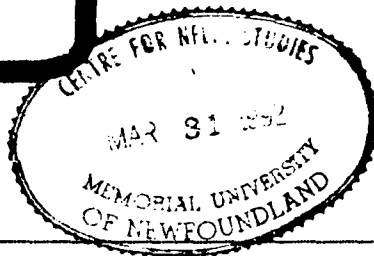


SARRACENIA

Newsletter of the Canadian
Wildflower Society,
Newfoundland Chapter.



Spring 1992

Society Meetings.....Organized by Gordon Ringius

Meetings are held at 8.00 p.m. on the first Wednesday of each month, in room S-3125A, Science Building, M.U.N. The next three meetings listed below will be followed, we hope, by summer and a programme of walks.

Please note that changes have been made, to the order of the talks, from that listed in the winter Sarracenia.

The May meeting is the Annual General Meeting. Nominations are welcome and needed, and should be given to Anne-Marie Madden Tel: 737-8590.

April 1, 1992.

Speaker: Bruce Roberts, Forestry Canada, St. John's, NF.
Title: Rare and Unusual Plants of Newfoundland.

May 6, 1992. Annual General Meeting.

Speaker: Peter Scott, CWS, Biology Department, M.U.N.
Title: Workshop on the Rose Family.

June 3, 1992.

Speaker: Sue Meades, CWS, Torbay, NF.
Title: The Fern World.

Speaker: Todd Boland, CWS, St. John's, NF.
Title: Orchid Platter.

Pteridology Terminology (Fern Words).....Sue Meades

At our June meeting, we will be discussing identification of ferns. To help beginners feel more comfortable with this topic, some basic facts and definitions are presented here.

The portion of fern plants that we see are the leaves, or more correctly, the **fronds**. Typically, fern fronds grow from **rhizomes**, special stems growing near or below the ground. Fern fronds can be of two types: vegetative (sterile) or fertile. When we want to identify a fern, it is important to have a fertile frond. Some species of ferns have vegetative and fertile fronds that look identical, like the Lady Fern (*Athyrium felix-femina*). This type of fern is said to have **monomorphic fronds**, that is, it has one morphologic form. Ferns with two different types of fronds are called **dimorphic**. An example of a fern with dimorphic fronds is the Cinnamon Fern (*Osmunda cinnamomea*). The cinnamon brown "spike" growing from the center of this fern is the greatly modified ~~fertile~~ frond.

Fern fronds can be divided in a number of ways. The number of times a frond is divided is a characteristic of the species. Fronds that are divided once are called **pinnate**, fronds that are divided twice are **bi-pinnate**, and fronds that are divided three times are called **tri-pinnate**. Each first subdivision of a frond is called a **pinnae** and further subdivisions are referred to as **pinnules**. The central axis of the frond is called the **rachis** and the stalk of the frond (beneath the "leafy" portions) is called the **stipe**.

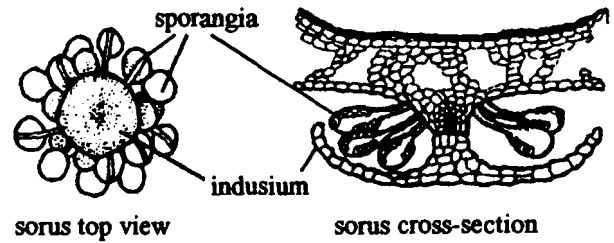
As you may remember, ferns are vascular plants, but they belong to the Pteridophyta (ferns and fern-allies) rather than the Spermatophyta (seed plants). They do not form seeds, but reproduce by spores. The spores are formed in sporangia which are located in clusters called **sori**, (singular - **sorus**) on the undersurface of the frond. A sorus without an indusium is referred to as a naked sorus. Some people refer to sori as fruit dots. Sometimes there is a sterile flap of tissue, called an **indusium**, partially covering the cluster of sporangia. A sorus without an indusium is referred to as a naked sorus. Indusia can occur in many different shapes: circular, horseshoe-shaped, crescent-shaped, or straight flaps attached at one side to the frond. Some species of ferns, like the Bracken Fern (*Pteridium aquilinum*), have the edge of the frond curved over the sori.

