Field Guide to the

Common Forest Plants in Northwestern Ontario

by K.A. Baldwin and R.A. Sims

with illustrations by A. McColm



Forestry Forêts
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Frank Oberle
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P7C 4T9

Authors and Acknowledgements

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Kenneth A. Baldwin Forestry Canada, Ontario Region Sault Ste. Marie, Ontario

Richard A. Sims
Forestry Canada, Ontario Region
Sault Ste. Marie, Ontario

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About the Plant Guide and its Contents

This guide will assist in the recognition of some of the common forest plants of north-western (NW) Ontario. Illustrated descriptions of 152 of the most frequently encountered species or species groups are presented. An additional 61 species are noted briefly.

Each major species, or species group, is described in terms of readily visible characteristics and is accompanied by a line illustration. Key traits for field identification are highlighted. A general habitat summary and miscellaneous notes are also provided.

The guide is organized in a logical sequence. Section 1 introduces the publication's purpose and scope. Section 2 offers guidance on how to properly use the guide, and outlines the conventions and types of information provided in the descriptions. Section 3 consists of the plant descriptions, organized alphabetically by species name within 6 categories: *Trees, Shrubs, Herbs, Graminoids, Ferns and Fern-allies, Bryophytes and Lichens.* A glossary of the technical terms used in the guide is presented in Section 4. Section 5 lists literature references and Section 6 is an index to the species by both scientific and common names.

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1. Introduction

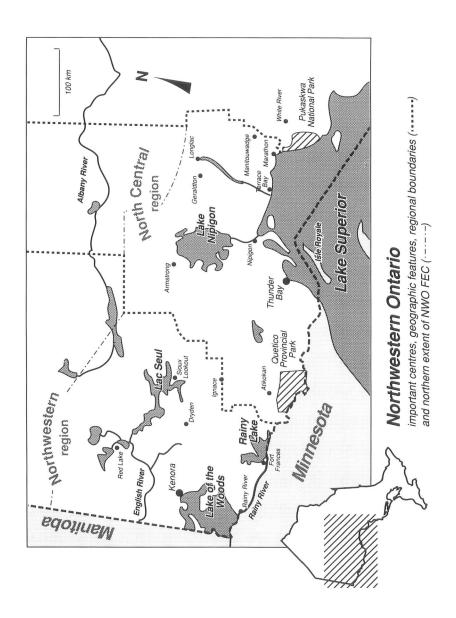
1.1. Purpose and Scope

This plant guide is intended as a companion publication to *Field Guide to the Forest Ecosystem Classification for Northwestern Ontario* (Sims et al 1989). It should be of interest to forest operators and resource managers as well as to recreational forest users and field naturalists. It emphasizes recognition of forest plants through the careful examination of simple field characters and focuses the user's attention on diagnostic traits, many of which are detailed in the accompanying line drawings. The guide is directed at the botanical layperson and, whenever possible, avoids unnecessary use of technical terminology.

Users of the Northwestern Ontario Forest Ecosystem Classification (NWO FEC) are encouraged to employ this guide, but familiarity with the NWO FEC is not assumed. The species described here include all of those listed on the NWO FEC V-Type Factsheets (Sims et al 1989). For NWO FEC users, this information may contribute to a better ecological understanding of particular forest communities. Hopefully, such insights will facilitate the integration of resource management activities across the broad spectrum of forest utilization needs.

There are over 1000 species of vascular plants and 400 species of bryophytes and lichens in northwestern (NW) Ontario (Garton 1984, Ireland and Cain 1975, Crowe and Barclay-Estrup 1971). A publication of this size cannot provide exhaustive coverage of such a regional flora. Instead, it concentrates on 152 of the most common forest (primarily boreal) plants. It contains all species employed in the allocation key to the NWO FEC Vegetation Types (Sims et al 1989) as well as all those listed in the V-Type Factsheets. Several additional forest species have been included but, for the most part, non-native "weedy" species as well as species of specialized, non-forest habitats (e.g. aquatic plants) are not dealt with here. Large or difficult taxonomic groups, such as sedges and bryophytes, are represented by just a few selected species or species groups.

The plants included here are organized into six main categories according to their common growth form or habit. The categories are defined, for our purposes, as follows: *Trees* - woody species, common to NW Ontario forests, which typically attain heights greater than 10 m and/or diameters at breast height (1.3 m) of more than 10 cm;



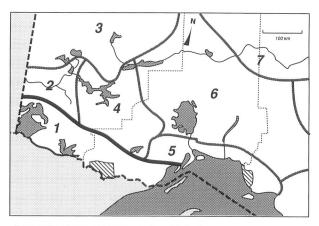
Shrubs - perennial woody plants, other than the forest tree species; **Herbs** - plants with no persistent woody stem above the ground (except for certain dwarf woody species of indeterminate habit which we include in this category); **Graminoids** - grasses, wood rushes and sedges; **Ferns and Fern-allies** - ferns, horsetails and clubmosses; **Bryophytes and Lichens** - mosses, liverworts (or hepatics) and lichens.

1.2. Geographic Setting

This guide is most appropriately applied within NW Ontario, defined here as the southern half of the territory encompassed by two administrative regions of the Ontario Ministry of Natural Resources (OMNR): the North Central (NC) and Northwestern (NW) Regions. This is a large land area to the north and northwest of Lake Superior, ranging from the Ontario - Manitoba border in the west to the Manitouwadge / White River general vicinity in the east, and extending from the Ontario - U.S. border in the south to the northern limit of commercial forest in the province, a line which roughly coincides with the southern edge of the Hudson Bay Lowland physiographic zone (Anon. 1974). The total area exceeds 184,000 sq km.

NW Ontario includes portions of the Boreal Forest Region (characterized by extensive black spruce, jack pine and balsam fir forests as well as mixed stands of conifer and northern deciduous species such as trembling aspen and white birch) and of the Great Lakes - St. Lawrence Forest Region (characterized by a diversity of conifer and hardwood species, including white and red pine, red maple and ash) (Rowe 1972). The Boreal Forest Region covers by far the largest proportion of the area, and includes the Northern Coniferous, Upper English River, Lower English River, Central Plateau and Superior Forest Sections. The Great Lakes - St. Lawrence Forest Region is represented by the Quetico and Rainy River Forest Sections, extending in a strip along the Ontario - U.S. border to the west of Thunder Bay.

The forests of NW Ontario comprise a diverse mosaic of vegetational and soil/site ecosystem conditions. For example, pure, even-aged jack pine stands occur widely on well-drained, coarse-textured soils. Black spruce stands, often with poorly-developed understory vegetation, occur across a range of soil and site conditions from thin, mineral soils overlying bedrock to poorly drained, organic wetlands. Balsam fir, white spruce, trembling aspen and white birch tend to occur in stands of mixed composition on a variety of dry to moist, coarse- to fine-textured soils. Extensive and repetitive forest fires, cyclical insect infestations, disease, and other factors have an ongoing and pervasive effect on the ecology of forests in NW Ontario.



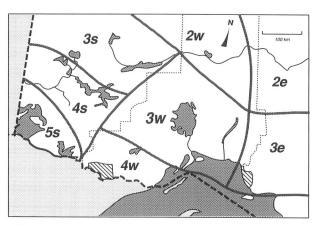
Forest Regions of Northwestern Ontario (after Rowe 1972)

Great Lakes - St. Lawrence Forest Region

1 Quetico - Rainy River

Boreal Forest Region

- 2 Lower English River3 Northern Coniferous
- 4 Upper English River
- 5 Superior
- 6 Central Plateau
- 7 Hudson Bay Lowlands



Site Regions of Northwestern Ontario (after Hills 1961)

NW Ontario is characterized by a diverse physical setting. It is underlain by mostly Archean (Precambrian) rocks of the Superior and Southern Provinces (Pye 1969). In some areas, Phanerozoic sedimentary rocks overlie the bedrock. Glacial landform patterns are distinct due to complex events which occurred during glacial and early postglacial periods (Zoltai 1961, 1965, 1967). Common surficial deposits include shallow drift, undulating ablation and basal tills, morainal and drumlin features and large expanses of predominantly thin glacial sediments over rolling to rugged bedrock (Sado and Carswell 1987). Glaciofluvial and glaciolacustrine deposits tend to be more localized but are also very common. Other surficial features include spillways, aeolian deposits and peat accumulations. While there are many small areas of organic deposits, there are relatively few large expanses of wetland in NW Ontario.

In general the climate of NW Ontario is microthermal (C'21 to C'22) and humid (B'1 to B'3-B'4) according to the Thornthwaite system (Sanderson 1948). There are, however, two main climatic gradients which generally stratify the area: temperature and humidity. Seasonal temperatures tend to increase with decreasing latitude and are moderated in proximity to Lake Superior; mean annual temperatures, for example, range from 0°C in the north to over +3°C near the US border in the southwestern sector of NW Ontario (Chapman and Thomas 1968). Humidity (and precipitation) trends from drier in the west to moist in the east; mean annual precipitation ranges from less than 550 mm west of Kenora to over 800 mm in the Marathon / Manitouwadge general vicinity (Chapman and Thomas 1968). Because of this stratification effect, NW Ontario encompasses four major Site Regions (and portions of four others) as defined by Hills (1961): 5S, 4S and the southern half of 3S ("Subhumid Western" Site Regions); 4W, 3W and the southern portion of 2W ("Humid Western" [driest humid] Site Regions) and the western edges of 3E and 2E ("Humid Eastern" [medium humid] Site Regions).

1.3. The NWO FEC Framework

1.3.1. General Background

Northwestern Ontario's Forest Ecosystem Classification (Sims et al 1989) was developed to provide a framework for improved communication about forest ecosystems in this part of the province. Ultimately, this means that forest management knowledge and experience can be organized, communicated and used more effectively. Moreover, it provides forest managers and forest users alike with some of the "basics" for appreciating and understanding the ecological nature of our important forest resources.

Introduction

Forest ecosystems are considerably more than just the trees in the main canopy. Understory vegetation, soil and other physical site features play important roles in determining how forest ecosystems grow and regenerate. Consequently, the NWO FEC system incorporates and describes features in addition to the overstory cover (Sims et al 1986, 1989).

The NWO FEC was developed using data collected and analyzed from forest stands throughout NW Ontario. It has been rigorously tested for both accuracy and practicality. The NWO FEC is very easy to use and apply in the field; stands can be quickly allocated to V-Types using a few easily recognized diagnostic features.

The NWO FEC involves a two-stage allocation process:

Step 1. A stand is allocated to one of 38 Vegetation Types (V-Types). The user applies a simple field key which incorporates overstory trees and diagnostic understory plants.

Step 2. The soil is directly characterized in terms of a few critical parameters (e.g. soil depth, parent material texture, presence of mottles or gley; cf. Ontario Institute of Pedology 1985) as sampled from a soil pit or auger hole. As for the V-Type, a field key is used to determine S-Type (deeper soils) and SS-Type (shallower soils).

Once the Vegetation and Soil Types are determined, a variety of forest management interpretations can be applied (Racey et al 1989). For forest managers, the NWO FEC system provides an easy, workable terminology and framework for organizing, overlaying and updating information.

1.3.2. Vegetation Types

The NWO FEC recognizes 38 Vegetation Types. The field key is hierarchical and asks for simple yes/no decisions based on either the presence/absence or the relative abundance of indicator species. Initial divisions are based mainly on the tree layer but finer divisions consider the ground layer vegetation.

Each Vegetation Type describes and represents an average (or "modal") stand condition. However, the forests of NW Ontario are inherently variable. The NWO FEC, while subdividing this variability into smaller, more homogeneous units, still represents a range of conditions within each V-Type.

There are three main V-Type groupings: Mainly Hardwood (11 V-Types), Conifer Mixedwood (9 V-Types) and Conifer (18 V-Types). The V-Types are presented in their groupings below:

V1 Balsam Po	plar Hardwood	l and	Mixedwood
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V2.....Black Ash Hardwood and Mixedwood

V3.....Other Hardwoods and Mixedwoods

V4......White Birch Hardwood and Mixedwood

V5.....Aspen Hardwood

V6.....Trembling Aspen (White Birch) - Balsam Fir / Mountain Maple

V7.....Trembling Aspen - Balsam Fir / Balsam Fir Shrub

V8.....Trembling Aspen (White Birch) / Mountain Maple

V9.....Trembling Aspen Mixedwood

V10......Trembling Aspen - Black Spruce - Jack Pine / Low Shrub

V11......Trembling Aspen - Conifer / Blueberry / Feathermoss

V12......White Pine Mixedwood

- V13......Red Pine Mixedwood
- V14......Balsam Fir Mixedwood
- V15...... White Spruce Mixedwood
- V16......Balsam Fir White Spruce Mixedwood / Feathermoss
- V17......Jack Pine Mixedwood / Shrub Rich
- V18......Jack Pine Mixedwood / Feathermoss
- V19......Black Spruce Mixedwood / Herb Rich
- V20......Black Spruce Mixedwood / Feathermoss

V21......Cedar (inc. Mixedwood) / Mountain Maple

- V22......Cedar (inc. Mixedwood) / Speckled Alder / Sphagnum
- V23......Tamarack (Black Spruce) / Speckled Alder / Labrador Tea
- V24......White Spruce Balsam Fir / Shrub Rich
- V25......White Spruce Balsam Fir / Feathermoss
- V26...... White Pine Conifer
- V27.....Red Pine Conifer
- V28......Jack Pine / Low Shrub
- V29......Jack Pine / Ericaceous Shrub / Feathermoss
- V30......Jack Pine Black Spruce / Blueberry / Lichen
- **V31**......Black Spruce Jack Pine / Tall Shrub / Feathermoss

~	V32Jack Pine - Black Spruce / Ericaceous Shrub / Feathermoss
(ctd.)	V33Black Spruce / Feathermoss
9	V34Black Spruce / Labrador Tea / Feathermoss (Sphagnum)
g.	V35Black Spruce / Speckled Alder / Sphagnum
Conifer	V36Black Spruce / Bunchberry / Sphagnum (Feathermoss)
8	V37Black Spruce / Ericaceous Shrub / Sphagnum
Ü	V38Black Spruce / Leatherleaf / Sphagnum
	1 0

1.3.3. Habitat Diagrams

The plotted diagrams shown below and in Section 3 of this guide are based on a computer-assisted "ordination" analysis of vegetation data collected during the NWO FEC program. Ordination (Hill 1979, Gauch 1982) is a mathematical procedure that synthesizes and graphically summarizes large, complex datasets into a simple, readable form. The ordination presented here represents an "executive summary" of all of the abundance information for all vegetation species recorded in over 2100 NWO FEC field plots.

Each of the 38 plotted points (*V1-V38*) in the ordination diagram represents an average vegetational composition for a V-Type. Types which are close together on the ordination (e.g. *V20* and *V33*) tend to be more alike in terms of their general vegetation conditions than those which are far apart (e.g. *V27* and *V2*). The distance between any two points (V-Types) graphically illustrates the relative degree of similarity or difference between those Types.

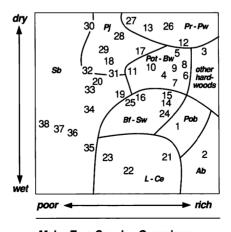
Although neither axis is calibrated to an absolute scale, there are two main gradients that can be inferred along the axes of this ordination. Along axis 1, from left to right, the gradient is from nutrient-poor to nutrient-rich. Axis 2, from bottom to top, represents a wet to dry gradient. Thus, the ordination effectively provides a pictorial representation within which the V-Types can be related to moisture/nutrient conditions as well as to patterns of average vegetational composition.

Information about other soil/site or vegetation parameters can be overlain on the V-Type ordination. Such two-dimensional overlays help to elucidate relationships between the Vegetation Types and these parameters. In the diagrams presented below, mean values for occurrence of the major tree species groupings, dominant soil texture classes and general soil moisture regimes are overlain on the ordination. The soil texture and moisture regime overlays, in particular, provide good insight into the relationships of the V-Types with two very important soil/site attributes.

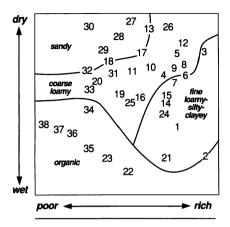
The habitat diagrams, presented with each species description in Section 3, are another form of overlay on the V-Type ordination. Distribution information for each species, according to Vegetation Type, has been compiled from the NWO FEC dataset. Hatched areas on each habitat diagram show the V-Types where a given species occurred in at least 10% of the FEC sample (the diagrams do not, however, provide information on levels of abundance). Diagrams for species in the *Trees* section provide distribution information on both shrub- and tree-sized occurrences: cross-hatching shows the V-Types where a species occurred in *both* the tree and the shrub layers.

Remember that major gradients can be interpreted along the two axes of the ordination. Thus, one can usually estimate for a species the general range of moisture and nutrient regimes across which it tends to occur in the natural forest. Used in conjunction with the soil/site overlays presented in this section (see below), the habitat diagrams provide a better understanding of the autecology of each forest species.

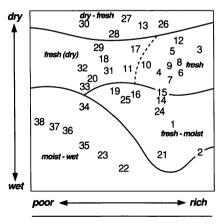
The habitat diagrams should only be considered as guides, however. Because of the natural variability that characterizes forests throughout NW Ontario, species may be found in V-Types not indicated in the habitat diagrams. In addition, since the NWO FEC data collection was directed at mature forest ecosystems, the habitat diagrams do not indicate species distributions in non-forested or disturbed habitats.



Major Tree Species Groupings



Soil Texture (C Horizon) Classes



Soil Moisture Regime Classes

2. How to Use the Plant Guide

2.1. Field Identification

When an unknown plant is encountered, it is helpful to adopt a systematic approach to observing its field characteristics. Non-flowering plants (i.e. those reproducing by spores instead of seeds) are usually recognizable as individual groups. The most prominent groups of non-flowering plants in the forests of NW Ontario are the ferns, the fern-allies — mainly horsetails (*Equisetum* spp.) and clubmosses (*Lycopodium* spp.), the bryophytes — mosses and liverworts — and the lichens. It is usually not difficult to distinguish these groups on the basis of general appearance.

Flowering plants include all of the familiar tree, shrub, herb and graminoid species. For flowering plants, floral characters such as number of petals, colour and flower arrangement can be useful for identification. Leaf arrangement, structure, shape and margin features (see the pictorial glossary in Section 4) are also important discriminators, especially for specimens without flowers or fruit. Note the size of the plant, its growth habit (e.g. is it trailing along the ground), hairiness, presence of bristles or thorns, fruit characteristics and general habitat. Remember that some characters are more subject to local or seasonal variation than others and, therefore, are less reliable as identifying criteria. In general, colour, shape, size and hairiness characters can be expected to vary more than features of structure, arrangement and form.

To use this guide, decide which of the 6 categories (*Trees, Shrubs, Herbs, Graminoids*, *Ferns and Fern-allies* or *Bryophytes and Lichens* — see Section 1.1) an unknown plant belongs to. Turn to the appropriate section and compare the illustrations with the unknown specimen. If one illustration appears similar, carefully compare characters described in the text (especially the *italicized* diagnostic characters) with those of the specimen. If no illustrations match:

a) check other sections of this guide (e.g. some low woody plants are included in the *Herbs* section).

b) the species is not included in this book. In these cases a more comprehensive reference should be consulted.

Many of the most helpful references for this geographic area are listed in Section 2.4. For flowering plants other than graminoids, *Newcomb's Wildflower Guide* (Newcomb 1977),

Shrubs of Ontario (Soper and Heimburger 1982) and Trees, Shrubs and Flowers to Know in Ontario (McKay and Catling 1979) are non-technical and well illustrated. Plants of Quetico and the Ontario Shield (Walshe 1980) organizes the vascular plant species of Quetico Park by habitat. For ferns and fem-allies, A Field Guide to the Ferns and their Related Families (Cobb 1963) is readily available. Despite its emphasis on a western flora, A Photographic Field Guide to the Mosses, Lichens and Ferns of Northwest North America (Vitt, Marsh and Bovey 1988) provides excellent photographs of most of the common bryophyte and lichen species found in NW Ontario. In general, though, exploration of additional graminoid, bryophyte or lichen species is not possible without becoming involved with technical botanical references.

2.2. Plant Descriptions and Illustrations

The category to which a species has been assigned is indicated in the top outer corner of each description and illustration page. Within each category, species are arranged alphabetically according to their scientific names.

Each description is headed by the scientific name of the species followed by the taxonomic family name. The facing illustration is titled with the English common name(s). It should be noted that scientific names are universal and exclusive (i.e. the name designated for each species is governed by strict international rules). Common names, on the other hand, may vary regionally or apply to several quite different species. To avoid confusion, the use of scientific names is encouraged.

In this guide the scientific names and most of the common names follow:

for vascular plants — The New Britton and Brown Illustrated Flora of the NE United States and Adjacent Canada (Gleason 1952) or The Flora of Canada (Scoggan 1978);

for non-vascular plants — Mosses of Eastern North America (Crum and Anderson 1981) and How to Know the Lichens (Hale 1979).

For each species there is a general habit description followed by more detailed descriptions of leaf, flower and fruiting structures. Some features are best observed with a 10x hand lens — these are indicated. Italics are used to denote important diagnostic characters. Text superscripts correspond to the numbered arrows on the illustration page. Information on the geographic distribution of the species within NW Ontario as well as

on its frequency of occurrence and range of habitat preferences follows. Additional information is contained in the habitat ordination diagrams (refer to Section 1.3.3.). The "Notes" section includes general comments on similar and related species, traditional uses, toxicity, etc. *Please understand that we are not recommending any of the noted uses*. Additional space is often available to add notes of personal interest.

The text descriptions avoid, as much as possible, use of technical terminology but a glossary of selected terms is provided in Section 4. Distribution, frequency and habitat information, as well as height ranges for the tree species, are derived exclusively from NWO FEC survey data. As such, they pertain only to the forest occurrence of the species as reflected in this dataset and not to populations in other non-forested or disturbed habitats. Conventions have been adopted in reporting frequency of occurrence. Frequency classes are based on occurrences within over 2100 FEC sample plots across NW Ontario and may not be readily comparable to classes of relative frequency employed in other publications. Frequency classes are defined as follows:

very commonoccurrence in > 75% of the sample plots
commonoccurrence in 50% - 75% of the sample plots
frequentoccurrence in 25% - 50% of the sample plots
occasionaloccurrence in 10% - 25% of the sample plots
<i>Infrequent</i> occurrence in 1% - 10% of the sample plots
rareoccurrence in < 1% of the sample plots

2.3. Selection of Plant Species for Inclusion in the Guide

Vegetation survey data from the NWO FEC program were used as the basis for species selections. Approximately 800 species were recorded in vegetation sampling of over 2100 forest plots across NW Ontario. From this species list, a subset was established of species which occurred in either 1% of the total NW Ontario sample or 1% of the sample from either of the NC or NW Regions (see Section 1.2). Species or species groups meeting at least one of the following criteria were selected from this subset for inclusion in the plant guide:

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- a) species or species groups which often occur in relative abundance,
- b) species or species groups which are widespread in distribution across at least one of the two regions in NW Ontario,
- c) species or species groups which are examples of a larger taxonomic group (e.g. bryophytes or *Carex* spp.).

2.4. Reference Sources for the Plant Descriptions

The plant descriptions and notes in Section 3 were assembled from information contained in numerous reference sources as well as from the authors' personal experiences. The following sources were consulted:

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Picea mariana (p. 30)

Pinus strobus (p. 36)





Thuja occidentalis (p. 44)



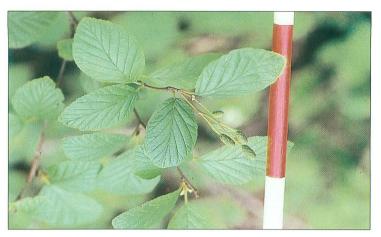
Populus balsamifera (p. 38)



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Acer spicatum (p. 48)





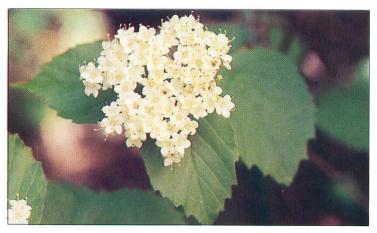
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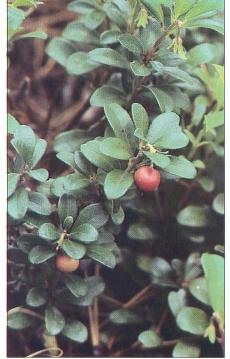
Rubus pubescens (p. 122)



Diervilla lonicera (p. 72)



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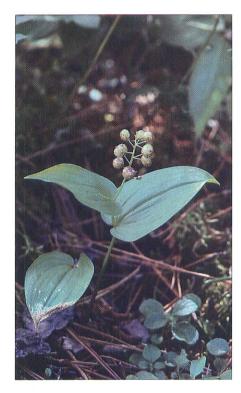
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mnocarnium drvonte

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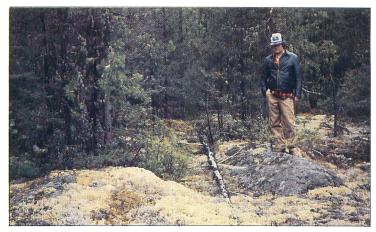
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Cladina spp. groundcover

Cladina stellaris (p. 292)

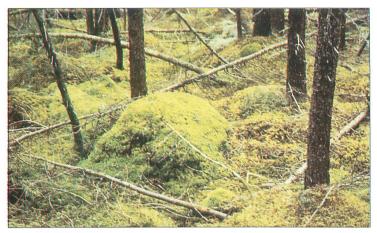




Sphagnum wulfianum (p. 324)

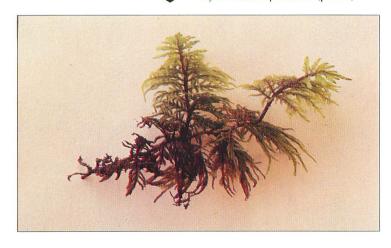


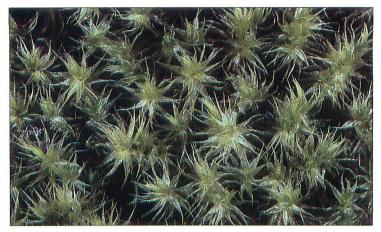
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Peltigera aphthosa (p. 302)



Section 3.1

Trees

Contents:

Abies balsamea
Acer rubrum
Betula papyrifera
Fraxinus nigra
Larix laricina
Picea glauca
mariana
Pinus banksiana
resinosa
strobus
Populus balsamifera
grandidentata
tremuloides
Thuja occidentalis

Abies balsamea (L.) Mill.

Pinaceae (Pine Family)

Description

General - small to medium-sized (averaging < 15 m high), evergreen conifer with a dense, symmetrical, spire-like crown; branches usually distinctly whorled, persistent below the crown when dead; branchlets essentially opposite, arranged in flat sprays; bark of branchlets smooth and waxy, with circular leaf scars when needles are removed; trunk bark smooth with raised resin blisters when young, becoming scaly with age.

Leaves - needle-like, 2-3 cm long, flat, with a blunt or minutely notched tip and 2 white bands beneath; unstalked, attached spirally to the stem but twisted at the base to appear in 2 rows (giving the spray a flattened appearance).

Flowers - male and female flowers separate on the same tree; male flowers tiny, cone-like, deciduous, short-lived, hanging from the angles of the previous year's leaves; female flowers 5-10 cm long, purplish to green, upright, fleshy cones with broadly rounded scales; appearing in May.

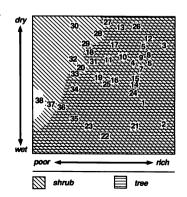
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the scales and seeds fall away from the central stalk which persists on the branch.

Habitat

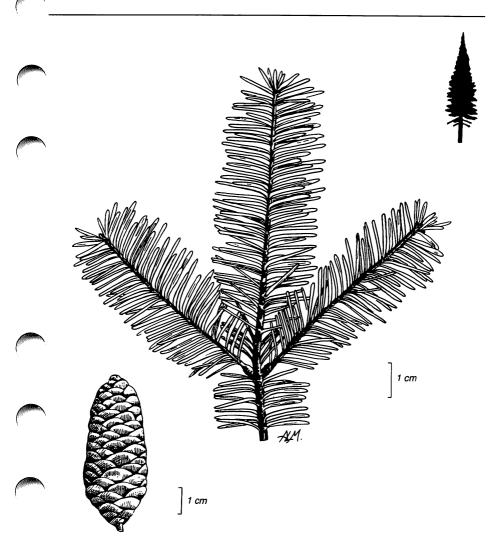
Widespread throughout NW Ontario. Frequent in the overstory, very common in the understory; occurring across a broad range of soil/site conditions. In the overstory usually found in mixed associations with other species, often occurring in several age classes within one stand.

Notes

As a shrub, confusion with non-flowering individuals of *Taxus canadensis* is possible; the leaves of *Taxus* are distinctly pointed. Balsam fir is utilized commercially for pulpwood and some sawn lumber. It is a preferred food source for the spruce budworm and may contribute to intense budworm infestations when occurring in dense stands. Canada balsam oil and turpentine are extracted from the resin.



Balsam Fir



Acer rubrum L.

Aceraceae (Maple Family)

Description

General - small to medium-sized (averaging 16 m high), broadleaved hardwood with a small, dense, narrow crown of spreading or ascending branches; branchlets *shiny*, *hair-less*, red becoming grey with age; leaf buds dark red, blunt, unstalked, surrounded by clusters of flower buds; trunk bark smooth and light grey when young, becoming dark grey and ridged with loose, plate-like scales.

Leaves - opposite; with 3-5 prominent lobes separated by broad, shallow, V-shaped sinuses; the terminal lobe no more than half the leaf length and broadest at the base¹; margins coarsely and irregularly double-toothed; finely hairy or not when young, usually hairless on both surfaces when mature.

Flowers - in few-flowered clusters on branchlets of the previous year; individual flowers small (< 1 cm across), red or orange; appearing before the leaves in May.

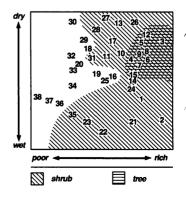
Fruit - paired, hairless keys (each about 2 cm long); maturing and dropping in June and July.

Habitat

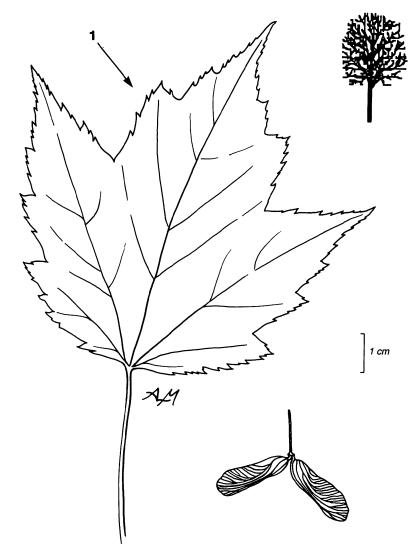
Occurring in the Thunder Bay / Quetico / Rainy River area of NW Ontario. Infrequent, most common as an understory shrub; primarily on upland, dry/fresh, coarse loamy soils, less common in moist/wet lowland forests. Also on disturbed ground.

Notes

Shrub-sized individuals may be mistaken for A. spicatum. A. spicatum bears its flowers and fruit in an upright, terminal cluster; there is usually a fine hairiness on its twigs and the undersides of its leaves. A. saccharinum L. (Silver Maple) is encountered rarely in forests of the Quetico / Rainy River area but is planted as an ornamental in several NW Ontario communities. Its leaves are deeply lobed, the sinuses extending more than half-way to the mid-vein, with the terminal lobe narrowed at the base.



Red Maple



Betula papyrifera Marsh.

Betulaceae (Birch Family)

Description

General - small to medium-sized (averaging 16 m high, up to 28 m), broadleaved hardwood with a rather small, open crown of spreading or ascending branches; branchlets slender, dark reddish-brown; trunk bark reddish-brown on young stems becoming distinctly white, papery, peeling easily into sheets, with long horizontal streaks.

Leaves - alternate but often appearing opposite or whorled on older, dwarf twigs; egg-shaped to almost triangular, tapering to a sharply pointed tip, rounded to wedge-shaped or occasionally heart-shaped (var. cordifolia) at the base; margins singly or doubly toothed, usually without teeth near the leafstalk; hairless above, sparsely hairy in the vein angles beneath; variable in size and shape on young, vigorous shoots.

Flowers - borne on catkins; male catkins cylindric, visible at the tips of overwintering twigs, elongating in May before the foliage emerges; female catkins elongating in May to 3-5 cm long.

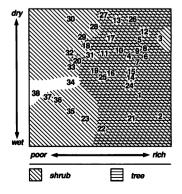
Fruit - two-winged seeds released from the female catkins in late May and early June; the catkins are shed soon after.

Habitat

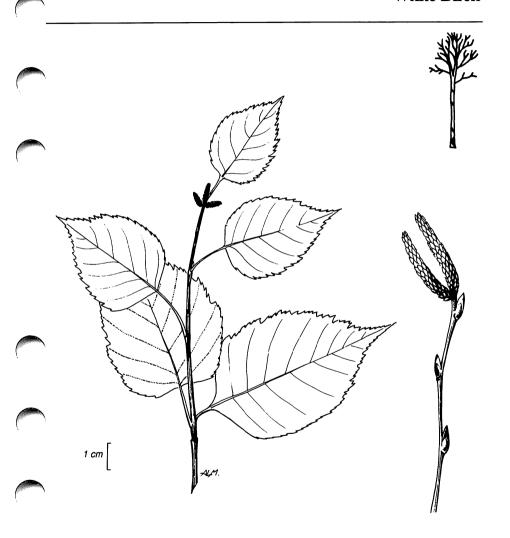
Widespread throughout NW Ontario, particularly prevalent in the vicinity of Lake Superior. Frequent; occurring across a broad range of soil/site conditions in a variety of species associations.

Notes

As a small shrub, confusion with *Corylus cornuta* and *Alnus* spp. is possible (see notes for these species). White birch is utilized commercially for pulpwood, specialized lumber and some veneer. The paper-like bark was traditionally used by the Indians of eastern North America for canoe construction. The bark makes excellent tinder for fire-starting but, to avoid damaging a tree, bark should not be peeled from around the trunk.



Paper Birch White Birch



Fraxinus nigra Marsh.

Oleaceae (Olive Family)

Description

General - medium-sized (averaging 17 m high), broadleaved hardwood with a rather small, open crown of large, spreading or ascending branches; branchlets stout, round in cross-section, hairless; buds very dark, the uppermost lateral buds separate from the terminal bud; trunk bark light grey, soft with corky ridges.

Leaves - opposite¹; compound with 7-11 leaflets²; leaflets oval to lance-shaped, finely toothed, tapering to a long slender tip, blunt at the base, *stalkless*³; tufts of rust-coloured hairs at the joints where the leaflets meet the main leafstalk.

Flowers - in dense clusters from the angles of leaves of the previous season; male and female flowers generally on separate trees; individual flowers inconspicuous with no petals; appearing in May before the leaves.

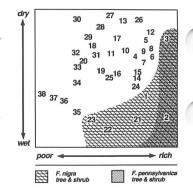
Fruit - a flattened maple-like "key", not paired as with the maples 4; the wing extends all the way to the base of the seed and is blunt at both ends; ripening in the autumn and persistent on the tree throughout much of the winter.

