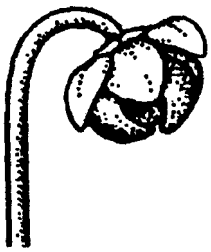
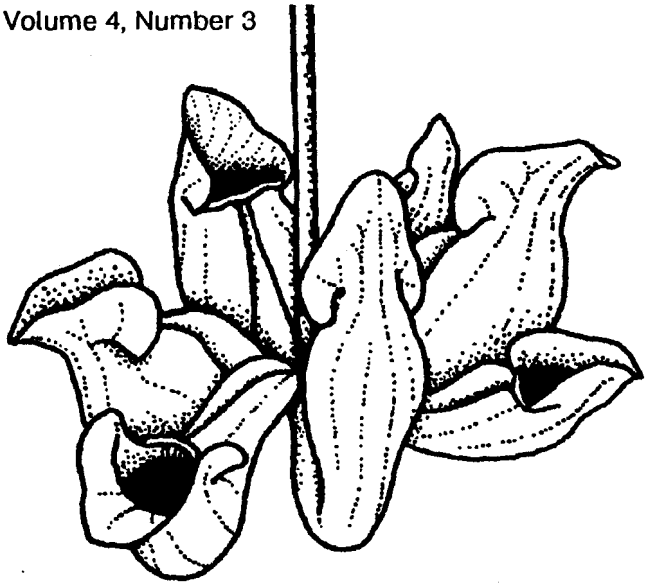


SARRACENIA

Newsletter of the Canadian Wildflower Society - Newfoundland Chapter
Volume 4, Number 3 Summer 1994



Contents

1994 Field Schedule

June 12: Hawke Hills

leaders: Sue & Bill Meades.

A hike on the Hawke Hills to see some arctic-alpine species, including diapensia, alpine azalea, and alpine bearberry. Meet 2 p.m., Arts & Culture parking lot.

July 10: Cape Spear

leader: Todd Boland.

A walk through Cape Spear Historical Park, the eastern most point in North America, to see some coastal species. Meet 2 p.m., Arts & Culture parking lot.

August 7: Seal Cove

leader: Sue Meades.

A return visit to this floodplain site to view the stream marshes, cut-overs, and peatlands. Among the species we will see are creeping dogbane, bush honeysuckle, and winterberry. Meet 10 a.m., Arts & Culture parking lot; bring rubber boots and a bag lunch.

August 16-20: Northern Peninsula

leaders: Sue Meades, Todd Boland, and Henry Mann.

For more info on this 4-day trip, see page 18.

September 5: Annual Barbecue and hike

leaders: Sue and Bill Meades.

Our annual get-together on Labor Day will include a hike up the berryground hills behind Pouch Cove. Bringa pot-luck dish and a container for blueberries and partridgeberries. Meet 2 p.m., Sue & Bill's place in Flatrock.

Election Results

During our annual general meeting in June, the following members were elected to the 1994-95 executive. Each board member will have a list of people to call regarding schedule changes, etc. If you need information about dates or times of meetings or trips, telephone numbers for the board members are provided below:

Sue Meades, president	335-2669
Tom Smith, secretary	754-0949
Alice Close, treasurer	579-1474
Todd Boland.	753-6027
Howard Clase	753-6415
Caroline Harley	895-2606
Jane Smith.	754-0949

Ken Knowles has retired from the board (at least for this year) and Howard Clase will be filling his position. Many thanks to Ken for his several years of organizational work and excellent suggestions. Also, since Jane Smith shares so much of Tom's responsibilities in our society, we have persuaded her to fill Anne-Marie's vacancy. Welcome to our new board members.

!!! Notice - Annual Dues !!!

Dues for the upcoming year are now payable. Our organizational year is June to May, thus dues are payable in May for the upcoming season. For those members who have yet to pay their dues, please send your $10.00 fee (and correct address) payable to:

Newfoundland Chapter,
Canadian Wildflower Society
c/o Dr. Tom Smith
10 Beech Place
St. John's, Newfoundland
A1B 2S7

Newsletter Information

Any member who would like to write an article for the newsletter or submit a black and white graphic (preferably pen and ink), please contact Sue at 335-2669 or Mary at 738-3001. Articles should be submitted on computer disk (if possible) in Word Perfect 5.1 or higher, IBM (PC) compatible; illustrations should be no larger than 4 X 6 inches.

Due to several contract committment I have this summer, Mary Woodruff has offered to help with the newsletter. She will collect written articles or illustrations from members and convert written or typed manuscripts into WordPerfect files. I will continue to format the newsletter and Tom and Jane Smith will take care of xeroxing and mailing. Anyone interested in helping Mary, Jane, or Tom, please give them a call.

Publication Policy

Articles and illustrations that appear in *Sarracenia* are the sole property of the authors. Written permission from the authors is required in order to use or duplicate articles and illustrations appearing in *Sarracenia*.

Sue Meades, *Sarracenia* editor

Update on the Field Trip

For those members who need another copy of the map for the Northern Peninsula field trip, the itinerary from the last newsletter is reprinted on page 18. Deposits for motel accommodations have been sent and all plans are being finalized. Remember that meals, transportation, insurance, and other expenses are the responsibility of individual members. To date, we have 18 members registered.

Coastal Beauties

by Todd Boland

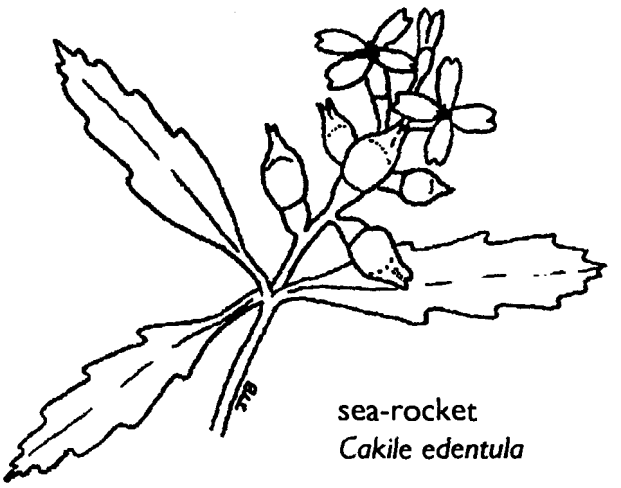
Most wildflower enthusiasts will easily recognize that there are certain plants which invariably grow only by the ocean, be it a sandy beach or a rocky headland. As if our climate was not already a challenge to most plants, those that grow by the sea have even greater problems. Full exposure to blasting winds and salt spray to boot have combined to create an environment that is suitable to a few select plants.

To thrive in coastal environments these wildflowers have adopted a number of features which allow them to cope with salt. In essence, the true coastal plants must deal with a drying environment (note I said drying not dry). Salt is a problem to most plants since it causes them to dry-out or desiccate. Thus, these coastal species have features that help prevent water loss. One obvious feature of many coastal plants is that they have thick, fleshy leaves. This allows them to retain water even if directly sprayed with salt water. Typical examples include **roseroot** (*Sedum rosea*), **seabeach sandwort** (*Honkenya peploides*) and **sea-rocket** (*Cakile edentula*).

Other coastal plants have a thick waxy coating to help prevent water loss. Often, this waxy layer gives the leaves a bluish colour. Here belong the **oysterleaf** (*Mertensia maritima*) and the **beach pea** (*Lathyrus maritima*).