There are approximately 40 species of ferns in insular Newfoundland. In June we will learn to key and identify some of the more common ones.

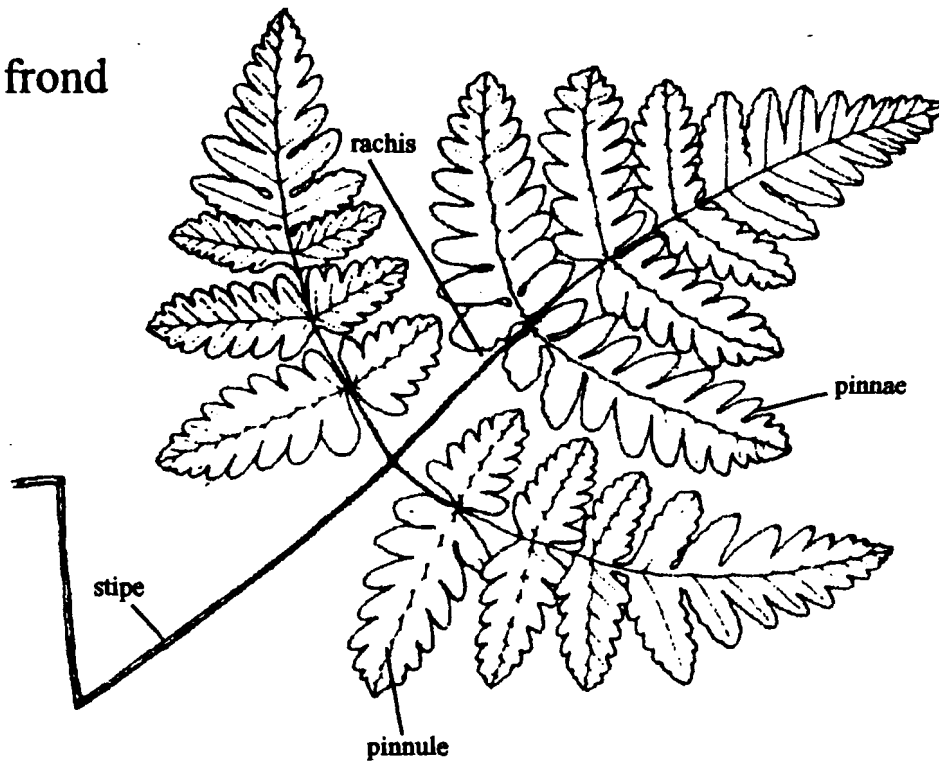
When identifying ferns, the most important characters to note are:

1. the shape and size of the frond.
2. the number of times the frond is divided.
3. the position of the sori and the type of indusium (if any).

sorus views



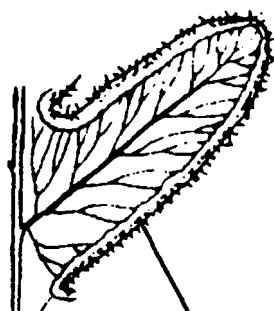
fern frond



indusium types



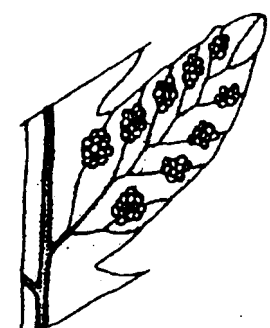
crescent shaped



incurved edge



kidney shaped



naked sori

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

Throughout the winter we get lovely days which are quite Spring-like but we are upon the threshold of many more such days. Newfoundland is the land of a thousand Springs - and not really many of them worth talking about.

Our first plant to bloom each Spring is usually the Crowberry so when you are out walking keep alert and please let me know what you find.