Habitat

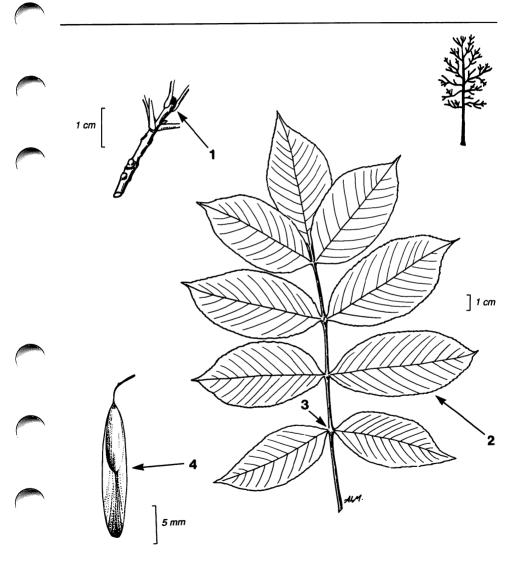
Throughout NW Ontario but most common in the Quetico / Rainy River area. Infrequent; occurring in small, localized stands on rich, low-lying, moist/wet, organic or fine-textured mineral soils.

Notes

F. pennsylvanica Marsh. may also be encountered in the Quetico / Rainy River area. It has leaflets with short stalks, compared to the stalkless leaflets of black ash. F. pennsylvanica occurs as 2 forms: Red Ash, with hairy twigs, and Green Ash, which is hairless. Ash is sawn for specialty lumber products. The wood of black ash can be used for basket-weaving. Pioneer folk-lore regarded the wood of ash to be a charm against snakes, hence the tradition of making cradles of ash as a protection for infants.



Black Ash



Larix laricina (Du Roi) K. Koch

Pinaceae (Pine Family)

Description

General - medium-sized (averaging 18 m high), deciduous conifer with a sparse, open crown; open-grown trees can appear ragged and irregular; twigs hairless, not drooping, with numerous dwarf, stubby, spur-like lateral branchlets; trunk bark grey to reddish-brown, scaly.

Leaves - needle-like, 2-3 cm long, soft, flexible, very slender, light green turning yellow in the autumn and falling off; on the current year's twigs arranged individually in a spiral, on older twigs produced in clusters of 10 to 20 on dwarf lateral branchlets¹.

Flowers - male and female flowers separate on the same tree; male flowers tiny, conelike, deciduous, short-lived, on leafless dwarf branchlets of the previous year's growth; female flowers red, upright cones, 1-2 cm long, also on dwarf branchlets of the previous year's growth; appearing in May.

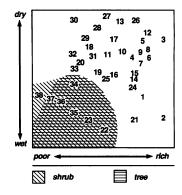
Fruit - winged seeds enclosed by the woody scales of the mature female cone; cones open in the autumn of the year of development to shed the seeds; bracts pointed, shorter than the scales.

Habitat

Throughout NW Ontario. Infrequent; primarily confined to wet, poorly-drained sites, usually on organic soils. Often occurring in association with black spruce and white cedar.

Notes

Tannin, used in the tanning of leather, can be extracted from the bark. In the days of wooden ships, tamarack was highly regarded as a shipbuilding wood.



Tamarack Eastern Larch



Picea glauca (Moench) A. Voss

Pinaceae (Pine Family)

Description

General - medium to large-sized (averaging 17 m high, up to 28 m), evergreen conifer with a fairly uniform, conical crown and branches which spread or droop slightly; branchlets hairless with persistent, raised, woody leaf bases; trunk bark light greyish-brown, flaky or scaly, inner bark silvery - white to reddish.

Leaves - linear, needle-like, thick, stiff, sharp, about 2 cm long; 4-sided in cross-section; green to bluish-green, often with a whitish powdery coating; strongly aromatic when crushed; individually attached in a spiral around the branchlet forming a cylindrical rather than a flattened spray.

Flowers - male and female flowers separate on the same tree; male flowers tiny, cone-like, deciduous, short-lived, at the end of the previous year's growth; female flowers erect, red cones with numerous spirally-arranged scales, also at the end of the previous year's growth; appearing in May.

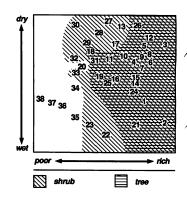
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the cones are about 3.5-5.0 cm long, cylindrical, with smooth-margined scales which open in the autumn of the year of development to release the seeds; mature cones hang pendantly.

Habitat

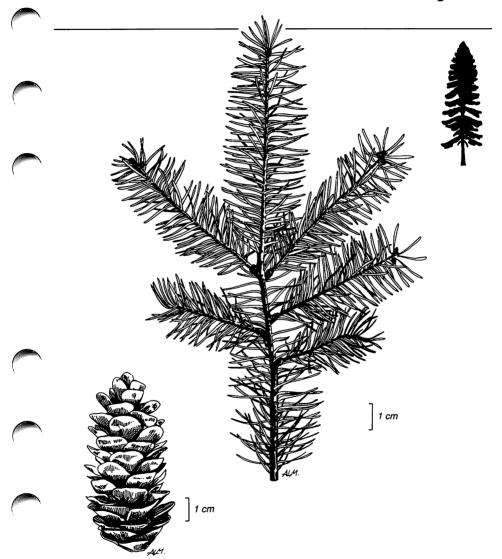
Throughout NW Ontario. Occasional; primarily in fresh/moist mixed forests although understory occurrence is across a wide range of soil/site/stand conditions. In the overstory rarely occurring in pure stands; commonly associated with balsam fir, trembling aspen and black spruce.

Notes

White and black spruce may be difficult to distinguish. Black spruce has smaller cones, shorter needles, hairy branchlets and olive-green inner bark. White spruce is a valuable timber species, used for both pulpwood and lumber. The Indians of eastern North America traditionally used white spruce roots in canoe-building to lace together sheets of birch bark. The resin was used as a seam sealer.



White Spruce



Picea mariana (Mill.) BSP.

Pinaceae (Pine Family)

Description

General - small to medium-sized (averaging 15 m high), evergreen conifer with a narrow, often compact, conical crown; branches drooping with upturned ends; top of the crown often forming a club-like shape; branchlets densely covered with velvety hair, with persistent, raised, woody leaf bases; trunk bark dark greyish-brown, flaky, inner bark dark olive-green.

Leaves - linear, needle-like, thick, stiff, sharp, < 2 cm long; distinctly 4-sided in cross-section; dark bluish-green, often with a whitish powdery coating; individually attached in a spiral around the branchlet forming a cylindrical rather than a flattened spray.

Flowers - male and female flowers separate on the same tree; male flowers tiny, cone-like, deciduous, short-lived, at the end of the previous year's growth; female flowers red, erect cones with numerous spirally-arranged scales, also at the end of the previous year's growth; appearing in May.

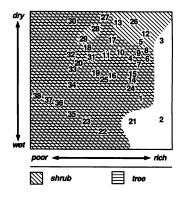
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the cones are about 1.5-3.0 cm long, egg-shaped to roundish, scales toothed or with frayed margins; persistent on the branches for years, opening periodically late in the winter after development to release the seeds.

Habitat

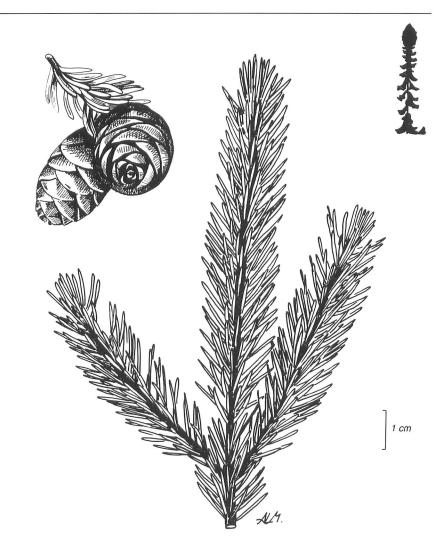
Widespread throughout NW Ontario. Common in the overstory, very common in the understory; occurring across a wide range of soil/site conditions from dry/fresh, upland mineral soils to wet, organic lowlands. In the overstory forming pure stands or in mixed associations with jack pine, balsam fir, trembling aspen, white spruce, tamarack and/or white birch.

Notes

Although the growth forms of the 2 species are usually distinctive, black and white spruce are occasionally difficult to tell apart. White spruce has larger, more cylindrical cones, longer needles, hairless branchlets and light-coloured inner bark. Black spruce, with its long wood fibres, is highly valued as a pulpwood species.



Black Spruce



Pinus banksiana Lamb.

Pinaceae (Pine Family)

Description

General - medium to large-sized (averaging 19 m high, up to 30 m), evergreen conifer with a sparse, variable crown; branches are spreading or ascending; branchlets yellowish-green; trunk bark reddish-brown on young stems becoming dark brown, flaky or platy.

Leaves - needle-like, straight or slightly curved, somewhat twisted, stiff, sharp-pointed; in clusters of 2¹, spread apart, short (2.0-3.5 cm long); light yellowish-green; with a persistent basal sheath.

Flowers - male and female flowers separate on the same tree; male flowers tiny, conelike, deciduous, short-lived, at the base of the current year's growth; female flowers erect cones with numerous spirally-arranged scales; appearing in May.

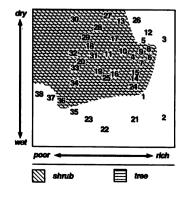
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the cones are erect, egg-shaped to conical, straight or curved, 3-5 cm long; usually remaining closed² and persistent on the tree for years.

Habitat

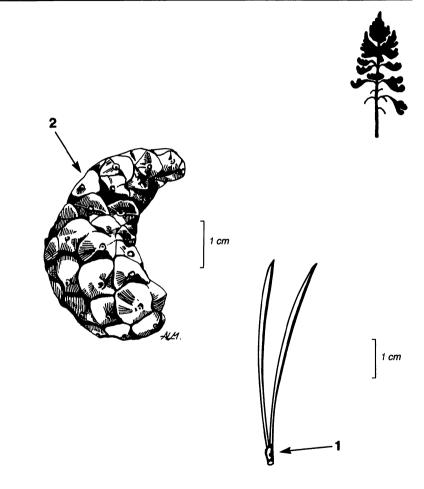
Widespread throughout NW Ontario. Frequent in the overstory, infrequent in the understory of mature forests; primarily on dry/fresh, sandy or coarse loamy soils. In the overstory typically forming an even-aged, post-fire forest either in mono-specific stands or in association with black spruce. Less common in mixedwoods with trembling aspen and other species.

Notes

A valuable commercial species, used for lumber, railway ties, timbers and pulpwood. North American Indians have used jack pine roots as sinews for sewing. Torches were once made of pine pitch on cedar branches.



Jack Pine



Pinus resinosa Ait.

Pinaceae (Pine Family)

Description

General - large-sized (averaging 23 m high, up to 36 m), evergreen conifer with a sparse, oval crown over a straight, limbless trunk of little taper; branches usually spreading with the foliage tufted at the ends; branchlets stout, shiny, orangish; trunk bark reddish, flaky, becoming furrowed into thick plates.

Leaves - needle-like, straight, slender, flexible, sharp-pointed; in clusters of 2¹, long (10-15 cm); shiny, dark green; with a persistent basal sheath.

Flowers - male and female flowers separate on the same tree; male flowers tiny, conelike, deciduous, short-lived, at the base of the current year's growth; female flowers are cones with numerous spirally-arranged scales; appearing in May.

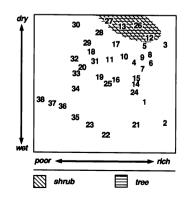
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the cones are egg-shaped to somewhat conical², straight, essentially stalkless, 4-8 cm long; scales thickened slightly at the tips and without spines; cones opening to release the seeds in the autumn of the year of development, falling from the tree in the spring.

Habitat

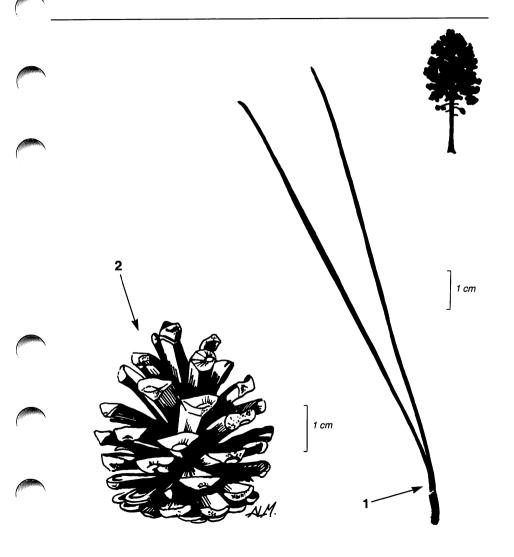
Throughout NW Ontario but most common in the Quetico / Rainy River area. Infrequent; occurring in small, localized stands on dry/fresh, rapidly drained sites with sandy or coarse loamy, often stony, soils. In the overstory forming pure stands or in mixture with jack pine, white pine and/or trembling aspen.

Notes

As a timber species red pine is used for sawn lumber, poles, pilings and railroad ties. Both the Indians and European settlers in northeastern North America made tar from the roots for sealing boats and buildings as well as for medicinal application.



Red Pine



Pinus strobus L.

Pinaceae (Pine Family)

Description

General - large-sized (averaging 22 m high, up to 36 m), evergreen conifer with a full, spreading crown which is often *irregularly shaped by the effect of prevailing wind*; trunk with little taper, often branchless for over 1/2 its height in closed stands; branchlets green, becoming orangey-brown; trunk bark thin, smooth, grey-green becoming dark, thick, deeply furrowed into broad ridges.

Leaves - needle-like, straight, very slender, flexible, soft; in clusters of 5¹, 3-13 cm long; bluish-green, somewhat whitened; without basal sheaths.

Flowers - male and female flowers separate on the same tree; male flowers tiny, conelike, deciduous, short-lived, at the base of the current year's growth; female flowers are cones with numerous spirally-arranged scales; appearing in May.

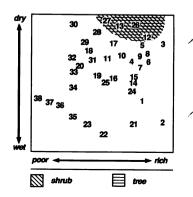
Fruit - winged seeds enclosed by the woody scales of the mature female cone; the cones are cylindrical², 10-15 cm long, hanging down from short stalks; scales thin, resinous, without spines; cones opening in late summer and autumn of the year of development to release the seeds, falling from the tree afterward.

Habitat

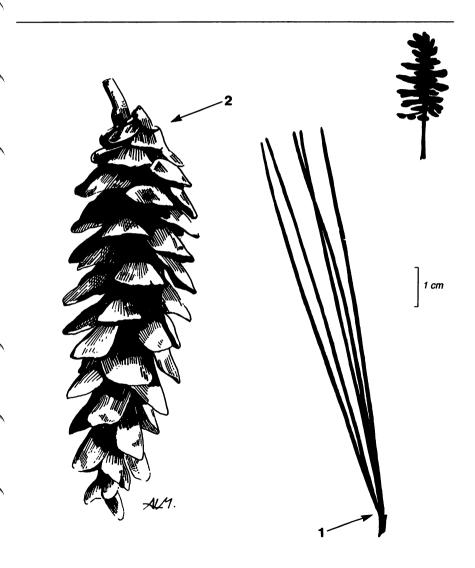
Throughout NW Ontario but most common in the Quetico / Rainy River area. Infrequent; on dry/fresh, often shallow and stony, coarse loamy soils. In the overstory usually in mixed associations with other species.

Notes

White pine is a valuable timber species. Although the natural population is much depleted now, it is still preferred for softwood lumber. Builders of sailing ships once sought the tall, straight white pines for masts. The best trees in British North America were stamped by the Crown and reserved for the Royal Navy.



Eastern White Pine



Populus balsamifera L.

Salicaceae (Willow Family)

Description

General - medium to large-sized (averaging 20 m high, up to 30 m), broadleaved hardwood with a narrow, open crown of thick, ascending branches; branchlets stout, hairless, reddish-brown with large (15-25 mm long), sticky, fragrant, sharp-pointed buds¹; trunk bark smooth and greenish on young trees, soon becoming grey and deeply furrowed into long ridges.

Leaves - alternate; egg-shaped to broadly lance-shaped, always longer than wide², tapering gradually to a pointed tip, rounded at the base; margins finely toothed; dark bronzy-green above and pale beneath; leafstalk not flattened, leaves not fluttering in light breezes.

Flowers - borne on catkins; male and female catkins on separate trees; appearing in May before the leaves have emerged.

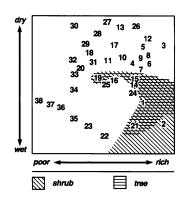
Fruit - capsules (5-8 mm long) on the female catkins, splitting to discharge tiny seeds with long, silky hairs before the leaves are fully expanded at the end of May and early June.

Habitat

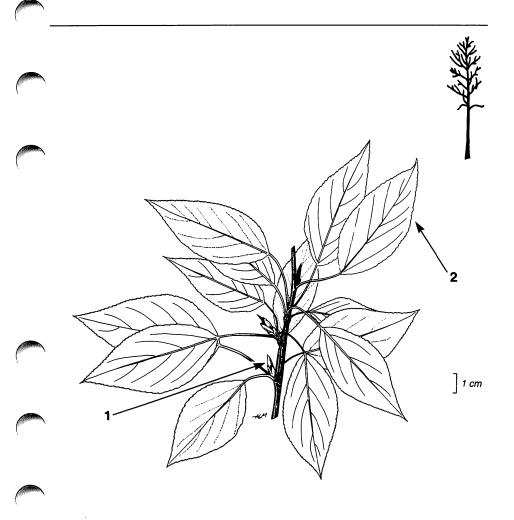
Throughout NW Ontario. Infrequent; primarily on fresh/moist, fine-textured, often calcareous, soils. Occurring in small, localized stands often in association with black and white spruce, balsam fir and trembling aspen.

Notes

The resinous winter buds have been used to make ointments, salves and poultices for a variety of medicinal applications.



Balsam Poplar



Populus grandidentata Michx.

Salicaceae (Willow Family)

Description

General - medium to large-sized (averaging 19 m high, up to 26 m), broadleaved hardwood with a loose, irregular crown of a few coarse, spreading branches; the trunk with little taper, essentially branchless below the crown; branchlets rather stout, grey-brown becoming greenish-grey, often slightly hairy; buds covered with greyish, downy hair; trunk bark smooth, pale green to yellowish-grey, often with an orangish tinge, becoming darkened, rough and deeply furrowed into long ridges; readily producing root suckers after disturbance.

Leaves - alternate; egg-shaped to almost round with a short, blunt tip, rounded or wedge-shaped at the base; finely hairy beneath when young, becoming hairless; margins with 5-10 coarse, irregular, wavy or rounded teeth per side¹; leafstalk flattened, shorter than the blade.

Flowers - borne on catkins; male and female catkins on separate trees; appearing in May before the leaves have emerged.

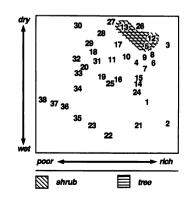
Fruit - capsules (approx. 6 mm long) on the female catkins, splitting to discharge tiny seeds with long, silky hairs before the leaves are fully expanded at the end of May and early June.

Habitat

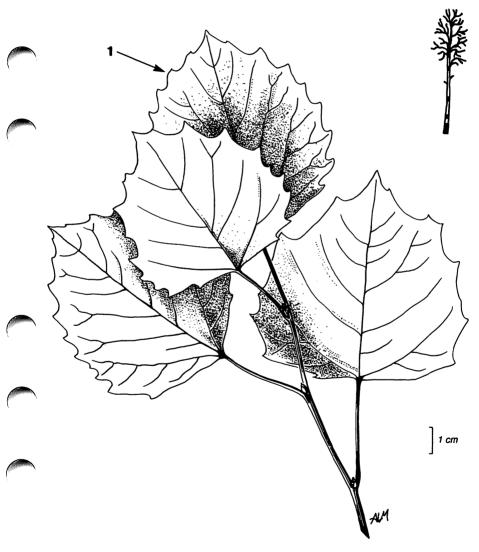
Occurring in the Quetico / Rainy River area of NW Ontario. Infrequent; on dry/fresh, sandy and coarse loamy soils. In the overstory occasionally forming pure stands, usually in mixed associations with trembling aspen, red pine and white pine.

Notes

Leaf and bud characters distinguish this species from other *Populus* spp. Leaves of large-toothed aspen often flutter in light breezes like those of trembling aspen. A minor commercial species, the wood of large-toothed aspen has similar characteristics to that of trembling aspen.



Large-toothed Aspen



Populus tremuloides Michx.

Salicaceae (Willow Family)

Description

General - medium to large-sized (averaging 21 m high, up to 34 m), broadleaved hardwood with a relatively small, diffuse crown; branches spreading; trunk with little taper, essentially branchless below the crown; branchlets and end buds slender, shiny, reddish-brown; buds small (5-7 mm), sharp-pointed; trunk bark smooth, pale green to chalk white with diamond-shaped indentations and dark patches, becoming darkened, rough and furrowed into ridges; after disturbance numerous root suckers are produced.

Leaves - alternate; broadly egg-shaped to almost round, often wider than long¹, sharp-pointed at the tip, rounded or squared at the base; margins wavy, finely toothed or almost entire; leafstalk long, slender, flattened (roll between thumb and forefinger), permitting the leaf to "tremble" in the slightest breeze².

Flowers - borne on catkins; male and female catkins on separate trees; appearing in May before the leaves have emerged.

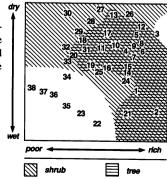
Fruit - capsules (approx. 6 mm long) on the female catkins, splitting to discharge tiny seeds with long, silky hairs before the leaves are fully expanded at the end of May and early June.

Habitat

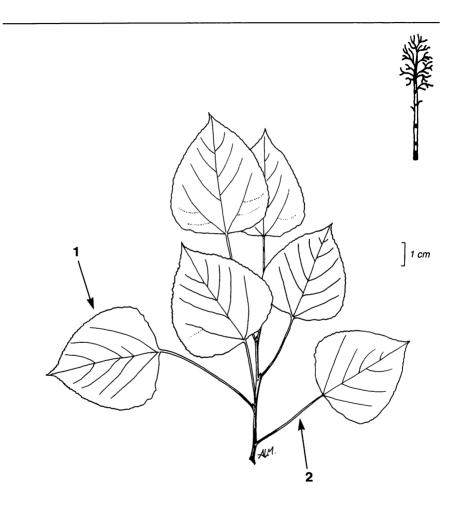
Widespread throughout NW Ontario. Frequent; occurring across a wide range of soil/site conditions, especially on upland, dry/fresh, coarse loamy soils. Also in burnt areas and disturbed ground if root material is present. In the overstory forming either pure, even-aged stands or mixed associations with other species.

Notes

An important commercial timber species, used for pulpwood, chipboard and some sawn lumber. Aspen leaves are rich in usable protein. They are currently being investigated as an animal food and even as a supplement for the human diet.



Trembling Aspen



Thuja occidentalis L.

Cupressaceae (Cypress Family)

Description

General - small-sized (averaging 12 m high), evergreen conifer with a dense, layered, compact, conical crown; branches arching; trunk strongly tapered, often twisted; branchlets yellowish-green, clothed in sheathing foliage, forming flat, fan-shaped sprays; trunk bark thin, reddish-brown, shredding in long, narrow strips.

Leaves - opposite; closely overlapping, scale-like¹, successive pairs placed at right angles; upper and lower leaves flat, with a prominent resin gland (use hand lens), lateral leaves folded, clasping the flat leaves; 2-4 mm long.

Flowers - male and female flowers separate on the same tree; male flowers tiny, short-lived, deciduous, at the branchlet tips; female flowers are cones with 4-6 pairs of opposite scales 2.

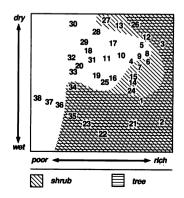
Fruit - double-winged seeds enclosed by the woody scales of the mature female cone; the cones are small (about 1 cm long), erect, oval; cones opening to release the seeds in the year after development.

Habitat

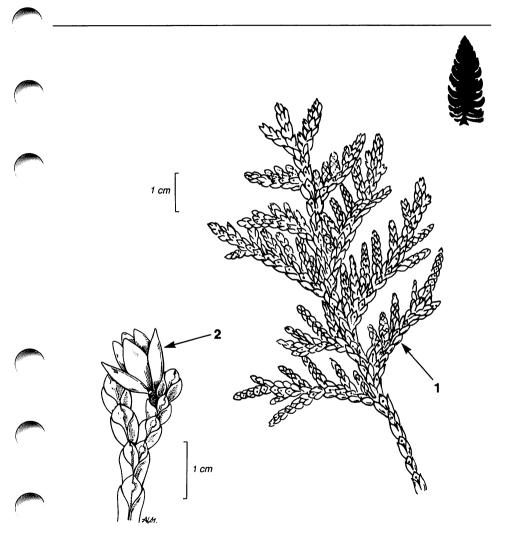
Throughout NW Ontario. Infrequent in the overstory, occasional in the understory; on a range of soil/site conditions, especially on wet, organic soils but also on dry/fresh upland sites. In the overstory often forming densely canopied, often thicket-like, stands.

Notes

A minor commercial species, the wood is used for fence posts, rails, shingles and specialty lumber. Cedar boughs were used by European settlers as brooms.



Eastern White Cedar



Section 3.2

Shrubs

Contents:

Acer spicatum Alnus crispa rugosa Amelanchier bartramiana humilis sanguinea Andromeda glaucophylla Arctostaphylos uva-ursi Chamaedaphne calyculata Chimaphila umbellata Cornus stolonifera Corylus cornuta Diervilla lonicera Epigaea repens Gaultheria hispidula procumbens Kalmia polifolia Ledum groenlandicum Linnaea borealis Lonicera canadensis hirsuta involucrata oblongifolia villosa Oxycoccus microcarpus

Prunus pensylvanica virginiana Rhamnus alnifolia Ribes glandulosum hirtellum lacustre oxyacanthoides triste Rosa acicularis Rubus chamaemorus idaeus var. strigosus parviflorus pubescens Salix bebbiana discolor humilis Sorbus americana decora Taxus canadensis Vaccinium angustifolium myrtilloides vitis-idaea Viburnum edule rafinesquianum

Acer spicatum Lam.

Aceraceae (Maple Family)

Description

General - erect shrub up to 3 m high; branchlets purplish-grey, minutely hairy, older branches greenish-grey to black; terminal bud slightly stalked; often forming thickets.

Leaves - opposite; with 3 prominent lobes and 2 obscure lobes near the base¹, the main lobes abruptly sharp-pointed²; margins coarsely and irregularly toothed; lower surface with fine hairs, especially near the midrib.

Flowers - in dense, upright, long-stalked clusters at the branch ends³; individual flowers small (< 1 cm across), greenish-yellow; appearing after the leaves have emerged in late May and early June.

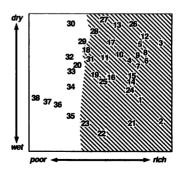
Fruit - paired keys (each about 2 cm long), borne in clusters; developing in July and August.

Habitat

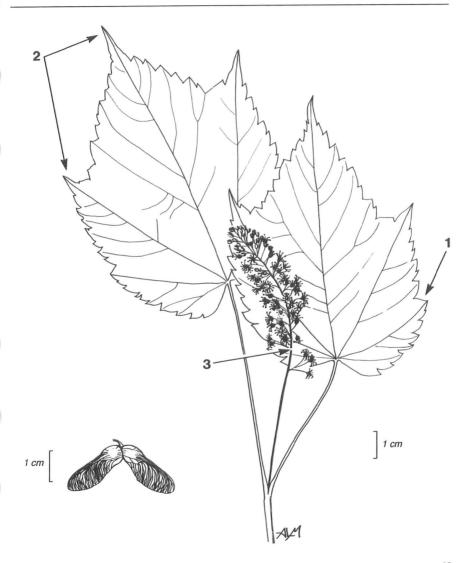
Widespread throughout NW Ontario. Common; occurring in a variety of forest habitats, primarily in dry to moist, hardwood and mixedwood stands. Often forming a dense understory layer.

Notes

Shrub-sized individuals of A. rubrum have hairless leaves and twigs and lack the persistent, terminal flower clusters of this species. Several other species may be encountered in NW Ontario with maple-like leaves. Rubus parviflorus and Ribes spp. have an alternate leaf arrangement; the leaves of Viburnum edule and V. trilobum are 3-lobed and often of 2 shapes (the youngest ones at the branch ends differing from older leaves). The flowers and fruits of all of these species are distinctly different from those of Acer spp. (see the individual descriptions).



Mountain Maple



Alnus crispa (Ait.) Pursh

Betulaceae (Birch Family)

Description

General - erect shrub up to 3 m high; branchlets brownish, somewhat hairy, sticky, with few warty dots; older twigs reddish-brown to grey, hairless, not sticky, pith 3-sided; usually growing in clumps.

Leaves - alternate; egg-shaped to broadly oval, rounded to slightly heart-shaped at the base, blunt or pointed at the tip; margins somewhat wavy with many fine, regularly spaced, sharp-pointed teeth¹.

Flowers - borne on catkins; male catkins slender, scaly, hanging in long-stalked clusters, elongating in the spring to 5-8 cm, opening in May and early June; female catkins smaller, cone-like, erect, in small clusters.

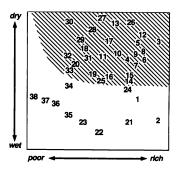
Fruit - winged seeds borne in small (1-2 cm long), dark, oval, woody cones (female catkins) on *distinct stalks* (2-4 cm long)²; cones persistent for a year or more after releasing the seeds.

Habitat

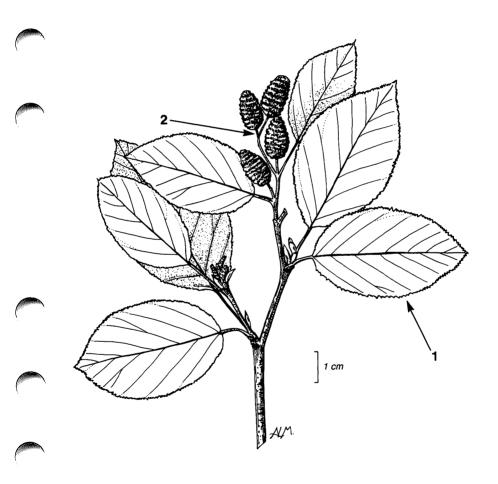
Widespread throughout NW Ontario. Frequent; in dry/fresh, upland forest habitats, especially on sandy and coarse loamy soils. Also along roadsides, on disturbed ground and rocky slopes.

Notes

Confusion with A. rugosa, Corylus cornuta or shrub occurrences of Betula papyrifera is possible. When present, the stalked cones distinguish A. crispa from all of these species. Leaf margins with fine, regularly spaced teeth contrast with the coarsely, double-toothed leaf margins of A. rugosa and C. cornuta; leaf shape is typically less taper-pointed than for B. papyrifera. The twigs of A. crispa are less speckled than those of A. rugosa and B. papyrifera.



Green Alder



Alnus rugosa (Du Roi) Spreng.

Betulaceae (Birch Family)

Description

General - shrub or small tree up to 4 m high; branchlets light reddish-brown, hairy, not sticky; older twigs dark brown to purplish-black, hairless, speckled with conspicuous, light warty dots, pith 3-sided; often growing in clumps or thickets, hummock-forming.

Leaves - alternate; egg-shaped or broadly oval, rounded to slightly heart-shaped at the base, pointed at the tip; margins coarsely and unevenly double-toothed 1; with prominent, ladder-like veins; more or less hairy along the veins underneath.

Flowers - borne on catkins; male catkins slender, scaly, hanging on long stalks, elongating in the spring to 5-8 cm, opening in April or May; female catkins smaller, erect, cone-like, in small clusters at the branch ends.

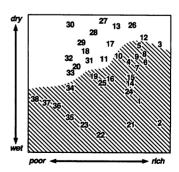
Fruit - winged seeds borne in small (about 1 cm long), dark, roundish, woody cones (female catkins); cones without stalks or on short (< 1 cm) stalks 2 ; cones persistent for a year or more after releasing the seeds.

Habitat

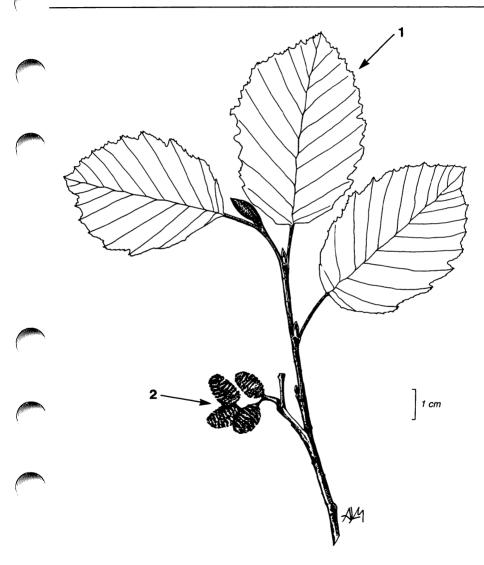
Widespread throughout NW Ontario. Frequent; on moist/wet, poorly-drained sites, especially in wet black spruce forests on organic soils. Also along the margins of streams, rivers and lakes as well as in swamplands.

Notes

Confusion with A. crispa, Corylus cornuta or shrub occurrences of Betula papyrifera is possible. When present, the stalkless cones are the best diagnostic character for A. rugosa. The heavily speckled twigs separate this species from both A. crispa and C. cornuta. Small B. papyrifera shrubs have extremely variable leaves and distinguishing them from A. rugosa can be difficult. Various parts of A. rugosa can be used for making dyes -- the roots produce a brown and the bark a yellowish to reddish colour.



Speckled Alder



Amelanchier bartramiana (Tausch) Roem.

Rosaceae (Rose Family)

Description

General - erect shrub up to 2 m high; branchlets purplish, hairless; often forming clumps.

Leaves - alternate; egg-shaped, elliptic or somewhat inversely egg-shaped, tapering at both ends¹; margins finely sharp-toothed almost to the base; no glands on the leafstalk; both surfaces hairless.

Flowers - solitary or fewer than 4 in a loose cluster²; flower stalks hairless; individual flowers about 2 cm in diameter, with 5 white petals; appearing in May and early June.

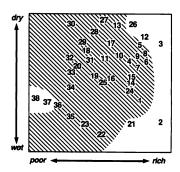
Fruit - berry-like, purplish-black, about 1 cm long; ripening in July and August.

Habitat

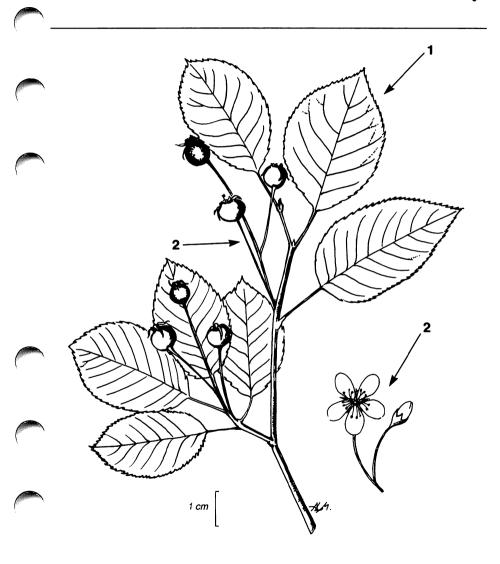
Throughout NW Ontario. Occasional; occurring in a variety of forest habitats, primarily on dry to moist, mineral soils. Also along stream margins and sandy lakeshores.