Another way to reduce water loss is by having terete (pencil-shaped) leaves. Such leaves have a reduced surface area thus will have lower rates of transpiration. The leaves of **sea plantain** (*Plantago juncoides*) have somewhat terete leaves.

Not all coastal wildflowers grow in the same areas; some are mostly restricted to sandy beaches while others prefer rocky cliffs. The

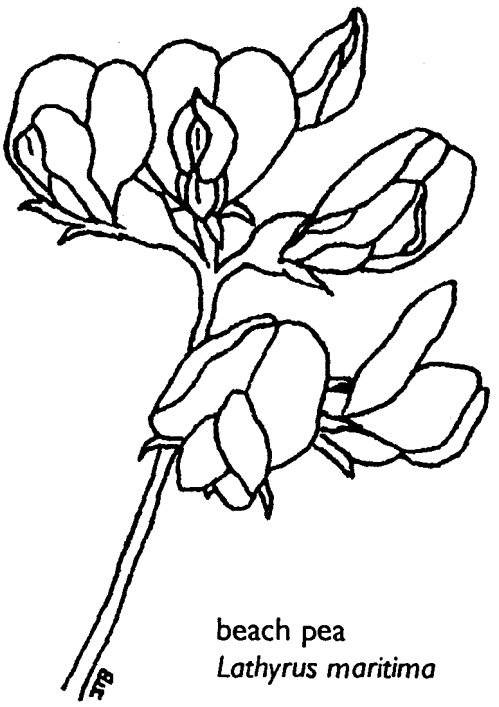


sea-rocket
Cakile edentula

widest diversity grow along sandy to fine-cobbley beaches. One of the most common and attractive wildflowers of such beaches is the oysterleaf or sea lungwort. The prostrate stems of these plants produce lovely mats of blue, smooth, fleshy leaves. At the tips are produced clusters of small, tubular flowers which first open pink, then turn blue (much in the same way as the garden lungwort).

Often associated with mertensia is the sea-rocket. This plant is an annual, so is more obvious later in the season. The stems may be simple or widely branched and somewhat upright. The fleshy leaves are elongate, wider at the tip, narrowing at the base and have wavy margins. The small four-petalled flowers are like typical Crucifers and may be white to pale lavender in colour. Once pollinated, distinctive globular fleshy capsules are formed.

The seabeach sandwort is another distinctive inhabitat of sandy beaches. These bushy, fleshy plants can form large mats, with stems arising to 40 cm (20 cm more usual). The leaves are opposite and small, whitish, six-



beach pea
Lathyrus maritima

petalled flowers with 8-10 stamens are produced in the leaf axils or in terminal leafy cymes.

There are a number of species of sea-knotweed which grow along our shores. All are annuals and form prostrate, loose mats of small succulent lance-shaped leaves and many tiny pinkish to white axillary flowers. The plants often take on a reddish hue. Like the sea-rocket, they are more noticeable as the season progresses.

Beach pea (*Lathyrus japonicus*), occurs along sandy and gravelly beaches. This showy perennial is quite obvious with its compound leaves of 4-10 leaflets, and clusters of purple pea-like flowers. Some, but not all, populations have beautiful bluish-purple leaves.

Certain sandy beaches on the island are covered in **silverweed** (*Potentilla anserina*). This wildflower is not easily mistaken with any others. This low growing perennial has elongate, deeply divided leaves which are shiny green above and silky tomentose below. Rarer, is the form *sericea*, which is silver-silky on both surfaces. In july and August, plants produce solitary flowers which are reminiscent of a yellow-flowered strawberry. Plants also reproduce by runners which explains their ability to spread rapidly. The runners are often red in colour.

There are two major grasses which inhabit sandy beaches; **beachgrass** (*Ammophila breviligulata*) and **sea lyme-grass** (*Elymus arenarius*). Both serve the major function of stabilizing sand dunes. Both produce stiff, upright blades which are often bluish in colour and dense 0.5-1 m spikes of flowers. To tell them apart, look closely at the flower spikes. Individual spikelets on *Ammophila* are pedicillate while those on *Elymus* are sessile.

Further north, along the shores of Notre Dame Bay and the Northern Peninsula you may find **scurvy-grass** (*Cochlearia cyclocarpa*) Despite the common name, this plant is not grass-like at all, but in fact is a biennial crucifer. The first-year rosettes are composed of overlapping, bright green, fleshy leaves. The overall plant looks similar to a **hen-and-chicks** (*Sempervivum*). In the second year, plants become branched and upright. Small four-petalled white flowers are produced in abundance, followed by globular capsules.

Along gravely shores and turfy headlands there grows **scotch lovage** (*Ligusticum scothicum*). This robust (to 1 m) umbelliferous plant has shiny, biternate leaves which are coarsely toothed. The flat-topped flowers heads are composed of numerous tiny greenish-white flowers. As a note of interest, this is the host plant for our short-tailed swallowtail butterfly.

Perhaps the most striking plant of gravelly and sandy beaches is the **false arnica** (*Senecio*

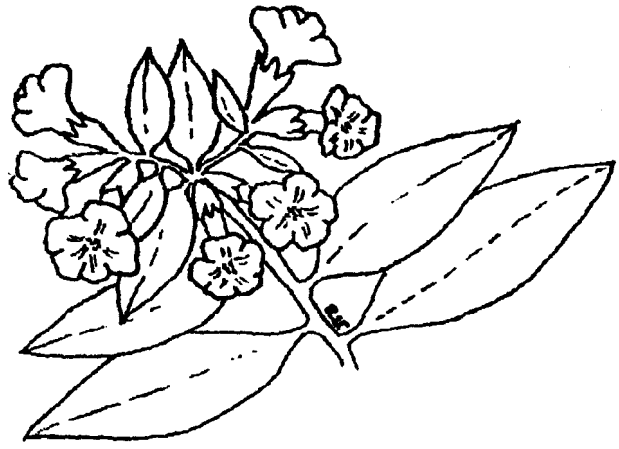
pseudo-arnica). Early in the season, a rosette of numerous, overlapping shiny green leaves are produced. These newly emerging leaves are covered in long white hairs. As the leaves age, much of this hair wears away, but the undersurfaces retain a white felted appearance. Later in the season, the stems elongate to reach 20-100 cm and are then topped with 2.5-5 cm diameter yellow daisies.

Rocky coastal shorelines and cliffs are where you will find the roseroot and sea plantain. The roseroot is easily distinguished by the fleshy blue-green to grey-green, spirally arranged leaves. The stiff stems terminate in a dense flat-topped cluster of either yellow (male) or yellow to purplish (female) flowers. This plant is dioecious, with separate male and female plants. Roseroot can grow in the tightest cracks in the rock and you often wonder how the plant can survive in such a precarious location.

Sea plantain produces tufts of loose, thick, almost rush-like leaves (hence the species name *juncoides*). The upright flower stems are typical 'rat-tails' similar to the common garden plantain

This list of shoreline wildflowers is by no means exhaustive. Many other species may also inhabit coastlines but may also extend into sub-alpine barrens. Some other wildflowers to look for near the sea are **New York aster** (*Aster novi-belgii*) **eyebrights** (*Euphrasia spp.*) **beach-head iris** (*Iris hookeri*), **seaside goldenrod** (*Solidago sempervirens*) (Burin Peninsula and SW Nfld.), **harebell** (*Campanula rotundifolia*) **seabeach orach** (*Atriplex patula*), **grove sandwort** (*Arenaria lateriflora*), **seaside angelica** (*Coelopleurum lucidulum*) **great** or **purple-stemmed angelica** (*Angelica atropurpurea*) and **cow parsnip** (*Heracleum maximum*).

