

# Sarracenia

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Summer 2004

Newsletter of the Wildflower Society of Newfoundland and Labrador  
 c/o Botanical Garden, Memorial University of Newfoundland, St. John's, NL, A1C 5S7

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

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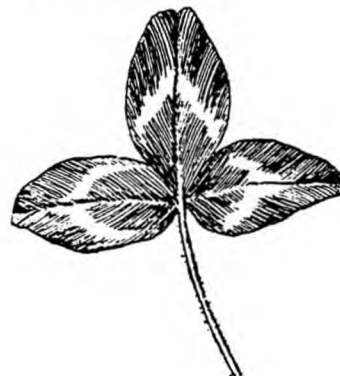
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## Wildflower Society Financial Statement, October 1, 2003 to April 30, 2004

Balance October 1, 2003	\$1459.56
Deposits - membership	\$500.00
- interest	\$ 0.30
Total:	\$500.30
Disbursements - Sarracenia	\$278.95
- Donation (to MUBG)	\$500.00
- Gift	\$ 55.72
Total:	\$834.67
Balance April 30, 2004	\$1125.19



## **WFS Field Trips for 2004**

Please note we still need volunteers as leaders for some walks.

**Sunday June 6th Hawke Hills.** For *Diapensia* and/or *Loiseleuria* in flower. Leader Glenda. Meet at Art & Culture Centre car park for car pooling at 2.00 p.m. or at bottom of Hawke Hills "road" at about 2.30 p.m. N.B. those coming from St John's will have to drive to the Salmonier Line intersection to get onto the east-bound lane of the TCH.

**Wednesday June 23rd.** We'll celebrate the beginning of the summer solstice by getting a close up look at bees. Aubrey Goulding has agreed to give us a tour of his apiary in the evening at 6:30 p.m. The Gouldings live at 97 St. Thomas Line, Paradise. The number is on their garbage bucket and is two houses just pass Holy Family Church, on the same side. St. Thomas Line is on the right for those traveling from St. John's via the CBS Highway. Friends and children are welcome to join us.

### **Sunday July 4th Gallows Cove**

**Trail.** Early summer flowers. Leaders: Clases. Meet at Torbay Post Office parking lot at 2.00 p.m. or, if you know it, the Gallows Cove road parking area at 2.10 p.m.

### **July 18th - 25th Baie Verte**

**Peninsula & Main River.** Summer week long trip. Leaders various. **Sunday July 18:** 2.30 p.m. approx, meet at Gillingham's Irving, Trans Canada Highway Bishop's Falls.

### **Sunday August 1st Cuckhold's Cove.**

Leader: Ron Payne. Meet at parking lot at the east end of Quidi Vidi Lake (by the stream running out of the lake) at 2.00 p.m.

### **Wednesday August 4th (or whenever Regatta Day actually is.) Soldier's**

**Pond.** For later bog orchids Leader: Todd Boland (subject to confirmation)

### **Sunday August 15th Cape Spear to Maddoxs Cove.**

Coastal Headland plants. Leader: TBA. Meet at Cape Spear Parking lot at 10.00 a.m. Bring a picnic lunch, this is a longer trip than the others.

### **Sunday August 29th Harricott trail.**

Salt marsh and beach plants. Leader: TBA Meet at Art & Culture Centre parking lot at 10.00 a.m. or beginning of trail in Harricott at 11.00 a.m. Bring a picnic lunch.

### **Monday September 6th Manuel's River and Pot luck.**

Meet at the Manuel's River Information Chalet 3:00 p.m. We will do part of the trail and see plants that like wet feet, as well as many introduced species. About 5 o'clock we'll proceed to Glenda Quinn's home for a pot luck supper - salads and cold meat (& dessert). If you can't make the walk, come for supper. Glenda lives at 30 Tobin's Road which is across from KFC on the Conception Bay Highway in Manuels.