Another early bloomer which is wonderful in the St. John's area and elsewhere is the Cuckoo Flower, Ladies' Smock, or Bungalow-apron (*Cardamine pratensis*). This is a biennial species which forms a rosette during the first year and flowers and produces seed the second. It usually grows in damp or wet places like ditches. The leaves are quite dainty in appearance with their small Jacob's Ladder-like shape. The terminal leaflet is always broader than the others. The flowers, which have four petals and six stamens (typical of the Mustard Family, Cruciferae) are pale mauve and quite showy. The fruit is long and slender and of the type known as siliques and typical of the family. Siliques consist of three parts: a frame with a membrane stretched over it and the seeds attached along the the frame on both sides of the membrane, and two covers that attach all around to the frame. Silver Dollars are also siliques. The dispersal of the seed is violent. The covers become detached at the base first. They roll up rapidly towards the tip and as they do the seeds are torn off and flung outwards. Rain or nearby water disperse the seeds farther.

This summer, and we all hope that there is one this year, might be spent at the beach. That is a good place to look at plants. Most of the plants on our beaches are strand plants. They are found on beaches by the sea and have seeds that can float in salt water to new areas. One example is Sea Lungwort. It is found on the rocky beaches of northern Europe and Greenland. In North America, it is found on the shores of the Arctic Ocean and Bering Sea and it extends as far south as Vancouver on the west and Massachusetts on the east. Some strand plants, like the Beach Pea, also occur on the shores of inland waters but Sea Lungwort is restricted to seaside beaches and it is dispersed by sea. Salt water is very damaging to plants because it tends to dehydrate plant tissue but Sea Lungwort has equipped its seeds for sea travel by providing them with a hard waxy coat and a corky layer which makes them buoyant. They can float off to a distant bay and become established on the beach. The ancestors of cotton were similar sorts of plants and they covered their seeds with hairs which helped them float.

Sea Lungwort spreads over the rocks on many of our beaches

and can often form quite large patches by the end of summer. Its leaves are covered with small flakes of wax exuded by the leaf and this is what gives the whitened appearance which makes the leaves blend in with the rocks. The clusters of small bell-like flowers at the ends of the branches show an interesting colour change which is also found in several other plants of this family (Boraginaceae - Borage Family). The flowers are rose-pink when they open but with age they turn blue. This provides contrast of colour which is better for attracting insect pollinators. This is also seen in its relatives, Forget-me-nots (*Myosotis spp.*) and Soldiers-and-Sailors (*Pulmonaria officinalis L.*).

Earlier in the year before you find these strand plants there will be lots of seaweeds and other objects thrown up on the beach.

Enjoy

Introductory Botany: Liliaceae - the Lily Family

..... by Todd Boland

The Lily Family is a relatively small plant family in Newfoundland. Being members of the Monocotyledonae, they have features typical of monocots, which include parallel leaf veins and flower parts in multiples of three. Most Liliaceae have three petals and three petaloid sepals which look similar to the petals. Collectively, the petals and sepals may be referred to as tepals. There are generally six stamens and a central pistil. The ovary consists of three locules or chambers. When mature, the ovary forms a berry or a capsule. The flowers are hypogynous, i.e. the tepals are attached to the flower stem below the ovary. In Newfoundland, all the Liliaceae are herbaceous plants.

There are two local Liliaceae which are exceptions to the above description of the family. Our native nodding trillium, *Trillium cernuum*, has three whitish petals, but the sepals are green and not very petal-like in nature. The other exception is the wild lily-of-the-valley, *Maianthemum canadense*, which has four tepals and four anthers, rather than the typical six.

Newfoundland contains 10 native species which belong to the Lily Family. These belong to the following genera: *Trillium* (1sp.), *Clintonia* (1 sp.), *Tofieldia* (2 spp.), *Smilacina* (3 spp.), *Maianthemum* (1 sp.) and *Streptopus* (2 spp.). Local introductions and escapees include solomon's-seal, daylily, chives, star-of-Bethlehem and lily-of-the-valley.

Wild lily-of-the-valley, *Maianthemum*, cornlily, *Clintonia*, and false solomon's -seal, *Smilacina*, are common throughout the island. The remaining species are rare or absent on the Avalon, being more common in central and most especially, the west coast

of the island.