While beaches and coastlines bring immense beauty from a scenic point-of-view, the wildflower enthusiast is also satisfied by the unique flora which grows in such areas. So the next time to drive to the ocean, bring your binoculars to view the seabirds, but you may also want to bring your camera to capture our coastal beauties. (Incidentally, for those of you going on our field-trip to the Northern Peninsula, we should see most of these coastal wildflowers)



oysterleaf *Mertensia maritima*

In Search of Newfoundland's Rare Wildflowers

by Henry Mann

Last year, the "Humber Naturalists' initiated a project to alert members and other interested individuals about our rare wildflowers. The objective was to prepare information sheets on each of the rare species found on the west coast of the Island. Since most of our northern rarities are not included in the standard popular field guides, we needed information that would not only tell us about known ranges and habitats, but would also allow us to recognize the species should we encounter them in the field. For this purpose, we required a good brief description and diagrams of the features important for identification purposes.

This project was launched with an article that appeared in the June 1993 issue of "The Osprey" (Volume 24 (2): 114-122) which also included the first two information sheets as examples of the format we chose to use. We here present sheets number four and five for the readers of *Sarracenia*. Others in the series will be available upon request as they appear. As previously, we would welcome submissions from individuals who would wish to contribute to this local project using our format. We would also encourage wildflower enthusiasts to prepare summary sheets of rare species from other areas of the province using whatever format they wish and will provide whatever assistance we are able if so requested.

The club's address is as follows:

"Humber Naturalists"
Humber Natural History Society
2A Fourth Avenue
Pasadena, NF A0L 1K0

I am acting as contact person and co-ordinator for this local endeavor and individuals may also telephone me at the numbers given on the sheets.

Henry Mann

Humber Natural History Society

RARE NEWFOUNDLAND WILDFLOWERS 4.

In order to develop a better understanding of the distribution of our rare plants, especially those of the West Coast, a series of these sheets will be made available to interested naturalists. Each sheet will deal with a single species known only from a few localities on the Island. Please report any sightings of rare plants to Henry Mann, Biology Department, Sir Wilfred Grenfell College, Corner Brook, Newfoundland, A2H 6P9, or call 637-6245 (work) or 686-2340 (home).

Plant Name: **Common -** Northern Twayblade

Scientific - *Listera borealis* Morong

Characteristics: This orchid genus is characterized by the two opposite leaves about half way up the stem, hence the name "twayblade". Northern Twayblade is a small plant up to 25 cm in height, often shorter. Flowers are tiny and greenish in color. The large lip petal has a prominent tooth in the notch. Can only be mistaken for the Auricled Twayblade, whose flower is distinguished in Figure 2.

Habitat: Located both in shady and open areas of moist, mossy, spruce woods, often along cold streams, frequently on limestone substrate.

Flowering Season: June - July

Known Distribution: Known only from one location on the Island of Newfoundland; near Eddies Cove West, Northern Peninsula.

(After Bouchard *et al* 1991)

Diagrams: **See reverse side of page.** Also consult: Luer, C.A., 1975, *The Native Orchids of United States and Canada*, N.Y.Bot. Garden, pp. 88-89 (QK 495 064 L91) and Petrie, W. 1981, *Guide to Orchids of North America*, Hancock House, p. 57 (QK 495 064 P48).

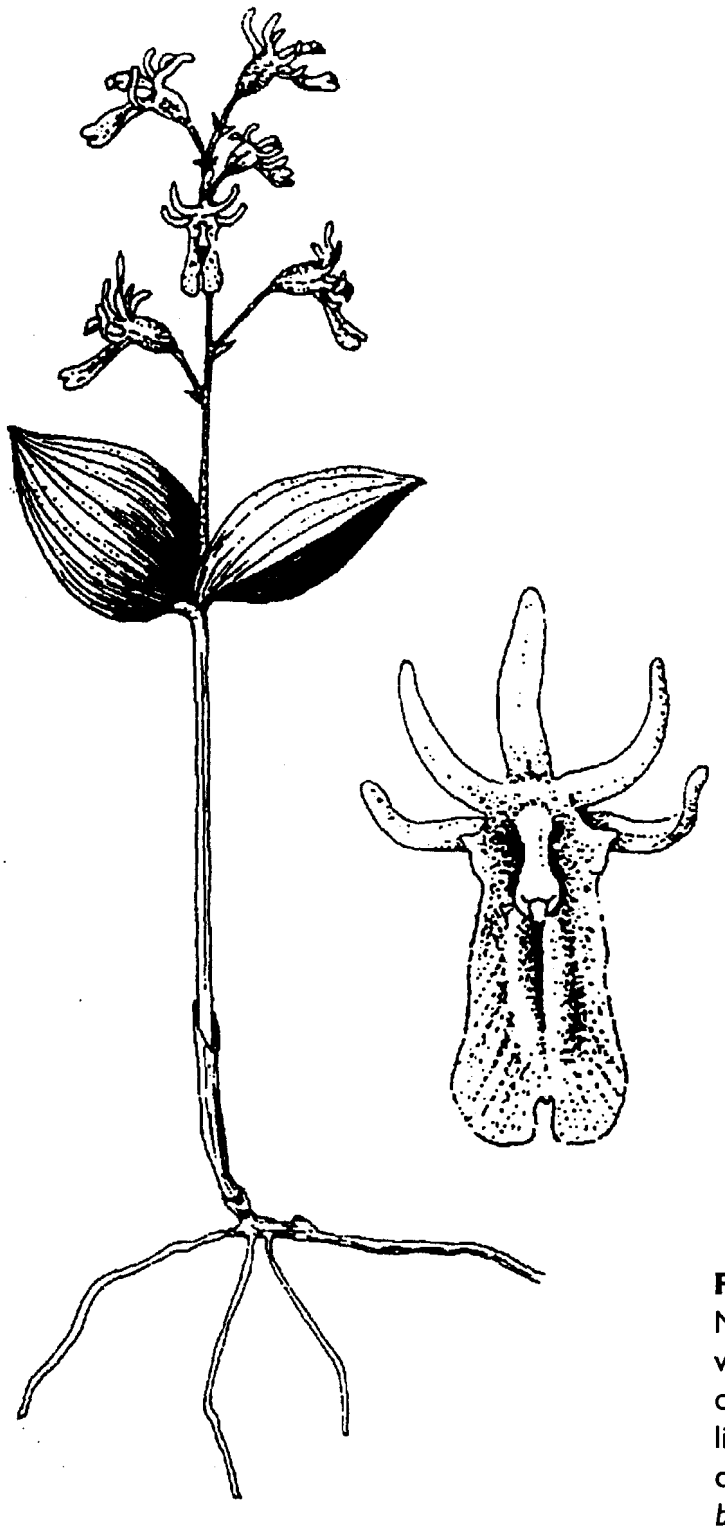
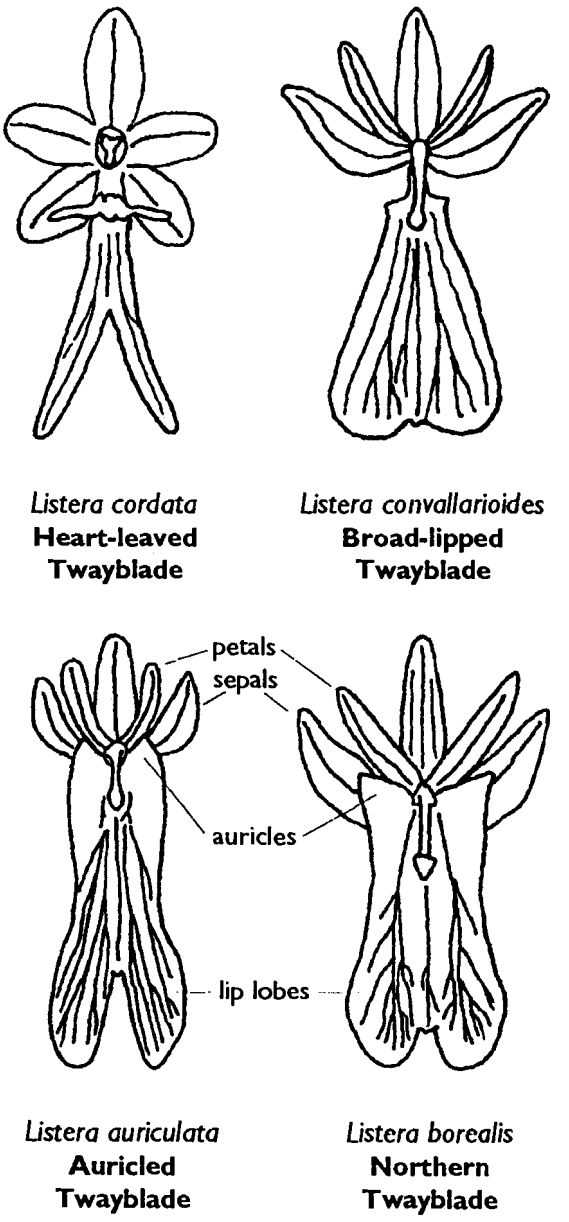