**Sunday September 26th.** Where shall we go? Suggestions welcome. Details decided at Pot Luck.

## St. Johnswort Family (Clusiaceae) at Manuels River

by Glenda Quinn

There are seven species of St. Johnswort found in Newfoundland. Six are listed in the Annotated Checklist of the Vascular Plants of Newfoundland and Labrador and seven on John Maunder's website, A Digital Flora of Newfoundland and Labrador Vascular Plants. They are:

- Hypericum canadense - Canada St. Johnswort  
Hypericum ellipticum - pale St. Johnswort  
Hypericum mutilum subsp. boreale - northern St. Johnswort  
Hypericum perforatum - common St. Johnswort (introduced)  
Hypericum pulchrum - slender St. Johnswort (introduced) - **NEW**  
Hypericum punctatum - spotted St. Johnswort (introduced)  
Triadenum fraseri [=Hypericum virginicum]<sup>1</sup>  
 Fraser's marsh St. Johnswort

The new one listed on John Maunder's A Digital Flora of Newfoundland and Labrador Vascular Plants was seen by members of the wildflower group when they visited St. Pierre in 1998. At the time, it was the only known location for the species in North America. The upcoming issue of Rhodora will feature an article by Nathalie Djan-Chekar, Luc Brouillet, Claudia Hanel, Stuart Hay, and John Maunder about the specimen of Hypericum pulchrum collected near Black Duck, Bay St. George, in 2000. The Rhodora article in question documents twelve vascular plant taxa new to the Island of Newfoundland, as well as the rediscovery of ten rare vascular plant taxa known only from historical records. *Fodder for an illustrated talk at one our meetings next fall?*

Three of the native species have been observed on Manuels River - Canada St. Johnswort, pale St. Johnswort, and marsh St.

Johnswort. Common St. Johnswort, an introduced species or alien, grows there too. Northern St. Johnswort is distributed throughout the island and quite possibly is growing there as well, but I have not yet seen it on the river's trails.

The traits common to St. Johnswort are opposite, untoothed leaves with dark or translucent dots or glands. Clusters of 5- petaled flowers, usually yellow with a bushy ring of numerous stamens, surround a small pointed capsule. The flowers occur atop branching stems and the reddish-brown fruit may occur on a plant while it still bears blossoms.

Pale St. Johnswort grows on the river's edge and is often submerged in water. It is a small plant with yellow flowers growing above the leaves. Usually a single stem, the leaves are opposite and a few leaflets grow their axils. A disjunct, because it is distributed unevenly throughout the island, it is classified rare.

Unlike other St. Johnswort, marsh St. Johnswort has pink petals. The flower grows in the axils of the upper leaves of a purplish stalk. The plant is found in a wet, marshy areas and reaches one to two feet in height. It sends out runners that take root. In late summer the plant can be distinguished by its reddish brown seed capsules. The opposite leaves are blunt and egg-shaped and clasp the stem. It blooms from July to August.

Canada St. Johnswort is a tiny plant and you need the eye of an eagle to spot this one. The small yellow blossoms are 1/4" wide or less and the leaves are very narrow. It also likes wet places. Even better eyesight would be required for you to find northern St. Johnswort. Its flowers are 1/8" wide and the leaves 1/2-1" long.

You have probably seen and read a lot about the common St. Johnswort as scientists have been studying the properties of this herbaceous plant as a means of treatment for depression. In recent years many magazines and papers are carrying articles or ads for Hypericum and every reputable herbal book

<sup>1</sup>This is the only species found in Labrador

tells of the many values of the plant. In the summer of 2002, a St. John's company, Herbs and Garden Things, was awarded a contract to supply a pharmaceutical company in Saskatchewan with 5 metric tonnes of the dried herb. They harvested the plant from roadsides and the old railbed in the province.