Notes

Confusion with *Prunus virginiana* is a possibility if flowers and fruit are absent. All species of *Prunus* have 1 or 2 glands on the leafstalk near its junction with the blade. *A. bartramiana* is distinguished from other *Amelanchier*'s by its finely toothed, elliptic leaves and sparse flower clusters. The berries of all *Amelanchier* spp. have important forage value for wildlife. North American Indians use the dried fruit in food preparations such as pemmican.



Mountain Juneberry



Amelanchier humilis Wieg.

Rosaceae (Rose Family)

Description

General - stiff, upright shrub to 5 m high or straggling, low shrub (< 1 m) forming loose colonies; young branchlets very silky-hairy.

Leaves - alternate; broadly oval or elliptic, rounded to slightly heart-shaped at the base, rounded to bluntly pointed at the tip; margins coarsely toothed, often entire below the middle; hairless above, young leaves grey-woolly beneath usually becoming hairless; veins conspicuous, extending into the teeth.

Flowers - numerous in dense upright clusters¹; flower stalks silky-hairy; individual flowers about 2 cm in diameter, with 5 white petals; appearing in May and early June.

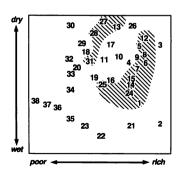
Fruit - berry-like, juicy, almost black, with a whitish, powdery coating, about 1 cm long; ripening in July and August.

Habitat

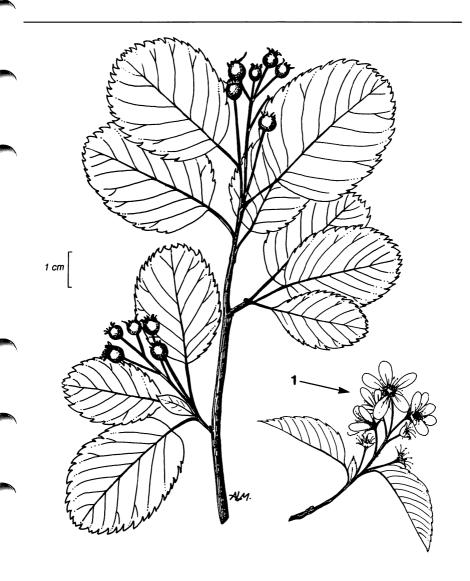
Throughout NW Ontario. Infrequent; occurring across a range of dry/fresh, upland forest habitats, often on calcareous soils. Also in forest openings, along forest margins and roadsides.

Notes

Amelanchier spp. are extremely difficult to distinguish. There is considerable debate among botanists about suitable classification treatments. Hybridization between species provides for a continuous range of variability among specimens. Here, A. humilis is separated from A. sanguinea on the basis of an erect flower cluster and branchlet colour. See A. bartramiana and A. sanguinea for additional notes.



Shadbush



Amelanchier sanguinea (Pursh) DC.

Rosaceae (Rose Family)

Description

General - straggling or erect shrub up to 3 m high; solitary or in small, loose clumps; branchlets bright reddish brown¹.

Leaves - alternate; broadly elliptic to roundish, the base rounded to slightly heart-shaped, rounded or bluntly pointed at the tip; margins coarsely toothed; hairless above, young leaves grey-woolly beneath usually becoming hairless; veins conspicuous, straight, extending into the teeth.

Flowers - numerous in loose, *drooping clusters*; flower stalks hairless or sparsely hairy; individual flowers about 2 cm in diameter, with 5 white petals; appearing in May and early June.

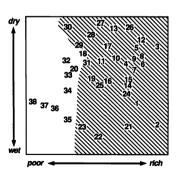
Fruit - berry-like, dark purple, juicy, about 1 cm long; ripening in July and August.

Habitat

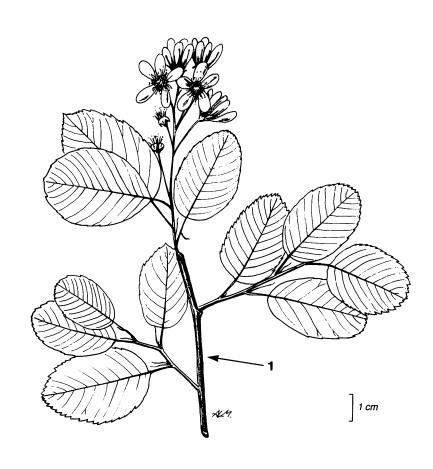
Throughout NW Ontario. Occasional; occurring across a range of forest habitats, especially in dry/fresh mixedwoods. Often on gravelly and stony soils.

Notes

A. humilis has somewhat erect flower clusters and lacks the reddish branchlets of this species. There are several other species of Amelanchier which may be encountered in NW Ontario. These include A. laevis Wieg., A. alnifolia Nutt. and A. interior Nielson. Segregation of species within this difficult genus is a frustrating task. The ripe berries of A. sanguinea are excellent eaten either fresh or cooked.



Red-twigged Serviceberry



Andromeda glaucophylla Link

Ericaceae (Heath Family)

Description

General - low, erect shrub up to 50 cm high; sparsely branched with ascending branches; stems round in cross-section, hairless, with grey to black bark.

Leaves - alternate¹; linear to narrowly elliptic with a sharp spine at the tip, tapering at the base to a short leafstalk; evergreen, firm and leathery; dark (often bluish-) green above, distinctly whitened beneath; margins entire, strongly inrolled².

Flowers - in small, drooping clusters at the branch ends; individual flowers small (< 6 mm long), urn-shaped³, white to pinkish with 5 outwardly curved lobes; appearing in May and June.

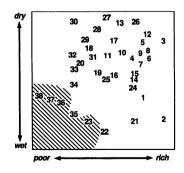
Fruit - a small (< 6 mm diameter), round capsule with the style protruding; appearing in July and August.

Habitat

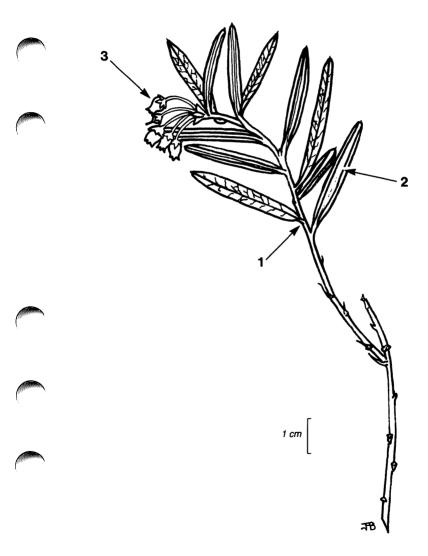
Throughout NW Ontario. Infrequent; on wet, organic soils, especially in black spruce peatlands and open bogs and fens.

Notes

Non-flowering plants may be confused with those of *Kalmia polifolia*. *K. polifolia* has opposite, shiny leaves and a flattened stem. Like the *Kalmia* spp., *Andromeda* contains a toxic compound, especially dangerous to livestock.



Bog Rosemary



Arctostaphylos uva-ursi (L.) Spreng.

Ericaceae (Heath Family)

Description

General - low, prostrate, evergreen shrub; often forming loose mats; stems trailing, up to several metres long, with peeling bark; leafy branches erect, < 15 cm high.

Leaves - alternate; firm and leathery; oval to inversely egg-shaped, tip rounded or bluntly pointed, tapering at the base to a short leafstalk; dark green above, paler beneath without black dots; margins entire, flat or somewhat inrolled.

Flowers - in dense clusters at the branch ends; individual flowers small (approx. 5 mm long), white or pinkish, urn-shaped with 5 fused lobes; appearing in late May and June.

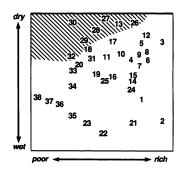
Fruit - berry-like, reddish, dry and mealy; ripening in August.

Habitat

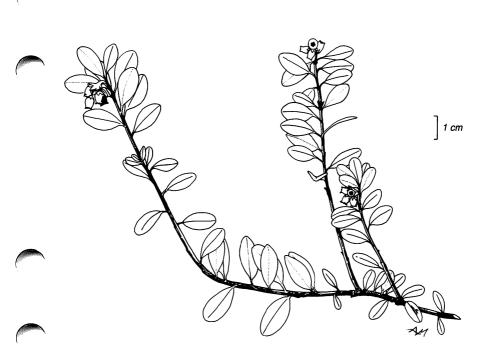
Throughout NW Ontario but, within forest habitats, occurring more often in the NW Region. Infrequent; on dry, rapidly drained, sandy and coarse loamy soils, especially in jack pine and red pine stands.

Notes

Confusion is possible with *Vaccinium vitis-idaea*. *V. vitis-idaea* has dark, bristly glands (black dots) on its leaf undersurfaces and a tart, juicy berry. The fruit of *A. uva-ursi* is edible but tasteless. Eastern North American Indians and early European settlers used the dried leaves as a smoking mixture ingredient.



Bearberry



Chamaedaphne calyculata (L.) Moench

Ericaceae (Heath Family)

Description

General - low, erect, much-branched shrub < 1 m high, often forming dense patches; branchlets minutely hairy and covered with tiny, flat scales; leaves becoming progressively smaller toward the ends of the flowering branches.

Leaves - alternate; evergreen, firm and leathery; elongated-elliptic, tip rounded or with an abrupt point, base tapering to a short leafstalk; dull green and hairless above, underside with a covering of tiny, rusty scales¹; margins entire.

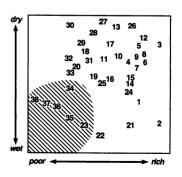
Flowers - in 1-sided, elongated clusters at the branch ends²; individual flowers white, cylindrical or urn-shaped, with 5 fused lobes, hanging in the angles of small leaves; appearing in May and early June.

Fruit - a small (< 6 mm in diameter) round, brownish capsule with a persistent, protruding style; capsules may remain on the branches for years after shedding their seeds; opening in August.

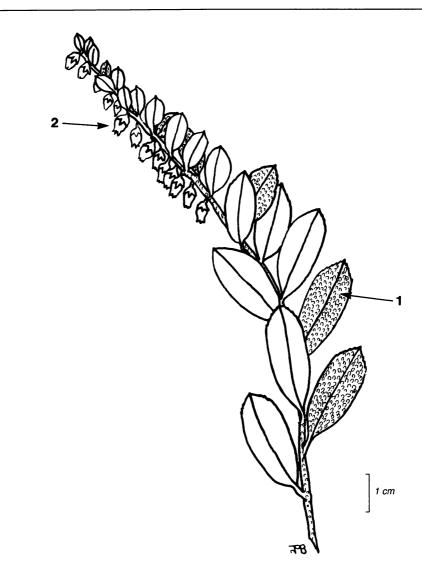
Habitat

Throughout NW Ontario. Infrequent; on wet, organic soils. Often abundant in black spruce peatlands and flooded wetlands.

Notes



Leatherleaf



Chimaphila umbellata (L.) Bart.

Pyrolaceae (Wintergreen Family)

Description

General - creeping, perennial stems spreading at or just below ground level; leafy and flowering branches upright, solitary or in groups, to 30 cm high.

Leaves - mostly in whorls¹; evergreen, thick and leathery, shiny above; inversely lance-shaped², blunt or short-pointed at the tip, tapering at the base to a short leafstalk; sharply toothed, especially near the tip, often entire below the middle.

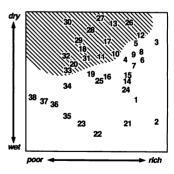
Flowers - in small clusters extending above the leaves; individual flowers with 5 white to pink petals, somewhat dish-shaped, approximately 1 cm across; appearing from late June to August.

Fruit - a round capsule, usually erect; opening in August and September.

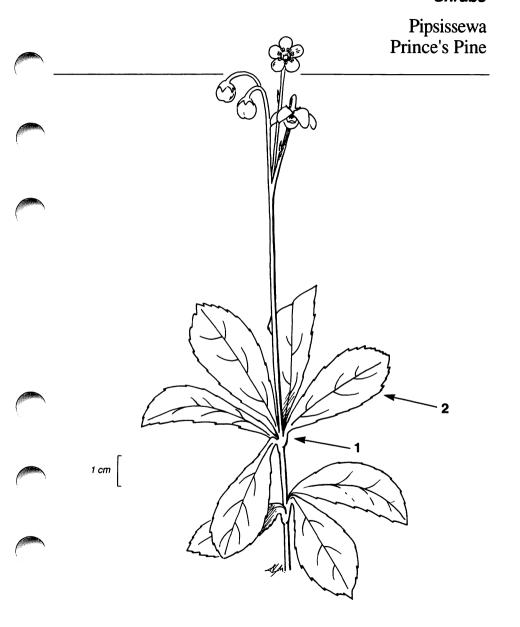
Habitat

Throughout NW Ontario. Occasional; in dry pine and black spruce forests on rapidly drained, sandy or coarse loamy soils.

Notes



Shrubs



Cornus stolonifera Michx.

Cornaceae (Dogwood Family)

Description

General - erect or loosely spreading shrub usually < 2 m high, often forming dense thickets; stems often rooting at the nodes; branchlets purplish to bright red; pith large, white.

Leaves - opposite¹; egg-shaped to broadly lance-shaped, pointed and often tapered at the tip, rounded at the base; finely to densely soft-hairy beneath, often whitened; margins entire; veins distinct, 5-7 on each side, curving upwards along the margins, unbranched².

Flowers - in flat-topped clusters³; individual flowers small, creamy white; appearing in late June.

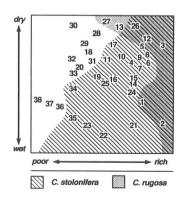
Fruit - in clusters, white, berry-like, about 6 mm in diameter; maturing in August and September.

Habitat

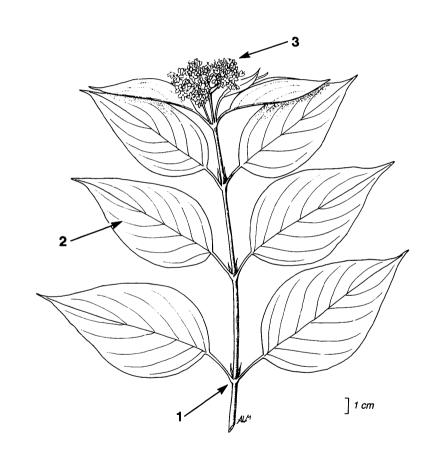
Throughout NW Ontario. Occasional; occurring across a range of dry to wet forest habitats, especially on poorly drained soils. Also along the margins of rivers, marshes and lakes as well as on roadsides and disturbed ground.

Notes

C. rugosa Lam. (Round-leaved Dogwood) occurs infrequently in NW Ontario. It is very similar to this species but has warty, green branches and much broader, roundish leaves. The young branches, or osiers, of C. stolonifera are used by North American Indians to make baskets. The bark of the stems has been traditionally collected to make a red dye and also used as a smoking mixture ingredient.



Red Osier Dogwood



Corylus cornuta Marsh.

Betulaceae (Birch Family)

Description

General - coarse shrub up to 3 m high, often forming dense thickets; branchlets sparsely hairy; older twigs smooth, grey, often appearing somewhat mottled or striped, without conspicuous warty dots.

Leaves - alternate; egg-shaped to broadly oval, tapering to a point at the tip, rounded or heart-shaped at the base; margins irregularly and coarsely double-toothed¹, often with distinctive "shoulders" below the middle; usually somewhat hairy beneath.

Flowers - male flowers borne on catkins, female flowers in small clusters; male catkins elongating to about 5 cm; female flowers concealed in buds with crimson, hair-like styles protruding; opening in late April and May.

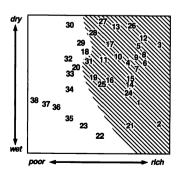
Fruit - solitary or in small clusters; a round, hard-shelled nut enclosed in a bristly husk with an elongated beak 2 ; ripening in late August and September.

Habitat

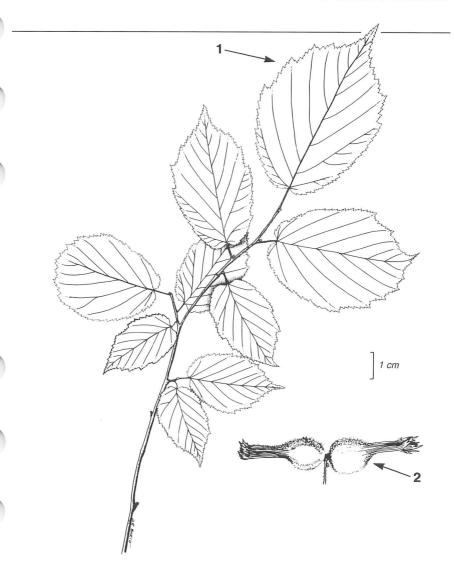
Widespread throughout NW Ontario. Frequent; occurring in a variety of forest habitats, primarily in dry/fresh, upland, hardwood dominated stands. Also in clearings and along forest margins. Often forming a dense understory, usually in association with *Acer spicatum*.

Notes

Confusion with Alnus spp. or shrub occurrences of Betula papyrifera is possible. The fruit is diagnostic when present. Twigs of A. rugosa and B. papyrifera tend to be heavily speckled compared to those of C. cornuta; the leaves of A. crispa are not as conspicuously double-toothed. The nuts of C. cornuta can be eaten raw, slightly roasted or crushed into a meal. North American Indians use the nut-oil in food preparations and as a treatment for toothache.



Beaked Hazel



Diervilla lonicera Mill.

Caprifoliaceae (Honeysuckle Family)

Description

General - low, erect or arching shrub, < 1 m high; branchlets green or reddish, often with 2 fine ridges of minute hairs¹.

Leaves - opposite²; narrowly egg-shaped to lance-shaped, the tip long-tapering and sometimes curving, the base rounded often asymmetrical; margins sharply toothed³, usually with a fringe of short hairs; surfaces generally hairless.

Flowers - in small clusters (often 3 flowers) at the branch ends or in the leaf angles; individual flowers funnel-shaped with 5 yellow lobes, becoming reddish with age; appearing in June and early July.

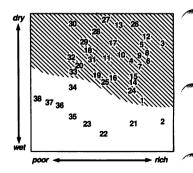
Fruit - a slender, brown capsule tipped with a thread-like beak; July to September.

Habitat

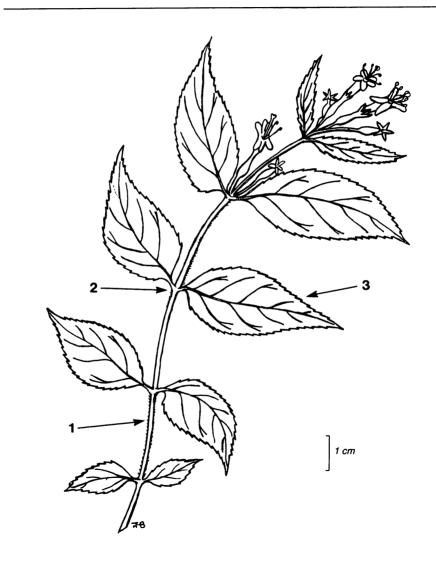
Widepread throughout NW Ontario. Frequent; occurring in a variety of dry/fresh, upland forest habitats. Also in clearings, along forest margins and on rocky slopes and outcrops. Often very abundant in association with *Aralia nudicaulis* and *Aster macrophyllus*, especially in hardwood dominated stands.

Notes

The toothed leaves of this species distinguish it from the closely related *Lonicera* genus.



Bush Honeysuckle



Epigaea repens L.

Ericaceae (Heath Family)

Description

General - prostrate, vine-like evergreen; stems and branches trailing, wiry, covered with bristly brown hairs¹.

Leaves - alternate; somewhat leathery; up to 7 cm long; oval, oblong or broadly eggshaped, bluntly pointed at the tip, the base rounded or heart-shaped; leafstalk hairy, up to half the length of the blade; margins entire with a fringe of brownish hairs (ciliate)².

Flowers - in small, crowded clusters in the leaf angles and at the branch ends; individual flowers approx. 1 cm long, waxy-looking, white or pinkish, spicily fragrant, tubular to funnel-shaped with 5 spreading lobes; appearing in May.

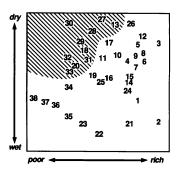
Fruit - a small, round, 5-lobed capsule; developing in August.

Habitat

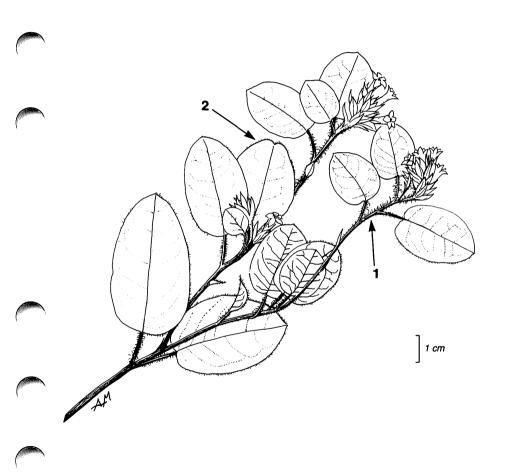
Throughout NW Ontario. Infrequent; in pine and black spruce forests on dry/fresh, sandy and coarse loamy soils.

Notes

The flowers have a spicy flavour if eaten fresh.



Trailing Arbutus



Gaultheria hispidula (L.) Muhl.

Ericaceae (Heath Family)

Description

General - prostrate, evergreen vine; slender stems trailing, often mat-forming, with bristly hairs.

Leaves - alternate; small (< 1 cm long), numerous, crowded; elliptic to almost round with a sharp point at the tip; leathery, dark green above with coarse brownish bristles beneath¹; margins entire.

Flowers - solitary in the leaf angles; very small (2-3 mm long), white, bell-shaped, 4-lobed; appearing in May and early June.

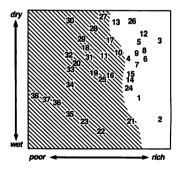
Fruit - a white $berry^2$ (< 1 cm long), juicy, with wintergreen flavour; ripening in July and August.

Habitat

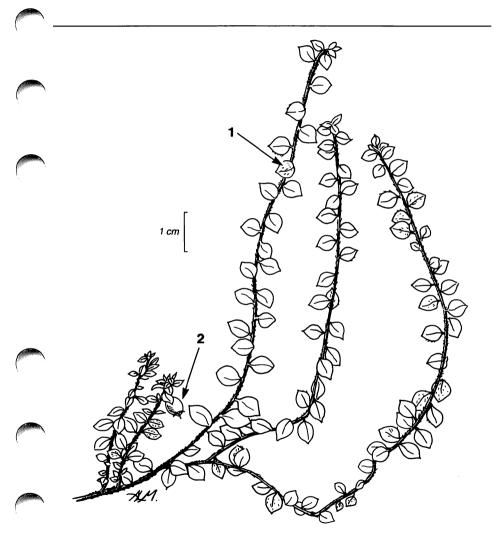
Widespread throughout NW Ontario. Frequent; typically occurring in association with moss cover in conifer forests, across a broad range of soil/site conditions.

Notes

In acidic wetlands confusion with Oxycoccus micro-carpus and O. macrocarpus is possible. The Oxycoccus spp. lack coarse bristles on the leaf undersides. The berries of G. hispidula can be used to make a wintergreen liqueur. Tea made from the leaves also has a mild wintergreen flavour.



Creeping Snowberry



Gaultheria procumbens L.

Ericaceae (Heath Family)

Description

General - low (< 15 cm high), evergreen from a rhizomatous stem spreading at or just below ground level; leafy stems erect, hairless, solitary or forming patches.

Leaves - alternate; crowded at the top of the upright stems; elliptic, oval or inversely egg-shaped, rounded at the tip with a short point, narrowed at the base to a short leaf-stalk; hairless, hard and leathery when mature, tasting of wintergreen; dark green and shiny above, paler beneath; margins inrolled, with obscure, rounded, bristle-tipped teeth¹.

Flowers - solitary or in small clusters from the leaf angles; nodding on curved stalks below the leaves; individual flowers small (approx. 5 mm long), white, barrel-shaped to urn-shaped with 5 small teeth at the mouth; appearing in June.

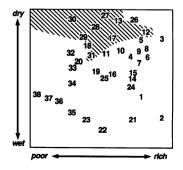
Fruit - a red, fleshy capsule (resembling a berry) with wintergreen flavour; ripening in September, often persisting through the winter.

Habitat

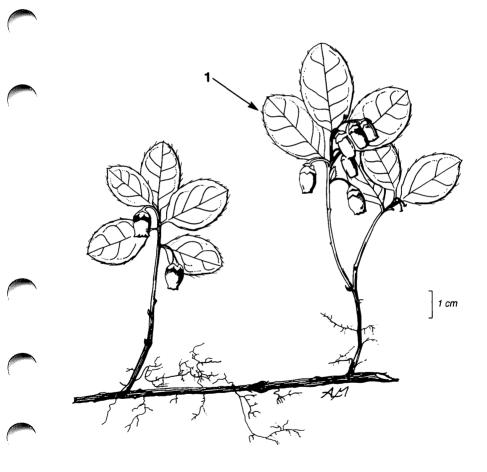
Primarily in the area between Thunder Bay and Lake of the Woods, also near the shore of Lake Superior. Infrequent; in pine and black spruce forests on dry/fresh, sandy and coarse loamy soils.

Notes

Non-flowering individuals may be confused with those of *Polygala paucifolia* but the wintergreen taste and odour are diagnostic. The fruit is best eaten in the spring after curing on the plant through winter. A mild wintergreen tea may be made from the leaves.



Wintergreen



Kalmia polifolia Wang.

Ericaceae (Heath Family)

Description

General - low, straggling shrub, usually < 40 cm high; relatively unbranched; stems with conspicuous nodes, sharply 2-edged and flattened at alternate right angles in the internodes¹; hairless.

Leaves - opposite ²; evergreen, leathery, with no leafstalks; narrowly elliptic to lance-shaped; margins entire and inrolled; dark green, hairless and shiny above, conspicuously whitened with short, woolly hairs beneath.

Flowers - in clusters at the branch ends³; individual flowers conspicuous and showy⁴, approximately 1 cm across, saucer-shaped, magenta with 5 spreading lobes, on long slender stalks; appearing in June.

Fruit - a small (6-7 mm long), brown, oval capsule with a long protruding style; appearing in July and August.

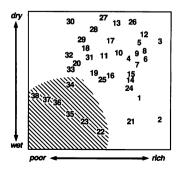
Habitat

Throughout NW Ontario. Infrequent; on wet, organic soils, especially in black spruce peatlands. Usually in association with *Ledum groenlandicum* and *Chamaedaphne calyculata*.

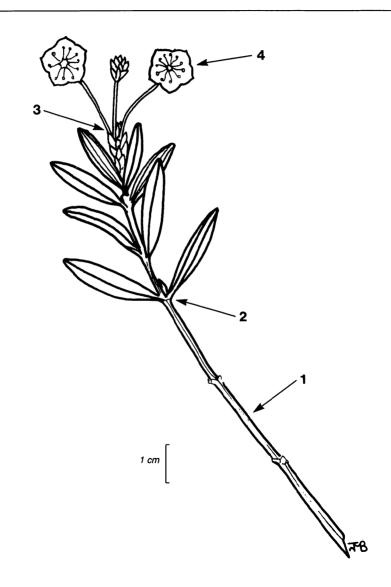
Notes

Non-flowering individuals may be confused with those of Andromeda glaucophylla. The leaves of A. glaucophylla are alternate and less lustrous than leaves of this species while

the stems are round in cross-section. K. angustifolia L. (Sheep Laurel), although common in the northeastern part of the province, is rare in NW Ontario. It has broader leaves than K. polifolia, often arranged in whorls of 3, and its stems are round in cross-section; the flowers of K. angustifolia emerge in clusters from the leaf angles. All species of Kalmia contain a toxic compound which is particularly poisonous to livestock (another common name for K. angustifolia is "lambkill"). It will, if consumed in quantity, cause nausea and vomiting in humans.



Bog Laurel



Ledum groenlandicum Oeder

Ericaceae (Heath Family)

Description

General - low, spreading, evergreen shrub to 1 m high; often forming extensive patches; branchlets densely covered with curly brown hairs¹.

Leaves - alternate; firm, leathery, fragrant when crushed; oval to narrowly elliptic; upper surface dark green, somewhat wrinkled, hairless; lower surface densely covered with brown, woolly hairs²; margins entire, inrolled³.

Flowers - in dense, showy clusters at the branch ends; individual flowers small (approx. 1 cm across), on slender stalks, with 5 separate, white petals; appearing in late May and June.

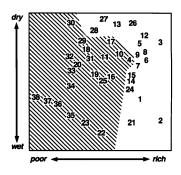
Fruit - a small (5-7 mm long) brown capsule with a protruding, hair-like style; splitting from the base; appearing in late July and August.

Habitat

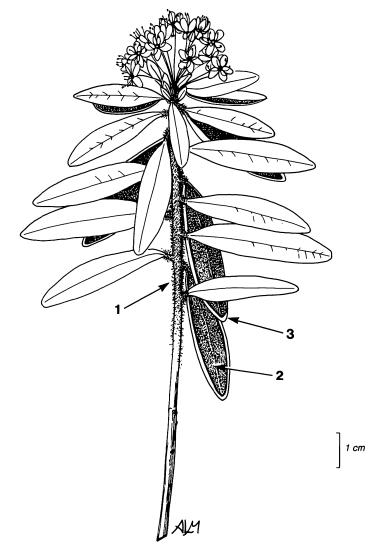
Widespread throughout NW Ontario. Frequent; occurring over a broad range of soil/site conditions, especially in jack pine and black spruce forests. Often abundant in black spruce-Sphagnum wetlands and on shallow, upland sites with areas of restricted drainage.

Notes

The leaves are used by North American Indians to make a medicinal tea. A brown dye can be extracted from the leaves.



Labrador Tea



Linnaea borealis L.

Caprifoliaceae (Honeysuckle Family)

Description

General - small, prostrate, evergreen vine; main stem slender, trailing, slightly woody; leafy branches erect, wiry, < 10 cm high.

Leaves - $opposite^1$; inversely egg-shaped to rounded, tip blunt, base tapering to a short leafstalk; upper surface and margins with bristle-like hairs; margins with a few blunt teeth above the middle 2 .

Flowers - typically in nodding pairs on erect, slender, Y-shaped stalks from the branch ends³; individual flowers small (1.0-1.5 cm long), delicately fragrant, pinkish, funnel-shaped with 5 lobes; appearing in June and July.

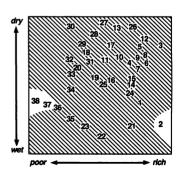
Fruit - a tiny, dry, 1-seeded capsule enclosed by the sepals; appearing in August and September.

Habitat

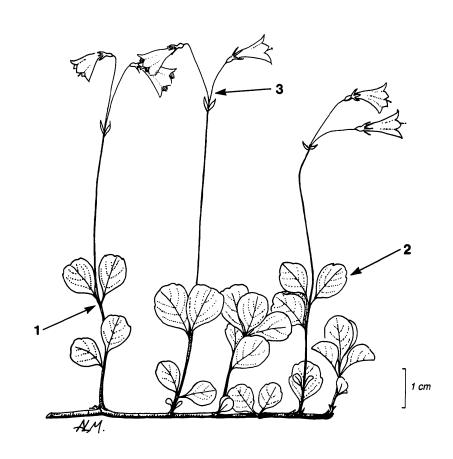
Widespread throughout NW Ontario. Common; in shaded forest habitats, usually associated with moss-covered surfaces. Occurring across a broad range of soil/site/stand conditions, most prevalent in conifer dominated stands.

Notes

The genus name commemorates Carolus Linnaeus, Swedish naturalist and founder of the binomial system of taxonomic nomenclature for plants and animals.



Twinflower



Lonicera canadensis Bartr.

Caprifoliaceae (Honeysuckle Family)

Description

General - erect, loosely branched or straggling shrub, usually < 1 m high; branchlets green or purplish, smooth; older stems with shredding bark.

Leaves - opposite; egg-shaped to elliptic, pointed or blunt at the tip, rounded or somewhat heart-shaped at the base; thin, bright pale green; margins entire; surfaces essentially hairless, with a *fringe of hairs along the margins* (ciliate)¹.

Flowers - in pairs on long, slender stalks from the leaf angles; individual flowers greenish-yellow, tubular to funnel-shaped (12-18 mm long) with 5 short lobes and an asymmetrical swelling at the base; appearing in June.

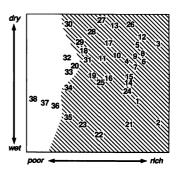
Fruit - bright red berries in long-stalked, divergent pairs; ripening in late June and July.

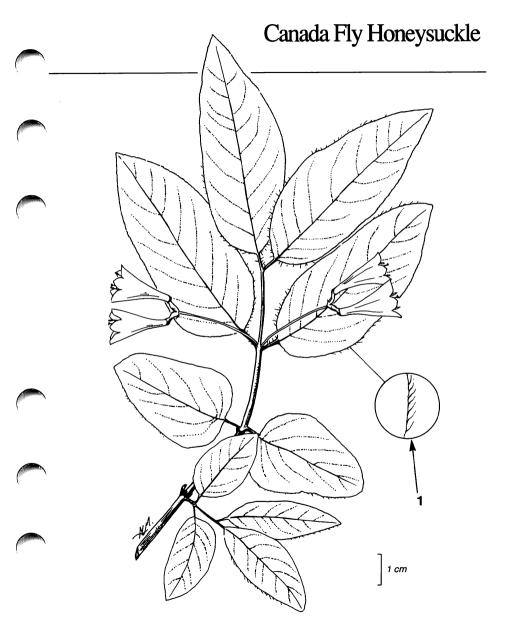
Habitat

Throughout NW Ontario. Occasional; occurring in a variety of forest habitats over a range of soil/site conditions, especially in fresh, hardwood dominated stands.

Notes

No other species of *Lonicera* has leaves with hairless surfaces and ciliate margins. Non-flowering individuals may be confused with those of *Apocynum androsaemifolium*. However, the milky sap of *Apocynum* and the ciliate leaf margins of this species are diagnostic.





Lonicera hirsuta Eat.

Caprifoliaceae (Honeysuckle Family)

Description

General - trailing or twining, woody vine; branchlets green or purplish, often spotted, hairy; older stem with shredding bark.

Leaves - opposite; egg-shaped or broadly elliptic, blunt to pointed at the tip, rounded or tapered at the base; lower leaves with no or short leafstalks, uppermost leaf pairs fused across the stem into saucer-like disks¹, usually with pointed tips; surfaces and margins silky hairy; margins entire.

Flowers - in one or more crowded clusters from the centres of the leafy disks; individual flowers yellow to orange, narrowly tubular (15-25mm long) with 5 short, gradually flaring lobes; appearing in late June and July.

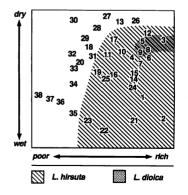
Fruit - one or more clusters of orange-red berries; ripening in August and September.