Figure 1. Northern Twayblade
(*Listera borealis* Morong)
a. entire plant,
b. single flower, face view.



Listera cordata
Heart-leaved Twayblade

Listera convallarioides
Broad-lipped Twayblade

Listera auriculata
Auricled Twayblade

Listera borealis
Northern Twayblade

Figure 2. Flower comparison of the four Newfoundland Twayblade (*Listera*) species, face view. Only *L. auriculata* and *L. borealis* might be confused. *L. borealis* has a broader lip, broader lip lobes, and auricles spreading rather than curving inward. The sepals and petals of *L. borealis* are usually longer than 4.5 mm wheras those of *L. auriculata* are usually 4.0 mm or less in length. (Redrawn from: Correll, D.S. 1978, *Native Orchids of North America North of Mexico*, Stanford University Press.)

Humber Natural History Society

RARE NEWFOUNDLAND WILDFLOWERS 5.

In order to develop a better understanding of the distribution of our rare plants, especially those of the West Coast, a series of these sheets will be made available to interested naturalists. Each sheet will deal with a single species known only from a few localities on the Island. Please report any sightings of rare plants to Henry Mann, Biology Department, Sir Wilfred Grenfell College, Corner Brook, Newfoundland, A2H 6P9, or call 637-6245 (work) or 686-2340 (home).

Plant Name: **Common -** Small Round-leaved Orchis (One-leaf Orchis)

Scientific - *Amerorchis rotundifolia* (Banks) Hulten,
= *Orchis rotundifolia* Pursh

Characteristics: This is a small orchid up to 25 cm in height with a single basal leaf. The solitary leaf in addition to its flower structure allow it to be easily distinguished from our other species. Flowers are whitish to pink; the characteristic lobed bottom lip is dotted with darker magenta spots. Side sepals spread out like two wings while the upper sepal and two petals curve together to form a hood.

Habitat: In Newfoundland reported from open "turfy limestone barrens". Elsewhere growing in spruce or larch "swamps", mossy calcareous woods and in open peaty soil.

Flowering Season: June - July

Known Distribution: In Newfoundland this species is known mostly from the tip of the Northern Peninsula, Pointe Riche and northward, bot collected from the immediate Corner Brook area also. It is more common in the rest of North America extending across the continent in the Boreal Forest region.

(After Bouchard et al 1991)

Diagrams: **See reverse side of page.** Also see illustrations and descriptions in: the Peterson/McKenny *Wildflower Guide* pp. 14-15, 242-243; *Newcomb's Wildflower Guide*, pp. 20-21, and in Petrie, W. 1981, *Guide to Orchids of North America*, Hancock House, p. 13 (QK 495 064 P48).