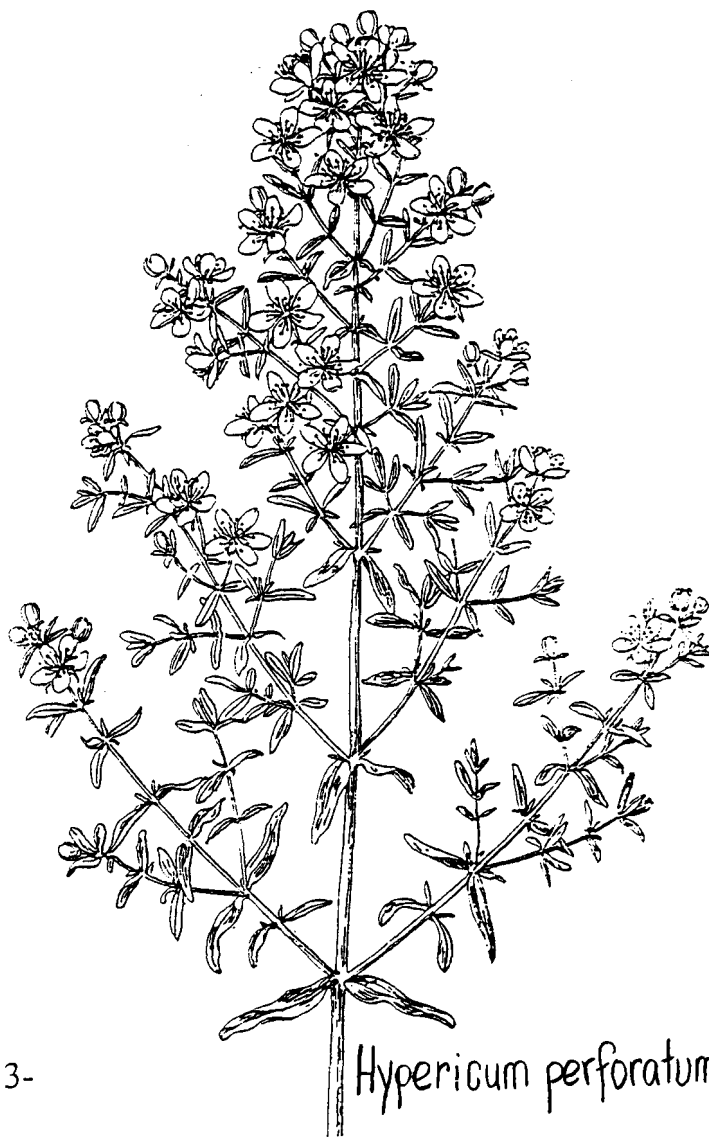
Common St. Johnswort is a bushy, tough-stemmed plant with opposite branches and opposite, untoothed (entire) leaves. It blooms from midsummer to fall. The brilliant yellow petals are edged with tiny dark dots. Hold the leaves up to the light and you can see tiny dot which explains how it got its botanical name *perforatum*, meaning perforated. If you look at the base of the petals, you can see numerous male parts grouped into clusters of three. The three female parts are inconspicuous and look like thin needles projecting past the male parts.

A weed common along roadsides, fields and waste places, it grows one to feet tall. It found its way here from Europe and has made itself quite at home. Insects rarely eat the plants because of the chemicals in the sap and cattle dislike it because of its sour juices. Common St. Johnswort is a photodynamic plant. Animals with white areas of skin (unpigmented) that eat a lot of this plant and expose themselves to bright sun, get a reaction. They become sore on the white areas and white goats may die of the condition.

Centuries ago, the arrival of the summer solstice and festivities held on St. John's Day, June 24, imbued the golden yellow plant, which flowered at this time, mystical powers and a strong reputation as a sun symbol. These events also explain its colloquial name. People hung the plant about doors and windows to keep out evil spirits. Young girls gathered the plant on the eve of St. John's Day and if the sprigs were fresh in the morning, a happy marriage was in their future. A wilted flower spelled disappointment.

"The young maid stole through the cottage door.  
And blushed as she sought the Plant of pow'r;--  
'Thou silver glow-worm, O lend me thy light,  
I must gather the mystic St. John's Wort tonight,  
The wonderful herb, whose leaf will decide  
If the coming year shall make me a bride."

Besides being credited with these magical properties, the herb also has a variety of practical uses. It an excellent dye plant and it was used to treat a variety of ailments, as well. The next time you find common St. Johnswort blooming, rub the petals between your fingers and they will leave a dark red-purple stain. In the fall, the fruiting plant displays very attractive dark red capsules and the plant can be gathered, dried, and used in a dried floral bouquet. Keep your eye out for the brilliant yellow of practical, beautiful, mystical St. Johnswort.