Native Liliaceae are excellent subjects for the wildflower garden, assuming their particular growing requirements are met. Most prefer shady locations with damp peaty soil. All transplant fairly readily and do possess attractive, if somewhat small, flowers.

Medical Notes on Newfoundland Plants.....J.K. Crellin

2. "Juniper".

Many references exist in the Newfoundland oral tradition to "juniper", "ground juniper" and "juniper bushes". Difficulty in interpreting the exact botanical source often exists; in Newfoundland, "juniper" generally refers to what is usually known elsewhere as tamarack or larch (*Larix laricina*), but is also covers *Juniperus communis* (often known as "ground juniper") and *J. horizontalis* (the trailing juniper).

Most Newfoundland recommendations for employing "juniper" are in line with long-standing information in professional and popular medical writings on *J. communis*, namely for treating kidney and bladder troubles, stomach disorders, and use as an abortifacient and emmenagogue (that is to induce or regulate menstruation). Both the tops and berries (especially the latter) of *J. communis* have a long history as a diuretic and a carminative ("to settle the stomach").

A measure of the general popularity of juniper is perhaps, reflected in a Newfoundland suggestion of using a sugared tea of juniper from a baby's bottle for infant colic. The carminative action may also account for one Newfoundland suggestion that the berries (steeped to make a tea) are useful for diarrhoea. However, an astringent (or binding action) is perhaps more likely as an explanation: this, too, may account for the suggestion that chewing the inner bark of juniper tops relieves a sore mouth, though stimulating the flow of saliva may have been at play.

Some Newfoundland references to juniper branches and "juniper tree roots" for treating coughs and colds probably refer to larch. Although this tree had hardly featured in regular medicine, it was noted in such writings as *Dr. Chase's Recipes*, once a popular book in Newfoundland. It is noteworthy that fir, spruce and pine trees (albeit the needles rather than roots) have been widely recommended in medical writings for coughs and colds. A juniper salve (prepared from the inside of the bark of the larch, and perhaps mixed with vaseline) is reported in Newfoundland to have been employed for frostbite and sores.

The concept of purifying the blood also enters the story

of juniper: it partly justifies usage as a tonic (sometimes specified as a spring tonic), but also employment of roots and branches, inner bark and, possibly, berries (as a decoction or tea taken internally) for boils or "risings". For the latter, it probably made no difference which juniper--*Larix* or *Juniperus*--was used.

An important consideration about juniper--certainly if it is used over considerable periods of time, say for backache or pre-menstrual tension as advocated by some modern herbalists--is that it (at least, the juniper oil present) can have toxic effects on the kidney. For those committed to herbal remedies there are many safer items than juniper.

Report from the Botanical Garden: Winter is for the birds

.....Anne Marie Madden

One of the nice things about working at a botanical garden during the winter time, is that you can immerse yourself in any number of activities that immediately bring back the sights, smells, and even sounds of the long-awaited summer. Scanning photos of butterflies to be included in an exhibit, planting seeds in the greenhouse that eventually will be part of my herb display, or arranging upcoming workshops, exhibits and nature walks for the 1992 season, are all a constant reminder that spring is on the way and that winter does not last forever, even here in St. John's.

Ironically, the best way I find to shake the winter blues, is to don full winter apparel (sometimes including snowshoes), step out into the snow, and trudge along the trails to our many birdfeeders. Rain or shine, the birds are fed at the Botanical Garden every day, from September to June. Not only is a peaceful walk through the woods a wonderful way to start any day, but the many discoveries made along the trail serve as a reward for my efforts. For you see, the variety of birds visiting the feeders are not the only wildlife I run into. Snowshoe hare are evident throughout the winter season, as are the squirrels, the ruffed grouse, and even the occasional moose. Indeed, many small animals seem to follow my path from feeder to feeder, in search of a few tidbits.

As a botanical garden and nature reserve, we feed the birds because it is an excellent conservation practice. Supplying the overwintering birds with energy-rich food increases their chance of survival through the long, cold season. The birds in turn play a vital role in controlling the levels of insect pests and weed seeds present in the gardens. For anyone who has visited the Garden, you know that we are a nature reserve, where the use of pesticides and synthetic fertilizers is discouraged. Instead, by trying to maintain a healthy

environment around us, nature is often one of our best gardeners.