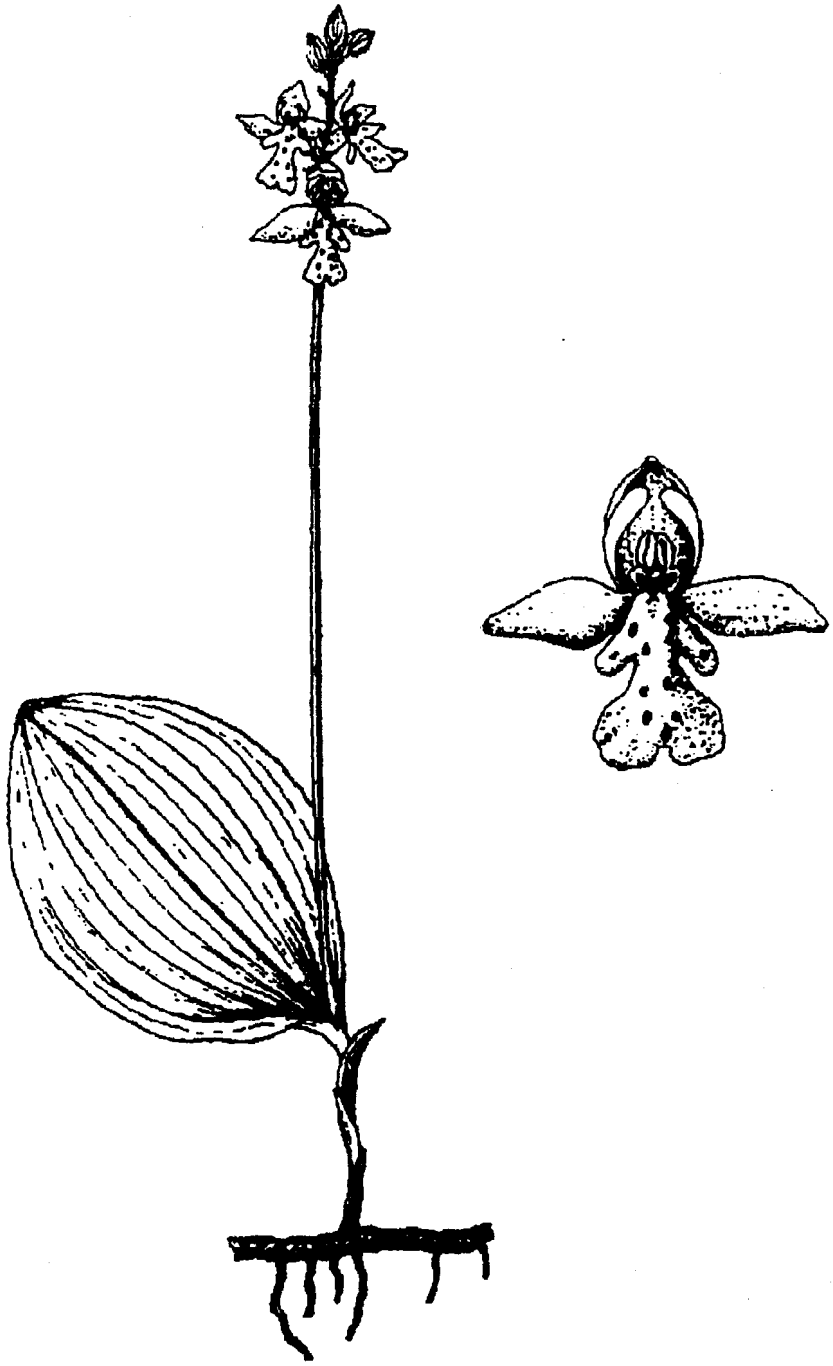


Figure 1. **Small Round-leaved Orchis** (*Amerorchis rotundifolia* (Banks) Hulten)
a. entire plant b. single flower, face view.

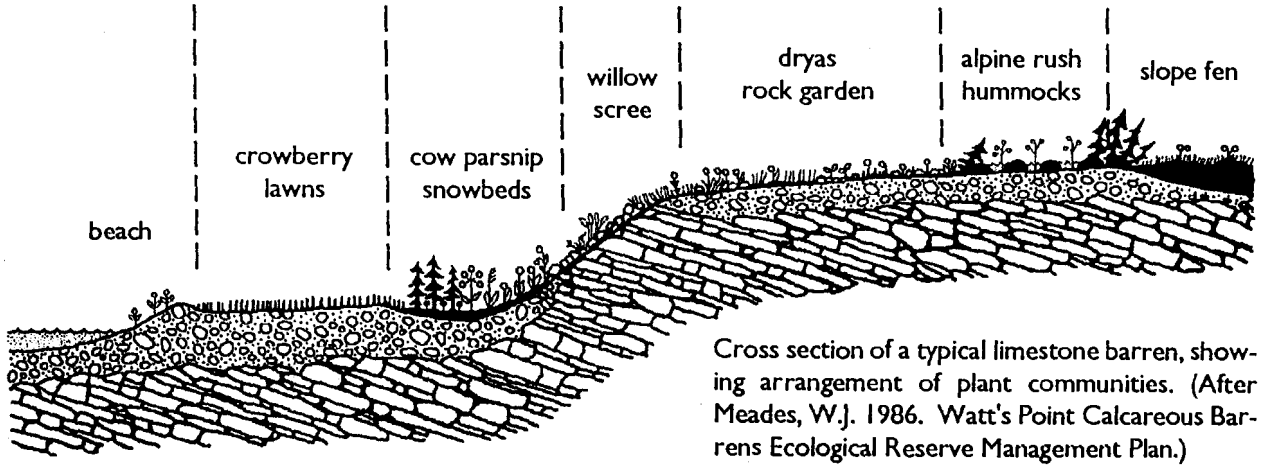
Limestone and Serpentine Barren Plants

by Sue Meades

As most of our members live on the east coast of Newfoundland, we are very familiar with dwarf shrub barrens (also called *Kalmia* barrens), which are characterized by a dense cover of dwarf ericaceous shrubs, particularly **sheep laurel** (*Kalmia angustifolia*). Throughout the early summer, the *Kalmia* barrens are ablaze with a procession of lavender, white, and brilliant pink blossoms of the various dominant shrubs - **rhodora** (*Rhododendron canadense*), **low bush blueberry** (*Vaccinium angustifolium*), **Labrador tea** (*Ledum groenlandicum*), and sheep laurel. Although the name "barren" implies a lack of vegetation, there is very little bare soil on a *Kalmia* barren. Beneath the shrub cover on undisturbed barrens, one will find many species of *Cladonia* (primarily caribou lichens), feathermosses (typical of the forest understorey), and ground-level dwarf shrubs, such as **partridgeberry** (*Vaccinium vitis-idaea*). In the fall of the year, small basin bogs that fill depressions are easily distinguished from the surrounding barren by the rusty brown cover of **deergrass** (*Scirpus cespitosus*). These wetland areas contrast sharply with the brilliant red blueberry leaves and muted bronze and purplish tones of the dwarf shrub species that dominate *Kalmia* barrens.

Limestone Barrens

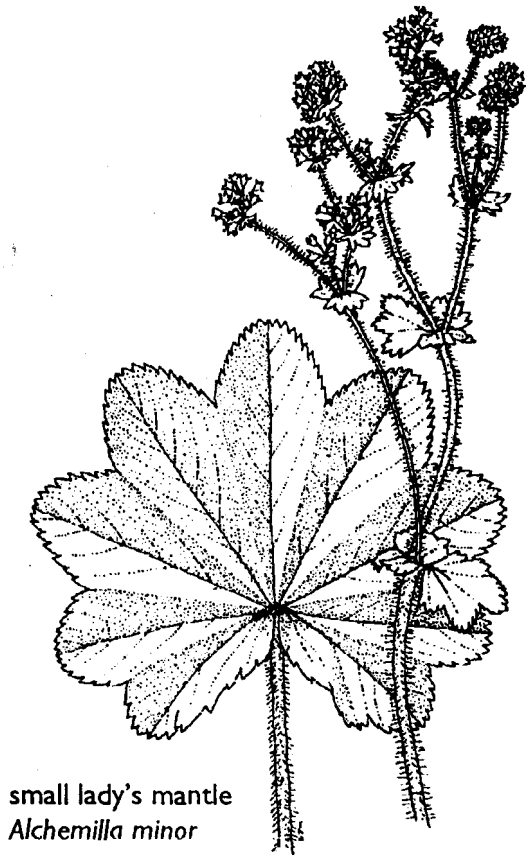
During our field trip in August, when you look around the landscape of the Northern Peninsula, you will notice that, unlike eastern Newfoundland, there are no expanses of *Kalmia* barren, which are typical of nutrient-poor, acidic soils. Conversely, the west coast of Newfoundland is characterized by basic soils, formed from the calcareous (limestone type) and serpentine bedrock. On a narrow strip along the west coast of the Northern Peninsula, the calcareous bedrock and extreme exposure contribute to the formation of the Limestone Barrens. The term "limestone" is used in a very broad sense, since the bedrock that underlies this vegetation is a combination of rock types with a basic pH, including: dolomite, shale, quartzite, sandstone, and limestone. These bedrock layers were deposited during the Palaeozoic (500 million years ago) and have since undergone much uplifting, faulting, and erosion. At present, the rock layers form slightly tilted planes, or terraces, that are aligned parallel to the coast. Between the exposed ridges are thin deposits of coarse glacial till (gravels). Although the soils are basic (with a pH of about 7.9), there is very little organic matter and thus the soils are nutrient-poor.



Cross section of a typical limestone barren, showing arrangement of plant communities. (After Meades, W.J. 1986. Watt's Point Calcareous Barrens Ecological Reserve Management Plan.)