*Hypericum perforatum*

## A Pollen Diagram From Oxen Pond

by Joyce Macpherson

On the floor of Oxen Pond is a layer of mud, up to 4m deep. Radiocarbon dates show that the mud began to accumulate about 11,000 years ago (BP), just after the last Newfoundland ice sheet had retreated from the area of St. John's. The mud consists of fine mineral particles washed in from the surrounding slopes together with organic matter from the soils of the catchment and from organisms in the pond itself. Each ml (cm<sup>3</sup>) of mud also contains as many as a quarter of a million identifiable pollen grains from the catchment and surrounding area and even from farther afield. Some grains are washed into the pond and some may be blown on to the water surface - sometimes in such quantities as to form a visible scum. Such pollen grains are usually from conifers, which are wind-pollinated. Plants pollinated by insects, like the Ericaceae, produce smaller quantities of pollen. Compared with most organic material, the walls of pollen grains are very resistant under anaerobic conditions, such as in the mud (they may even be found and identified from coal). Using a microscope (the largest grains are no more than 0.1 mm across, the smallest 0.01 mm) the grains may be distinguished to genus and often to species.

Before the pollen diagram for Oxen Pond could be drawn a core of sediment 4m long and 5cm in diameter was obtained; the core was obtained from the winter ice with further sampling from a boat to ensure that the topmost sediment had been collected. More than seventy samples were extracted

from the core for pollen analysis, and material was sent away for radiocarbon dating.

To extract the pollen, 1-ml sub-samples, usually taken every 5 cm, were processed chemically to remove mineral and non-pollen organic material. Then samples of the pollen-rich residue were examined under a microscope, and a count of about 300 grains per sample was made. This process of sub-sampling can be likened to taking a poll before an election - if the sample is large enough it will give a reasonable representation of the proportions in the total; it would be impossible to count all the grains. Examples of pollen grains and spores are given in the illustration.

After the pollen counts had been converted to percentages they were plotted in a pollen diagram (only major taxa are shown here), which is then subdivided into "pollen zones". From the base up, these are:

**herbs:** before about 10,200 BP: maximum herbs with low shrubs. Perhaps the best local analogue for the appearance of the vegetation which produced this pollen group is to be found on the summit of the Hawke Hills. The considerable percentages of spruce, pine and alder pollen are insignificant in total numbers ( low pollen concentration), and represent grains that were blown in from a distance, perhaps from as far as southern New England.

**shrubs:** 10,200-9,200 BP: maximum percentages of shrub birch, sweet gale, ferns; increase in ground juniper: think of descending the slope of the Hawke Hills a short distance.

**shrub-forest:** 9,200-7,000 BP: increasing tree birch, spruce and balsam fir, associated with decreasing shrub birch, ferns, sweet gale and club-mosses as the forest closed in.

**boreal forest:** 7,000~500BP: boreal forest: maximum trees. Maximum pine 7,000-4,000 BP was associated with high charcoal, indicating forest fires: perhaps the forest then was more like that in north-central Newfoundland today. This represents the **Hypsithermal.**, the period of maximum postglacial warmth. After 4,000 BP high balsam fir percentages indicate a moister and cooler forest.

**disturbed:** the last few centuries. Decreasing tree pollen, increasing shrubs, grasses and other herbs indicate some forest clearance and agriculture. Cereal pollen and potato pollen (Solanaceae) were noted. The topmost sample contained the highest charcoal count of the entire core, indicating the forest fire of 1961.

\* \* \* \* \*

The vegetational history of additional sites in St. John's is discussed in a chapter in a forthcoming volume on the historical geography of the city, from the Geography Dept., MUN.

The final version of the pollen diagram was produced by MUNCL (Memorial University of Newfoundland Cartographic Laboratory).

The illustrations of pollen grains and spores are taken from Kapp, R.O., 1969: How to know pollen and spores, Wm. C. Brown Co. Publishers.