Habitat

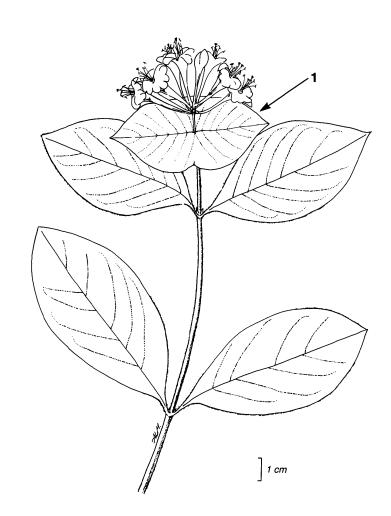
Throughout NW Ontario. Infrequent; primarily in fresh/moist hardwood and mixedwood forests. Also in clearings, on rocky slopes and wet, organic soils.

Notes

L. dioica L. is encountered infrequently in NW Ontario, primarily in the area between Thunder Bay and Lake of the Woods and near the Lake Superior shoreline. Like L. hirsuta it is a vine but has leaves which are more or less hairless and noticeably whitened beneath.



Hairy Honeysuckle



Lonicera involucrata (Richards.) Banks

Caprifoliaceae (Honeysuckle Family)

Description

General - upright shrub usually < 1 m high; branchlets green to purplish, smooth or minutely hairy; older stems grey-brown with shredding bark, solid white pith, *distinctly* 4-angled¹.

Leaves - opposite; elliptic to inversely egg-shaped, tapering to a pointed tip^2 , rounded or tapered at the base; dark green and essentially hairless above, paler and hairy beneath; margins entire, fringed with white hairs.

Flowers - in pairs on long, stout stalks from the leaf angles; each flower-pair emerging from large, green to purple, hairy, leaf-like bracts³; individual flowers yellow (often tinged with red), tubular, hairy, with 5 slightly spreading lobes; appearing in June and July.

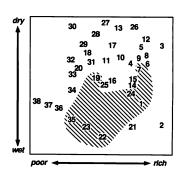
Fruit - a pair of purplish-black berries enclosed in the bracts; ripening from July to September.

Habitat

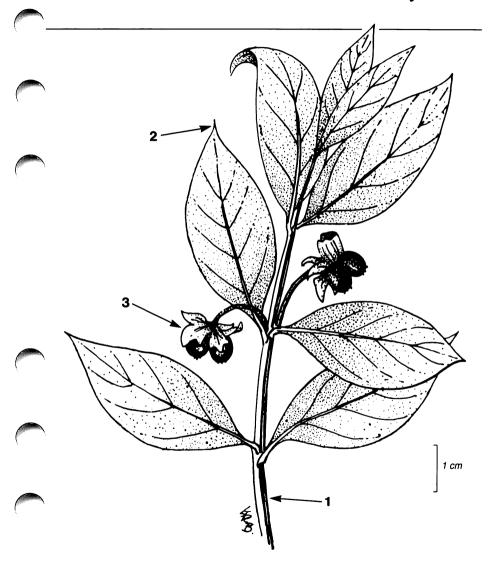
Throughout NW Ontario. Infrequent; primarily in fresh to wet forests, on either mineral or organic soils, preferring calcareous substrates. Also along streams and lakeshores.

Notes

The squared stem and sharply pointed leaves distinguish non-flowering individuals of this species from those of other *Lonicera* spp. When present, the large floral bracts are diagnostic.



Bracted Honeysuckle



Lonicera oblongifolia (Goldie) Hook.

Caprifoliaceae (Honeysuckle Family)

Description

General - small, erect shrub usually < 1 m high; branchlets green to purplish, smooth or hairy; older stems greyish to black, solid pith, with shredding bark.

Leaves - opposite; egg-shaped, rounded or blunt at the tip, tapering at the base to a very short leafstalk (< 3 mm); both surfaces hairless when mature; margins entire without a fringe of hairs.

Flowers - in pairs on long, slender stalks from the leaf angles; individual flowers light yellow, distinctly 2-lipped, hairy, about 1 cm long; appearing in June and July.

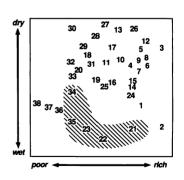
Fruit - a pair of long-stalked, orangish-red to purple berries; generally fused at the base but occasionally separate; ripening in July and August.

Habitat

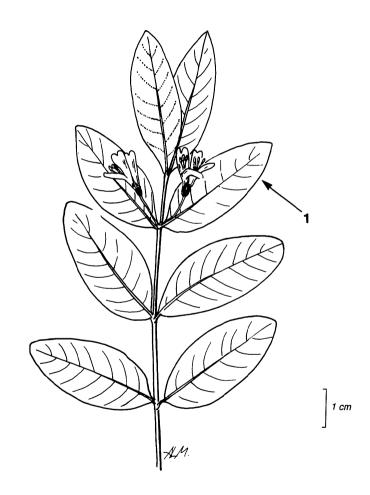
Throughout NW Ontario. Rare in forest habitats; in moist/wet, conifer stands, preferring calcareous soils. Also in marshes, swamps, bogs, and along streams and lakeshores.

Notes

L. canadensis has distinctly ciliate leaf margins. Non-flowering individuals of L. oblongifolia may be mistakenly identified as Apocynum androsaemifolium. However, the milky sap of Apocynum is diagnostic.



Swamp Fly Honeysuckle



Lonicera villosa (Michx.) R. & S.

Caprifoliaceae (Honeysuckle Family)

Description

General - low, erect shrub usually < 50 cm high with stiff, upright branches; branchlets purplish-red, softly hairy; outer bark peeling from the older stems.

Leaves - opposite; crowded at the ends of the branches; oval to oblong, often widest above the middle, blunt or rounded at the tip, rounded or tapering at the base to a short leafstalk (< 3 mm); firm, dark green above; softly hairy on both surfaces¹; margins entire with a fringe of white hairs.

Flowers - in pairs on short, hairy stalks from the angles of the lower leaves; individual flowers yellowish or straw-coloured, funnel-shaped with 5 lobes, about 1 cm long; appearing in June.

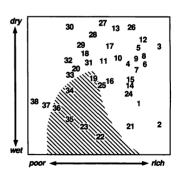
Fruit - a blue, short-stalked berry; ripening in July and August.

Habitat

Throughout NW Ontario. Infrequent; in moist/wet, conifer forests. Also occurring in treed bogs and fens as well as along wet shores and river margins.

Notes

The small, hairy, crowded leaves are diagnostic for this species. The berries are edible.



Mountain Fly Honeysuckle



Oxycoccus microcarpus Turcz.

Ericaceae (Heath Family)

Description

General - tiny, trailing, prostrate, evergreen vine; stem very slender and wiry; leafy and flowering branches < 20 cm high, minutely hairy (use hand lens).

Leaves - alternate; small (< 1 cm long); narrowly egg-shaped or elliptic¹, pointed at the tip, rounded at the base, stalkless; dark green and shiny above, strongly whitened beneath; margins entire with inrolled edges.

Flowers - solitary or in small clusters, on long (1-4 cm), slender stalks² from the leaf angles at the tips of the stems; flower stalks with 2 reddish, scale-like bracts near the middle; individual flowers small (approx. 5 mm long), nodding, with 4 pink petals which bend back towards the flower base³; appearing in late June and July.

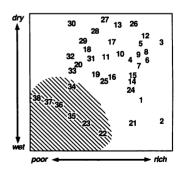
Fruit - a round berry, pale and speckled becoming reddish; ripening in August and September.

Habitat

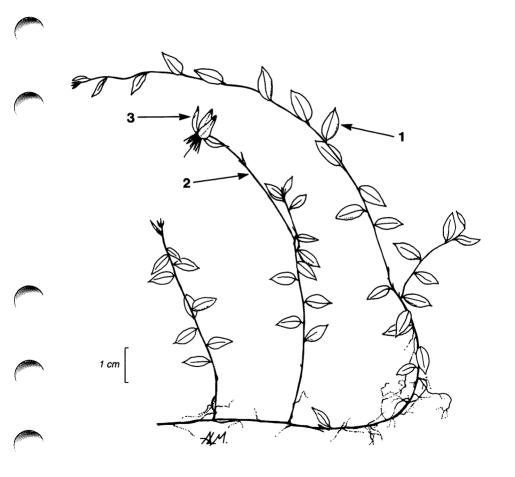
Throughout NW Ontario. Infrequent; on wet, organic soils, especially in black spruce peatlands and open bogs and fens.

Notes

Gaultheria hispidula has roundish leaves with coarse, brown bristles beneath. Vaccinium vitisidaea has conspicuous black dots on the leaf undersides; its flowers are bell-shaped and the berries are not stalked. O. macrocarpus (Ait.) Pers. (Large Cranberry), occurring infrequently in NW Ontario, has blunt-tipped, oblong leaves which are broader than those of O. microcarpus. The fruit of both Oxycoccus spp. is esteemed for the preparation of tart conserves and juices. Present evidence suggests cranberry juice may be effective as both a preventive and a treatment for urinary tract infections. O. macrocarpus is the cranberry of commerce.



Small Cranberry



Prunus pensylvanica L. fil

Rosaceae (Rose Family)

Description

General - erect shrub or small tree to approximately 5 m high; branchlets smooth, usually reddish-brown, with scattered pale brown, warty dots; bark on older stems splitting horizontally into papery strips; twigs bitter to taste.

Leaves - alternate; often drooping on the branches; lance-shaped or narrowly egg-shaped (more than 2 times as long as wide¹), pointed to taper-pointed at the tip, blunt to rounded at the base; margins irregularly toothed with fine, rounded teeth; upper surface bright green and shiny; leafstalks glandular near the junction with the blade (see P. virginiana illustration).

Flowers - in small clusters scattered along the branches²; individual flowers small (about 1 cm across), with 5 white petals; appearing in May and early June.

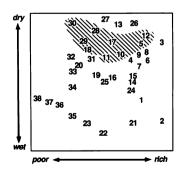
Fruit - a bright red cherry with a large central stone; ripening in August and September.

Habitat

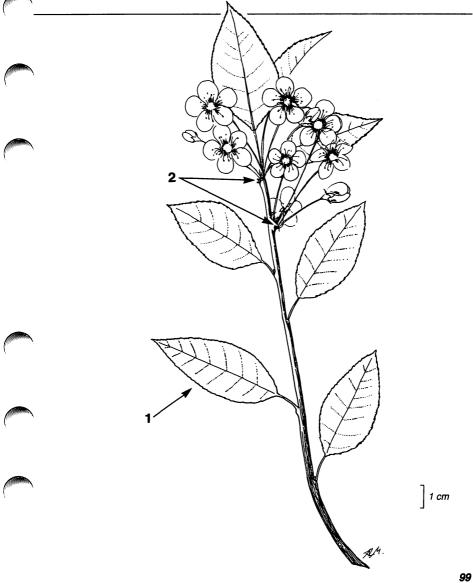
Throughout NW Ontario. Infrequent in forest habitats; on dry/fresh, sandy and coarse loamy soils. Primarily in burnt areas, clearings and disturbed ground, along roadsides, forest margins and fence rows.

Notes

P. virginiana has broader, egg-shaped leaves and dense, elongated, terminal flower clusters. Prunus spp. are distinguishable from Amelanchier spp. by the glandular leafstalks. All species of Prunus contain hydrocyanic acid (a form of cyanide). Animals browsing the leaves are known to have been poisoned. The flesh of the fruit is edible, however, and is excellent for the preparation of jams and conserves. North American Indians add the dried berries to pemmican for flavouring.



Pin Cherry



Prunus virginiana L.

Rosaceae (Rose Family)

Description

General - erect shrub up to 3 m high; often forming clumps; branchlets reddish-brown to purplish-grey, bitter to taste with an acrid odour when bruised.

Leaves - alternate; broadly oblong or egg-shaped, usually widest at or above the $middle^1$; pointed or short-pointed at the tip, rounded to tapered at the base; margins finely toothed with narrow, spreading teeth; leafstalks with 1 to several glands at or near the base of the blade 2 (use hand lens).

Flowers - in elongated clusters at the ends of the branches³; individual flowers small (< 1 cm across), with 5 white petals; appearing in May and early June.

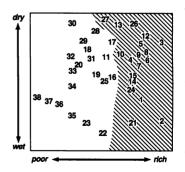
Fruit - a dark red or nearly black cherry with a large central stone; ripening in August and September.

Habitat

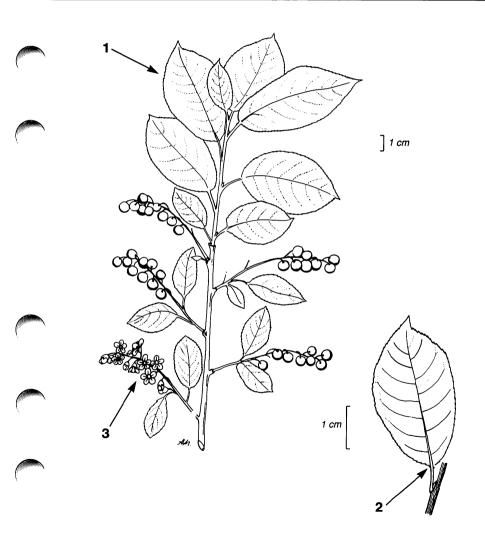
Throughout NW Ontario. Occasional; primarily in dry to moist, hardwood dominated forest habitats. Also along roadsides, forest margins, river banks, fence rows, in clearings and on disturbed ground.

Notes

P. pensylvanica has longer, shinier, narrower leaves than this species and small, loose clusters of flowers scattered along the branches. Amelanchier bartramiana can be mistaken for P. virginiana, however its leaves lack glandular leafstalks (as do all Amelanchier spp.). See P. pensylvanica for additional notes.



Choke Cherry



Rhamnus alnifolia L'Her.

Rhamnaceae (Buckthorn Family)

Description

General - low shrub (< 1 m high) often sprawling to form loose clumps; branchlets stout, green and minutely hairy, becoming purplish-red to grey with small ridges; bark of older stems rough, dark brown to almost black.

Leaves - alternate; elliptic to egg-shaped, tips rounded or taper-pointed, bases tapering to a grooved leafstalk¹; margins with blunt, rounded teeth²; veins conspicuous, curving upward along the margins.

Flowers - in small clusters from the angles of the lower leaves ³; individual flowers very small (approx. 3 mm across), with 5 yellowish-green, petal-like sepals; appearing in late May and early June.

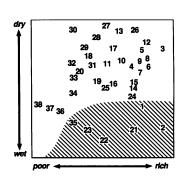
Fruit - round, black, berry-like, on short stalks; ripening in August and September.

Habitat

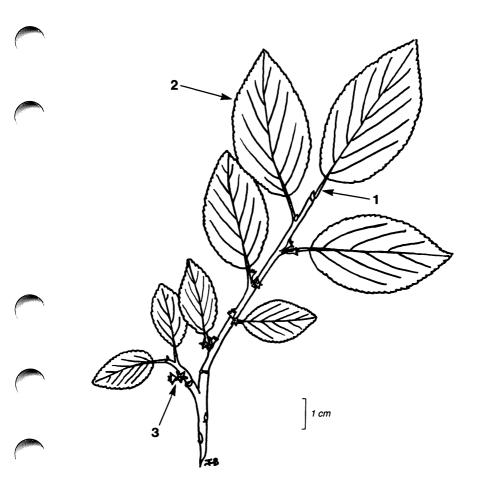
Throughout NW Ontario. Infrequent; primarily in moist/wet, forest habitats, especially white cedar and black spruce swamps. Also along stream banks and shorelines, often on calcareous soils.

Notes

Closely related species (R. cathartica L., R. purshiana DC.) contain purgative compounds which can be toxic if consumed in quantity.



Alder-leaved Buckthorn



Ribes glandulosum Grauer

Saxifragaceae (Saxifrage Family)

Description

General - low, trailing shrub with reclining or ascending, unarmed 1 stems < 1 m high; the whole plant smelling skunk-like when crushed.

Leaves - alternate; roundish, maple-like, with 3 or 5 sharp lobes², the base heart-shaped³; margins double-toothed with rounded teeth.

Flowers - in upright, elongated clusters; the flower stalks and bases with glandular hairs; individual flowers very small (< 6 mm long), saucer-shaped, with 5 yellow-green to purplish petals; appearing in June.

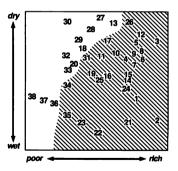
Fruit - a dark red, bristly berry with a disagreeable odour; ripening in July and August.

Habitat

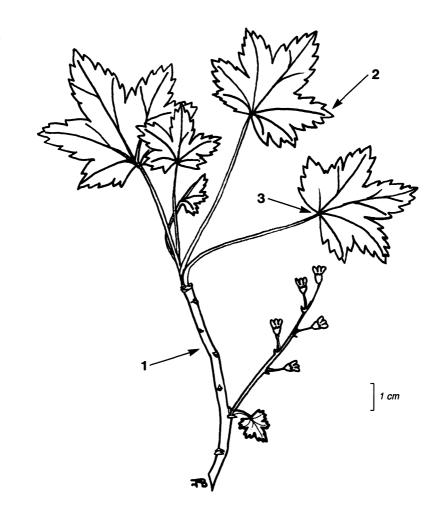
Throughout NW Ontario. Infrequent; occurring in a variety of forest habitats over a range of soil/site conditions.

Notes

The skunk-like odour of this species is helpful in distinguishing it from other thornless *Ribes* spp. In addition to the species of wild currants described here, *R. americanum* Mill. (Wild Black Currant) and *R. hudsonianum* Richards. (Hudson Bay Currant) also occur in NW Ontario. These are upright, thornless shrubs with 3-5 lobed, resin-dotted (use hand lens) leaves and smooth, black berries. The berries of *R. glandulosum*, despite their disagreeable odour, are quite palatable when fresh.



Skunk Currant



Ribes hirtellum Michx.

Saxifragaceae (Saxifrage Family)

Description

General - low shrub with erect stems < 1 m high; branchlets with light grey bark, often covered with scattered prickles, which is soon shed exposing the dark, smooth, reddish-brown inner layer; 1-3 weak, slender spines at the nodes may persist after the bark is shed.

Leaves - alternate; with 3 or 5 pointed lobes, the base broadly triangular; margins coarsely toothed, often hairy; upper surface dark green, hairless to sparsely hairy, without stalked glands; lower surface paler, hairy at least on the veins, without glands or yellow, resinous dots (use hand lens).

Flowers - in loose clusters of 2 or 3 along the stem; the flower stalks without glands (use hand lens) and usually hairless; individual flowers very small (< 1 cm long), narrowly bell-shaped, often finely hairy on the outside, with 5 greenish-yellow to purplish petals; appearing in June.

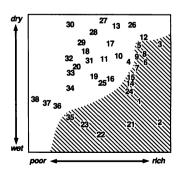
Fruit - a dark blue-black, smooth berry; ripening in July and August.

Habitat

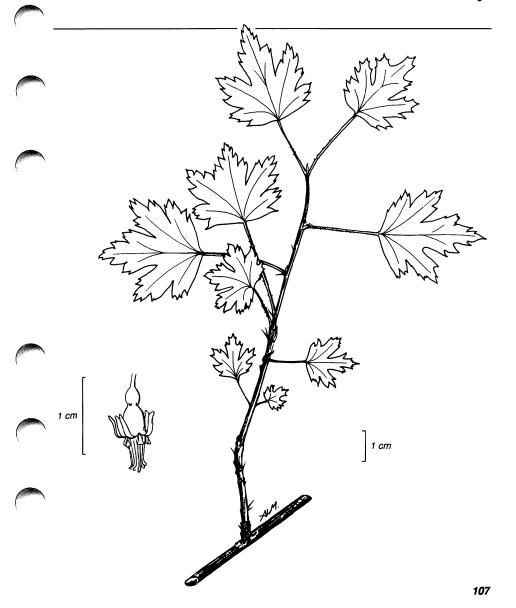
Throughout NW Ontario. Infrequent; in fresh to wet forest habitats. Also along forest margins, streams, lakeshores and in clearings.

Notes

This species is very similar to *R. oxyacanthoides*, often hybridizing with it in NW Ontario where their ranges overlap. The leaves of *R. oxyacanthoides* are glandular, at least on the lower surface, and the stem spines are stouter and retained longer. The berries of both species are sour but edible and excellent for making jams and preserves.



Wild Gooseberry



Ribes lacustre (Pers.) Poir.

Saxifragaceae (Saxifrage Family)

Description

General - low, straggling shrub < 1 m high; branchlets densely covered with sharp, slender prickles¹; longer spines at the nodes; bark of older stems peeling revealing a blackish inner layer.

Leaves - alternate; deeply cut into 3 or 5 pointed lobes which are further cut into irregular lobes or teeth²; base flat or heart-shaped; upper and lower surfaces hairless or with scattered glandular hairs; leafstalks glandular-hairy.

Flowers - in slender, drooping, elongated clusters; individual flowers very small (< 6 mm across), saucer-shaped, with 5 yellowish-green to pinkish petals; appearing in June.

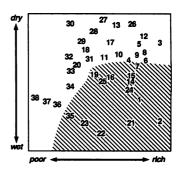
Fruit - a bristly, purple-black berry with a disagreeable taste; ripening in July and August.

Habitat

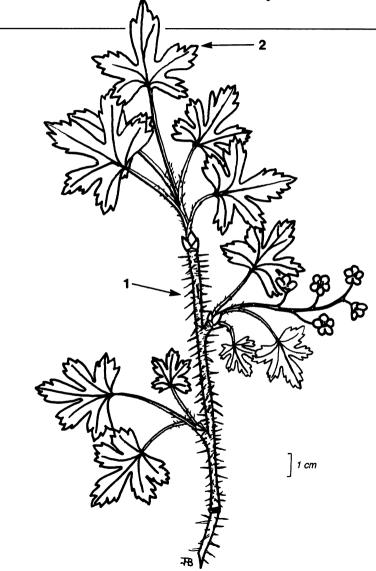
Throughout NW Ontario. Infrequent; in fresh to wet forest habitats, especially on calcareous, fine-textured soils.

Notes

The dense, persistent prickles on the stem and the bristly fruit help distinguish this species from R. hirtellum and R. oxyacanthoides. R. glandulosum has a distinctive skunk-like odour and lacks prickles on the stem.



Bristly Black Currant



Ribes oxyacanthoides L.

Saxifragaceae (Šaxifrage Family)

Description

General - low shrub with erect stems to 1 m high; branchlets with brown to grey bark, finely hairy, usually with prickles¹; bark not peeling for several years; 1-3 stout spines, up to 1 cm long, at the nodes².

Leaves - alternate; with 3 or 5 blunt to rounded lobes; the base rounded, flat or heart-shaped; margins coarsely toothed and hairy; upper surface hairless to sparsely hairy, often with scattered stalked glands; lower surface hairy with stalked glands and yellow, resinous dots (use hand lens).

Flowers - in loose clusters of 2 or 3 along the stem, the short flower stalks glandular-hairy (use hand lens); individual flowers very small (< 6 mm long), narrowly bell-shaped, hairless, with 5 greenish-yellow petals; appearing in June.

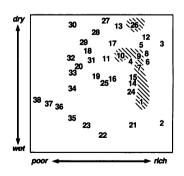
Fruit - a dark blue-black, smooth berry; ripening in July and August.

Habitat

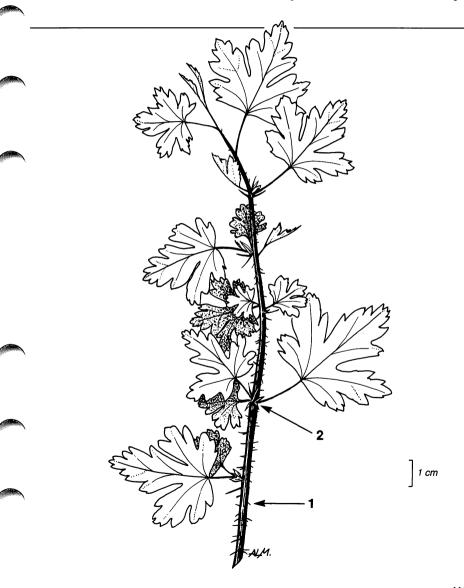
Throughout NW Ontario. Infrequent; primarily in fresh/moist, hardwood dominated forests. Also along forest margins, streams, lakeshores and in clearings.

Notes

Confusion with *R. hirtellum* is a problem in NW Ontario where the ranges of these species overlap. The leaves of *R. hirtellum* lack glands and the stem spines are weak and soon shed with the outer bark.



Bristly Wild Gooseberry



Ribes triste Pall.

Saxifragaceae (Saxifrage Family)

Description

General - low, spreading or reclining shrub to 1 m high; branchlets and stems unarmed¹, becoming reddish-purple to blackish after the bark peels away.

Leaves - alternate²; maple-like³, with 3 or 5 broad, pointed or rounded lobes, the base shallowly heart-shaped or flat; often hairy beneath, at least along the veins; margins coarsely toothed; triangle at the junction of the blade and leafstalk is reddish⁴.

Flowers - in drooping, elongated clusters from the main stem; individual flowers very small (< 6 mm across), saucer-shaped, with 5 greenish-purple petals; appearing in June.

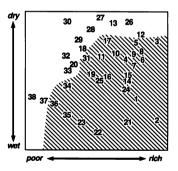
Fruit - smooth, bright red berries in a drooping cluster; ripening in July and August.

Habitat

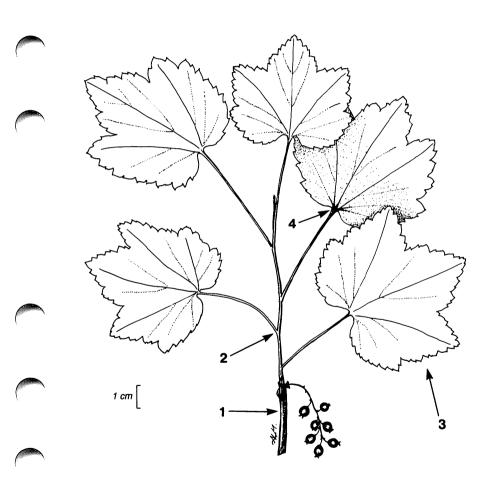
Throughout NW Ontario. Occasional; in a variety of fresh to wet forest habitats over a range of soil/site conditions.

Notes

The maple-like leaves of R. triste can be distinguished from those of Acer spicatum and Viburnum edule by their alternate arrangement on the stem. Of the other non-prickly Ribes spp. in NW Ontario, R. glandulosum has a skunk-like odour and bristly berries while R. americanum and R. hudsonianum have resin-dotted leaves and black berries. Wild currant berries are edible fresh or in jams and preserves.



Wild Red Currant



Rosa acicularis Lindl.

Rosaceae (Rose Family)

Description

General - low, bushy shrub < 1 m high; branches reddish, densely covered with straight, slender thorns¹.

Leaves - alternate; compound with 5 or 7 sharply toothed, oval to oblong leaflets; axis of leaf minutely hairy, usually glandular (use hand lens); with a pair of glandular, leaf-like stipules at the leaf base.

Flowers - usually solitary at the branch ends; $large\ (5-7\ cm\ diameter)$, showy flowers with 5 pink petals ²; appearing in June and July.

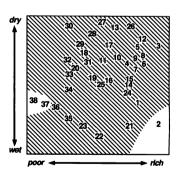
Fruit - a bright red, many-seeded "rose hip" 3; ripening in late August and September.

Habitat

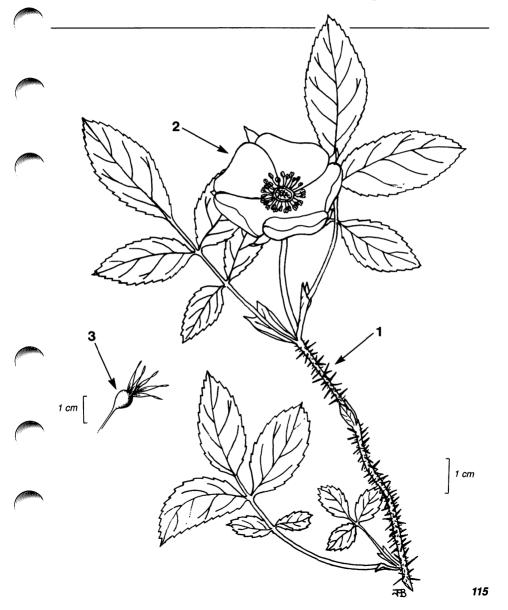
Widespread throughout NW Ontario. Frequent; occurring across a broad range of soil/site conditions in open forests, clearings and on disturbed ground.

Notes

R. blanda Ait. (Smooth Wild Rose), an infrequent forest species in NW Ontario, has few, if any, thorns on the stem. Rose petals can be eaten as a snack or included in salads. The fruit is high in vitamin C content and makes excellent jelly. Rose hip tea has a light, fruity taste.



Prickly Wild Rose



Rubus chamaemorus L.

Rosaceae (Rose Family)

Description

General - low (< 30 cm high), erect, essentially herbaceous flowering stems from a slender, woody rhizome; stems unbranched, hairless and unarmed, with 1-3 leaves at the top.

Leaves - alternate; round to kidney-shaped in outline with 5-7 (usually 5) shallow, rounded lobes1; somewhat leathery, on long leafstalks; margins with blunt teeth.

Flowers - solitary on a long stalk at the tip of the stem²; showy (2-3 cm across), with 5 spreading, white petals; appearing in June and July.

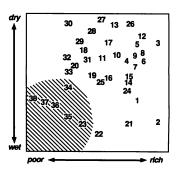
Fruit - an amber or reddish-orange, few-seeded raspberry³; soft and translucent when ripe, quickly falling from the stalk; ripening in late August and September.

Habitat

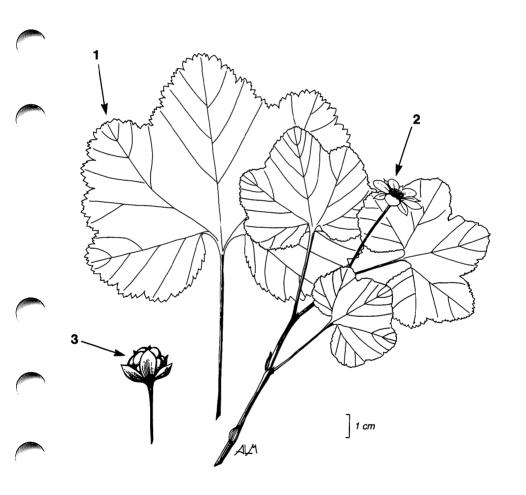
Throughout NW Ontario. Infrequent; on moist/wet, mineral or organic soils, especially in black spruce peatlands.

Notes

The fruit is edible and can be used for the preparation of jams and baked goods (hence the common name "bake-apple").



Cloudberry Bake-apple



Rubus idaeus L. var. strigosus (Michx.) Maxim.

Rosaceae (Rose Family)

Description

General - spreading shrub with erect or arching stems up to 2 m long; branchlets covered with slender spines and stiff bristles¹; papery bark shredding from older stems.

Leaves - alternate; compound with 3, 5, or 7^2 egg-shaped or elongated, irregularly toothed, pointed leaflets; dark green above, softly grey-hairy beneath.

Flowers - in clusters of 2-5 at the branch ends; individual flowers with 5 narrow, white or greenish-white petals; appearing in June and July.

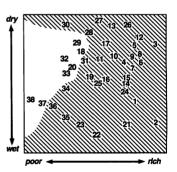
Fruit - a red raspberry; ripening in July and August.

Habitat

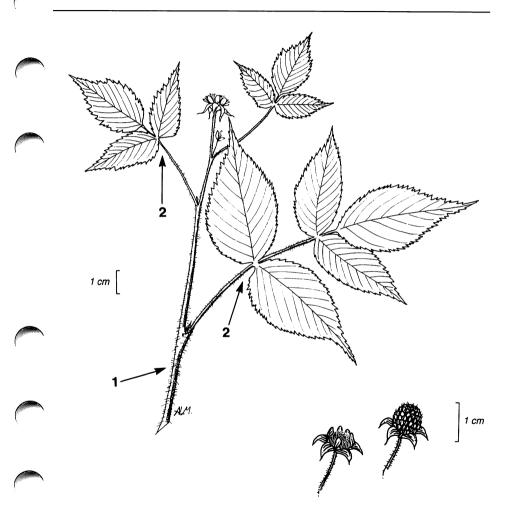
Widespread throughout NW Ontario. Infrequent in forest habitats; occurring across a broad range of soil/site/stand conditions. Often abundant in open areas and on disturbed ground.

Notes

R. pubescens is much smaller than this species with just 3 leaflets per leaf and no prickles on the stem. The fruit of R. idaeus var. strigosus is excellent eaten fresh or in various preparations. North American Indians use the dried fruit for flavouring pemmican. A mild tea can be made from the leaves.



Wild Red Raspberry



Rubus parviflorus Nutt.

Rosaceae (Rose Family)

Description

General - erect shrub, usually < 1 m high; stems unarmed, with shredding bark; young growth glandular-hairy¹.

Leaves - alternate; large (10-20 cm wide), maple-like ² (usually 5 lobed); margins irregularly sharp-toothed; lower surface generally soft-hairy.

Flowers - in clusters of 3-10 at the branch ends; individual flowers large (3-5 cm diameter), showy, with 5 white petals 3; appearing in June and July.

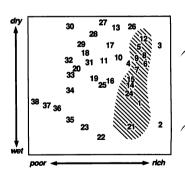
Fruit - a hairy, caplike, pink to red raspberry; ripening in late July and August.

Habitat

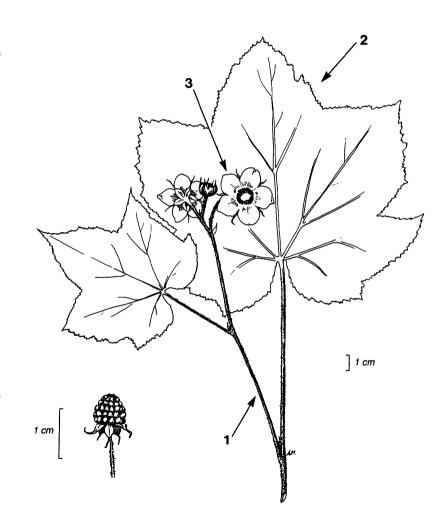
Restricted to the vicinity of Lake Superior, especially in the Thunder Bay area. Infrequent; primarily in fresh, hardwood dominated forests. Often forming a dense shrub layer in open forest habitats and along forest margins.

Notes

This is a western species occurring as a disjunct population in the Lake Superior / northern Lake Huron area. The fruit is edible but rather tasteless.



Thimbleberry



Rubus pubescens Raf.

Rosaceae (Rose Family)

Description

General - low, trailing perennial with runnerlike stems and erect, herbaceous, leafy branches¹; upright stems softly hairy but without thorns².

Leaves - alternate; compound, 3-foliolate 3; leaflets diamond- or egg-shaped, tapering to a point; margins sharply toothed; surfaces essentially hairless.

Flowers - on slender, glandular-hairy stalks from the branch ends; 1-3 flowers in a loose cluster; individual flowers with 5 petals, white or occasionally pale pink, erect at the base; appearing in May and June.