Crowberry Lawns

Three distinct types of barren communities and one richer, snowbed community occur within the limestone barrens. Closest to the sea and directly behind the beach berm, are *crowberry lawns* - low, continuous mats of **pink crowberry** (*Empetrum eamesii*) and dwarf willows, primarily the **heart-leaved willow** (*Salix cordifolia*), **net-veined willow** (*Salix reticulata*), **hairy willow** (*Salix vestita*) and **limestone willow** (*Salix calcicola*). The most easily recognizable of these are the net-veined willow, which has dark green, orbicular leaves that are conspicuously veined on the lighter under surface and the hairy willow, which has similar shaped, but slightly larger leaves that are densely covered beneath in silky white hairs.



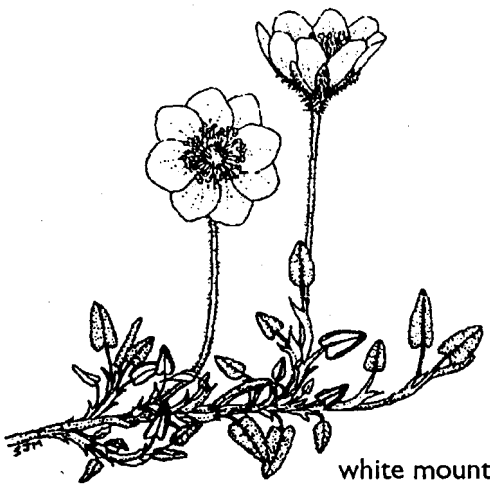
small lady's mantle
Alchemilla minor

Cow Parsnip Snowbeds

Behind the crowberry lawns, on the less-exposed, lower slopes of coastal terraces, are the *cow parsnip snowbeds*. These areas are dominated by a lush growth of tall herbs, including **cow parsnip** (*Heracleum maximum*), with its large, flat-topped inflorescence (umbel) of white flowers, and **purple-stemmed angelica** (*Angelica atropurpurea*), which has spherical umbels of greenish flowers. Also visible in the snowbeds are the tall white spikes of **bottlebrush** (*Sanguisorba canadensis*), the numerous, tiny, yellowish-green flowers of the **small lady's mantle** (*Alchemilla minor*), and the gently nodding, maroon and salmon flowers of **purple avens** (*Geum rivale*). Shrubs such as **sweet gale** (*Myrica gale*) and **high-bush cranberry** (*Viburnum trilobum*) can be found along with the common **large-leaved goldenrod** (*Solidago macrophylla*), **New York aster** (*Aster novi-belgii*), **corn lily** (*Clintonia borealis*), and **blue-joint** grass (*Calamagrostis canadensis*). Patches of tuckamoor - stunted, wind and frost-pruned **balsam fir** (Abies balsamea) and **black spruce** (Picea glauca) also are scattered throughout the snowbeds.

Willow Scree

The upper slopes, or scarps, of the terraces are dominated by *willow scree* - a fairly continuous cover of dwarf willows, pink crowberry, **alpine bearberry** (*Arctostaphylos alpina*) and **red bearberry** (*Arctostaphylos rubra*). This plant community is similar in species composition to the crowberry lawns, but contains more willow cover than crowberry, plus a few more herb species. Most notable is the **dwarf tansy** (*Tanacetum huronense*), which can be identified by its flat, button-shaped, yellow head of disc flowers and its finely dissected, hairy, yarrow-like leaves.



white mountain avens
Dryas integrifolia

hyssop-leaved fleabane
Erigeron hyssopifolius

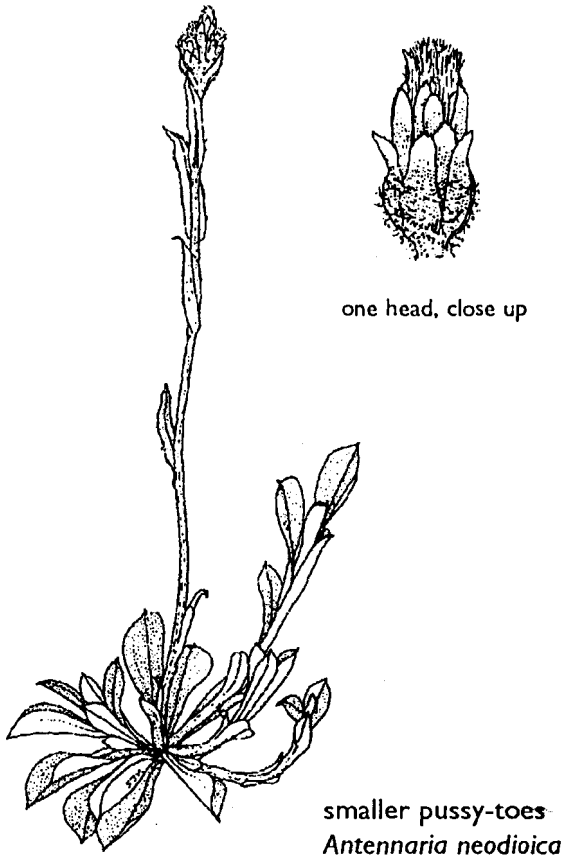
Dryas Rock Gardens

On the flat top of the terraces, along the highway, the vegetation pattern changes drastically. Most of this area, commonly called the *dryas rock gardens*, is covered by calcareous gravels that have been sorted by frost into strips or polygons 2-3 m in diameter and ringed with larger stones and pebbles. As a result of the continuous frost disturbance, extreme exposure, and lack of a continuous winter snow cover, competing species are preventing from taking hold in this habitat and the vegetation of this plant community is very sparse, with cover rarely exceeding 25% of the ground surface. Nevertheless, this habitat is one of the most floristically diverse plant communities in our province. The dominant species of these discontinuous patches of vegetation are **white mountain avens** (*Dryas integrifolia*), **shrubby cinquefoil** (*Potentilla fruticosa*), **swamp birch** (*Betula pumila*), **northern dwarf birch** (*Betula borealis*), pink crowberry, and alpine bearberry. The bright yellow flowers of the shrubby cinquefoil will still be in bloom when we visit the barrens in August, but the creamy white blooms of the white mountain avens will be replaced by delicate purplish-gray plumes of the Dryas fruits (achenes) - actually the persistent, plumose styles. Scattered throughout the limestone gravels are numerous low herbs, including four saxifrages. The **purple saxifrage** (*Saxifraga oppositifolia*) is a very early bloomer, but St. John's residents can see its beautiful purple blooms at the MUN botanical garden in early May. Even without the flowers, this low, trailing shrub is very interesting, due to its tightly arranged, overlapping rows of thick, opposite leaves, which are 4-ranked. With a hand lens, you can see that the leaf margins are ciliate and that each tiny leaf is tipped with a pore ringed with a lime precipitate. The **yellow mountain saxifrage** (*Saxifraga aizoides*) is more common, often forming large colonies in recently disturbed limestone gravels. Its five, elliptic, yellow petals are usually dotted with orange, making this the most interesting saxifrage flower. The less common **tufted saxifrage** (*Saxifraga cespitosa*) and **white mountain saxifrage** (*Saxifraga aizoön*) both have small clusters of white flowers and a basal rosette of leaves, but the leaves of the tufted saxifrage are 3-5 lobed and soft (similar to the pink-flowered mossy saxifrage of gardens), in contrast to the stiff, spatulate

leaves of the white mountain saxifrage, which are lined with tiny teeth, each tooth bearing a lime-encrusted pore. All but the purple saxifrage will be blooming during our visit.