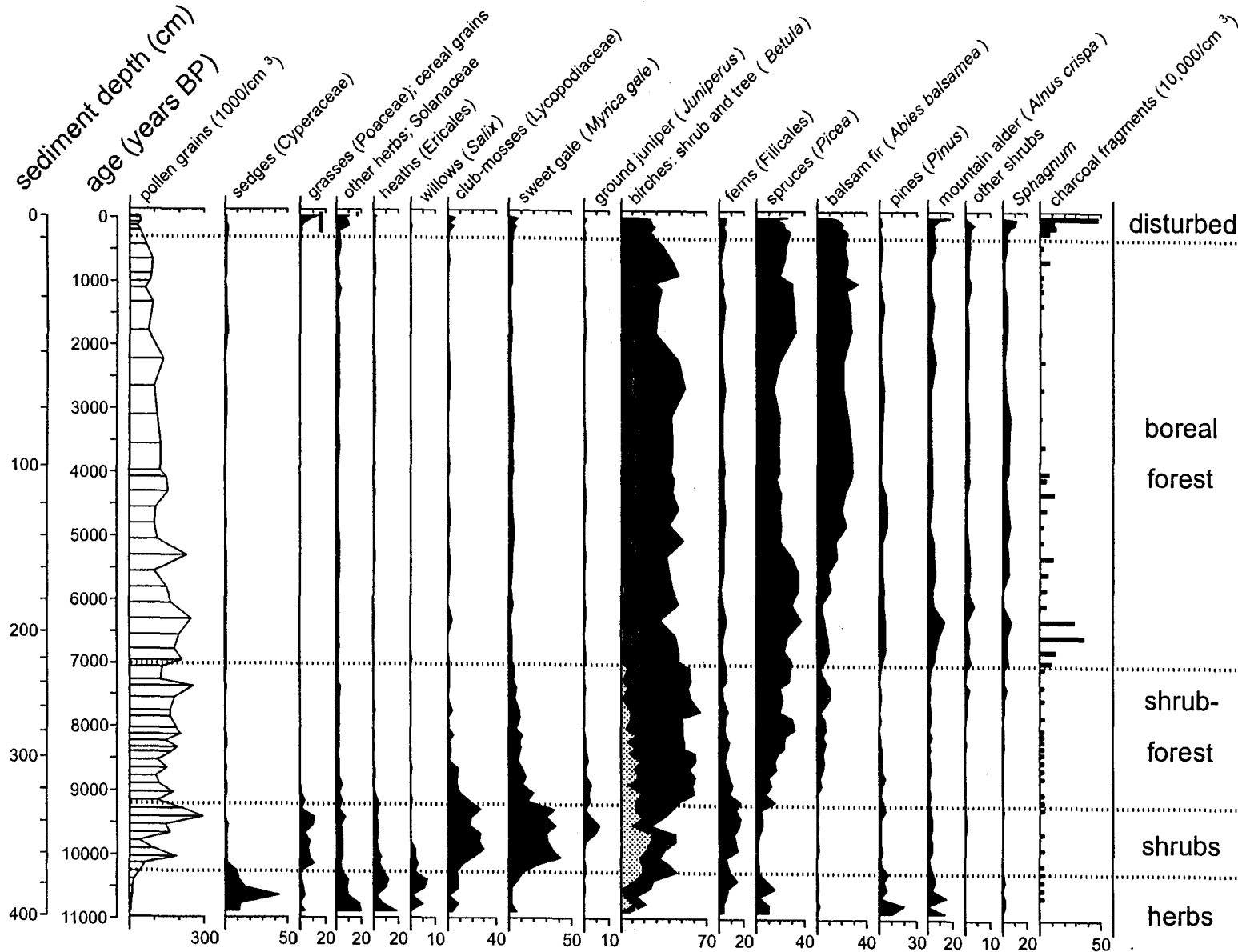


Photo by Andrus Voitk

Early record of Primula mistassinica May 26, 2004, near Rubber Lake, above Humber Village.

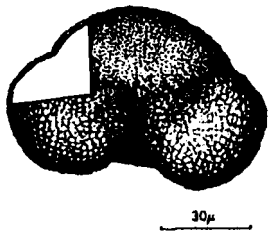
Of our native primroses, this is the commonest and earliest to bloom. The range of this species is from Port-aux-Basques to Cape Norman, with a few populations along the Exploits River. Colour ranges from white (as here) to pink and mauve. This species is generally slender-stalked with just a few flowers. The leaves form a flat rosette which are mostly efarinose (without powder), a feature that easily separates it from a small specimen of Primula laurentiana.

