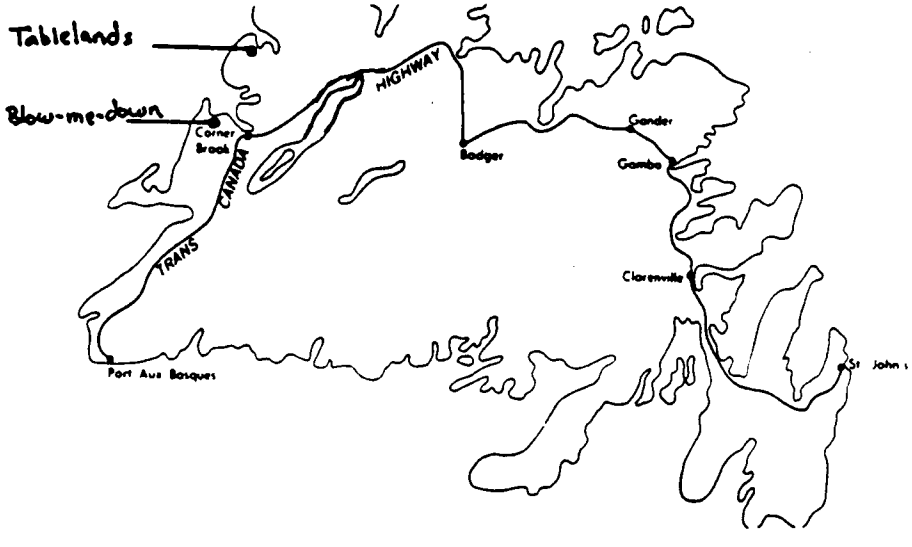
terminal bud - the bud at the terminal end of a twig. A true terminal bud is usually larger than the lateral buds and points straight upward. In species lacking terminal buds, one lateral bud may occupy the end position on the twig, but the bud will usually be bent slightly to one side, is of similar size to lower buds, and is subtended by the scar from the broken twig end. This is called a false or pseudo-terminal bud.

valvate scales - with two scales (or leaves) meeting along the edges, but not overlapping.

whorled - with three or more leaves, leaf scales or buds at each node.

There is a key available to identify 'winter twigs' in the book given below. This book is in the Petersen Field Guide series and can be purchased locally. The winter key starts on page 375. A Field Guide to Trees and Shrubs, 1972 (2nd. Edition), by George A, Petrides. Publishers, Houghton, Mifflin Company.

For the Love of Serpentine.....Todd Boland



Perhaps two of the most scenic areas on the island are the Blow-Me-Downs near Frenchman's Cove and the Tablelands near Trout River. However, besides scenery, these two areas also offer a unique assortment of relatively rare wildflowers.

The reason for the unique wildflowers in these regions is the underlying rock, which consists of serpentine. Serpentine and its resulting soil often have toxic concentrations of magnesium, chromium and nickel. As a result, serpentine regions are characterized by their sparse plant cover, often under 10 %. Since serpentine soils are toxic, only limited species of plants can survive there, and those species are often endemic or are disjuncts which occur over vast distances, yet only on a

serpentine substrate.

This past July, I was able to visit these two areas, and I was quite surprised by what I found. The first region I visited was the Blow-Me-Downs (not to be confused with the Blow-Me-Down Provincial Park, whose mountains do not contain much serpentine). The first striking feature was the extensive White Pine forest. Pines, as a rule, are quite rare on the island. Those growing along the base of the Blow-Me-Downs were just barely surviving. They looked like huge Japanese Bonsai.

For a serpentine region, the plant cover there was quite extensive. The area contained many typical barren species, such as Labrador Tea, Ledum groenlandicum, Sheep Laurel, Kalmia angustifolia, and Blueberry, Vaccinium angustifolium. However, common ferns on the Avalon; the Cinnamon and Woodland Fern, were replaced by Royal Fern, Osmunda regalis and Maidenhair Fern, Adiantum pedatum var. aleuticum. This latter species was the only serpentine endemic I found in this region.

There is a trail leading to the base of the Blow-Me-Down, but over the years, it has become quite rough in places. Undaunted, I decided to take the trail anyway. Along the trail I saw some typical limestone plants such as the Marsh Marigold, Caltha palustris, Anemone parviflora, Erigeron hyssopifolius (a type of fleabane), Senecio pauperculus and the Mayflower, Epigeae repens. Other common species included the Blue Flag, Iris versicolor, the Pink Lady's Slipper, Cypripedium acaule, the Harebell, Campanula rotundifolia, and the Shrubby Cinquefoil, Potentilla fruticosa. One rarity I saw was our only species of Indian Paintbrush, Castilleja septentrionalis.

About 2 km. along the trail is a beautiful river gorge, carved from limestone. The water in the river was the most intense blue-green colour and exceptionally clear. Here grew the Interrupted Fern, Osmunda claytoniana and the Golden Ragwort, Senecio aureus.