Throughout the winter months, we receive many calls at the Garden concerning wild birds and their feeding. Many are surprised at the large number of species that remain in our province during the cold winter months. And depending on where you live, you may get quite a variety at your feeder. Juncos, chickadees (boreal and black-capped), blue jays, pine siskins, evening grosbeaks, and the flicker are all commonly reported throughout the winter. Here at the Garden, the fox sparrow has taken up residence year round. Although it is now difficult to determine when these birds have officially returned in the spring, I must confess, hearing the song of this sparrow on a cold, drizzly day does cheer me up considerably.

For those of you interested in starting a feeder, we have an excellent pamphlet available for a small fee entitled: Backyard Birdfeeding written by the Garden's curator Mr. Bernard S. Jackson. Useful information on types of food, how much, and when to feed, are provided. Based on Mr. Jackson's observations here in Newfoundland, he also outlines exactly what each bird species will eat. For example, everyone knows that the blue jay loves sunflower seeds. But you can entice these birds to your feeder with broken dog biscuits, cracked corn, mixed table scraps, chopped fruit and vegetables, and of course beef suet and fat scraps.

Perhaps the most important point to remember when feeding the birds is that they do become dependent on you for their nutritional requirements. Therefore, do not start a feeder unless you plan to continue with the project throughout the entire winter. Once spring arrives, there will be a sufficient supply of natural food for them. Keep in mind, birds must take in enough food energy each day to enable them to survive our cold winter nights.

Many people are unaware that wildflowers play a vital role in feeding birds and other wild animals. Here at the Garden we observe the birds feeding on wildflower seeds and berries throughout the entire year. Goldenrod (*Solidago sp.*), cow vetch (*Vicia cracca*), clover (*Trifolium spp.*), wintercress (*Barbarea vulgaris*), and chickweed (*Stellaria sp.*) are just a few wildflowers which provide seeds for a variety of birds. Even the 'lowly' dandelion, is a highly valuable plant for wildlife. One of the earlier flowers to appear in the spring, the seeds of this much-maligned plant is a food source for the pine siskin, and white-throated sparrow. (And here at the Botanical Garden, eight species of butterflies have been recorded nectaring (feeding) on the dandelion flower).

Flowering trees and shrubs such as the alder and birch provide food for the common redpoll, pine siskin and ruffed

grouse, and of course many of the berry producing plants provide food during the fall. The berries of the *Amelanchier* (Chuckley pear), for example, are fed upon by black-capped chickadees, cedar waxwings, crows, evening grosbeaks, pine grosbeaks, blue Jays, robins, and the flicker, to name a few. Perhaps one of the most valuable shrubs for winter bird feeding is the dogberry (*Sorbus sp.*) The fruit persists on the trees through the winter, providing food for cedar waxwings, starlings, crows, grosbeaks and of course the robin. Anyone with a dogberry tree could not help but notice, this year, the large flocks of robins feeding on these berries. In competition with the robin is the pine grosbeak, who also feeds from the dogberry tree, but instead of swallowing the whole berry, it is only interested in the seed. This results in large red stains under every tree, where the grosbeak has 'spit out' the pulp.

The list of plants, both in the garden and the wild, which are food for the birds and other creatures does not end here. I realize my article has brushed only lightly on this topic, but if you would like to learn more, please call the Botanical Garden at 737-8590 or drop by and visit us this spring. I hope to have a birdfeeding exhibit ready for our display room when we open in May. We also have several birdfeeder plans available for those that want to try a hand at carpentry work. If you would like to become more familiar with the birds visiting your garden, Roger Burrows will be offering his Bird Identification course again this spring. And don't forget, the Sunday morning birdwatch led by Friend of the Garden, Dr. Howard Clase will continue again this season.

So, the next time you are on a wildflower walk, remember to keep an eye for the birds and other wildlife, which depend on plants not only for food, but for shelter and protection. And if you observe anything of interest, please let us know. We would love to hear from you!