# OXEN POND

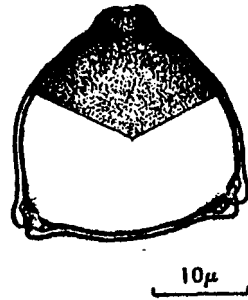


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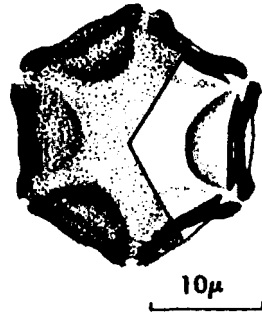
Examples of pollen grains & spores (from Kapp: Pollen and Spores)



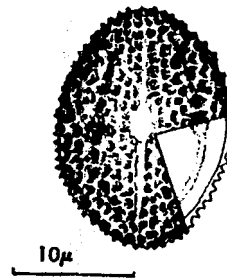
spruce



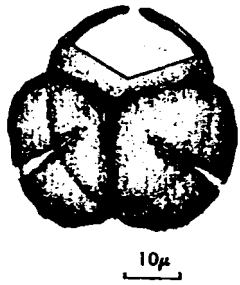
birch



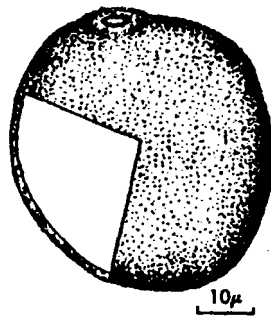
alder



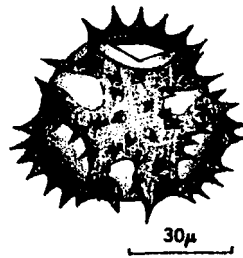
willow



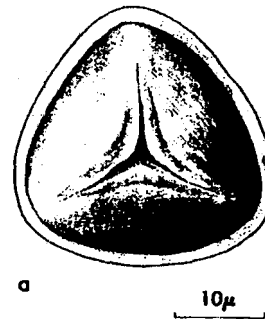
Ericaceae



grass, cereals



dandelion



*Sphagnum*

-37-



**Goldthread (Coptis trifolia (L.) Salisb.);  
An Early Spring Bloomer**

by Henry Mann

Two enjoyable days were spent in Barachois Pond Provincial Park on June 1 and 2, 2004 participating in the Park Interpreters Meetings and Training Workshops. It was an opportunity to once again view Andrus Voitk's beautiful orchid slides, learn from Bruce Roberts about forests and their soils, and to spend a good portion of each day in the field. The entire previous week had been heavily overcast, cold, and with abundant rains, but these two days were reasonably warm with scattered clouds and several sunny breaks. In the parking lots and open grassy fields only the common dandelion and wild strawberry were in bloom.

The Erin Mountain Trail, after crossing the bridge, winds through wooded forest slopes and eventually breaks onto the summit of Erin Mountain. Few showy flowers were observed along the trail on June 1. Only mayflower (Epigaea repens) was conspicuously in bloom and a few coltsfoot (Tussilago farfara) were still fully blossoming in a small wet, somewhat disturbed trailside location. Along the Trans-Canada Highway, coltsfoot had already finished blooming and was exhibiting white fluffy seed heads, but here along the trail partway up the mountain the growing season was less advanced. Often overlooked, a carex sedge also exhibited mature stamens and pistils. Corn lily (Clintonia borealis), starflower (Trientalis borealis) and wild lily-of-the-valley (Maianthemum canadense) had flower buds, but none were yet open. One early chuckley-pear (Amelanchier sp.) was beginning to bloom and northern fly honeysuckle's (Lonicera villosa) yellow-

green buds were about to unfurl. Two or three plants each of an early blue violet and a white violet were also noted, but that was pretty well the sum-total of the flowering season on this date. Small wonder, as snow patches still conspicuously adorned the upper slopes, especially those north facing. However, on the summit, as reported by Andrus Voitk, the mountain species Diapensia (D. lapponica) and alpine azalea (Loiseleuria procumbens) were already in full bloom.

Now, what about tiny goldthread, the reason for this article? On June 1 only two fully open blossoms of goldthread could be found on the lower trail slopes which we examined. The next day, after a few warm sunny breaks, a dozen or so Coptis were exhibiting their blossoms in the same small patch, so we appear to have truly caught the beginning of its reproductive season in this year. It is unfortunate that we will not be present to document the duration.