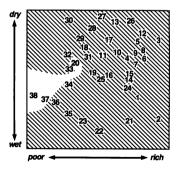
Fruit - a round, dark-red raspberry; ripening from July to September.

Habitat

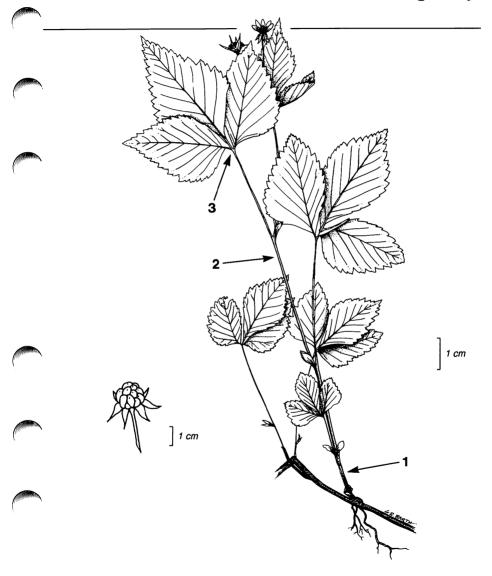
Widespread throughout NW Ontario. Common; in all but the poorest forest habitats across a wide range of soil/site conditions.

Notes

R. idaeus var. strigosus is larger than this species with bristly stems and compound leaves, often of 5 or 7 leaflets. The leaves of R. pubescens may be confused with those of Fragaria spp. but the strawberries lack a trailing, woody stem. R. acaulis Michx., a plant of poor wetland habitats, is also encountered in NW Ontario. It is very similar to R. pubescens in appearance but has less sharply pointed leaflets and reddish flowers. The fruits of both R. pubescens and R. acaulis are edible but they are smaller and less desirable than those of R. idaeus.



Dwarf Raspberry



Salix bebbiana Sarg.

Salicaceae (Willow Family)

Description

General - large shrub or small tree, 2-6 m high; branches and branchlets ascending, spreading, grey-hairy and reddish-brown when young; buds with a single, hood-shaped scale.

Leaves - alternate; elliptic to inversely egg-shaped, pointed at the tip, pointed or rounded at the base; young leaves usually grey-hairy above and below; mature leaves dull green above, whitish, sometimes hairy, with prominent ridged veins beneath; margins smooth, wavy or sparsely toothed.

Flowers - borne on catkins; male and female catkins on separate plants; appearing with the leaves in May and early June.

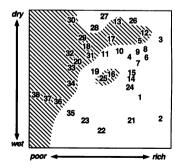
Fruit - capsules (5-9 mm long) on the female catkins, usually finely hairy, on a relatively long stalk (2-5 mm long); maturing in June.

Habitat

Throughout NW Ontario. Infrequent; occurring in a variety of forest habitats, primarily in dry/fresh, upland conifer stands.

Notes

Salix is a large genus which is characterized by simple, alternate leaves, flowers borne in catkins and single, hood-shaped bud scales. The species of Salix presented here are those found most commonly within mature forest habitats in NW Ontario. They are extremely variable in their vegetative characteristics; field examination should take into account all pertinent factors, including the habitat conditions. Despite such efforts, confident identifications are often difficult. Several other native species occur in the region, especially in wetlands and riverbank communities. See S. discolor for notes on the traditional uses of willows.



- Shrubs

Bebb's Willow Beaked Willow



Salix discolor Muhl.

Salicaceae (Willow Family)

Description

General - large shrub or small tree, 2-6 m high; older branches dark, reddish-brown, often shiny or with a layer of waxy powder; young branchlets usually hairy; buds with a single, hood-shaped scale.

Leaves - alternate; elliptical to inversely egg-shaped or elongated, the tip either pointed or blunt, the base tapered; bright green, hairless above, whitish, sometimes hairy beneath; margins irregularly wavy or toothed¹.

Flowers - borne on catkins; male and female catkins on separate plants; appearing before the leaves in May or early June.

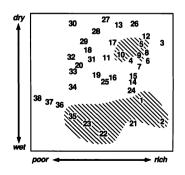
Fruit - long-beaked capsules (7-12 mm long) on the female catkins, finely grey-hairy; maturing in June.

Habitat

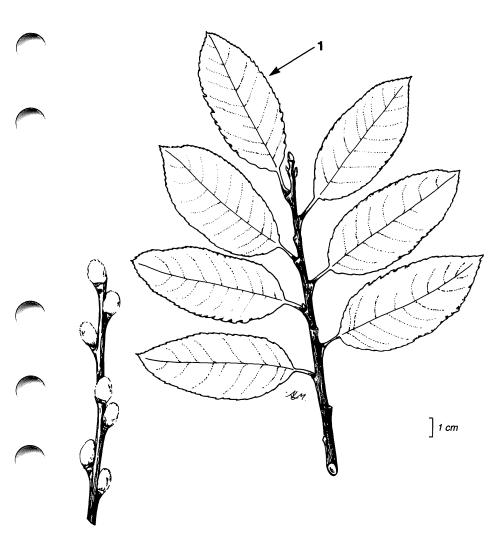
Throughout NW Ontario. Infrequent; occurring in a variety of forest habitats, especially on fresh/moist soils. Also on disturbed ground, in roadside ditches and along stream margins.

Notes

See S. bebbiana for notes on identification difficulties in these species. All willow species contain salicin, a compound closely related to the active ingredient in aspirin. North American and Eurasian cultures have historically used the roots and bark of willows as a painkiller and anti-fever medicine. The young male catkins of S. discolor are the ornamental "pussy willows".



Pussy Willow



Salix humilis Marsh.

Salicaceae (Willow Family)

Description

General - low to medium-sized shrub, 1-3 m high; branchlets yellow to brown, hairy or smooth but never shiny; buds with a single, hood-shaped scale.

Leaves - alternate; inversely egg- or lance-shaped¹, the tip with a short point, the base tapered; young leaves hairy (often with rust-coloured hairs), mature leaves grey-green above, whitish and usually hairy beneath; margins entire or undulating, often curled under².

Flowers - borne on catkins; male and female catkins on separate plants; appearing before the leaves in May or early June.

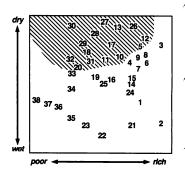
Fruit - slender capsules (6-9 mm long) on the female catkins, finely grey-hairy; maturing in June.

Habitat

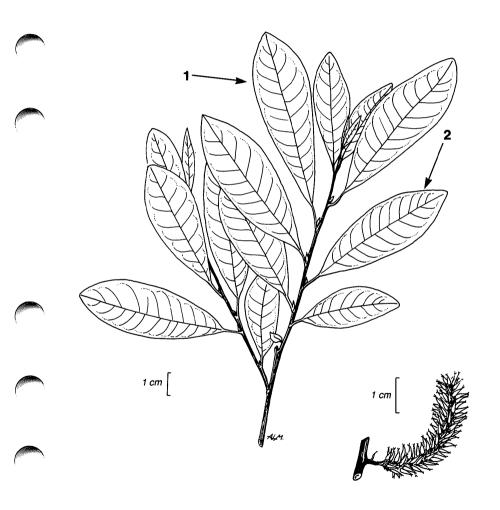
Throughout NW Ontario. Infrequent; mainly in conifer dominated stands on dry/fresh, sandy and coarse loamy soils. Also in clearings, on disturbed ground and along roadsides.

Notes

See S. bebbiana and S. discolor for notes.



Upland Willow



Sorbus americana Marsh.

Rosaceae (Rose Family)

Description

General - shrub or small tree up to 10 m high; branchlets greenish-brown becoming reddish-brown, essentially hairless, with prominent, elongated warty dots; bark becoming somewhat scaly with age; winter buds sticky.

Leaves - alternate; compound with 11-17 lance-shaped to narrowly egg-shaped, taperpointed, sharply toothed leaflets; leaflets 3-5 times as long as wide¹.

Flowers - numerous in showy, flat-topped or roundish clusters (5-15 cm diameter); individual flowers small (6-8 mm diameter) with 5 white petals; appearing in June and July.

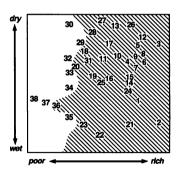
Fruit - bright orange-red berries in a cluster; ripening in August and September.

Habitat

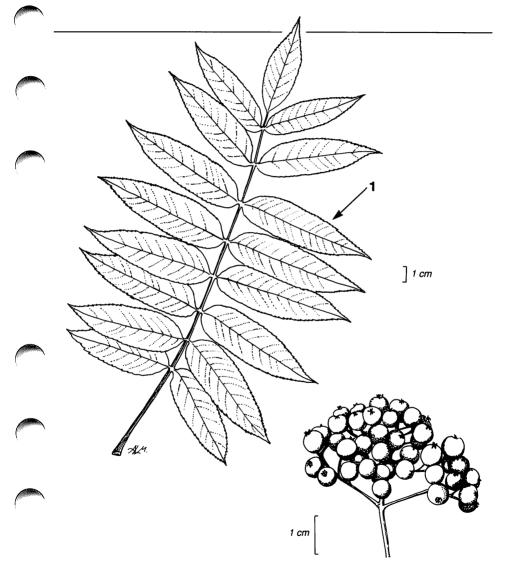
Throughout NW Ontario but uncommon west of Dryden. Infrequent; occurring in a variety of forest habitats across a range of soil/site conditions.

Notes

Leaflets of *S. decora* are short and blunt compared to the long, narrow, pointed leaflets of this species. The berries of all mountain ashes are palatable when they are completely ripened. Mountain ash berries were used by the Indians of eastern North America and the European settlers to treat scurvy. They are an important winter food for birds, especially cedar and bohemian waxwings.



American Mountain Ash



Sorbus decora (Sarg.) Schneid.

Rosaceae (Rose Family)

Description

General - shrub or small tree up to 10 m high; branchlets, stems and bark similar to S. americana; winter buds sticky.

Leaves - alternate; compound with 11-17 egg-shaped or narrowly oval, sharply toothed, blunt or short-tipped leaflets; leaflets 2-3 times as long as wide¹.

Flowers - numerous, in showy clusters which are more open than those of S. americana; individual flowers small (6-8 mm diameter) with 5 white petals; appearing in June and July.

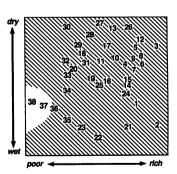
Fruit - bright orange-red berries in a loose cluster; ripening in August and September.

Habitat

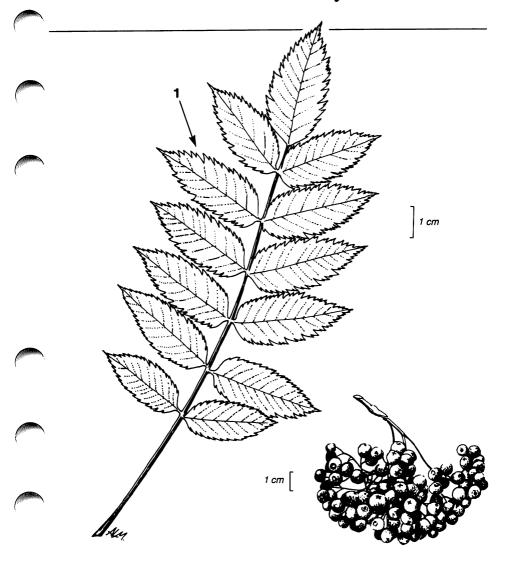
Widespread throughout NW Ontario. Frequent; occurring across a broad range of soil/site conditions in a wide variety of forest habitats.

Notes

Leaflets of S. americana are long, narrow and tapered compared to the short, blunt ones of this species. See S. americana for additional notes.



Showy Mountain Ash



Taxus canadensis Marsh.

Taxaceae (Yew Family)

Description

General - low straggling shrub rarely higher than 2 m; branches spreading from the base of the plant before curving upwards.

Leaves - flat, evergreen needles; pale green beneath; abruptly narrowed to a sharp tip1; attached in a spiral around the stem; leafstalks twisted so leaves form flat sprays along the branches.

Flowers - cone-like; minute and inconspicuous in the leaf angles; male and female flowers on separate plants; appearing in May.

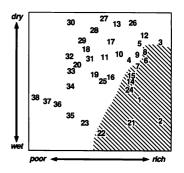
Fruit - bright red, pulpy, open at the free end²; enclosing a brown seed; appearing in July.

Habitat

Throughout NW Ontario. Infrequent; in shaded forest habitats on fresh/moist, mineral or organic soils; often on stony slopes and along seepageways.

Notes

Confusion with low shrub occurrences of balsam fir is possible. The fruit of *Taxus* is distinctive and the needles are pointed rather than blunt or notched as in *Abies balsamea*. The seeds and foliage, especially when wilted, are reported to be toxic to both livestock and humans.



American Yew



Vaccinium angustifolium Ait.

Ericaceae (Heath Family)

Description

General - low, branching shrub < 50 cm high, usually forming large patches (often in association with V. myrtilloides); branchlets greenish with small warty dots, essentially hairless¹.

Leaves - alternate; oval to narrowly elliptic or even lance-shaped, tapering at both ends; thin, bright green, hairless² or with a few hairs along the veins beneath; margins minutely toothed with glandular teeth³.

Flowers - in crowded clusters; individual flowers bell- or urn-shaped with 5 fused lobes, white or pale pink, approx. 5 mm long; appearing in May and early June.

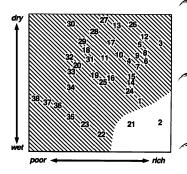
Fruit - a bright blue berry with a whitish, powdery coating; ripening in late July and August.

Habitat

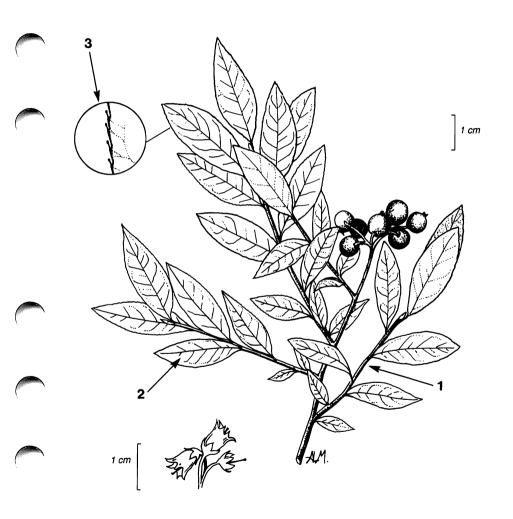
Widespread throughout NW Ontario. Common; occurring in most forest habitats across a broad range of soil/site conditions. Also in clearings, burnt areas and on disturbed ground; often very abundant.

Notes

V. myrtilloides, which often occurs in association with this species, has a velvet-like hairiness to its branchlets and leaves. The berries of both species are excellent eaten either fresh or in prepared dishes. North American Indians have traditionally dried blueberries in great quantities as winter provisions and added them to pemmican for flavouring.



Low Sweet Blueberry



Vaccinium myrtilloides Michx.

Ericaceae (Heath Family)

Description

General - low, branching shrub < 50 cm high, often forming large patches (usually in association with *V. angustifolium*); branchlets densely velvety hairy¹, bark often peeling from older stems revealing crowded, warty dots.

Leaves - alternate; oval to narrowly elliptic, tapering at both ends; thin, soft, covered by downy hairs (at least the lower surface)²; margins entire and finely hairy³.

Flowers - in crowded clusters; individual flowers bell-shaped or cylindrical with 5 fused lobes, white or tinged with pink, approx. 5 mm long; appearing in May and early June.

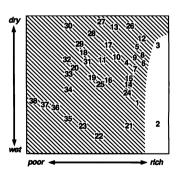
Fruit - a dark blue berry with a whitish, powdery coating; ripening in late July and August.

Habitat

Widespread throughout NW Ontario. Common; occurring in most forest habitats across a broad range of soil/site conditions. Also in clearings, burnt areas and on disturbed ground.

Notes

V. angustifolium has hairless twigs and leaves with minute teeth along the margins. See V. angustifolium for additional notes.



Velvet Leaf Blueberry



Vaccinium vitis-idaea L.

Ericaceae (Heath Family)

Description

General - low, prostrate, mat-forming, evergreen shrub; stems slender, trailing or erect, with peeling bark; branches erect, < 15 cm high.

Leaves - alternate; small (< 1.5 cm long), firm and leathery; elliptic to inversely egg-shaped, the tip rounded, blunt or indented, tapering at the base to a short leafstalk; dark green, shiny and hairless above, pale and dotted with dark glands beneath; margins entire and involled.

Flowers - in small clusters at the branch ends; individual flowers small (approx. 5 mm long), white or pinkish, bell-shaped with 4 slightly spreading lobes; appearing in June and July.

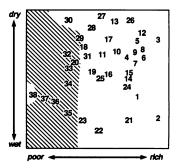
Fruit - a dark red berry; ripening in August and September.

Habitat

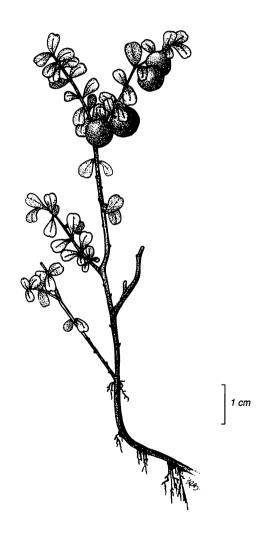
Throughout NW Ontario, more common in the northern, boreal areas. Infrequent; in conifer forests with high moss cover, across a range of soil/site conditions.

Notes

On dry, sandy soils Arctostaphylos uva-ursi may be confused with this species. Its leaves do not have black dots on the undersurfaces and its fruit is dry and mealy. In acidic wetland habitats the true cranberries (Oxycoccus spp.) have very small leaves which are whitened and lacking black dots beneath; their flowers are distinctive and the berries occur on long stalks. The berry of V. vitis-idaea, like the cranberries, is sour and acidic. It is suitable for the preparation of tart conserves.



Mountain Cranberry



Viburnum edule (Michx.) Raf.

Caprifoliaceae (Honeysuckle Family)

Description

General - erect or straggling shrub usually < 1.5 m high; branchlets smooth, hairless, purplish-brown, often angled with longitudinal ridges¹.

Leaves - opposite; egg-shaped and unlobed (often at the branch ends)² to rounded with 3 shallow lobes³; sharp-pointed at the tip of the leaf; hairy beneath in the angles of the veins; margins sharply toothed, often with several glandular teeth where the blade joins the leafstalk.

Flowers - in few-flowered, open clusters on short, 2-leaved lateral branches; individual flowers small (approx. 7 mm across), creamy white, *all alike in a cluster*; appearing in June and early July.

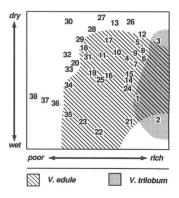
Fruit - orange or red, berry-like, containing a flat stone; ripening in July and August.

Habitat

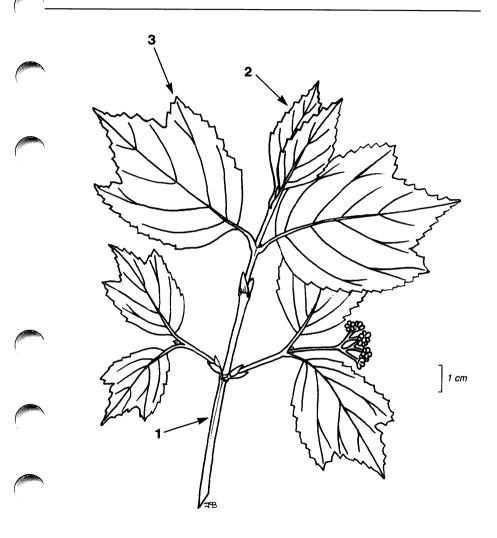
Throughout NW Ontario, less common in the NW Region. Occasional; primarily in fresh/moist hardwood and mixedwood forests, often on calcareous soils.

Notes

The maple-like leaves of this species are 3-lobed, often with glandular teeth at the base of the blade. *Acer spicatum* and *A. rubrum* have 5-lobed leaves without glands. *Ribes* spp. and *Rubus parviflorus* have alternate leaves. *V. trilobum* Marsh. (High Bush Cranberry) occurs infrequently throughout NW Ontario. It is a much taller shrub than *V. edule* with stipules at the leafstalk bases and deeply 3-lobed leaves; there are 2 different types of flowers in its inflorescence. An excellent "cranberry" jelly can be made from these species.



Squashberry



Viburnum rafinesquianum Schultes

Caprifoliaceae (Honeysuckle Family)

Description

General - erect or spreading shrub usually < 1.5 m high; branchlets light brown or grey, hairless or slightly hairy.

Leaves - opposite; egg-shaped or round to broadly lance-shaped, pointed at the tip, rounded or slightly heart-shaped at the base; usually hairless above, downy beneath; leafstalk short (< 1 cm long) or absent¹, often downy, with a pair of bristle-like stipules² at the base which usually exceed the leafstalk in length; margins coarsely toothed with 10 or fewer teeth per side³.

Flowers - in clusters at the branch ends; individual flowers small (< 1 cm across), creamy-white; appearing in late May and June.

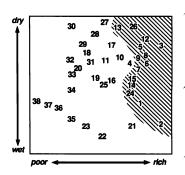
Fruit - flattened, purplish-black, elliptical, containing a flat stone; ripening in August and September.

Habitat

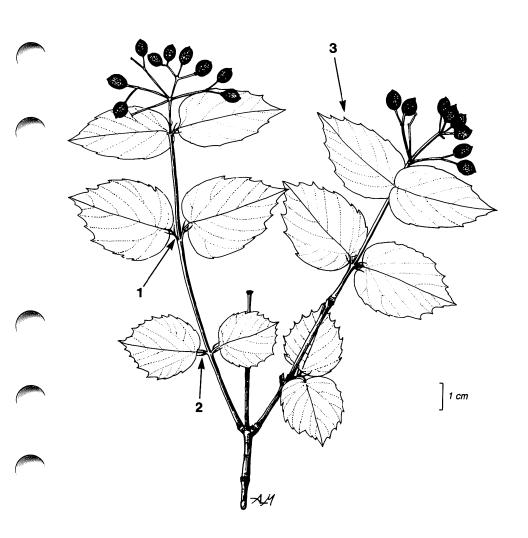
Confined to the Thunder Bay / Quetico / Rainy River area of NW Ontario. Infrequent; primarily in hardwood dominated forests on fresh, fine-textured, often calcareous, soils.

Notes

A similar species, *V. lentago* L. (Nannyberry), also occurs in the Quetico / Rainy River area. It has hairless, finely toothed leaves with longer leafstalks than this species and no stipules.



Downy Arrow-wood



Section 3.3 Herbs

Contents:

Actaea rubra Anemone quinquefolia Apocynum androsaemifolium Aralia nudicaulis Aster ciliolatus macrophyllus Circaea alpina Clintonia borealis Coptis trifolia Corallorhiza trifida Cornus canadensis Cypripedium acaule Epilobium angustifolium Fragaria vesca virginiana Galium triflorum Geocaulon lividum Goodyera repens Lathyrus ochroleucus Listera cordata

Maianthemum canadense Melampyrum lineare Mertensia paniculata Mitella nuda Moneses uniflora Monotropa uniflora Petasites palmatus Platanthera obtusata orbiculata Polygala paucifolia Pyrola asarifolia elliptica secunda virens Smilacina trifolia Streptopus roseus Trientalis borealis Trillium cernuum Vicia americana Viola renifolia

Actaea rubra (Ait.) Willd.

Ranunculaceae (Buttercup Family)

Description

General - erect, usually solitary perennial from a thickened rootstalk; stem once-branched, few-leaved, 40-80 cm high.

Leaves - alternate; large, widespreading¹; compound, divided 2 or 3 times into groups of 3 segments; leaflets egg-shaped with irregularly sharp-toothed or lobed margins, commonly sparsely hairy on the veins beneath.

Flowers - in a dense, long-stalked, terminal cluster; individual flowers small (about 7 mm across) with 4-10 narrow, white petals and numerous whitish stamens; appearing in late May and early June.

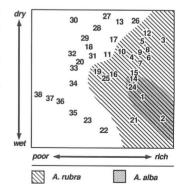
Fruit - a cluster of glossy, red (occasionally white) berries² on thin, individual stalks³; ripening in July and August.

Habitat

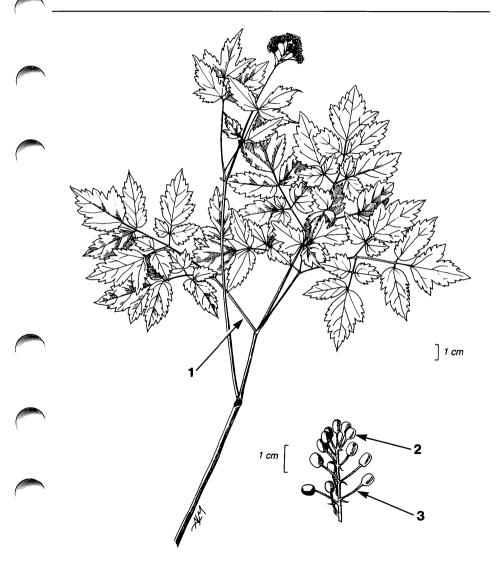
Throughout NW Ontario. Occasional; primarily in hardwood and mixedwood forest habitats on fresh/moist, often calcareous, fine-textured mineral soils.

Notes

A. alba Bigel. (White Baneberry) is infrequently encountered in rich forest habitats in the Quetico / Rainy River area. It has white berries (occasionally red) on thickened, fleshy stalks. All parts of the plants of both these species are considered toxic, although the berries are of particular concern since they are most likely to be eaten.



Red Baneberry



Anemone quinquefolia L.

Ranunculaceae (Buttercup Family)

Description

General - small, delicate herb from a slender, horizontal rhizome; usually < 15 cm high; stem and leaves completely hairless.

Leaves - solitary, long-stalked basal leaf for sterile individuals; flowering plants with a whorl of 3 stem leaves; all leaves deeply divided into 3 or sometimes 5 lobes 1 (or leaflets); each lobe coarsely and unevenly toothed.

Flowers - solitary, approximately 2.5 cm across, on a long, terminal stalk; usually with 5 white or faintly purple, petal-like sepals; appearing in May and early June.

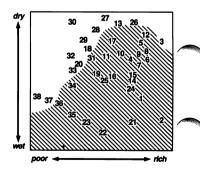
Fruit - numerous seeds on a cylindrical head; developing in late June and July.

Habitat

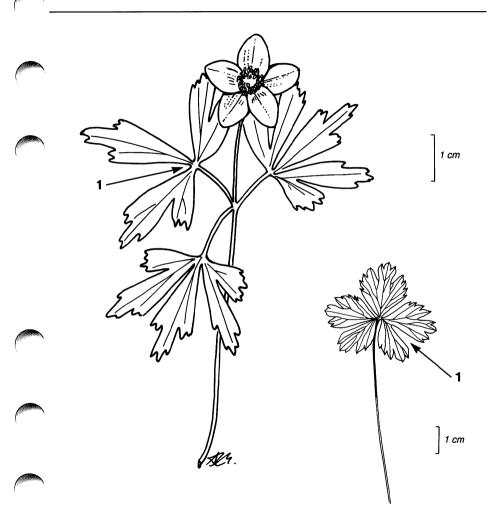
Throughout NW Ontario. Occasional; primarily in fresh/moist hardwood and mixedwood forest habitats.

Notes

Basal leaves with just 3 leaflets may be confused with those of *Coptis trifolia*, *Rubus pubescens* or *Fragaria* spp. The more robust *A. canadensis* L. (Canada Anemone) occurs infrequently in the Quetico / Rainy River area. It has a whorl of large, stalkless leaves. All *Anemone* spp. contain a minor toxic compound which may act as a local skin irritant.



Wood Anemone



Apocynum androsaemifolium L.

Apocynaceae (Dogbane Family)

Description

General - spreading, much-branched, perennial herb with tough, fibrous bark; up to 50 cm high; stem and leaves exude milky juice when broken.

Leaves - opposite; egg-shaped or oblong, abruptly pointed at the tip; smooth above, lightly woolly-hairy beneath; margins entire.

Flowers - in clusters at the branch ends or occasionally in the angles of the upper leaves; individual flowers small (< 1 cm long), pink to whitish, marked with red inside, nodding, bell-shaped, with 5 flaring lobes¹; appearing in June and July.

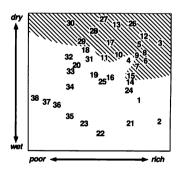
Fruit - a long (up to 15 cm), narrow, cylindrical pod containing elongated cottony seeds; appearing in August and September.

Habitat

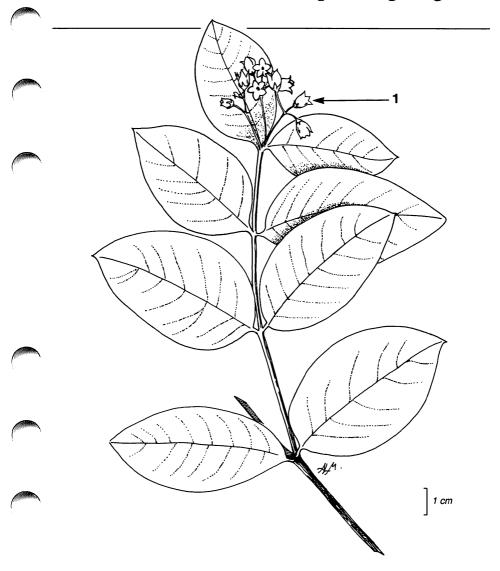
Throughout NW Ontario. Infrequent; in a variety of upland forest habitats, especially on dry/fresh, sandy and coarse loamy soils. Also in clearings and fields, along forest margins, on roadsides and disturbed ground.

Notes

Non-flowering plants may be confused with those of Lonicera canadensis or L. oblongifolia. However, the milky sap of Apocynum is diagnostic. Skin contact with the sap may cause a rash in hypersensitive individuals; the sap is also considered toxic to livestock. The name "dogbane" derives from the root's reputed value as a remedy for the bites of mad dogs.



Spreading Dogbane



Aralia nudicaulis L.

Araliaceae (Ginseng Family)

Description

General - stemless, herbaceous perennial; a single leaf (up to 50 cm high) rises above the flower stalk, both produced by a woody rhizome¹.

Leaves - a single, compound, basal leaf divided into 3 groups of 5 leaflets²; leaflets elongated-elliptic to egg-shaped, finely toothed on the margins.

Flowers - numerous, in 2-7 (usually 3) round heads on top of a leafless stalk³; individual flowers very small, with 5 greenish-white petals; appearing in June.

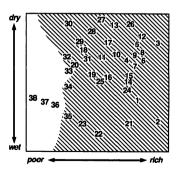
Fruit - berries, nearly black when ripe, in a cluster; ripening in July and August.

Habitat

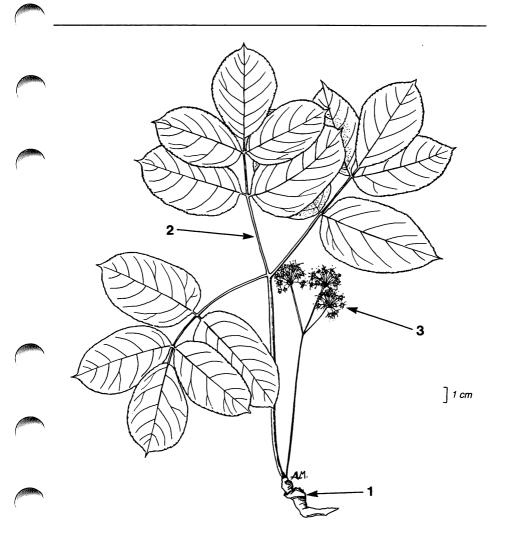
Widespread throughout NW Ontario. Common; occurring across a broad range of forest habitats and soil/site conditions, especially in dry to moist hardwoods and mixedwoods, less often in coniferous forests and on moist/wet sites. Often very abundant in association with *Diervilla lonicera* and *Aster macrophyllus*, usually in upland, hardwood dominated stands.

Notes

The rhizome has been used by North American Indians both for medicinal purposes and as a subsistence food. European settlers occasionally made wine from the berries and a type of root beer from the rhizome. In the 1800's, sarsaparilla was highly fashionable as a spring tonic.



Wild Sarsaparilla



Aster ciliolatus Lindl.

Asteraceae (Aster Family)

Description

General - perennial with long, creeping rhizomes; flowering stems up to 1 m high, sparingly leafy, with a short woody base.

Leaves - alternate on the flowering stem; commonly encountered as basal leaves of non-flowering individuals; basal and lower stem leaves egg-shaped to lance-shaped, tapering to a sharp-pointed tip, rounded or heart-shaped at the base, sharply toothed, with long, winged leafstalks which are fringed with fine hairs¹.

Flowers - in a loose, open, *elongated* ² inflorescence; relatively few (less than 50) flower heads in a cluster; individual flower heads daisy-like with 12-25 blue rays; appearing in August.

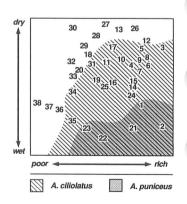
Fruit - small, linear seeds with fluffy, bristle-like hairs; forming a small dandelion-like ball for each flower head; appearing in September.

Habitat

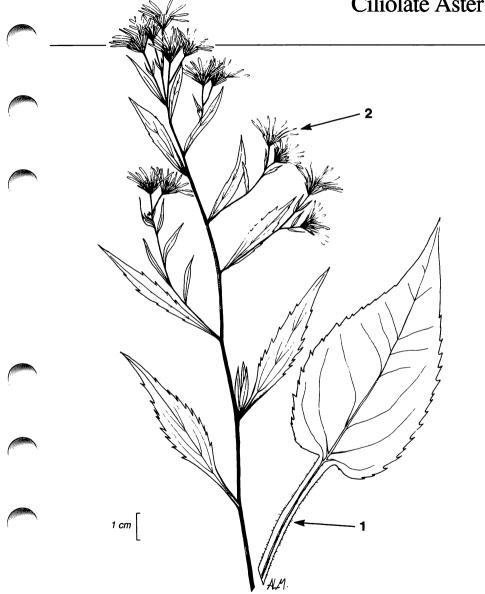
Throughout NW Ontario. Occasional; in fresh to wet forest habitats on both mineral and organic soils. Also along forest margins, roadsides and fence rows, in old fields and clearings.

Notes

A. macrophyllus has a flat-topped inflorescence and lacks a ciliate, winged leafstalk. A. puniceus L. (Swamp Aster), with stalkless or clasping stem leaves, occurs infrequently throughout NW Ontario in wet forests and swamps. Several other Aster species may be encountered in fields and on disturbed ground.



Ciliolate Aster



Aster macrophyllus L.

Asteraceae (Aster Family)

Description

General - perennial with creeping rhizomes, often forming dense patches of single-leaved, vegetative individuals; flowering stems up to 1 m high, usually hairy, with a short, woody base.

Leaves - alternate on the flowering stem; most commonly encountered as basal leaves of non-flowering individuals; basal leaves very large (up to 20 cm long and 15 cm wide)¹, firm, thick, usually hairy, coarsely toothed, tapering to a pointed tip, heart-shaped at the base, on long leafstalks without a fringe of fine hairs ²; upper stem leaves reduced, essentially stalkless.