From here I said goodbye to the Blow-Me-Downs, and started my trip to the Tablelands via Cowhead and the Arches Provincial Park. The plants I saw in these latter two areas will be the subject of a later article. Compared to the Blow-Me-Downs, the Tablelands were like being in another world. When first seeing the Tablelands, you are reminded of a moonscape or perhaps a section of the desert in Arizona. From a distance the area appears to be devoid of plants. However, on closer inspection, you can find many wildflower treasures.

Prior to arriving at the Tablelands, I had spent three cool days in the Cow Head area. I expected the weather to be quite cool in the Tablelands, simply due to their height. However, by the time I reached there, the sun was splitting the rocks (no pun intended) and the air temperature was 25 C. Meanwhile, I was in jeans and a sweatshirt. I thought I was going to die of heat exhaustion. Luckily there was a changing facility nearby, where I could change into shorts and a t-shirt.

The trail along the base of the Tablelands is much better developed, mostly because the region is part of Gros Morne

National Park. Many of the species found here are those typical of serpentine. Such species include Arenaria humifusa, A. rubella, A. marsescens, Cerastium terrae-novae, Lychnis alpina and the Maidenhair fern, Adiantum pedatum var. aleuticum. Also scattered throughout the area are the beautiful Rhododendron lapponicum.

Other species found here are limestone lovers with a wide tolerance level for serpentine. These include Tofieldia pusilla, Senecio pauperculus, Primula egalksensis, Armeria labradorica, Anemone parviflora, Erigeron hyssopifolius, Arenaria dawsonensis, Cerastium beeringianum and Silene acaulis.

Other common species found here are Potentilla fruticosa, Osmunda regalis and very robust plants of Campanula rotundifolia. Most bizarre were the Pitcher Plants, Sarracenia purpurea, growing in the rocky serpentine talus, rather than in a typical bog.

My July trip to the west coast brought me a far south as the Port-au-Port, and as far north as the Arches Provincial Park. Most of this region contains calcareous plant species (limestone lovers). However, the most unique and perhaps rare plants, are those of the serpentine regions. For anyone travelling to the west coast, I strongly recommend you visit the Tablelands and the Blow-Me-Downs. You won't be disappointed.

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

This autumn has been quite unusual even given that we have no 'usual' weather on our fair isle. In early September I noticed that many of the plants in the garden had taken a second lease on the growing season. The chives had a new crop of leaves, the roses sent up new stems, and the leaves continued green. Beyond the fences our native plants were not so foolish. Many of them took their time in ripening their seeds but they prepared for the dormant season.

The beginning of winter and the dormancy of plants does not have to mean the conclusion of our observation and enjoyment of native plants. Crisp winter days can be wonderful for walks through forest paths and along the route there are twigs which can be examined and identified there or at home by a roaring fire. Other clues to a shrub or tree's identity are often present in the form of fruit or clinging leaves. During the summer, a woody plant will produce branches with their leaves and flowers followed by dry or fleshy fruit. In the axils of the leaves (an axil is the angle between the petiole of the leaf and the branchwhere it attaches), buds are formed which will sometimes develop into flowers that season or the next or, more often, they overwinter and produce branches during the next growing season. Buds are dormant miniature branches enclosed in bud scales which are hard, modified leaves that protect the tender shoot from damage and dessication. The buds usually develop in late summer and then become dormant. The development of bud dormancy often

occurs as the leaves turn colour. As autumn approaches, the starch (storage material - ie. the plant's fat), chlorophyll, and other important substances are transported to the young parts of the plant - the new branches. The brilliant fall leaf colours are partly due to the unmasking of the yellow and orange pigments as the chlorophyll is lost. The bright red colours are due to an accumulation of red pigments which is favoured by bright, clear days and lower temperatures. Short days and/or lower temperature bring on the end of the leaves on trees.

In the winter, twigs can be used for identification. You can use the Peterson Field Guide to Trees and Shrubs by Petrides. The important characteristics to notice are the arrangement of the buds (are they in pairs opposite each other or scattered in a loose spiral along the stem?), the shape of the buds, the number of bud scales (willows have just one bud scale), the colour of the twig, and other features mentioned in the field guide. Another interesting thing about twigs is their lenticels. These are the 'specks' on the bark which are, in fact, spongy corks which plug holes in the bark so that air can get into the cells that are alive in the stem.

In addition to enjoying our wild flowers we must also think this winter about how we can best preserve them. The countryside is being churned by all-terrain vehicles of all descriptions. Special places are being harmed. We have a responsibility to future generations.

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

At Memorial University Botanical Garden, hardly a day goes by without a request from one of our visitors for some kind of gardening or nature information. The range of inquiries are diverse and sometimes daunting, as is the case when we are presented with a mysterious slip, section or sample of botanical origin and called upon to deliver a speedy and accurate identification. Often, we are limited to a mere verbal description, which in some cases, does not prove to be extremely helpful (i.e. "What's that plant that you see EVERYWHERE, you know, it's green, and has lots of leaves, and the flower is really pretty?")