Goldthread is a tiny plant reaching only about 5-12 centimeters in height. It grows on moist mossy patches in damp shady woods and in peatlands, spreading by slender string-like rhizomes. Leaves are almost "strawberry-like" with three leaflets arising on long stalks from the base of the plant which may be somewhat embedded in the moss carpet. Unlike strawberry leaves, however, the leaflets are stiff, leathery, and shiny. They are also evergreen and can be seen as soon as the snow melts. This allows plants to immediately capture sunlight energy for early growth and flowering before the taller plants leaf-out and create heavy shading.

Coptis is a member of the Buttercup Family (Ranunculaceae) whose genera are quite variable in flower structure. Goldthread flowers are about 12-15

millimeters across with 5-7 white sepals which to the casual observer appear to be petals. Inside the white sepals occur 5-7 narrow structures with yellow knob-like indented ends in which nectar is produced. These structures have been interpreted as modified petals by some authorities and as modified stamens (staminodia) by others. Numerous white stamens (15-25) surround the yellow pistils in the centre of the flower. Three to seven pistils are each born on slender stalks and have characteristic hooked stigmas. At maturity, each enlarged pistil becomes a "follicle" type fruit containing several seeds and splitting open along one side.

Individuals collecting this plant for pressing will find that the white petal-like sepals fall off easily (are deciduous) so it is best to temporarily press the tiny plants immediately in the field in a small notebook and then transfer them to another press when returning to base. I find a small artist's sketchbook with stiff absorbent paper ideal for such small delicate plants. Such a booklet can be carried in a knapsack inside a plastic bag and will routinely come in handy for small specimens such as goldthread, violets and others.

Some manuals distinguish eastern North American goldthread as species or subspecies "groenlandica" based on minor differences between it and the circumboreal C. trifolia (L.) Salisb. Several modern authorities consider plants of boreal Europe, Asia and North America to be of a single species "trifolia" and do not separate it further into subspecies, varieties, or forms.

If one exposes the underground parts of the plant, the reason for the common name "goldthread" becomes obvious. The slender creeping rhizomes are a bright golden-yellow colour. A taste will discover