Among the more diminutive species of the limestone barrens are the **alpine meadow- rue** (*Thalictrum alpinum*), **northern** or **small-flowered anemone** (*Anemone parviflora*), and the **stemless dwarf raspberry** (*Rubus acaulis*). Each of these plants has small, lobed, often glossy leaves, but their flowers and fruits are very different. The single, delicate flower of the northern anemone has white petals that are porcelain blue on the lower, outer surface; its fruiting head of achenes is ovoid and woolly. The alpine meadow rue, with a small, few-flowered raceme of tiny, perfect, purplish flowers, scarcely resembles its much larger, dioecious relative, the **tall meadow rue** (*Thalictrum polygomum* - with separate male and female flowers on different plants), found in streambanks and marshes. The stemless dwarf raspberry is usually between 5-10 cm tall, it has a purple flower, blooms in July to early August, and has a very sweet, deep red, raspberry-type fruit. Another group of small plants that are easily overlooked, unless in flower, are our native primroses - **Greenland primrose** (Primula egaliksensis)- with entire leaf margins, and **bird's-eye primroses** (P. mistassinica and P. laurentiana) - with toothed leaf margins. Each of these tiny primroses has a basal rosette of oblanceolate leaves with various amounts of a white, mealy (farinose) coating on the lower leaf surfaces and the calyces. Their lavender to pinkish-white, tubular flowers have five limbs that are cleft at the tip and a central, yellow eye.

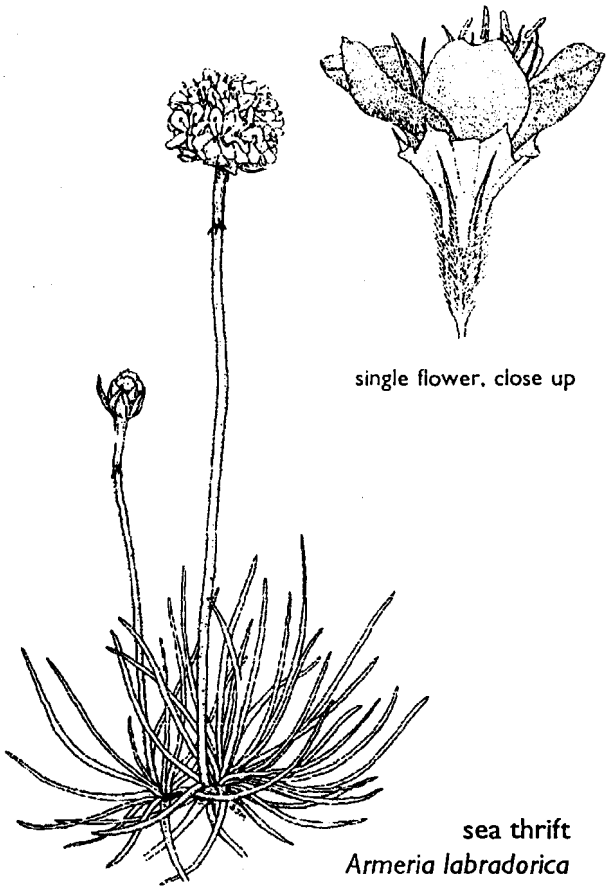
Other herb species characteristic of the dryas rock gardens are the early-flowering **lapland rosebay** (*Rhododendron lapponicum*)



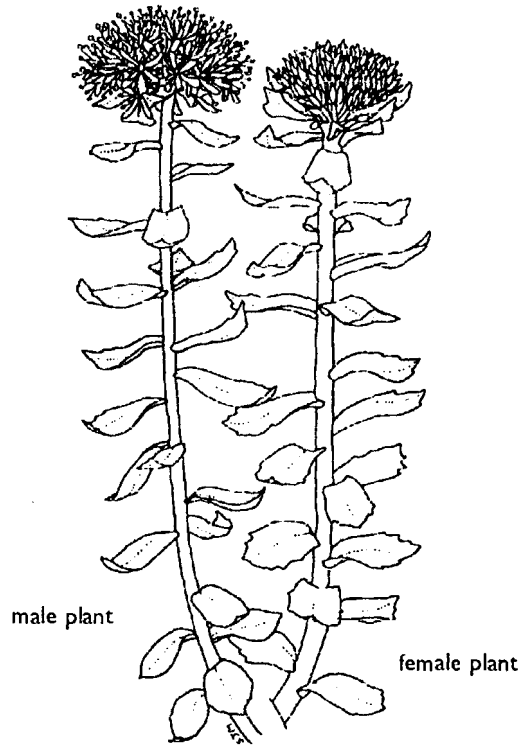
one head, close up

smaller pussy-toes
Antennaria neodioica

and **moss campion** (*Silene acaulis*), both of which can be seen flowering at the botanical garden in spring. Several composites also are typical of this habitat - the **balsam groundsel** (*Senecio pauperculus*), with few to several, small, yellow-rayed heads, **hyssop-leaved fleabane** (*Erigeron hyssopifolius*), with a single head bordered by numerous white rays, and several species of **pussy-toes** (*Antennaria spp.*), which can be differentiated by their leaves and bracts of the rayless heads. **Sea thrift** (*Armeria labradorica*) may be found in the rock barrens as well as the serpentine barrens and, according to the *Atlas*, is found only on the west coast. However, Todd recently introduced me to a population of *Armeria labradorica* growing on the lowest slopes of the hill next to the Marine Sciences Lab in Logy Bay. This area most certainly was disturbed during construction of



sea thrift
Armeria labradorica

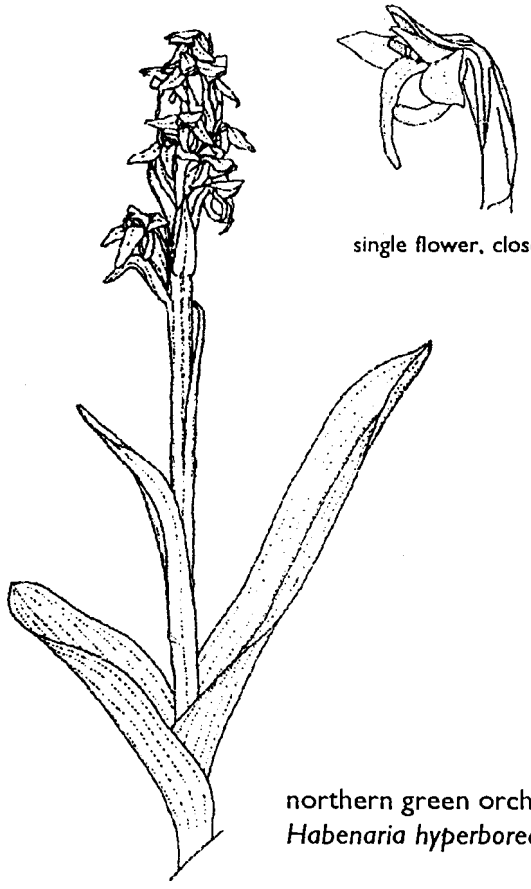


roseroot
Sedum rosea

the lab, so I assume that one or more specimens were transplanted from the west coast. It is spreading nicely and the dozens of plants were in full bloom when I visited the site in mid-June. I will try to see if Dr. Haedrick knows the origin of this likely transplant. Until this spring, I had only seen this plant in late July and August, after it had flowered. I was amazed at the beautiful, relatively large, magenta flowers crowded on the globose head. The pale center of each flower is obscured by an intricate interweaving of delicate white hairs that originate from the lower portions of the five stamens. Once you take a closer look at this gem in flower, I am sure it will quickly become one of your favorites also.