But regardless of what we have to work on, there are a number of books, which we have grown to depend on as excellent sources of reference. Of course we have such volumes as Taxonomy of Vascular Plants by George H. M. Lawrence and Gray's Manual of Botany. However many people, especially those just learning about wildflowers, find these volumes somewhat intimidating, and are much more at ease browsing through the familiar field guides.

Any wildflower field guide pertinent to our area can be used. Most bookstores offer a limited variety of them, as do many bookclubs. At the Botanical Garden, A Field Guide to Wildflowers of Northeastern and Northcentral North America by Roger Tory Peterson and Margaret McKenny is a popular book. Here

plants are not arranged in the traditional order of their relationship. Instead, flowers are arranged according to color, form, and detail, therefore enabling even the most amateur botanist to recognize most flowers seen. Newcomb's Wildflower Guide by Lawrence Newcomb is another useful guide. Although its key system differs from Peterson's guide, it also relies on visual clues that are easily recognizable.

Because these or any other field guides include flora not common to our area, the use of Rouleau's List of Newfoundland Plants by Ernest Rouleau in conjunction with a field guide, is helpful when narrowing down the list of possible species. This comprehensive list of the plants of Newfoundland, Labrador, and the islands of St. Pierre and Miquelon includes both the scientific and common names, and indicates whether a species is native or introduced to the area. This publication can only be purchased from the Botanical Garden.

Native Trees and Shrubs of Newfoundland and Labrador by A. Glen Ryan, is available only through Provincial Parks, Department of Environment and Land. Not only is this book available free of charge, but it is an excellent source of reference for any information required on the trees and shrubs indigenous to the province.

For those of you looking for a little more than just an identification guide, there are dozens of interesting and beautifully illustrated books dealing with all aspects of botany. Some of these titles include; Canadian Wildflowers Through the Seasons by Mary Ferguson and Richard M. Saunders, 'And Some Brought Flowers' by Mary Downie and Mary Hamilton, and Atlantic Wildflowers by Dianne Griffen. A particular favorite of mine is A Guide to Enjoying Wildflowers by Donald and Lillian Stokes, which is part of a series of unusual nature guides that extend far beyond basic field identification information.

This discussion would not be complete without including Dr. Peter Scott's popular and informative Edible Fruits and Herbs of Newfoundland. Through use of drawings, and discussions of the natural history, physical characteristics, as well as food preparation techniques, we become familiar with many common edible plants.

Those visitors to the Botanical Garden specifically interested in wildflowers are often disappointed to discover that a Newfoundland Wildflower book does not exist. In an attempt somewhat to satisfy the demand for such a volume, the Garden will be offering a booklet entitled Wildflowers of Memorial University Botanical Garden. This guide will present a variety of the more common wildflowers found in the Botanical Garden and is to be arranged according to the season they are in bloom. In addition, a detailed list of wildflower references will also be provided. This first volume will include approximately 30 species, with hopes that later additions will expand to encompass more and more species. If all plans go according to schedule, the Wildflower booklet should be available in time for spring and another season of wildflower walks at the Botanical Garden.

Thoughts from the editor.....Janet Craske

I received two suggestions to name this newsletter. Our President tells me that a magazine 'Borealis' already exists, furthmore, it has been pointed out that we are not so far north: it just feels that way. As a result, I have taken the second proposal and used the name 'Sarracenia'. As the pitcher plant Sarracenia purpurea is the floral emblem of Newfoundland this seems most appropriate. Many thanks to Sue Meades for the delightful illustration of this plant which accompanies the new title.

I did not realise that one of the chores of editorship was to check behind the screen door in order to retrieve deposited articles, but on ~~this occa~~sion it was necessary! I thank all those people who gave me articles and news for this edition. Having read it thoroughly, I am now ready, armed with magnifying glass and knife, to identify all the native bushes around my house.

I find that I am lacking in information about the various Government Departments (both Provincial and Federal) that have some jurisdiction over, or conduct programmes that have any bearing upon our interests in wildflower conservation. Is there anyone who could help me? My number is 895-2071.

The deadline for the spring 'Sarracenia' is February 23rd. As you while away the winter hours consider penning a few thoughts to fill the blank pages of our next newsletter.

Society Meetings.....Organized by Sue Meades

January 15th.....Winter Botany Workshop
February 19th.....Flowers of Alberta: a talk by Todd 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

The Problem of the day for Meetings.

This seems to be a constant problem for societies. In this tiny questionaire, assume a choice of four days, Monday, Tuesday, Wednesday or Thursday. **Please phone your choices to Janet Craske, 895-2071.**

Impossible Days_____

Best Day_____