Flowers - in a loose, open, flat-topped³ inflorescence with sticky hairs⁴; individual flower heads daisy-like, sparse, with 9-20 purple to pale blue rays; appearing in August.

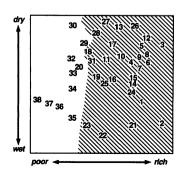
Fruit - small, linear seeds with fluffy, bristle-like hairs; forming a small dandelion-like ball for each flower head; appearing in September.

Habitat

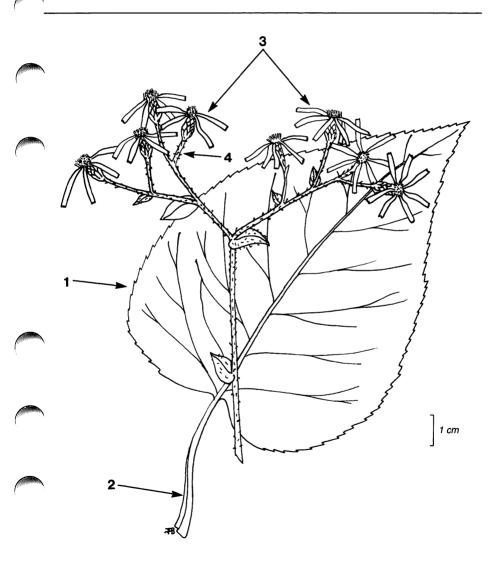
Widespread throughout NW Ontario. Frequent; occurring across a broad range of forest habitats, primarily on dry to moist, mineral soils. Often contributing to a dense herb / low shrub cover with *Aralia nudicaulis*, *Diervilla lonicera* and other species in fresh hardwood and mixedwood stands. Also along forest margins, roadsides, in clearings and on disturbed ground.

Notes

The basal leaves of A. ciliolatus are generally smaller with winged leafstalks. See A. ciliolatus for additional notes.



Large-leaved Aster



Circaea alpina L.

Onagraceae (Evening Primrose Family)

Description

General - low, soft, weak-stemmed perennial from a slender rhizome with tuberous thickenings; flowering stems usually < 20 cm high.

Leaves - opposite; thin, somewhat succulent, pale green¹; egg- or heart-shaped, pointed at the tip, margins coarsely toothed, hairless; leafstalks with conspicuous, narrow wings.

Flowers - in sparse, elongated, stalked clusters from the tip of the stem or the leaf angles; individual flowers very small (about 2 mm long) with 2 white to pinkish, deeply-lobed petals; each flower on a stalk up to 5-6 mm long; appearing in July and August.

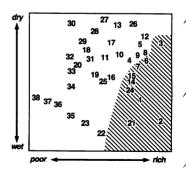
Fruit - small (about 2 mm long), teardrop shaped², densely covered with soft, hooked bristles; appearing in August and September.

Habitat

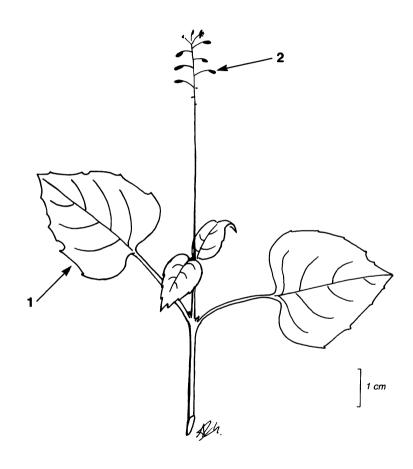
Throughout NW Ontario but more common in the Quetico / Rainy River area and near Lake Superior. Infrequent; primarily on rich, fresh/moist mineral soils; most common in lowland black ash, balsam poplar and white cedar stands.

Notes

The larger C. canadensis Hill may be found in rich, moist/wet forests in the Quetico / Rainy River area. It differs from this species primarily in the structure of its rhizome, which lacks tuberous thickenings.



Dwarf Enchanter's Nightshade



Clintonia borealis (Ait.) Raf.

Liliaceae (Lily Family)

Description

General - perennial with thick, glossy, dark green leaves in a basal rosette¹; flowering stalk leafless, up to 35 cm high.

Leaves - 2-4 (usually 3) large, erect, basal leaves with parallel veins; finely hairy on the margins and veins; elliptic or tongue-shaped, abruptly pointed at the tip; margins entire.

Flowers - in a loose cluster at the tip of an erect flowering stalk emerging from the centre of the leaf rosette; individual flowers nodding, bell-shaped, about 1.5 cm long, with 6 yellowish-green petals; appearing in June.

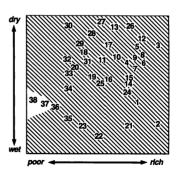
Fruit - a cluster of dark, metallic-blue, bead-like berries 2; ripening in August.

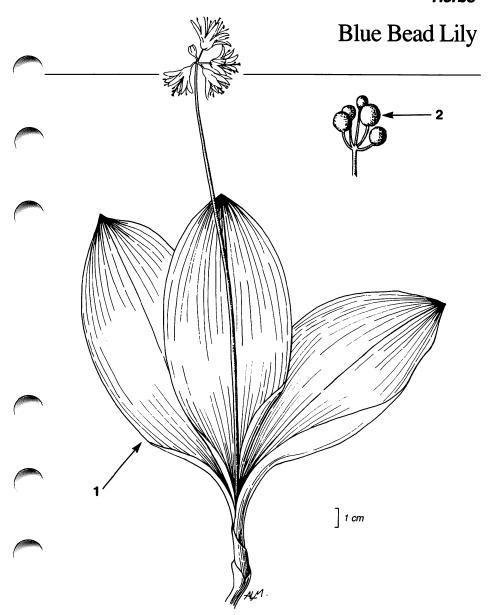
Habitat

Widespread throughout NW Ontario. Common; occurring across a broad range of forest habitats and soil/site conditions, especially in dry/fresh, herb and shrub rich, hardwood and mixedwood stands.

Notes

The basal leaves may be confused with those of *Smilacina trifolia* in wet, conifer forests. The berries may be mildly toxic. The young leaves make a pleasant addition to a salad.





Coptis trifolia (L.) Salisb.

Ranunculaceae (Buttercup Family)

Description

General - low, small perennial with basal, 3-foliolate leaves and leafless flower stalks from a slender, golden rhizome¹.

Leaves - shiny, evergreen, somewhat leathery, divided into 3 stemless leaflets 2 each obscurely lobed and with rounded teeth.

Flowers - usually single on a naked stalk 5-15 cm high; individual flowers white, delicate, star-shaped, with 5-7 parts, about 1 cm wide; appearing in late May and June.

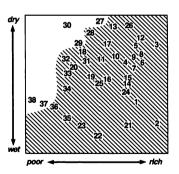
Fruit - a few slender, beaked capsules in a loosely spreading cluster; appearing in July and August.

Habitat

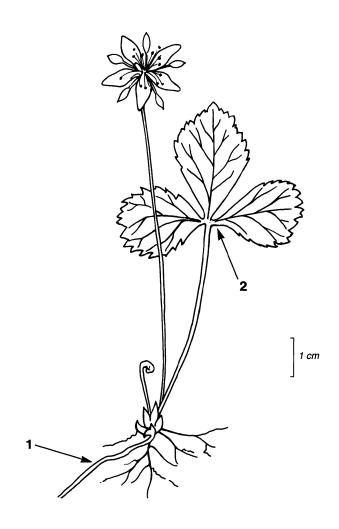
Widespread throughout NW Ontario. Frequent; occurring across a broad range of forest habitats and soil/site conditions, especially in fresh to wet, conifer dominated stands.

Notes

With some individuals confusion with Fragaria spp., Anemone quinquefolia or Rubus pubescens may occur. Ranunculus lapponicus L., an infrequent species of rich, moist/wet forest habitats, has leaves which appear similar to those of Coptis but lacks the golden rhizome. A yellow dye can be made from the rhizome.



Goldthread



Corallorhiza trifida Chat.

Orchidaceae (Orchid Family)

Description

General - perennial, saprophytic herb without leaves; stem yellowish rather than green, usually < 20 cm high; roots short with stubby branches, resembling coral¹.

Leaves - none; thin sheaths enveloping the bottom of the stem.

Flowers - 5-15 flowers in a loose spike; individual flowers about 1 cm long, yellowish-green, 6 floral parts with a white, obscurely lobed, *usually unspotted lip* ² (occasionally spotted with purple); appearing in June and July.

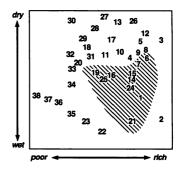
Fruit - a drooping capsule about 1 cm long; developing in July and August.

Habitat

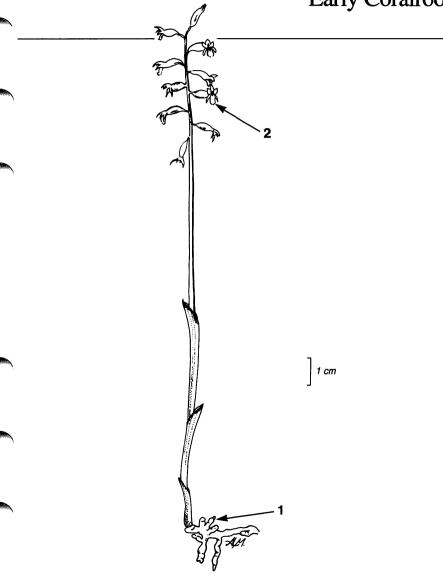
Throughout NW Ontario. Infrequent; in shaded forest habitats, especially on fresh/moist mineral soils.

Notes

C. maculata Raf. (Spotted Coralroot) also occurs throughout NW Ontario. It is larger than this species with a conspicuously spotted or purplish lip.



Early Coralroot



Cornus canadensis L.

Cornaceae (Dogwood Family)

Description

General - low, erect perennial, 10-20 cm tall from a widely spreading rhizome; often forming extensive colonies.

Leaves - opposite; 4-6 leaves in an apparent whorl at the top of the stem¹, often with 1 or 2 pairs of smaller, leaf-like scales on the stem below; elliptic or egg-shaped, 4-8 cm long, margins entire, tapering to a point at both ends, veins conspicuous and parallel².

Flowers - a solitary, short-stalked inflorescence above the leaf "whorl"; the inflorescence consists of 4 large (1-2 cm long), showy, white, petal-like bracts³ surrounding a dense cluster of small, greenish to purplish, 4-petalled flowers; appearing in June and early July.

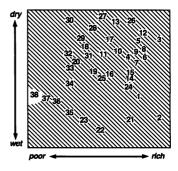
Fruit - bright red, pulpy, berry-like; in a terminal cluster; ripening in July and August.

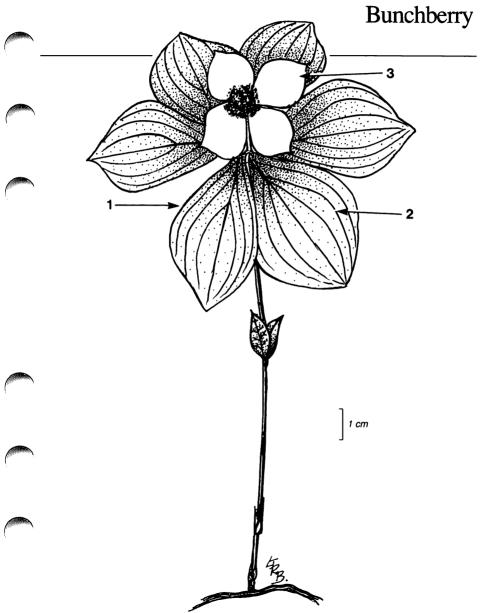
Habitat

Ubiquitous in forest habitats throughout NW Ontario. Very common; occurring across a broad range of stand types and soil/site conditions.

Notes

The "berries" are important forage material for wildlife although they are rather bland to be attractive to the human palate. Cooked in whey, however, they make a good pudding. This species is one of many being investigated for natural chemotherapeutic compounds with potential for application in cancer treatment. A mild tea made from the roots has been used to treat colic in infants.





Cypripedium acaule Ait.

Orchidaceae (Orchid Family)

Description

General - perennial orchid with 2 basal leaves and a large, showy flower on an erect stalk 20-30 cm tall.

Leaves - no stem leaves; basal leaves large (10-20 cm long), nearly opposite, narrowly elliptic, tapering to a pointed tip, minutely hairy, with prominent parallel veins¹, margins entire.

Flowers - solitary; lateral petals and sepals linear, yellowish-green to greenish-brown; lip large, inflated, pouch-shaped, cleft on the upper side, pink (occasionally white)²; single green bract arching forward from the stalk over the flower; appearing in June.

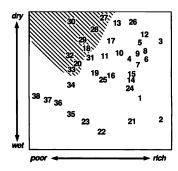
Fruit - a brown capsule under the floral bract; developing in July and August.

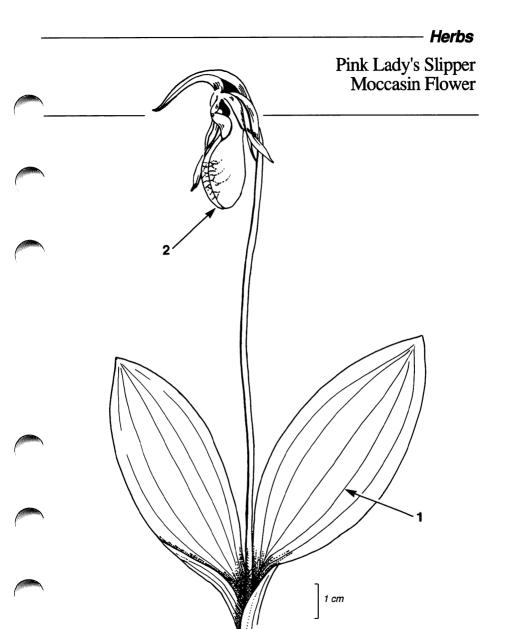
Habitat

Throughout NW Ontario. Infrequent; in dry/fresh, jack pine and black spruce forests on sandy and coarse loamy soils.

Notes

Other species of *Cypripedium* are rare in NW Ontario. *C. calceolus* L. (Yellow Lady's Slipper) and *C. reginae* Walt. (Showy Lady's Slipper, with white and pink flowers) may be encountered, especially on moist/wet, calcareous soils.





Epilobium angustifolium L.

Onagraceae (Evening Primrose Family)

Description

General - tall, erect perennial from a thickened rootstalk; stems usually unbranched, often > 1 m high.

Leaves - alternate; long, narrowly lance-shaped, tapering at the base; margins entire or slightly toothed; densely crowded on the stem; veins conspicuous beneath.

Flowers - in a long, dense, terminal spike; individual flowers large (about 2 cm across), showy, with 4 magenta (occasionally white) petals¹; lowest flowers opening first, often exceeded by the accompanying stem leaves; appearing in late July and August.

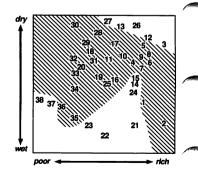
Fruit - a long (up to 7 cm), narrow, green to purple pod opening to release numerous silky-haired seeds; ripening in August and September.

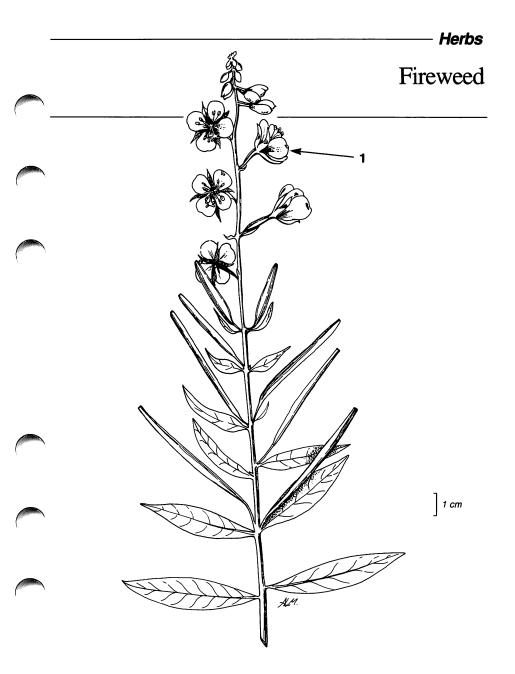
Habitat

Throughout NW Ontario. Occasional in forest habitats; especially in upland, dry/fresh, jack pine and black spruce stands. Typically occurring as non-flowering, solitary or scattered individuals within the forest. Often in great abundance on roadsides, clearings, burnt areas and disturbed ground.

Notes

The young shoots make an excellent, asparagus-like vegetable. The pith of older stems was fermented by European settlers to make an ale. They also mixed the seed-hairs with cotton in the manufacture of stockings.





Fragaria vesca L.

Rosaceae (Rose Family)

Description

General - low perennial growing from a short, thick rootstock; spreading by thin runners.

Leaves - basal; compound with 3 leaflets; each leaflet egg-shaped with straight, prominent veins and no individual leafstalks, somewhat pointed at the tip; margins coarsely toothed with the terminal tooth projecting beyond the two adjacent lateral teeth¹.

Flowers - in a loose cluster which, at maturity, usually extends above the leaves²; individual flowers about 1.0-1.5 cm across, with 5 white petals; appearing in late May and June.

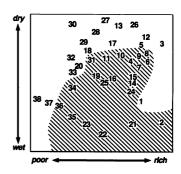
Fruit - a small, red "strawberry" with seeds distributed on the surface of the fruit 3 (not in pits); ripening in July.

Habitat

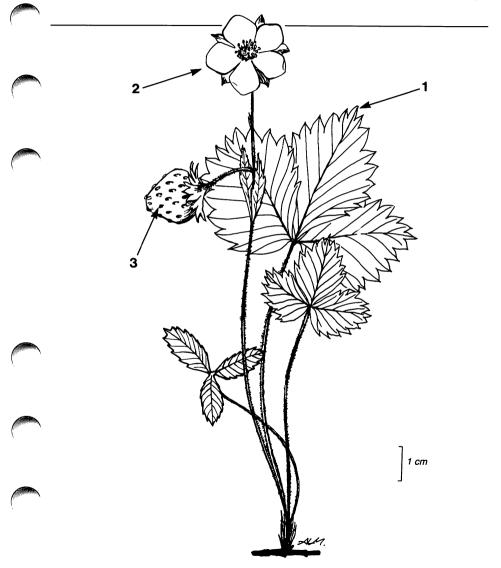
Throughout NW Ontario. Infrequent; primarily in fresh/moist forest habitats. Also in fields and clearings, along roadsides and on disturbed ground. Less common than *F. virginiana*.

Notes

This species is distinguished from F. virginiana by the diagnostic leaf, flower and fruit characters noted in the Description section. In some individuals confusion is possible with the leaves of Rubus pubescens. In both species of Fragaria, the fruit is edible either fresh or dried.



Woodland Strawberry



Fragaria virginiana Duchesne

Rosaceae (Rose Family)

Description

General - low perennial growing from a short, thick rootstalk; spreading by thin runners; stems often reddish.

Leaves - basal; compound with 3 leaflets; each leaflet egg-shaped with straight, prominent veins and short individual leafstalks, rather blunt at the tip; margins coarsely toothed with the terminal tooth smaller and shorter than the two adjacent lateral teeth¹.

Flowers - in a loose cluster which, at maturity, does not overtop the leaves²; individual flowers can be large (1.5-2.5 cm across) and showy, with 5 white petals; appearing in late May and June.

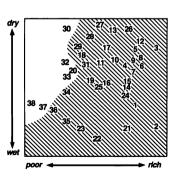
Fruit - a red "strawberry" with seeds embedded in pits on the surface of the fruit (use hand lens); ripening in July.

Habitat

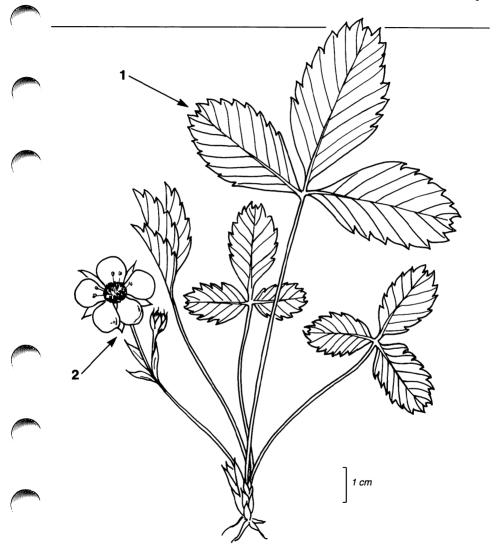
Throughout NW Ontario. Occasional; occurring across a range of dry to moist forest habitats. Also in fields and clearings, along roadsides and on disturbed ground; often forming large patches in sunny locations.

Notes

This species is distinguished from F. vesca by the diagnostic leaf, flower and fruit characters highlighted in the Description section. See F. vesca for additional notes.



Common Strawberry



Galium triflorum Michx.

Rubiaceae (Madder Family)

Description

General - slender, trailing perennial; stems square, smooth and weak, either prostrate or reclining on other vegetation.

Leaves - in whorls of 6^1 (occasionally 5); elongated, narrowly elliptic, tapering to an abruptly pointed tip, with a single mid-vein; margins entire but rough to touch; often with coarse, hooked hairs on the underside of the leaf (rough to touch).

Flowers - loose clusters of 3 to many flowers on long stalks from the leaf angles; individual flowers very small (about 3 mm wide) with 4 greenish white petals; appearing in June.

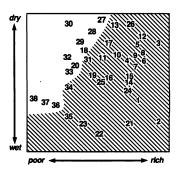
Fruit - a pair of small (about 2 mm diameter), fused balls covered with hooked bristles²; appearing in August.

Habitat

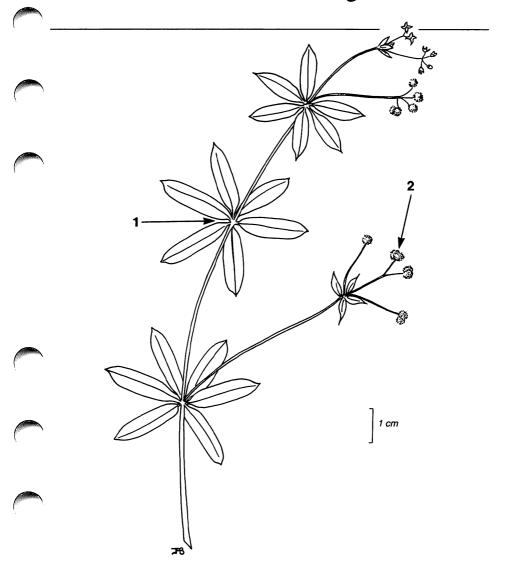
Widespread throughout NW Ontario. Frequent; in a range of forest habitats over a broad spectrum of soil/site conditions, especially in hardwood dominated stands.

Notes

Several other species of Galium may be encountered in NW Ontario. G. asprellum Michx. (Rough Bedstraw), like this species, has leaves in whorls of 6. It tends to be more branched than G. triflorum with strongly roughened leaves and stems; it typically occurs in wet forests, swamps and marshes. G. aparine L. (Cleavers), also a species of wet forests, has leaves in whorls of 8. G. boreale L. (Northern Bedstraw) is found across a range of forest habitats; its leaves are arranged in whorls of 4. G. triflorum is known to contain a substance which inhibits the blood clotting process.



Fragrant Bedstraw



Geocaulon lividum (Richards.) Fern.

Santalaceae (Sandalwood Family)

Description

General - erect, usually unbranched perennial; stems 10-25 cm high; from long slender rhizomes.

Leaves - alternate; thin, bright green or yellow-mottled¹; 1-2 cm long, oval, rounded and blunt-tipped at the apex; margins entire.

Flowers - small clusters, usually of 3 flowers, on stalks from the leaf angles; individual flowers very small (about 2 mm long) and inconspicuous, with 5 spreading, greenish sepals; appearing in June and July.

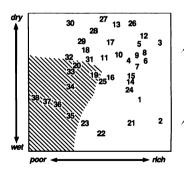
Fruit - *berry-like* ²; fleshy, juicy, scarlet to fluorescent orange, containing one seed; ripening in August and September.

Habitat

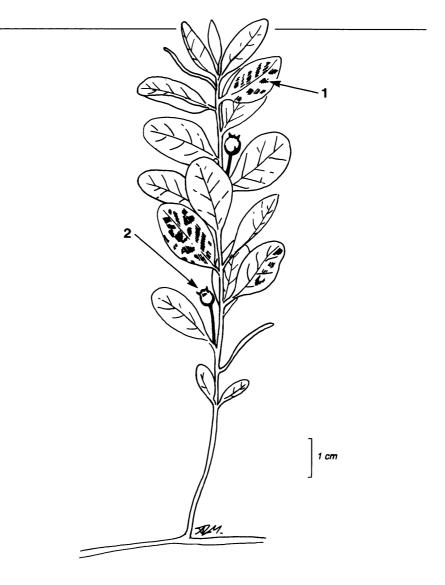
Throughout NW Ontario. Infrequent; primarily in black spruce/feathermoss forests.

Notes

This species is reported to be a root parasite of ericaceous species.



Northern Comandra



Goodyera repens (L.) R. Brown

Orchidaceae (Orchid Family)

Description

General - perennial herb from a short rhizome with a rosette of distinctively marked, evergreen leaves and a single, glandular-hairy, bracted flowering stalk.

Leaves - in a basal rosette; small (1.5-3.0 cm long), egg-shaped to narrowly elliptic; margins entire; dark green with conspicuous white veins forming a mottled or reticulate pattern¹.

Flowers - in a loosely flowered, somewhat one-sided spike; individual flowers very small (< 5 mm long), white orchids with a *pouch-like lip*²; lower flowers emerging first on the spike; appearing in July and August.

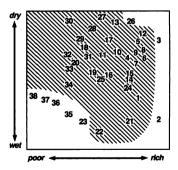
Fruit - a small, brown, erect capsule; appearing in August.

Habitat

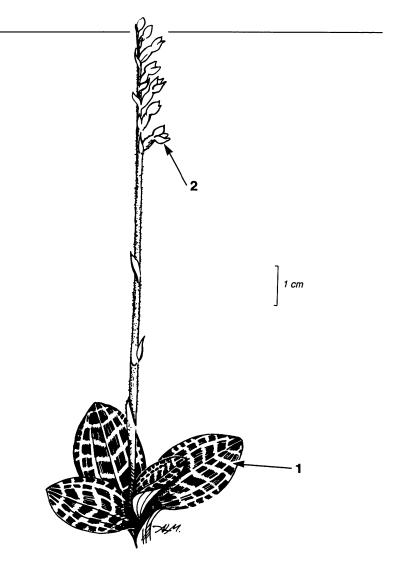
Throughout NW Ontario. Occasional; occurring in a range of dry to moist forest habitats, especially in conifer dominated stands.

Notes

Three other species of Goodyera may be encountered in NW Ontario. G. pubescens (Willd.) R.Br., G. oblongifolia Raf. and G. tesselata Lodd. are all larger than this species and identified by a difficult combination of characters including floral structure, floral arrangement on the spike and leaf pattern. North American Indians claim that the fresh leaves of Goodyera spp. constitute an effective remedy for rattlesnake bites when chewed and applied to a wound.



Dwarf Rattlesnake Plantain



Lathyrus ochroleucus Hook.

Fabaceae (Pea Family)

Description

General - hairless, perennial vine with a more or less angled stem; up to 80 cm long.

Leaves - alternate; compound, usually with 3 pairs (up to 5) of leaflets and a tendril at the tip; leaflets egg-shaped or oval, thin, margins entire; stipules at the leaf base large, heart-shaped or semi-circular¹.

Flowers - in elongated clusters from the leaf angles; individual flowers "pea-like", *yellowish-white* ², 1.0-1.5 cm long; appearing in June.

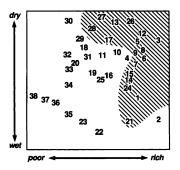
Fruit - a hairless pod; opening in August and September.

Habitat

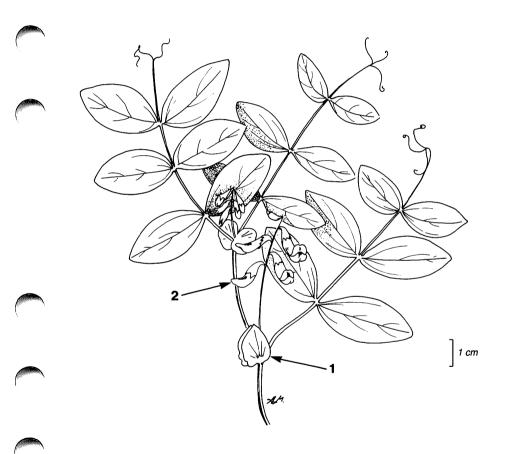
Throughout NW Ontario. Infrequent; in dry/fresh, upland, hardwood dominated stands as well as along roadsides, in clearings and on disturbed ground.

Notes

L. venosus Muhl., occurring primarily in the NW Region, is similar to this species but has purple flowers and lacks the large, leaf-like stipules. Vicia americana has purple flowers, smaller leaflets and deeply toothed stipules. The seeds of Lathyrus spp. are known to be neurotoxic to humans and livestock, especially horses. Ingestion results in headache, breathing difficulty and partial paralysis, a condition referred to as "lathyrism".



Creamy Peavine Pale Vetchling



Listera cordata (L.) R. Brown

Orchidaceae (Orchid Family)

Description

General - small, delicate, essentially hairless orchid with a single flowering stem usually < 15 cm high.

Leaves - opposite; I pair of heart-shaped or broadly egg-shaped leaves about midway up the flowering stem¹; each leaf entire, narrowing to a pointed tip, stalkless.

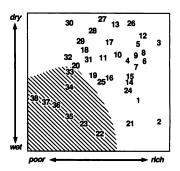
Flowers - in a relatively sparse, elongated, terminal spike; individual flowers small (< 1 cm long), pale green to purplish-green, with a long, deeply cleft lip^2 ; appearing in June and July.

Fruit - a small, brown capsule; appearing in July and August.

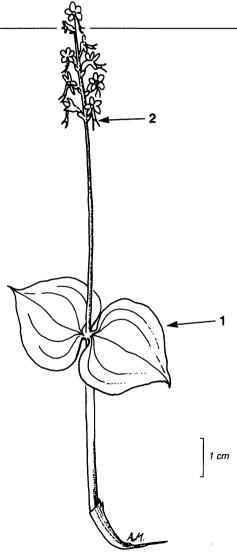
Habitat

Throughout NW Ontario. Infrequent; in moist/wet black spruce, tamarack and white cedar forests, especially on organic soils.

Notes



Heart-leaved Twayblade



Maianthemum canadense Desf.

Liliaceae (Lily Family)

Description

General - low herb spreading by slender, branching rhizomes; often forming extensive patches of single-leaved, vegetative individuals; flowering plants with a single, erect stem (< 20 cm high) and 1-3 stem leaves (usually 2).

Leaves - alternate; egg-shaped or oval, tapering to a blunt point at the tip, heart-shaped at the base; with no or only a short leafstalk (but not clasping the stem)¹; margins entire; dark green and hairless, occasionally finely hairy beneath.

Flowers - in a somewhat crowded cluster above the leaves; individual flowers small (about 5 mm across), more or less star-shaped with 4 white petals²; appearing in May and early June.

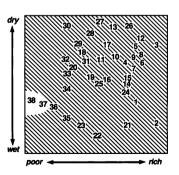
Fruit - a round, pale red, speckled berry; ripening in July.

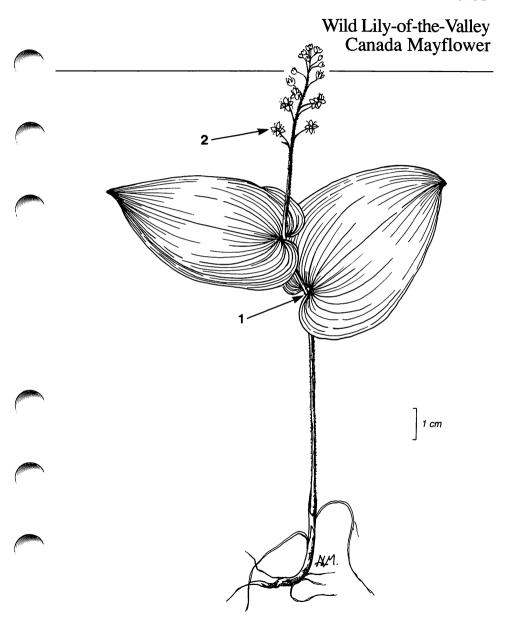
Habitat

Ubiquitous throughout NW Ontario. Very common; occurring in all forest habitats across a broad range of soil/site conditions.

Notes

Confusion with Smilacina trifolia is a possibility on wet sites. S. trifolia has 6 flower petals and leaves which are more elongated, often clasping the stem. The berries of Maianthemum can be eaten but are bitter and may cause diarrhea.





Melampyrum lineare Desr.

Scrophulariaceae (Figwort Family)

Description

General - slender annual with an unbranched or sparingly branched, often reddish stem; usually < 20 cm high.

Leaves - opposite; lower leaves entire, narrow, inversely lance-shaped or linear; upper leaves linear to lance-shaped, often with 1 or more coarse teeth near the base¹; all leaves with short or no leafstalks.

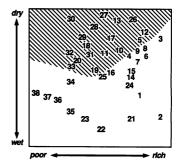
Flowers - borne singly on short stalks in the angles of the upper leaves; individual flowers about 1 cm long, somewhat tubular with 2 lips², whitish with yellow tips; appearing in June and July.

Fruit - a flattened capsule; appearing in July and August.

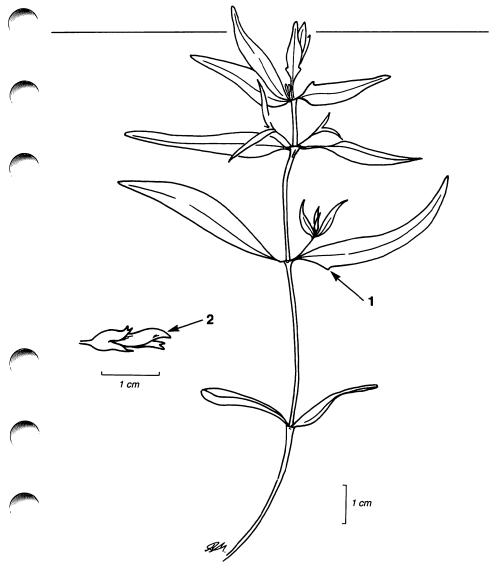
Habitat

Throughout NW Ontario. Occasional; in pine and upland black spruce forests on dry/fresh, sandy and coarse loamy soils.

Notes



Cow Wheat



Mertensia paniculata (Ait.) G. Don

Boraginaceae (Borage Family)

Description

General - tall, somewhat coarse perennial with a leafy, erect stem 30-80 cm high; stem often sparsely hairy.

Leaves - alternate or basal; margins entire; roughly hairy on both sides; stem leaves lance- or egg-shaped with long, tapered tips, narrowing to a winged leafstalk at the base; basal leaves dark green, often occurring in a sterile rosette, large (up to 20 cm long), broadly egg-shaped, with prominent venation¹ and often a heart-shaped base.