In addition to the dwarf willows and birches, an assortment of other colorful or showy plant species are common to both the dryas rock gardens and open areas in the crowberry lawns and the willow scree, including the striking magenta-flowered **river beauty** (*Epilobium latifolium*) and the insectivorous **butterwort** (*Pinguicula vulgaris*), with its attractive, spurred, purple flower and succulent, yellow-green, basal leaves that trap insects on their greasy, upper surfaces. Glancing across the barrens, you will quickly recognize the stiff, succulent, leafy stems of **roseroot** (*Sedum rosea*), topped with clusters of yellow to reddish male or female flowers and the nodding, blue flowers of **harebell** (*Campanula rotundifolia*), which may sport a single bloom or a raceme of numerous flowers. Other interesting plants are the reniform-leaved, **pink pyrola** (*Pyrola asarifolia*) - much showier than our local **one-sided pyrola**

(*Pyrola secunda*), and the **northern green orchid** (*Habenaria hyperborea*), which has yellowish-green flowers and several, oblong to lanceolate, stem leaves. A number of attractive gentians [including **island gentian** (*Gentiana nesophila*) and **felwort** (*Gentiana amarella*), discussed in our last newsletter] and legumes inhabit the upper terraces of the limestone barrens, **field oxytrope** (*Oxytropis campestris*), **liquorice-root** (*Hedysarum alpinum*), and **milk vetches** (*Astragalus eucosmus and A. alpinus*). We will discuss these in more detail on the trip. Shrub species common to all communities of the limestone barrens include: **soapberry** (*Shepherdia canadensis*), **alpine azalea** (*Loiseleuria procumbens*), and **alpine bilberry** (*Vaccinium uliginosum*). The soapberry is another species that deserves a closer look with a hand lens. Its entire surface, particularly the buds, is covered with small, round, peltate, silvery-bronze scales and forked hairs. Even the orange-red, ovoid fruits (drupes) sport a number of noticeable scales.



single flower, close up

northern green orchid
Habenaria hyperborea

The weedy, **fall dandelion** (*Leontodon autumnalis*) is common throughout the barrens, as well as on most disturbed ground in the province. Similarly, people are sure to notice what appear to be two other weeds - **yellow rattle** (*Rhinanthus crista-galli*) and small **common yarrow** (*Achillea millifolium*), but closer examination may reveal that you have located **northern yellow rattle** (*Rhinanthus borealis*) and **northern yarrow** (*Achillea borealis*). The northern yellow rattle is differentiated by the acute to blunt-tipped teeth of the flowering bracts; its similar relative has bristle-tipped bracts. Northern yarrow is characterized by the dark brown to black margins of all phyllaries (bracts on the involucre of the flower head) and its smaller size (to 4 dm), fewer leaves (4-9), and convex inflorescence.

Alpine Rush Hummocks

Farther back from the coast, the impeded drainage and decreased exposure results in large stretches of rich slope fens, which are interspersed with numerous pools. *Alpine rush hummocks*, a transitional community, and patches of scrubby tuck (tuckamoor) occupy the area between fen and limestone barren. This wet heath vegetation is characterized by hummocks of shrubby cinquefoil, sweet gale, dwarf birches, and **northern fly-honeysuckle** (*Lonicera villosa*), with **alpine rush** (*Juncus alpinus*), **Arctic cottongrass** (*Scirpus hudsonianus*), and sedges (including *Carex vaginata*) growing along the edges of ephemeral pools. Among the clumps of stunted conifers in the wet tuck, one may find the **flat-petalled yellow lady's slipper** (*Cypripedium calceolus* var. *planipetalum*), which flowers in

mid-July. This small yellow orchid can be identified by its flat, purple to greenish-yellow, lateral petals, in contrast to the twisted, purplish-brown petals of the more common *C. calceolus* var. *parviflorum*. Another orchid of this habitat is the small **blunt-leaved orchid** (*Habenaria obtusata*), which has greenish-white flowers (similar to the scent-bottle orchid) and one blunt-tipped, oblanceolate to obovate, basal leaf.

Amongst the many new species that will be encountered on our field trip, participants will probably observe some familiar species, which seem ubiquitous - occurring in most habitat types. These include bunchberry, twinflower, starflower, and wild lily-of-the-valley. The main areas of limestone barren occur along the northwest tip of the Northern Peninsula (between Plum Point and Cape Norman), however, smaller areas of these barrens occur on coastal bluffs as far south as Bonne Bay. One of the more interesting sites is in Daniel's Harbour, which we will visit during the second day of our field trip.

Serpentine Barrens

Many of the plant species found in the limestone barrens also occur on serpentine areas. Among the few species that are restricted to the serpentine barrens are **alpine campion** (*Lychnis alpina*), **dry-leaved sandwort** (*Arenaria marcescens*), **spreading sandwort** (*Arenaria humifusa*), and **maiden hair fern** (*Adiantum pedatum* var. *aleuticum*). In snowbed and wet seepage areas, plants typical of our wetlands are surprisingly common, such as the **pitcher plant** (*Sarracenia purpurea*), **round-leaved sundew** (*Drosera rotundifolia*), bottlebrush, and sweet gale.

A variety of white-flowered chickweeds and sandworts are native to the serpentine and/or limestone barrens, however, most of these species bloom in June or early July, so we will miss most of their flowers. The most noticeable of these is the **alpine chickweed** (*Cerastium alpinum*), which has relatively large white flowers with two-lobed petals - similar to the garden plant snow-in-summer; its pubescent leaves are oval and rounded at the tip.

There are many more species that space limitations prevent mentioning, however, I have covered most of what we will see on our upcoming field trip. Additional plants that we discover will be discussed in the next newsletter. The origins of this interesting and unique flora is another topic for future discussions. See you all in Gros Morne on the 16th of August.

Northern Peninsula Trip Itinerary

Day of Tuesday, August 16: Meet at visitors center, *10 a.m.*, Gros Morne National Park for a hike to the Serpentine Tablelands and Lomond area. Bring a picnic lunch. Sleep at *Shallow Bay Motel*, Cow Head.

Day of Wednesday, August 17: Explore limestone barrens at Daniel's Harbour on the way to Port au Choix. Hike from Point Riche Lighthouse, through Phillips Garden, to Port au Choix. Those who feel the hike would be too strenuous can explore areas at either end of the hike and meet the group at Port au Choix later in the day. Sleep at *Sea Echo Motel*, Port au Choix.

Day of Thursday, August 18: Explore coastal areas and wetlands between Port au Choix and Plum Point. Sleep at *Plum Point Motel.*

Day of Friday, August 19: Explore limestone barrens of Cape Norman at the very tip of the Northern Peninsula. Time permitting, explore surrounding areas of Cape Onion, Ha Ha Bay, and L'anse aux Meadows. Sleep at *Plum Point Motel.*

Day of Saturday, August 20: Although this is the end of our official trip, all members, especially our bird enthusiasts are invited to join the Humber Natural History Society on their bird-watching trip to St. Paul's Inlet (just south of Cow Head). Those of you who wish can, of course, continue exploring western Newfoundland or return home.