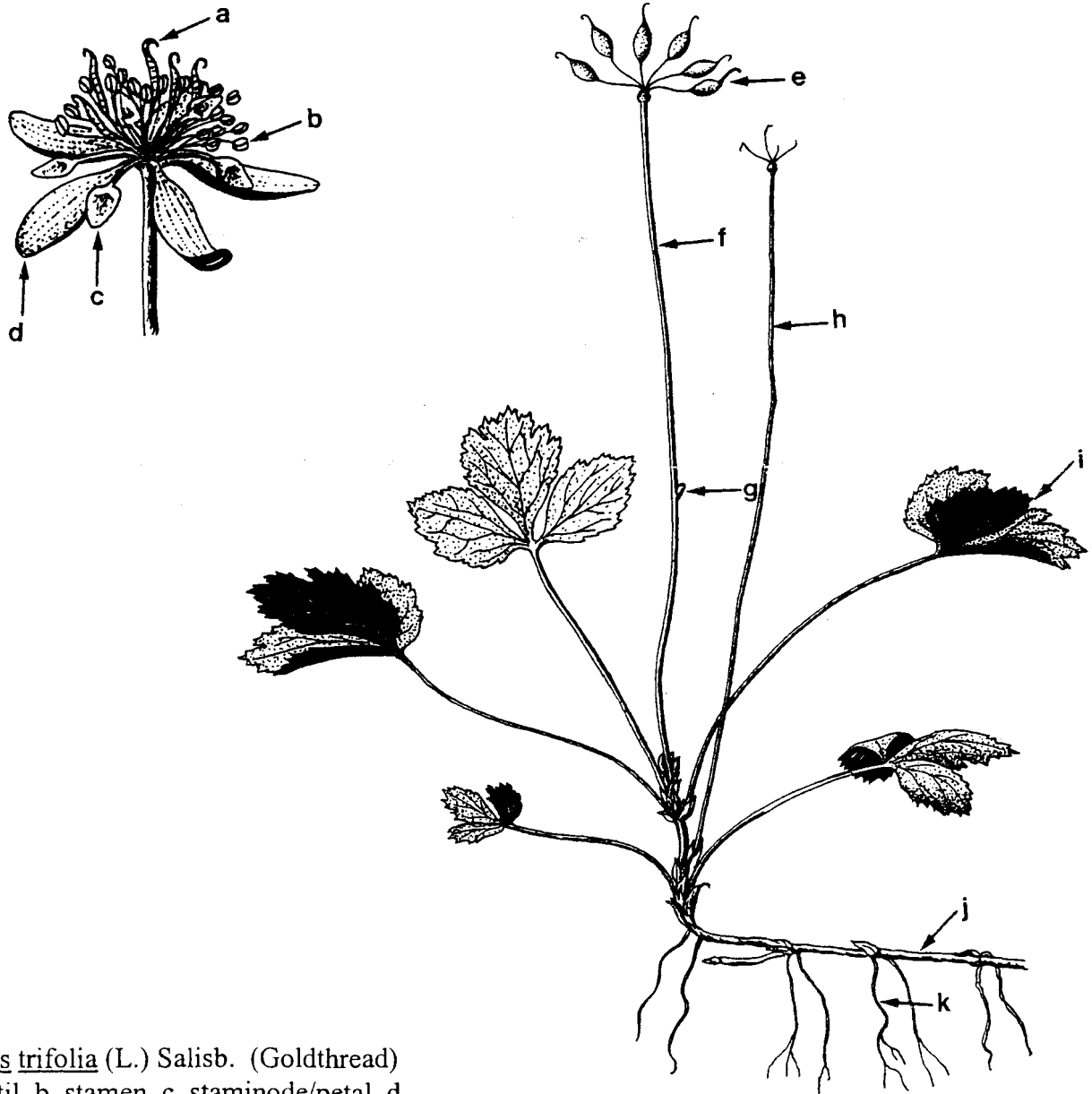
that they are quite bitter indicating some distinct biologically active compounds present. Traditionally the rhizomes and roots have been chewed or prepared as mouthwashes or gargles to treat sores of the mouth and throat, hence some of its other common names, "canker-root" and "mouth-root". North American natives collected the plants to make a yellow dye to colour porcupine quills, feathers, and leather goods. The Canadian Pharmaceutical Journal of 1879 contains the following entry, "Yaller root which is also known as golden-seal is worth 7 cents a pounds. It is used for makin' washes for sore eyes an' mouths" (Erichsen-Brown, 1979). Also in the same reference source is quoted a procedure for dying, "Bright yellow dye formula; take a great many long slender roots and boil in hot water. Add material and boil." Many other entries cited in Erichsen-Brown (1979) from 1739 to 1971 make interesting reading about this species. I highly recommend this book for those interested in the uses and folklore of our native species.

As illustrated by coptis, each of our native plants has a distinguishing structure, grows in a characteristic habitat and community, has its own distribution on the globe, and has properties which may only be superficially understood or sometimes forgotten. Even for this tiny forest dweller there is much more that could be known. How are flowers pollinated? Is it eaten by any animals or insects? Does it have soil fungal associations? When do seeds germinate? Can it be grown successfully indoors or in a garden? Are there other medicinal or biological uses for the compounds it produces? And the questions go on and on.

*"The curious botanist is truly blessed with an interesting and challenging life!"*

## Literature Cited

Erichsen-Brown, Charlotte. 1979. Use of Plants for the Past 500 Years. Breezy Creeks Press, Aurora, ON, Canada (ISBN 0-9690007-0-7)



*Coptis trifolia* (L.) Salisb. (Goldthread)  
a. pistil, b. stamen, c. staminode/petal, d. sepal, e. fruit (follicle), f. current year flowering stalk (scape), g. bract, h. scape of previous year, i. trifoliate leaf, j. rhizome, k. root. (Drawings by Warwick Hewitt)

**Wildflower Society of Newfoundland & Labrador  
Membership Form**

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Province/State \_\_\_\_\_ Postal Code/Zip \_\_\_\_\_

Email \_\_\_\_\_ Tel. \_\_\_\_\_

MUN Dept. Address (if you have one, helps us save postage) \_\_\_\_\_

Membership fees (\$10.00) are due in September. Check one:

Individual \$10

Family \$15

When joining between Jan. & Apr. \$15

Complete form and mail to *The Treasurer, Wildflower Society, c/o Botanical Garden, Memorial University, St. John's, NL, A1C 5C7*

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