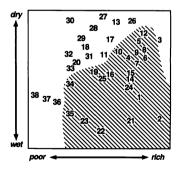
Flowers - in drooping terminal clusters; individual flowers blue (pinkish when young), funnel-shaped², with 5 lobes, about 1.0-1.5 cm long; appearing in June and July.

Fruit - small, individual nutlets; appearing from July to September.

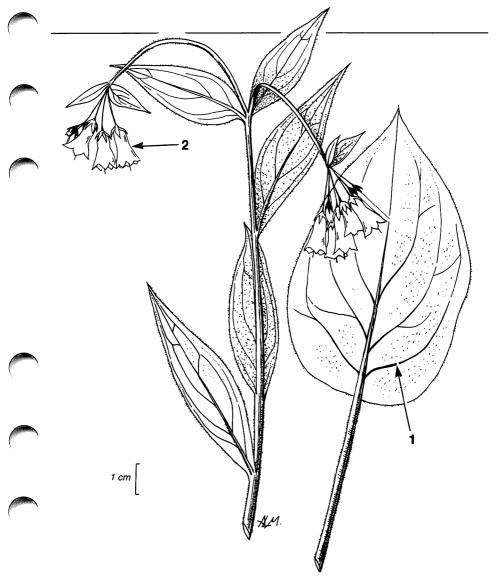
Habitat

Throughout NW Ontario. Occasional; on fresh/moist, often calcareous, soils, especially in hardwood and mixedwood forests.

Notes



Northern Bluebell



Mitella nuda L.

Saxifragaceae (Saxifrage Family)

Description

General - small, perennial herb spreading by rhizomes and often runners; solitary, erect flowering stem glandular-hairy, *leafless*, < 20 cm high.

Leaves - basal; round to kidney-shaped; margins slightly lobed or doubly round-toothed; on long leafstalks; with scattered, erect, bristly hairs¹.

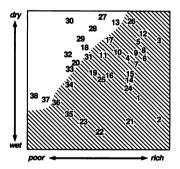
Flowers - in a sparse spike-like inflorescence; individual flowers small (< 1 cm wide), saucer-shaped with 5 fringed, greenish petals 2; appearing in May and June.

Fruit - a capsule with shiny, black seeds; ripening in July and August.

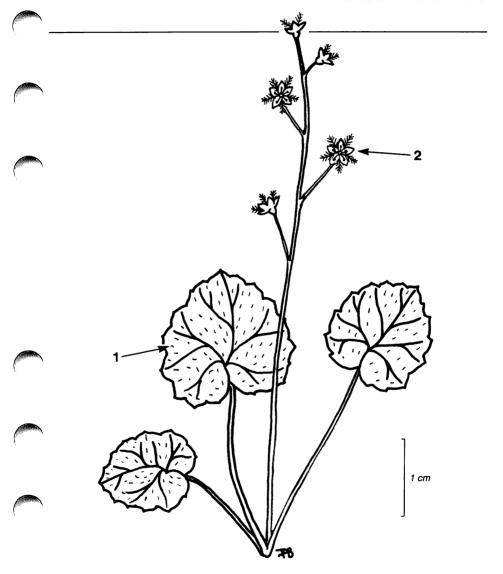
Habitat

Widespread throughout NW Ontario. Frequent; primarily on fresh to wet, often calcareous, soils, in a range of forest habitats.

Notes



Naked Mitrewort



Moneses uniflora (L.) Gray

Pyrolaceae (Wintergreen Family)

Description

General - small, evergreen perennial from a slender rhizome; single flowering stem about 10 cm high; stem leafless with 1 or 2 small bracts.

Leaves - basal rosette or a few whorls of 3 leaves on a short stem¹; nearly round to inversely egg-shaped; margins with fine, blunt, often wavy teeth²; leafstalk < 1 cm long, usually shorter than the leaf blade.

Flowers - solitary on a long stalk; nodding, fragrant, 1-2 cm across with 5 waxy, white or pinkish petals³; appearing in July and August.

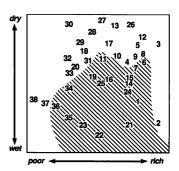
Fruit - a round, brown capsule with a protruding style; developing in August.

Habitat

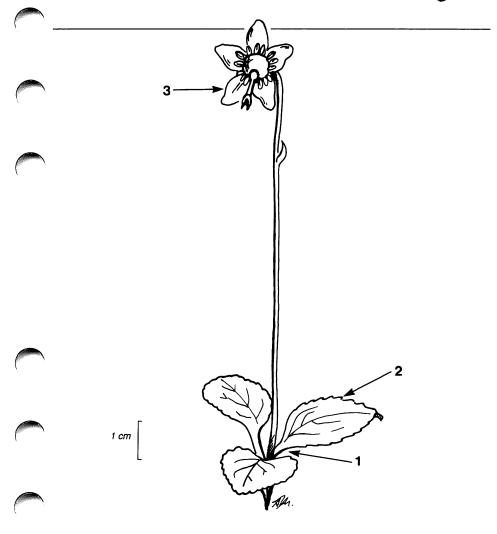
Throughout NW Ontario. Infrequent; in fresh/wet conifer dominated forest habitats, especially in spruce, balsam and white cedar stands.

Notes

Non-flowering plants are difficult to distinguish from several *Pyrola* spp. The leaves of *Moneses* are small with distinct, blunt teeth.



One-flowered Wintergreen



Monotropa uniflora L.

Pyrolaceae (Wintergreen Family)

Description

General - white (or pinkish), waxy, semi-translucent stem, blackening with age; up to 20 cm high; solitary or growing in clumps.

Leaves - alternate; reduced to small, often overlapping, fleshy scales.

Flowers - solitary, terminal, nodding at first but turning erect as the fruiting capsule matures; broadly tubular or urn-shaped with 4 or 5 distinct fleshy, white petals; appearing from late July to September.

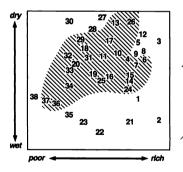
Fruit - an erect, brown capsule; the stem and capsule often persisting through the winter.

Habitat

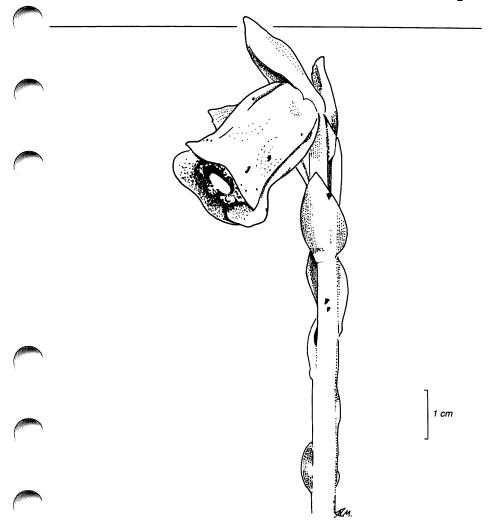
Throughout NW Ontario. Infrequent; in a variety of forest habitats, especially upland black spruce and jack pine stands on dry/fresh, sandy or coarse loamy soils.

Notes

This is a saprophytic species deriving its nutrients from decaying organic matter. The fresh stems taste like asparagus if cooked. North American Indians have traditionally crushed the stem to rub on sore, tired or swollen eyes; European settlers combined it with fennel seed to make an infusion for this purpose.



Indian Pipe



Petasites palmatus (Ait.) Gray.

Asteraceae (Aster Family)

Description

General - perennial herb from a creeping rhizome; the erect flowering stem, up to 50 cm high, is distinct from the solitary, basal leaves and disappears by early June (usually before the leaves emerge).

Leaves - basal, solitary; large, deeply cut into 5-7 coarsely toothed lobes¹; with long leafstalks; loosely white woolly beneath; leaves on the flowering stem reduced to parallel-veined bracts.

Flowers - in a cluster at the top of the flowering stem; individual flower heads somewhat bell-shaped with yellowish or creamy-coloured rays; appearing in May.

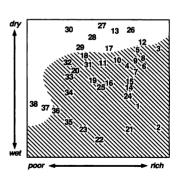
Fruit - small, linear seeds with fluffy, bristle-like hairs; forming a compact, dandelion-like ball for each flower head; appearing in late May and early June.

Habitat

Widespread throughout NW Ontario. Frequent; in a variety of fresh to wet forest habitats, especially on calcareous mineral soils.

Notes

Young shoots can be boiled and eaten.



Sweet Coltsfoot



Platanthera obtusata (Banks ex Pursh) Lindl.

Orchidaceae (Orchid Family)

Description

General - perennial orchid from a slender rhizome; solitary flowering stem usually < 20 cm high, essentially bractless.

Leaves - basal, solitary¹; inversely egg-shaped, blunt at the tip, long-tapering at the base; margins entire; hairless.

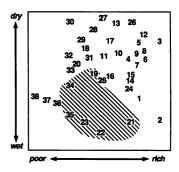
Flowers - in a loose spike; individual flowers up to 1 cm long, on short stalks, with a tapered spur projecting behind²; 6 greenish-white, petal-like parts with a lance-shaped, downward-pointing lip³; appearing in June and July.

Fruit - a brown, erect capsule; appearing in August and September.

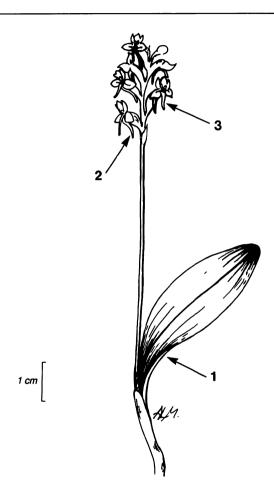
Habitat

Throughout NW Ontario. Infrequent; on moist/wet sites, often found in black spruce and white cedar swamps.

Notes



Blunt-leaved Orchid



Platanthera orbiculata (Pursh) Lindl.

Orchidaceae (Orchid Family)

Description

General - perennial orchid from fleshy roots; single flowering stem usually < 35 cm high, with a few elongated bracts¹.

Leaves - two, basal, opposite²; large (10-15 cm long), broadly elliptic to round with blunt tips; shiny, fleshy or leathery, usually lying on the ground, often found without a flowering stem.

Flowers - in a loose spike; individual flowers can be > 2 cm long, on stalks up to 1 cm long, with an elongated (often > 2 cm), tapered spur projecting behind³; 6 greenish-white, petal-like parts with a straight, downward-pointing lip⁴; appearing in July and August.

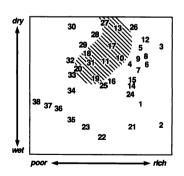
Fruit - a brown, erect capsule; developing in August and September.

Habitat

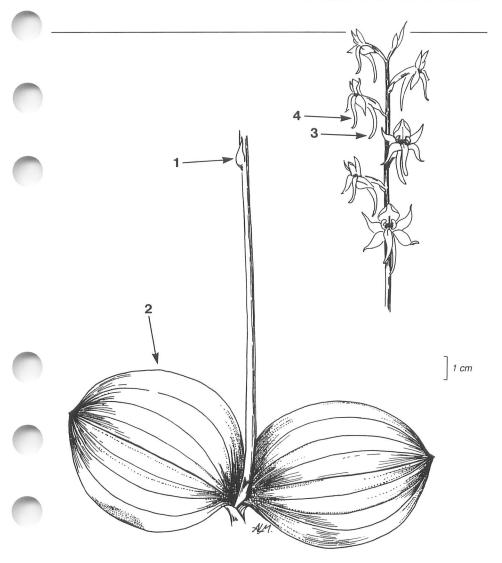
Throughout NW Ontario. Infrequent; in dry/fresh, upland conifer and mixedwood forests.

Notes

A similar species, *P. hookeri* Lindl. (Hooker's Orchid), occurs infrequently in the Quetico / Rainy River area. Its flowering stem is bractless and the individual flowers lack stalks.



Round-leaved Orchid



Polygala paucifolia Willd.

Polygalaceae (Milkwort Family)

Description

General - low (generally < 10 cm) perennial from a slender rhizome; stem erect, hairless, with scattered scale-like leaves below the main leaf cluster.

Leaves - alternate, crowded at the top of the stem, often in an apparent whorl¹; egg-shaped to oval, < 4 cm long, bluntly pointed at the tip; margins entire; hairless or slightly hairy on the midrib and margin.

Flowers - 1-4 flowers growing singly on short stalks from the leaf angles at the top of the stem; individual flowers relatively large (1.0-1.5 cm), showy, rose-purple (occasionally white), consisting of a central, fringed cylinder with 2 large, lateral wings²; appearing in May and early June.

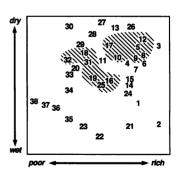
Fruit - a small, rounded, notched capsule; appearing in June and July.

Habitat

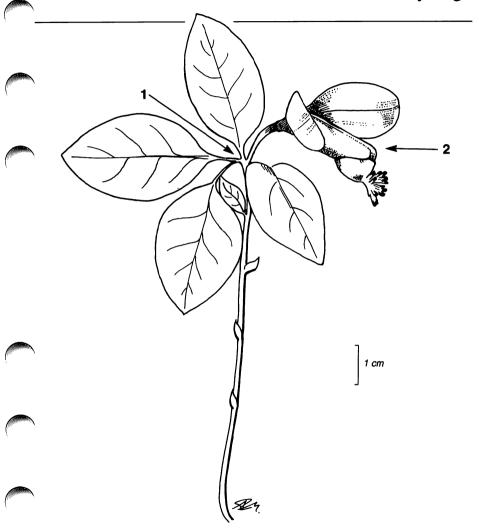
Primarily in the Quetico / Rainy River area and near the Lake Superior shoreline. Infrequent; in dry/fresh upland forests, generally on coarse-textured soils.

Notes

Non-flowering plants may be confused with those of *Gaultheria procumbens* but lack the distinctive wintergreen taste and odour.



Flowering Wintergreen Gaywings



Pyrola asarifolia Michx.

Pyrolaceae (Wintergreen Family)

Description

General - perennial from a branched, creeping rhizome; single flowering stem up to 30 cm high but usually < 25 cm; stem leafless with 2 or 3 small, scale-like bracts.

Leaves - in a basal rosette; round to kidney-shaped, somewhat leathery, often shiny, heart-shaped at the base¹; margins wavy to obscurely toothed; leafstalks at least as long as the leaves.

Flowers - in a loose spike; individual flowers small (< 1 cm across), nodding, on short stalks, with 5 pink petals² and a long, bent, protruding style; appearing in July and August.

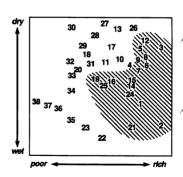
Fruit - a nodding capsule with a protruding style; developing in August.

Habitat

Throughout NW Ontario. Infrequent; primarily in fresh, hardwood and mixedwood forests.

Notes

The pink flowers are diagnostic for this species. *Pyrola* spp. are particularly difficult to distinguish without their flowers. The leaves of *P. asarifolia* are often light-green and shiny, usually with a somewhat heart-shaped base.



Pyrola elliptica Nutt.

Pyrolaceae (Wintergreen Family)

Description

General - perennial from a creeping rhizome; single flowering stem up to 30 cm high; stem leafless, often with 1 or 2 small bracts.

Leaves - in a basal rosette; broadly elliptic, inversely egg-shaped or somewhat rectangular, distinctly longer than wide, usually longer than the leafstalk¹; dark green, not shiny; rounded to bluntly pointed at the tip, tapering at the base and usually running down the leafstalk a little²; margins obscurely toothed.

Flowers - in a loose spike; individual flowers small (< 1 cm across), nodding, on short stalks, with 5 white petals striped with green³ and a long, bent, protruding style; appearing in July and August.

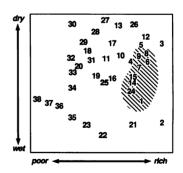
Fruit - a nodding capsule with a protruding style; developing in August.

Habitat

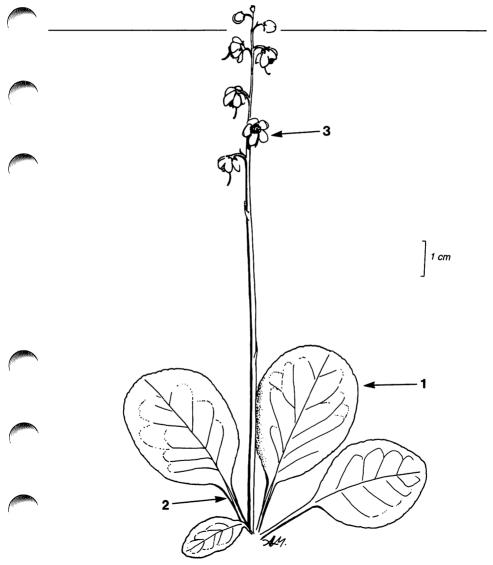
Throughout NW Ontario. Infrequent; primarily in fresh, upland forests.

Notes

Pyrola spp. are particularly difficult to distinguish without their flowers. The leaf blades of P. elliptica typically run down the leafstalk and are usually larger and relatively longer (elliptical) than those of other Pyrola's.



Shinleaf



Pyrola secunda L.

Pyrolaceae (Wintergreen Family)

Description

General - perennial from a creeping rhizome; single flowering stem usually < 15 cm high, leafy towards the base.

Leaves - alternate; distinctly spaced along the lower stem rather than in a basal rosette¹; elliptic or oval, rounded to bluntly pointed at the tip, dark green, not shiny; margins wavy or obscurely toothed.

Flowers - in a tight, distinctly one-sided² spike; individual flowers small (< 1 cm across), nodding, on short stalks, with 5 white or light-greenish petals and a $straight^3$, protruding style; appearing in July and August.

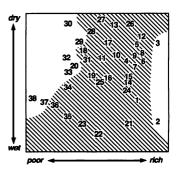
Fruit - a nodding capsule with a protruding style; developing in August.

Habitat

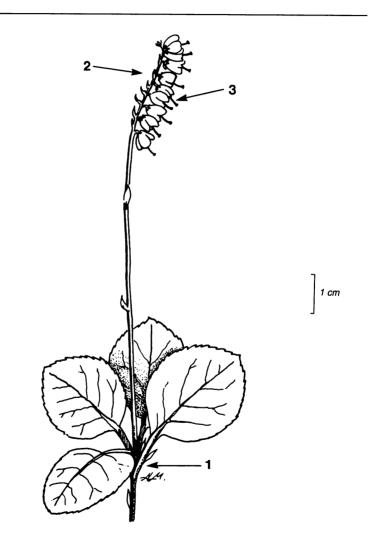
Throughout NW Ontario. Occasional; on dry to wet sites across a range of forest habitats.

Notes

The one-sided flower cluster is diagnostic for this species. *Pyrola* spp. are particularly difficult to distinguish without their flowers. Vegetative individuals of *P. secunda* differ from those of other *Pyrola*'s by having a noticeable internode separating the leaves along the lower stem.



One-sided Pyrola



Pyrola virens Schweigg.

Pyrolaceae (Wintergreen Family)

Description

General - small, perennial from a creeping rhizome; single flowering stem usually < 15 cm high, leafless with 1 or 2 small bracts.

Leaves - in a basal rosette; roundish to inversely egg-shaped, rounded at the base and not running down the leafstalk; dark green above, not shiny; margins obscurely toothed; leafstalk longer than the leaf blade¹.

Flowers - in a loose spike; individual flowers small (< 1 cm across), nodding, on short stalks, with 5 white petals striped with green² and a long, bent, protruding style; appearing in July and August.

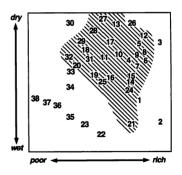
Fruit - a nodding capsule with a protruding style; developing in August.

Habitat

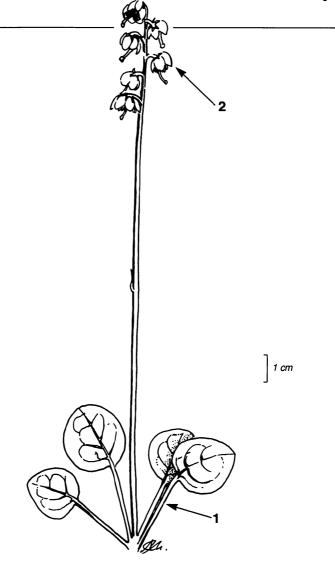
Throughout NW Ontario. Occasional; in dry/fresh, upland forest habitats.

Notes

A similar species, *P. minor* L. (Lesser Pyrola), is the only *Pyrola* with flowers and capsules which lack protruding styles. *Pyrola* spp. are particularly difficult to distinguish without their flowers. The leaves of *P. virens* and *P. minor* are small, usually rounded at the base, with relatively long leafstalks. Nonflowering plants of *Moneses uniflora* also have small, basal leaves but the leaf margins are distinctly toothed.



Green Pyrola



Smilacina trifolia (L.) Desf.

Liliaceae (Lily Family)

Description

General - slender, erect, perennial herb from a creeping rhizome; often forming loose patches; stem up to 20 cm high.

Leaves - alternate; oval to lance-shaped, tapering to a pointed tip and a stalkless base (sometimes more or less sheathing the stem); growing upwards; 1-4 but usually 3 leaves below the flower cluster; margins entire; hairless.

Flowers - in a slender, loose cluster above the leaves, the flowering stem often zigzagging; individual flowers small (< 1 cm wide) with 6 spreading white petals¹; appearing in June.

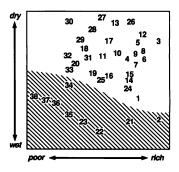
Fruit - a speckled berry turning dark red; ripening in July.

Habitat

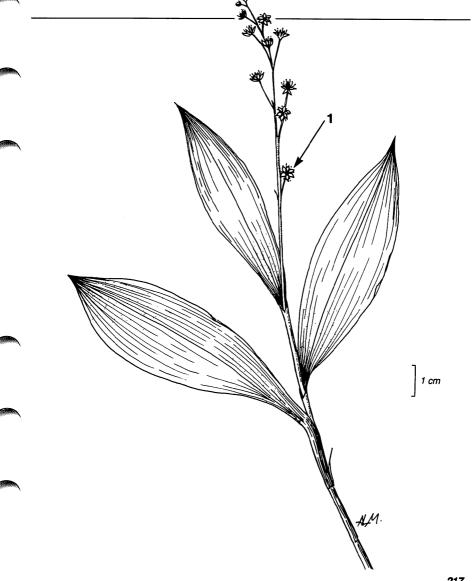
Throughout NW Ontario. Occasional; on moist/wet, poorly drained sites, especially wet black spruce stands on organic soils.

Notes

Confusion with Maianthemum canadense is a possibility. The flowers of M. canadense have 4 petals and the leaves are somewhat heart-shaped at the base, stalkless but never clasping the stem. Smilacina berries, if eaten in quantity, can cause diarrhea.



Three-leaved False Solomon's Seal



Streptopus roseus Michx.

Liliaceae (Lily Family)

Description

General - perennial, rhizomatous herb; stem branched or unbranched, up to 30 cm high; sparsely hairy at the nodes.

Leaves - alternate; broadly lance-shaped to oval, tapering to a pointed tip, rounded at the base; stalkless but not clasping¹; margins entire or minutely toothed (use hand lens); finely hairy on the veins beneath².

Flowers - solitary, on long (1-3 cm) flower stalks attached opposite each leaf³; flower stalk bent or twisted in the middle; individual flowers bell-shaped, about 1 cm long with 6 rose-coloured (often whitish with purple streaks) petals spreading at the tips, the petals separate to the base of the flower⁴; appearing in June.

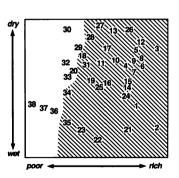
Fruit - an oblong, several-seeded red berry; ripening in July.

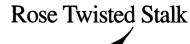
Habitat

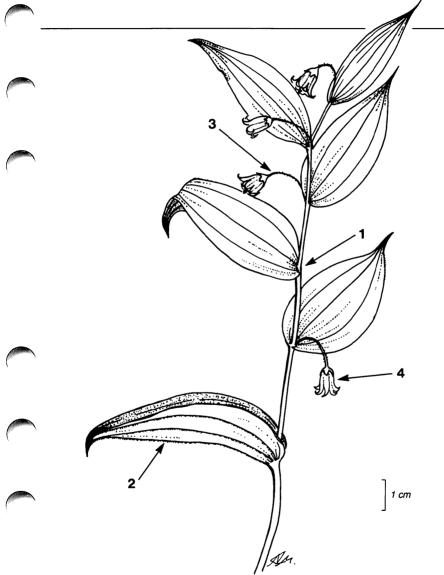
Widespread throughout NW Ontario. Frequent; primarily in hardwood and mixedwood forests, across a broad range of soil/site conditions.

Notes

The berries, if eaten in quantity, can cause diarrhea.







Trientalis borealis Raf.

Primulaceae (Primrose Family)

Description

General - low perennial from a slender rhizome; single, erect, unbranched stem up to 20 cm high.

Leaves - in a single whorl of 5-10 at the top of the stem¹; long, narrow, somewhat lance-shaped, tapering to a long pointed tip and a narrow base; shiny, hairless; margins entire; usually a small, scale-like leaf about half-way up the stem.

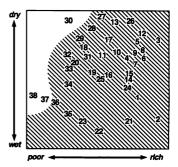
Flowers - growing singly on 1-3 long slender stalks from the centre of the leaf whorl; star-shaped with (usually) 7 delicate, white petals²; up to 1.5 cm across; appearing in late May and June.

Fruit - a 5-valved, many seeded capsule; developing in July.

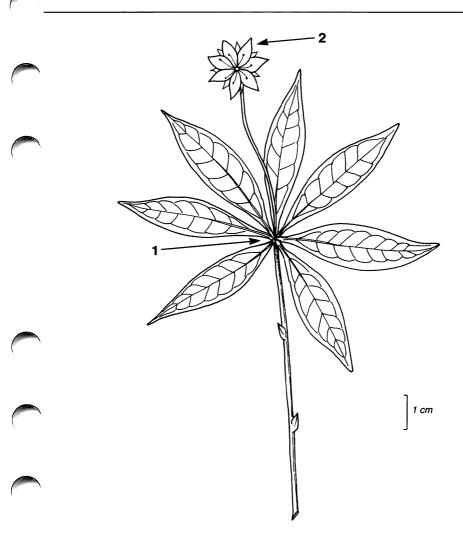
Habitat

Widespread across NW Ontario. Common; occurring in all but the poorest forest habitats over a broad range of soil/site conditions.

Notes



Starflower



Trillium cernuum L.

Liliaceae (Lily Family)

Description

General - perennial herb from a stout rhizome; single, erect, unbranched stem usually < 25 cm high.

Leaves - in a single whorl of 3 at the top of the stem¹; broadly diamond- or egg-shaped, tapering from the middle to a short point at the tip and an obscure leafstalk at the base; hairless; margins entire.

Flowers - solitary, on a long (1-4 cm) stalk which curves downward below the leaves 2 ; about 4 cm across, obscured because of its nodding habit, with 3 white petals bent slightly backwards at the tips 3 ; appearing in late May and early June.

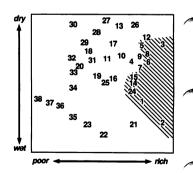
Fruit - a 6-lobed red berry; ripening in late June and July.

Habitat

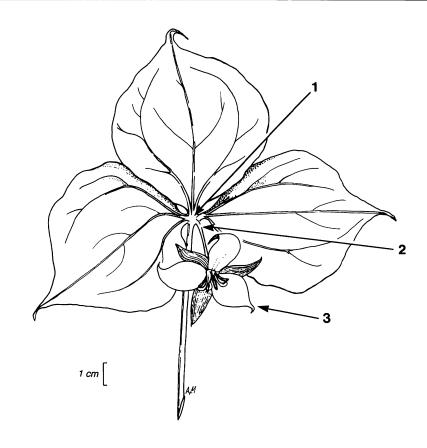
Throughout NW Ontario but most common in the Quetico / Rainy River area and near L. Superior. Infrequent; primarily on rich, fresh/moist, fine-textured soils, especially in balsam poplar and black ash stands.

Notes

The Indians of eastern North America have traditionally used a tea made from crushed rhizomes of the various *Trillium* spp. to facilitate childbirth and regularize menstruation.



Nodding Trillium



Vicia americana Muhl.

Fabaceae (Pea Family)

Description

General - trailing or climbing perennial vine; stem either hairless or somewhat hairy, up to 1 m long.

Leaves - alternate; compound, usually with 4-7 pairs of small (1.5-3.0 cm long) leaflets and a simple or branched tendril at the tip; each leaflet elliptic to egg-shaped with a blunt, minutely pointed tip, margins entire; stipules at the leaf base sharply and deeply toothed.

Flowers - in elongated clusters from the leaf angles; individual flowers "pea-like", bluish purple²; appearing in June and July.

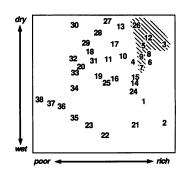
Fruit - a hairless pod; opening in August and September.

Habitat

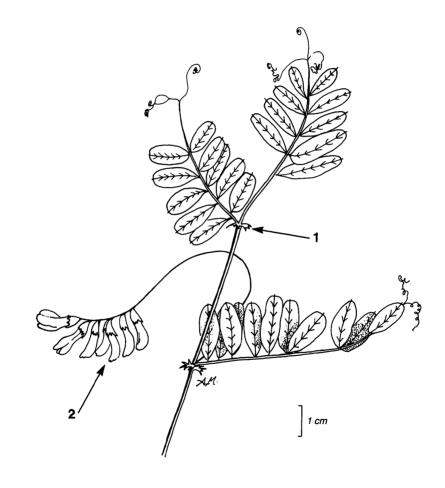
Throughout NW Ontario. Infrequent; in upland hardwood forests, primarily on dry/fresh, sandy or coarse loamy soils; also along roadsides and on disturbed ground.

Notes

Lathyrus ochroleucus and L. venosus are similar to this species but have larger leaflets. The individual species can be distinguished by flower colour and stipule characters.



American Vetch



Viola renifolia Gray

Violaceae (Violet Family)

Description

General - small perennial from a rhizome which becomes stout with age; stolons absent; no leafy stems.

Leaves - in a basal rosette; broadly kidney-shaped, wider than long, with a blunt, rounded tip¹; margins wavy or with shallow, rounded teeth; finely hairy on both surfaces or sometimes hairless above.

Flowers - solitary on erect stalks overtopping the leaves; "violet-shaped" with 5 white petals, the lower 3 with brownish-purple veins near the base; appearing in late May and June.

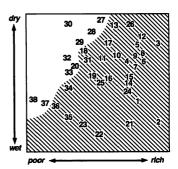
Fruit - a capsule containing round, brown seeds; opening in July and August.

Habitat

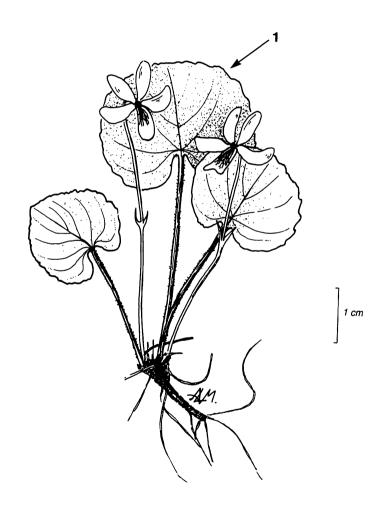
Widespread throughout NW Ontario. Frequent; occurring in a variety of forest habitats across a range of soil/site conditions.

Notes

Several other species of stemless violets occur within forest habitats in NW Ontario. Perhaps the 4 most common are *V. blanda* Willd. (Sweet White Violet), *V. incognita* Brainerd (Large-leaved White Violet), *V. pallens* (Banks) Brainerd (Northern White Violet) and *V. selkirkii* Pursh (Selkirk's Violet). The first 3 species, like *V. renifolia*, have white flowers; *V. selkirkii* has pale purple or blue petals. Without flowers all *Viola* species are extremely difficult to identify. Young leaves and flowers can be eaten fresh or in soup. The flowers can be candied or used for the flavouring and scenting of vinegars, teas and perfumes. The roots, however, will induce vomiting (emetic properties).



Kidney-leaved Violet



Section 3.4

Graminoids

Contents:

Calamagrostis canadensis

Carex brunnescens

disperma

intumescens

leptalea

trisperma

vaginata

Cinna latifolia

Luzula acuminata

Oryzopsis asperifolia

Schizachne purpurascens

Calamagrostis canadensis (Michx.) Beauv.

Poaceae (Grass Family)

Description

General - large, robust grass with numerous creeping rhizomes; forming clumps, often extensive; flowering stems often 1 m high or more; stems not hairy, often purplish around the joints.

Leaves - blades flat, 4-8 mm wide, gradually tapering to a long point; roughened on both surfaces as well as along the margins; leaves slightly drooping; ligule long, membranous, with a ragged top¹.

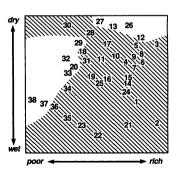
Inflorescence - a large, open panicle, occasionally somewhat drooping, often densely crowded, often purple-tinged; many spikelets per branch, one floret per spikelet; each floret with a dense tuft of hairs at the base, about as long as the floret ²; the straight, delicate awn is short and inconspicuous (use hand lens).

Habitat

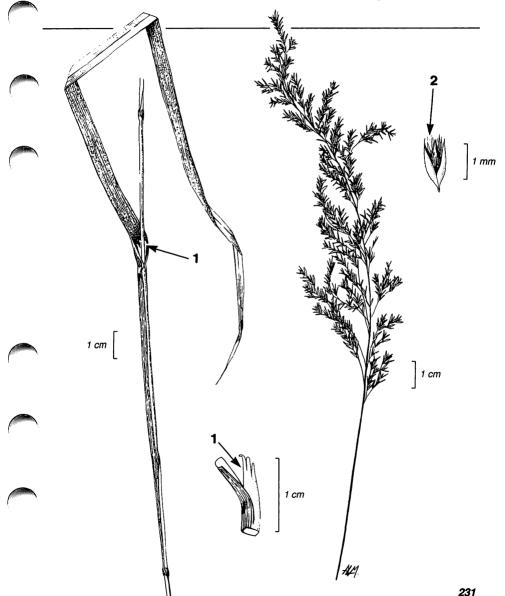
Throughout NW Ontario. Occasional; in a wide variety of forest habitats across a range of soil/site conditions. Primarily encountered in swamps, bogs, ditches, along shorelines and streams; also on dry, shallow sites and rock outcrops. In general, a species of wide ecological amplitude with a slight preference for calcareous soils.

Notes

This is an extremely variable species exhibiting differences in colouration, size of plant and size/shape of panicle in response to both environmental and genetic influences. *C. canadensis* is often a significant component of "beaver hay", harvested from wet, natural meadows.



Blue-joint Grass



Carex brunnescens (Pers.) Poir.

Cyperaceae (Sedge Family)

Description

General - densely tufted with narrow leaves; flowering stems up to 40 cm high, exceeding the leaves, at times slightly nodding.

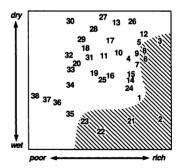
Leaves - principal blades 1-2 mm wide; erect or spreading; rough-margined in the upper half of the leaf.

Inflorescence - 1-5 cm long with several distinct, stalkless, roundish spikelets along a central axis¹; each spikelet with 3-10 flowers; perigynium of each flower very small (approx. 2 mm long), oval, greenish, with obscure nerves and a distinctly roughmargined beak (use hand lens); bract at the base of the inflorescence short, bristle-like².