The Wildflowers of Cape Freels.....by Todd Boland

Cape Freels is a small community located about 8 km from Wesleyville, Bonavista Bay. Most people driving along route 330 pass by the side road which leads to Cape Freels. This is unfortunate since this cape is one of the most beautiful places along the island's East Coast.

Cape Freels originally consisted of two communities; the Cape Freels which exists today and Cape Island, whose residents were relocated to Cape Freels during the 1940's and 1950's. The area described in this article is Cape Island.

Although called Cape Island, this area is really a point of land surrounded on three sides by the ocean. The island is

connected to the mainland by a enlarged sandbar whose center contains a large brackish pond. This sandbar is rarely inundated by the ocean, except during very severe winter storms. The area is of interest since it is one of the few areas on the island which has active sand-dunes. Indeed, immediately south of Cape Island is a three mile beach containing some of the finest sand found on the island. Also of interest, is the large salt-marsh located between the island and the mainland.

Cape Freels is a birders paradise. The cape is on the southern migration route of many arctic-breeding shorebirds. The Funk Island and many other islands are nearby, thus the ocean is alive with many seabirds. Ducks by the hundreds visit the area in autumn. It is also one of the few areas where one can find the endangered Piping Plover. In addition, the cape contains the easternmost colony of Bank Swallows found on the island.

Much of Cape Island is marshy and totally barren. The few trees which do grow there are tuckamoor. The most common vegetation is ericaceous shrubs, and bakeapple is especially common. The northernmost point of the island is rocky barrens while the remaining shorelines are occupied by sandy-peaty headlands.

There are five major vegetation areas on Cape Island. The map shows roughly where they are located.

Area 1 is mostly sand-dunes. Besides many beach-grass species, other typical wildflowers include beach-head iris, *Iris hookeri*, silverweed, *Potentilla anserina*, oysterleaf, *Mertensia maritima*, sea-rocket, *Cakile eduntula*, sand-spurrey, *Spergularia* spp. and beach-pea, *Lathyrus maritimus*.

Area 2 is the rocky barrens of the northern point. This area is rich in Labrador tea, *Ledum groenlandicum*, alpine bilberry, *Vaccinium uliginosum*, partridge-berry, *V. vitis-idaea*, three-toothed cinquefoil, *Potentilla tridentata*, black crowberry, *Empetrum nigrum* and most surprisingly, alpine bearberry, *Arctostaphylos alpina*.

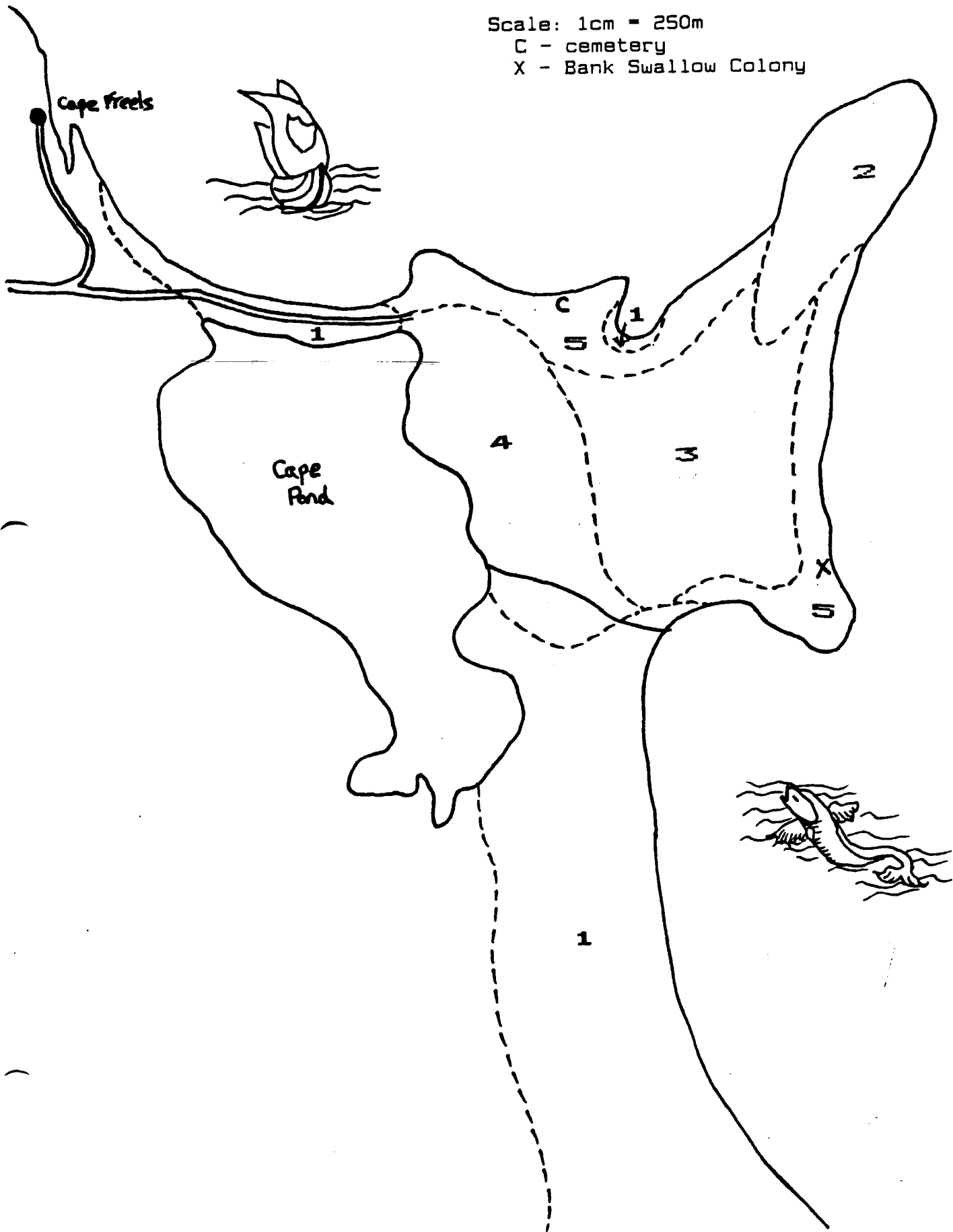
Area 3 contains peaty bogs and barrens. Some of this area was cultivated by the residents of Cape Island. The furrows of the vegetable patches are still visible. Here also, were most of the houses of Cape Island. Outlines of the houses can still be seen, and curiously, large clumps of raspberry now grow on these sites. An old graveyard is located in this area, with headstones dating back to the early 1800's. Most of the wildflowers there are ericaceous shrubs and bakeapple, *Rubus chamaemorus*. Around the house sites and the graveyard are several typical perennial "weed" species such as yarrow, buttercup, dock and hawkweed. Fireweed, *Epilobium angustifolium* and goldenrod, *Solidago rugosa* grow in sheltered sites.

Cape Freels

Scale: 1cm = 250m

C - cemetery

X - Bank Swallow Colony



Area 4 is a large salt-marsh. The most conspicuous wildflowers are the beach-head iris, blue flag iris, *Iris versicolor*, New York aster, *Aster novi-belgii*, bog aster, *A. nemoralis*, northern St. John's wort, *Hypericum boreale*, marsh felwort, *Lomatogonium rotatum*, hooded lady's tresses, *Spiranthes romanzoffiana*, swamp rose, *Rosa nitida*, scotch-lovage, *Ligusticum scoticum* and northern rattle-box, *Rhinanthus borealis*. The edges of the marsh are occupied by purple-stemmed aster, *Aster puniceus*, goldenrod and wild rose, *Rosa virginiana*. A few stunted dogberry trees also grow along the north-eastern corner of the marsh.

The last area, area 5, are the peaty headland which are mostly found along the eastern side of the island. The underlying soil is a mixture of peat and wind-blown sand. The area is often exposed to salt-spray during storms. Common wildflowers are the beach-head iris, starry solomon's-seal, *Smilacina stellata*, harebell, *Campanula rotundifolia*, scotch-lovage, seaside plantain, *Plantago oliganthos* and northern rattle-box. In one isolated location, there is an area of Canada thistle, *Cirsium arvense*, tall buttercup, *Ranunculus acris* and wild strawberry, *Fragaria virginiana*. While these flowers seem out of place, this site also contains a large number of pale violets, *Viola pallens* and bird's-eye primrose, *Primula laurentiana*. This area of primrose is unique since elsewhere on the island, *P. laurentiana* is restricted to limestone regions of the island's west coast. Incidentally, this isolated area is where the bank swallow colony is located. Could there be a connection?

Cape Freels is rich in many species of wildflowers. Mentioned here are only a few of the more interesting or conspicuous species. I strongly recommend wildflower enthusiasts to visit this area of the island; you won't be disappointed.

Notes from the Editor.....Janet Craske

Thanks to all the people whose names you see here, another edition of *Sarracenia* has emerged. My only mishap was when I received that dreadful message from my computer, "data may be damaged on disc in drive A". I was then presented with half an article. However, I managed to get cooperation from the machine and persuaded it to give me a complete version.

I asked a member of our society, Robert Simpson, of Stephens City, VA, how he came to hear of us. He replied by sending me a leaflet which I quote below. As we survey the snow of spring, it is interesting to read about Newfoundland from another point of view. Rob Simpson and his wife Melissa led an Audubon Naturalist Society trip to Newfoundland last summer....

"Imagine yourself walking across a flower-filled meadow

perched two hundred feet the Atlantic Ocean. You hear the pounding of surf below you, and then the rocky cliffside comes into view. At the top of the rocky wall are ten thousand gannets, crowded together in a nesting colony. Common murrelets, black-legged kittiwakes, and other species also cling to the rocks. Salty scents and seabird squawks fill the air.

This is the early summer scene at Cape St. Mary's, Newfoundland. This great Canadian island province on the Atlantic coast is the site of an exciting natural history foray. Join us and explore the boreal forests, flower-filled bogs, rugged mountains, and scenic coastline of Newfoundland. We'll visit each of these habitats and others taking time to enjoy wildflowers, wildlife, and the unique natural and human history of this beautiful island.

Our foray begins in St. John's in southeastern Newfoundland. We'll explore the Avalon Peninsula, including a boat trip to the Witless Bay Seabird Sanctuary, site of North America's largest colony of nesting Atlantic puffins. We could also see razorbills, murrelets, whales and dolphins. We'll head west across the island, visiting Terra Nova and Gros Morne National Parks, searching for orchids, northern ferns, and other unusual plants in the bogs and forests of interior Newfoundland. A hike up to the tundra habitat on the summit of Gros Morne, home of ptarmigans and rare plants, is an option.

We'll head north to the very tip of the island near the town of St. Anthony. Near here is L'Anse Aux Meadows National Park, site of an ancient Viking settlement. At Cape Norman we'll look for rare orchids and other wildflowers as we watch shearwaters and other birds moving through the Strait of Belle Isle."

....maybe our society should take such a trip some day....

Back to the present: the next edition of Sarracenia is due out in June, and all contributions are most welcome. Please let us hear from you. Janet Craske 895-2071 or Mary Woodruff 738-3001

NOTICES

Price Rise: The carparks 15B and 15C adjacent to the Music Building, now cost \$1.00 to use after 4.00 pm.

With a small society, such as ours, all our resources are needed to implement interesting events. Have you any ideas about talks, workshops, or walks that we might do? Do you know of anyone that has a field of interest to do with wildflowers? Do you have an especial interest, or knowledge that could benefit the society?

Please let one of us know. Sue Meades, Pres. 335-2669, Peter Scott, Sec. 739-1450, Janet Craske, Treas. 895-2071, Anne Marie Madden 737-8590, Gordon Ringius, 739-7651, Mary Woodruff, 738-3001, Todd Boland, 753-6027, or Judith Quigley 726-0244.