Habitat

Throughout NW Ontario. Infrequent; in fresh to wet forest habitats.

Notes



Brownish Sedge



Carex disperma Dewey

Cyperaceae (Sedge Family)

Description

General - solitary or in loose, narrow-leaved tufts with both rhizomes and stolons; flow-ering stems usually < 30 cm high, exceeding the leaves, more or less zig-zagging within the inflorescence¹.

Leaves - principal blades 1-2 mm wide; weakly ascending to drooping; usually rough-margined to the base.

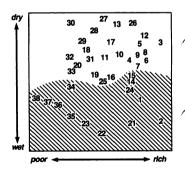
Inflorescence - 2-5 small, stalkless spikelets spread loosely along a central axis; each spikelet with 1-5 (usually 1-2) flowers; perigynium of each flower elliptical, round in cross-section, with a minute beak, turning from green to dark brown or black upon ripening; bract at the base of the inflorescence either missing or very short².

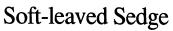
Habitat

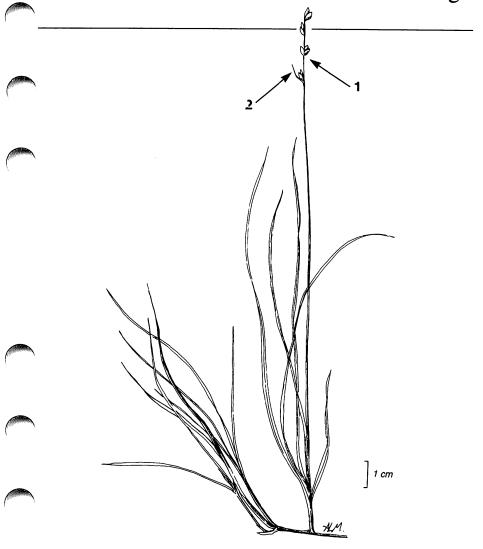
Throughout NW Ontario. Infrequent; on moist/wet, usually organic, soils, especially in lowland cedar and black spruce forests.

Notes

Confusion with *C. trisperma* is possible since these species often share the same habitat. *C. trisperma* has a lax inflorescence with a long, bristle-like bract at the base.







Carex intumescens Rudge

Cyperaceae (Sedge Family)

Description

General - clumped, medium to large-sized plants, with or without short rhizomes; flowering stems to 80 cm high, equalling or shorter than the leaves; some shoots with red bases.

Leaves - principal blades to 80 cm high, 4-8 mm wide; dark green, soft and drooping, flat or folded; rough-margined to the base; leaf sheaths with ladder-like strands.

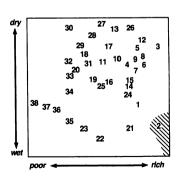
Inflorescence - in 2 parts: the terminal spikelet elongated, slender, consisting only of male (staminate) flowers; 1-3 lateral spikelets clustered together on short stalks below the staminate spikelet, consisting of 5-10 female (pistillate) flowers; perigynium of each pistillate flower large (> 1 cm long), shining and smooth, inflated (bladderlike)¹, rounded at the base, tapering to a beak and pointing away from the central axis; bract at the base of the inflorescence leaf-like, much longer than the inflorescence.

Habitat

Recorded only in the NC Region; most commonly encountered in the area SW of Thunder Bay and in proximity to Lake Superior. Rare in forest habitats; primarily in rich, moist, black ash stands, usually on mineral soils.

Notes

A good forage species for wildlife or livestock.



Bladder Sedge



Carex leptalea Wahl.

Cyperaceae (Sedge Family)

Description

General - forming dense rhizomatous mats of small, wiry plants; flowering stems usually < 25 cm high, slightly exceeding the leaves.

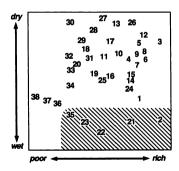
Leaves - erect or slightly drooping, very fine and wiry $(< 1 \text{ mm wide})^1$, smooth-margined except for the top few centimeters.

Inflorescence - a solitary spikelet, with 1-10 small flowers, at the tip of the flowering stem; individual flowers small (< 4 mm long), green to yellow-green, overlapping, somewhat cigar-shaped; bract at the base of the inflorescence like a large scale with a narrow, rough-margined awn about the length of the spikelet².

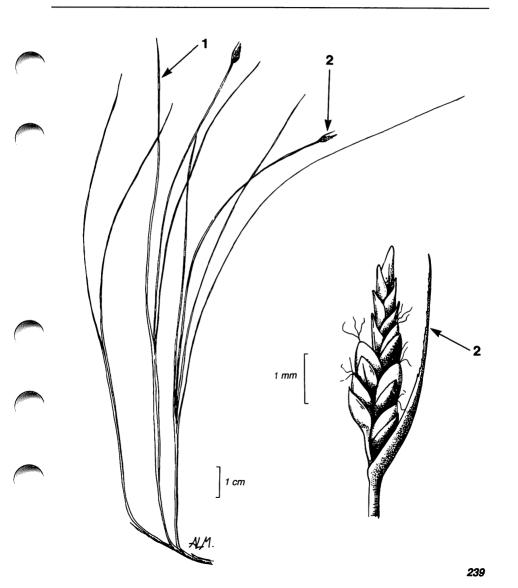
Habitat

Recorded only in the NC Region. Rare in forested habitats; primarily in black spruce and tamarack fen forests, cedar swamps and black ash stands, usually on organic soils. Also in wet fields and clearings.

Notes



Bristle-stalked Sedge



Carex trisperma Dewey

Cyperaceae (Sedge Family)

Description

General - solitary or in loose, narrow-leaved tufts with stolons; flowering stems usually < 30 cm high, exceeding the leaves, slender and lax.

Leaves - principal blades 1-2 mm wide; usually drooping; rough-margined to the base; many dead leaves at the base of the plant.

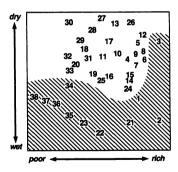
Inflorescence - 1-3 (usually 3) small, stalkless spikelets spread 1-4 cm apart on a slender, central axis; each spikelet with 1-5 (usually 2-3) flowers; perigynium of each flower flattened on one side, greenish, with a smooth minute beak; bract at the base of the inflorescence bristle-like, several times as long as its spikelet¹.

Habitat

Throughout NW Ontario. Infrequent; on moist/wet, usually organic, soils, especially in black spruce wetland forests.

Notes

Confusion with C. disperma is possible since these species often share the same habitat. C. disperma tends to have fewer perigynia per spikelet and lacks the long inflorescence bract of C. trisperma.



Three-fruited Sedge



Carex vaginata Tausch

Cyperaceae (Sedge Family)

Description

General - medium-sized plants usually with a dense tuft of leaves; solitary or in loose (often extensive) clumps from rhizomes; flowering stems usually < 40 cm high, equalling or exceeding the leaves, often nodding.

Leaves - principal blades 2-5 mm wide, doubly folded in cross-section (forming an "M") 1 , with age turning from light green to dark green with brown tips; rough-margined for the top 1/3 of the leaf.

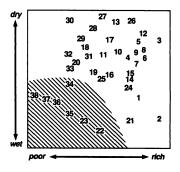
Inflorescence - 1-4 elongated, cylindrical spikelets; the terminal spikelet on an erect stalk, consisting only of male (staminate) flowers; the lateral spikelets on weak stalks, with loosely overlapping flowers, usually drooping 2; leaf-like bracts on the flowering stalk with loose, inflated sheaths, usually 1-2 cm long.

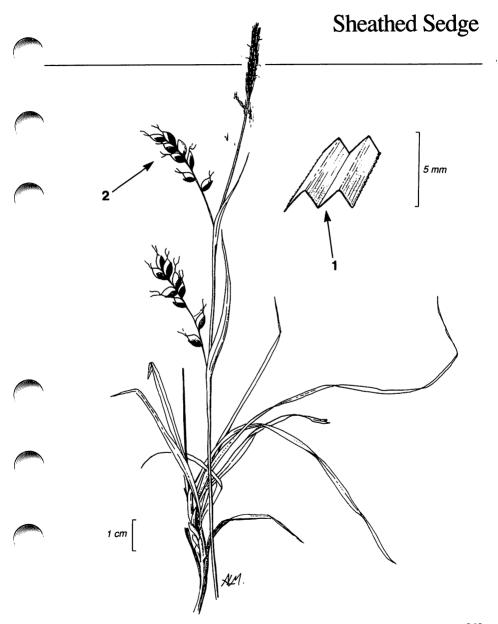
Habitat

Throughout NW Ontario. Infrequent; in wet, black spruce woodlands, cedar swamps and along waterways, usually on organic soils.

Notes

A similar species, *C. arctata* Boott, is encountered within upland forests in NW Ontario. It typically forms tighter clumps than *C. vaginata*, often with a reddish tinge to the base of the plants. *C. vaginata*, together with other sedges and *Calamagrostis canadensis*, is an important component of "beaver hay," harvested from wet, natural meadows. It can be of forage value to wildlife.





Cinna latifolia (Trev.) Griseb.

Poaceae (Grass Family)

Description

General - tall, slender perennial; stems solitary or in loose tufts; flowering stems up to 1 m high; stem and foliage hairless.

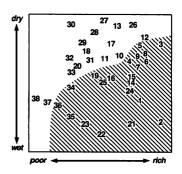
Leaves - broad (often > 1 cm wide), flat, relatively short, tapered at both ends¹; roughened along the margins and somewhat on the surfaces; ligule long, membranous, with a ragged top.

Inflorescence - a large, open, lax panicle with slender, drooping branches and small spikelets; the panicle appearing green and shiny; 1 floret per spikelet; each floret small (< 4 mm long), breaking off below the glumes, with a short, straight awn² (use hand lens).

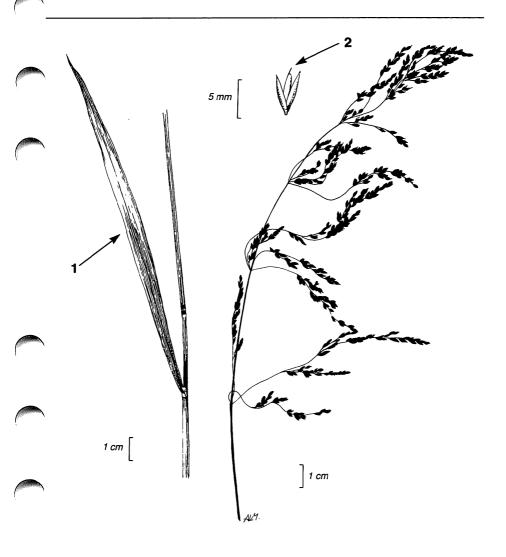
Habitat

Throughout NW Ontario; especially near the shores of Lake Superior and in the Quetico/Rainy River area. Infrequent; in a range of forest habitats, on fresh to wet, moderately rich sites.

Notes



Drooping Wood Reed



Luzula acuminata Raf.

Juncaceae (Rush Family)

Description

General - erect, grass-like plant up to 40 cm high; stems loosely clumped or spreading by stolons.

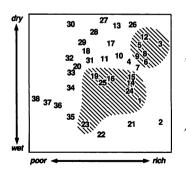
Leaves - grass-like, flat, wide (up to 1 cm), sparsely fine-hairy, with blunt tips; white, cobwebby hairs on the basal leaves¹; tips of the stem leaves solid and swollen.

Inflorescence - sparsely branched or unbranched flower stalks loosely spreading from a single point on the stem; usually 1 flower per stalk; each flower developing into a plump, elliptical capsule surrounded by 6 sepal-like parts².

Habitat

Primarily in the Quetico / Rainy River area and near the shores of Lake Superior; less common northward. Infrequent; in a range of forest habitats on fresh/moist, often fine-textured soils.

Notes







Oryzopsis asperifolia Michx.

Poaceae (Grass Family)

Description

General - tufted perennial with a rosette of dark, evergreen leaves¹; flowering stems erect or somewhat sprawling, up to 40 cm high.

Leaves - basal leaves elongated, 5-10 mm wide, deeply ridged² and rough-surfaced above, slightly hairy beneath, tapering at the base to a bright purple sheath; stem leaves very short.

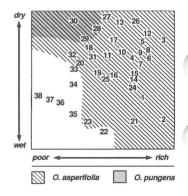
Inflorescence - a single, contracted spike, relatively sparsely flowered; spikelets paired on the stem; 1 floret per spikelet; seeds large, firm, bristly, with a long awn which often breaks off; when the seeds are shed, the large, translucent glumes remain on the stem.

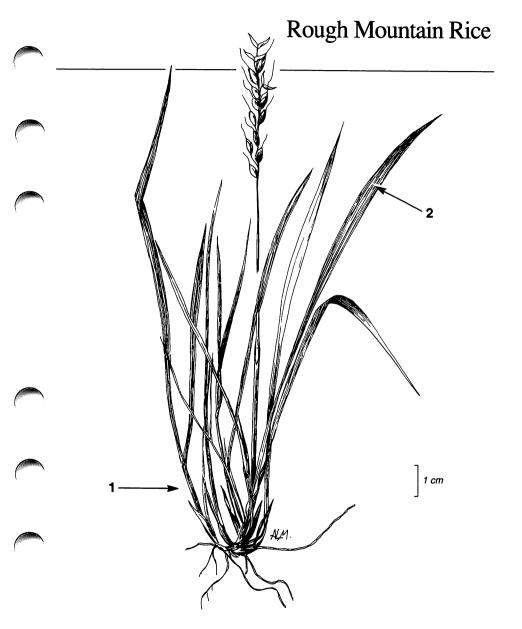
Habitat

Throughout NW Ontario. Occasional; on dry to moist mineral soils in a wide range of forest habitats.

Notes

O. pungens (Torr.) Hitchc. occurs on dry, sandy or rocky sites throughout NW Ontario. It is a densely tufted, narrow-leaved grass with smaller florets than this species. O. asperifolia is perhaps the earliest flowering of the forest grass species in NW Ontario, blooming in late May and early June. The grain is large and produces an excellent flour.





Schizachne purpurascens (Torr.) Swallen

Poaceae (Grass Family)

Description

General - slender, loosely tufted perennial; stems erect from a somewhat trailing base; spikelets and leaf sheaths usually tinged with purple¹.

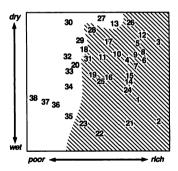
Leaves - long, upright, 1-5 mm wide, narrow at the base; leaf sheaths closed to the top, often purplish (especially at the base of the stem); ligules completely encircling the stem.

Inflorescence - a loose panicle with a few drooping branches; 1-3 spikelets per branch, several florets per spikelet; glumes purplish at the base; individual florets rounded, with distinct nerves and a long awn emerging from between 2 membranous, terminal teeth (use hand lens).

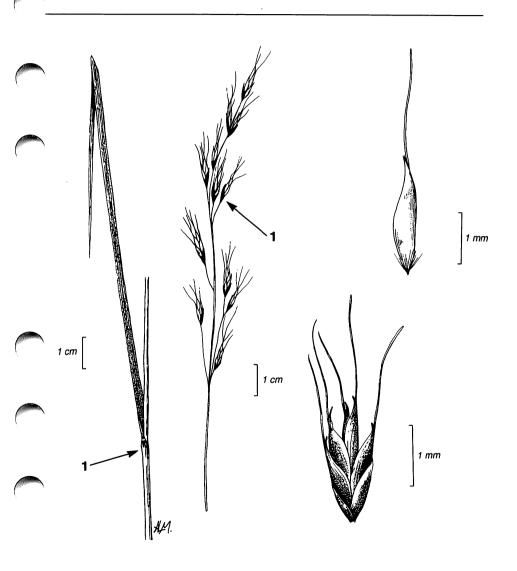
Habitat

Throughout NW Ontario; especially near the shores of Lake Superior. Infrequent; in dry to moist, primarily conifer dominated, forest habitats.

Notes



False Melic Grass



Section 3.5

Ferns and Fern-allies

Contents:

Athyrium filix-femina Botrychium virginianum Dryopteris austriaca var. spinulosa Equisetum arvense pratense sylvaticum Gymnocarpium dryopteris Lycopodium annotinum clavatum complanatum obscurum Onoclea sensibilis Osmunda claytoniana Polypodium vulgare Pteridium aquilinum Thelypteris phegopteris

Ferns and Fern-allies

Athyrium filix-femina (L.) Roth

Polypodiaceae (Polypody Family)

Description

General - medium-sized to large, showy, delicate, woodland fern; fronds growing in circular clusters from a thick, scaly rhizome; up to 1 m high but usually 40-70 cm.

Leaves - erect, spreading from the centre of the cluster; blade narrowly to broadly lanceshaped, twice to almost three times divided (subtripinnate), essentially hairless, usually tapering at both ends¹; leafstalk shorter than the blade, hairless, with scattered dark scales at the base.

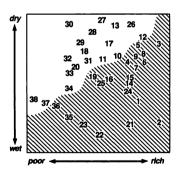
Fruiting Structures - spores produced in small clusters on the undersides of the leaflets; spore clusters short, linear, curved, hooked or horseshoe-shaped² (use hand lens).

Habitat

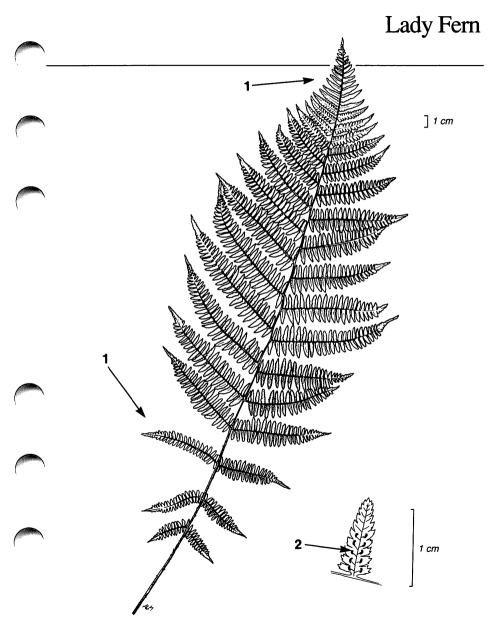
Throughout NW Ontario. Infrequent; in fresh/moist forest habitats. Often present in rich stands of black ash and white cedar, also along streams and seepage-ways.

Notes

Confusion with *Dryopteris austriaca* is possible. The lowest leaflets of *Dryopteris* are longer than the middle ones and the spore clusters are more or less round (rather than curvilinear).



Ferns and Fern-allies



Botrychium virginianum (L.) Sw.

Ophioglossaceae (Adder's-Tongue Family)

Description

General - single, erect stalk bearing a finely dissected, triangular sterile blade with a granular fertile blade above; up to 50 cm high but usually < 40 cm.

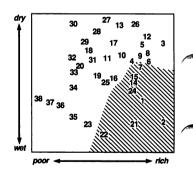
Leaves - single, horizontal sterile blade divided into 3 parts; distinctly lacy-cut, thin and membranous, bright green; leafstalk fleshy¹, pink at the base, equalling or exceeding the length of the sterile blade.

Fruiting Structures - spores produced in globular, grape-like clusters ² forming the fertile blade; fertile blade on a separate stalk growing from the junction of the leaf (sterile blade) and the main leafstalk.

Habitat

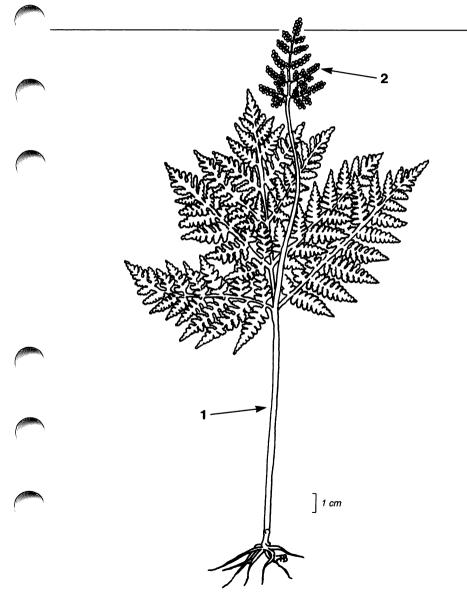
Throughout NW Ontario. Infrequent; in shaded forest habitats, especially on rich, fresh to wet, fine-textured soils.

Notes



Ferns and Fern-allies

Rattlesnake Fern



Dryopteris austriaca (Jacq.) Woynar var. *spinulosa* (Mull.) Fiori

Polypodiaceae (Polypody Family)

Description

General - medium-sized to large, delicate, woodland fern; fronds growing in circular clusters from a stout, scaly rhizome; up to 1 m high but usually 30-60 cm.

Leaves - erect, spreading from the centre of the cluster; blade elongated to lance-shaped, twice to almost three times divided (subtripinnate), central axis with scattered scales, the lowest leaflets longer than the middle ones¹; sub-leaflet tips with sharp points or delicate spines; leafstalk shorter than the blade, densely scaly².

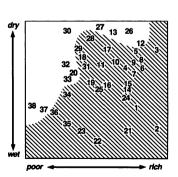
Fruiting Structures - spores produced in dot-like clusters on the undersides of the leaflets; spore clusters in the middle of the sub-leaflets, circular or kidney-shaped³ (use hand lens).

Habitat

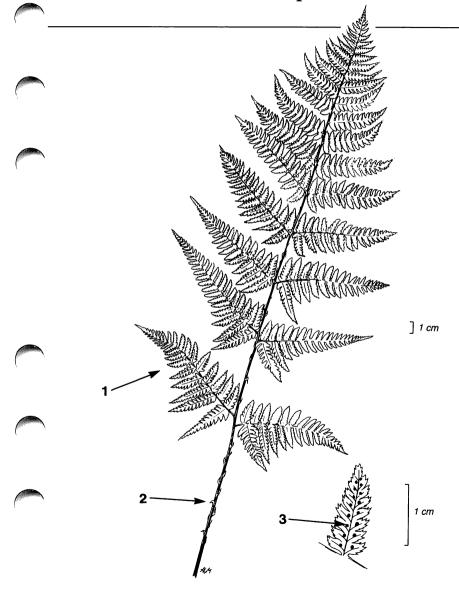
Throughout NW Ontario. Occasional; on fresh/moist mineral soils across a range of forest habitats. Primarily a plant of shaded forest habitats but occasionally along forest margins and in clearings.

Notes

The lowest leaflets of *Athyrium filix-femina* are typically shorter than the middle ones. The spore clusters of *Athyrium* tend to be linear and curved compared to roundish in *Dryopteris*.



Spinulose Wood Fern



Ferns and Fern-allies

Equisetum arvense L.

Equisetaceae (Horsetail Family)

Description

General - erect or occasionally sprawling stems often with weed-like growth; stems solitary or clustered from extensively creeping rhizomes; up to 40 cm high but usually < 30 cm.

Stems - annual; of two forms: fertile stems emerging early in the spring, short-lived, stout, succulent, erect, brownish to whitish, unbranched or with short, stubby branches; sterile stems green, slender, with whorls of bushy, upward-growing, unbranched branches1; stem sheaths with brown teeth2 (narrow white margins); teeth of the branch sheaths narrow, longer than wide; first branch sheath equal to or longer than the corresponding stem sheath3.

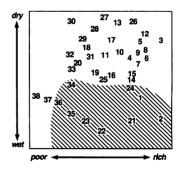
Fruiting Structures - spores produced in cones at the tips of the fertile stems; the cones on long stalks (2-5 cm).

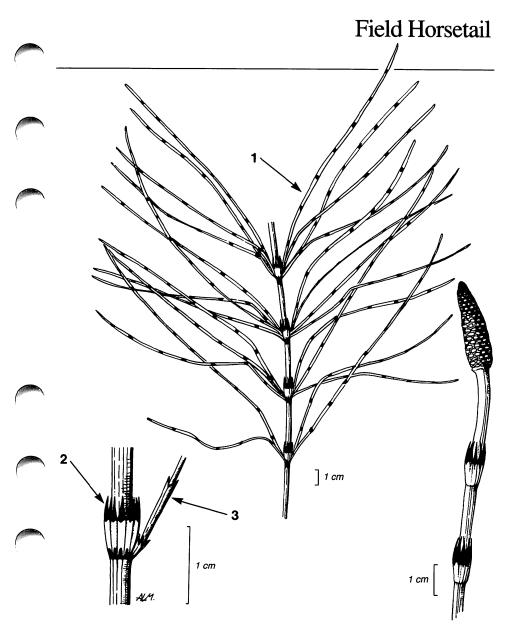
Habitat

Throughout NW Ontario. Infrequent; on fresh to wet, mineral or organic soils, especially in wet black spruce forests. Also found along roadsides and on disturbed ground.

Notes

Forest-occurring sterile individuals of *E. arvense* can be easily confused with those of *E. pratense*. To distinguish these species, examine the first (long) branch sheath and compare its length to the length of the corresponding stem sheath: in *E. arvense* it is equal to or longer than the stem sheath, in *E. pratense* it is shorter. *E. arvense* is known to be toxic to cattle and horses. Due to their high silica content, horsetails have been used for scouring cookware and as fine sandpaper for woodworking, hence the common name "scouring rush".





Equisetum pratense Ehrh.

Equisetaceae (Horsetail Family)

Description

General - erect, feathery woodland horsetail; stems usually solitary from slender, creeping rhizomes; up to 40 cm high but usually < 30 cm.

Stems - annual; of two forms: fertile stems at first unbranched and brownish to whitish, becoming green and branched like the sterile stems after the cones disappear; sterile stems slender, with whorls of delicate, outwardly spreading, unbranched branches¹; teeth of the stem sheaths with white margins wider than the brown central portion²; teeth of the branch sheaths short and triangular, about as wide as long; first branch sheath shorter than the corresponding stem sheath³.

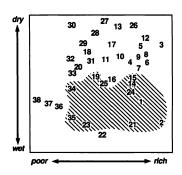
Fruiting Structures - spores produced in cones at the tips of the fertile stems; cones on long stalks (2-4 cm), deciduous after ripening early in the spring.

Habitat

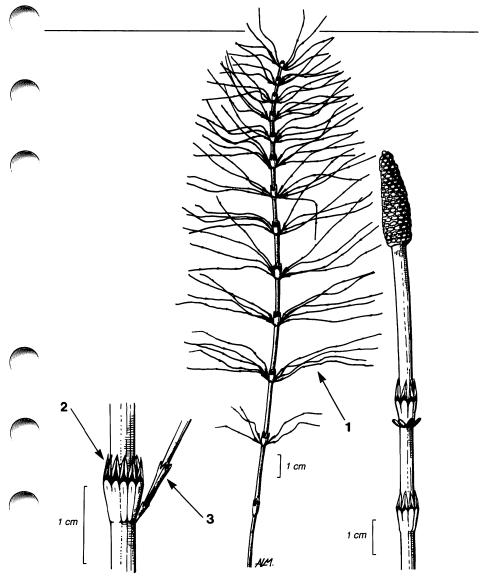
Throughout NW Ontario. Infrequent; in rich, fresh to wet forest habitats on mineral or organic soils. Showing a preference for calcareous soil conditions.

Notes

Sterile individuals of this species can be easily confused with those of *E. arvense*. *E. pratense* is generally a more delicate plant with conspicuously white-margined teeth in the stem sheaths. The first branch sheath is shorter than the corresponding stem sheath (see comments for *E. arvense*). In general appearance *E. pratense* may resemble *E. sylvaticum* but its branches are unbranched.



Meadow Horsetail



Equisetum sylvaticum L.

Equisetaceae (Horsetail Family)

Description

General - erect, delicate, lacy woodland horsetail; stems usually solitary from deep, creeping rhizomes.

Stems - annual; of two forms: fertile stems at first brownish without branches, becoming green and branched like the sterile stems after the cones fall off; sterile stems hollow, slightly rough, with regular whorls of thin, delicate, drooping branches (which are themselves branched¹) on the upper 2/3 of the stem; teeth of the stem sheaths green at the base, brown at the tip (without white margins).

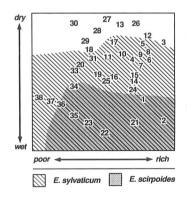
Fruiting Structures - spores produced in cones at the tips of the fertile stems; cones on long stalks (2-6 cm), deciduous after ripening early in the spring.

Habitat

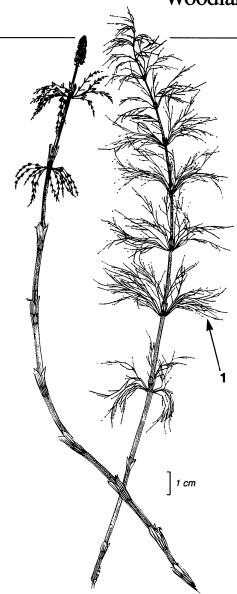
Throughout NW Ontario. Occasional; in fresh to wet forest habitats, especially in rich black spruce wetlands. Occurring on either mineral or organic soils, with a slight preference for calcareous substrates.

Notes

There are several other species of *Equisetum* which occur in NW Ontario. Most are characteristic of non-forest habitats such as shallow, stagnant water (e.g. *E. fluviatile* L.) or open areas and disturbed ground (e.g. *E. hyemale* L.). *E. scirpoides* Michx. is a small, tufted species found infrequently within moist/wet forests in NW Ontario. Its small, wiry, unbranched, semi-erect stems often form distinctive, tangled mats.



Woodland Horsetail



Gymnocarpium dryopteris (L.) Newm.

Polypodiaceae (Polypody Family)

Description

General - small, delicate woodland fern, usually < 20 cm high; fronds growing individually from a creeping, wiry, black rhizome, often forming extensive patches.

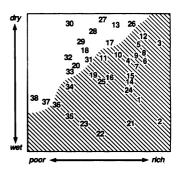
Leaves - single; blades broadly triangular or delta-shaped, lacy, thin, bright yellow-green, essentially horizontal; divided into 3 triangular leaflets 1 with distinct stems from a central juncture, the 2 lower leaflets opposite, the upper leaflet longest, each leaflet twice-divided; leafstalk slender, straw-coloured, dark at the base, with a few scales.

Fruiting Structures - spores produced in dot-like clusters on the undersides of the leaflets; spore clusters few, small, round, near the margin, without membranous coverings (use hand lens).

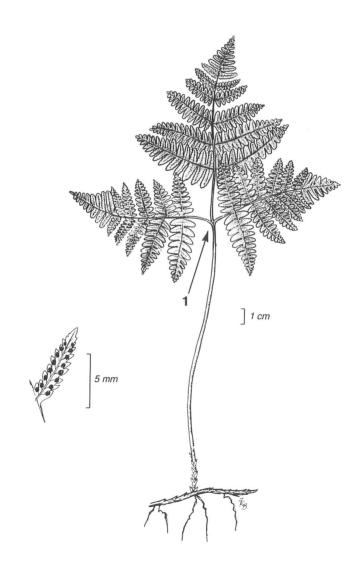
Habitat

Throughout NW Ontario; more commonly encountered in the NC Region. Occasional; in shaded forests across a range of soil, site and stand conditions.

Notes



Oak Fern



Lycopodium annotinum L.

Lycopodiaceae (Clubmoss Family)

Description

General - low, prostrate, evergreen clubmoss with trailing, elongated stems spreading over the ground surface; the stiff, upright, densely leaf-covered branches are forked once or twice at the most; annual growth is marked by indentations within the leaf-covering of the branches¹.

Leaves - firm, shiny, dark green, bristly, slightly spreading, essentially in whorls around the branches; narrow, linear or somewhat lance-shaped, often coarsely toothed near the tip, sharply and abruptly pointed but *without a hair-like tip* 2 .

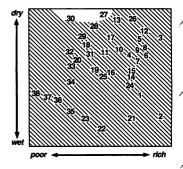
Fruiting Structures - spores produced in single, cylindrical cones at the tips of the branches; cones essentially stalkless³.

Habitat

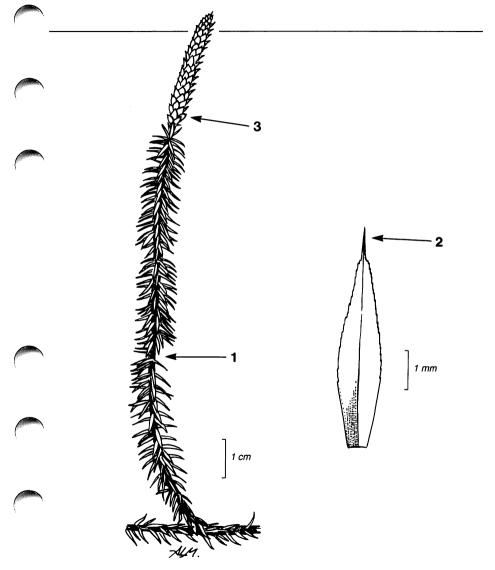
Widespread throughout NW Ontario. Frequent; occurring across a range of soil/site conditions from dry, sandy or rocky uplands to wet, organic lowlands. Often abundant in white birch mixedwoods.

Notes

The cones of *L. clavatum* are on long stalks and its leaves terminate in hair-like bristles. *L. lucidulum* Michx. (Shining Clubmoss), which occurs infrequently in NW Ontario, is very similar to *L. annotinum* but lacks spore-bearing cones.



Stiff Clubmoss



Lycopodium clavatum L.

Lycopodiaceae (Clubmoss Family)

Description

General - low, prostrate, evergreen clubmoss with trailing stems spreading over the ground surface; erect branches simple at first then branching; both the stem and branches densely leaf-covered.

Leaves - bright green, spreading or growing upward; linear, narrow, somewhat lance-shaped, tapering to a hairlike tip (2-3 mm long)¹.

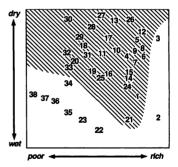
Fruiting Structures - spores produced in cylindrical cones on long stalks from the branch ends 2 ; cones solitary or in groups of 2 or 3 .

Habitat

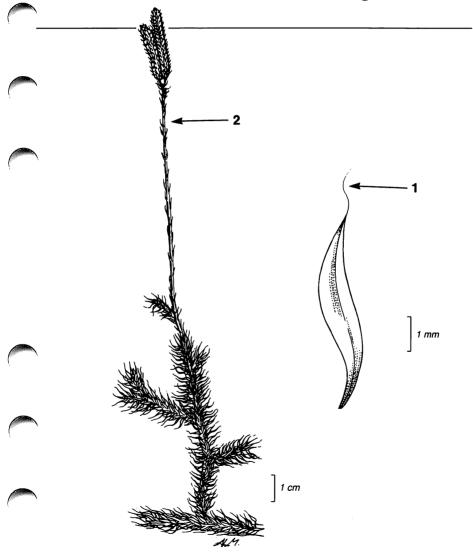
Throughout NW Ontario. Occasional; in dry/fresh forest habitats, especially on sandy or coarse loamy soils; often in pine dominated stands.

Notes

L. annotinum has stalkless cones and leaves which lack a hair-like tip. Spores of L. clavatum have been used as a powder for the treatment of skin diseases and to prevent chafing of infants' skin. Throughout history, the spores of clubmosses have found many applications. North American Indians have applied them to cuts and wounds for their soothing properties and inhaled them to stop nosebleeds. Europeans have used the spores as coatings for pills and to make flash explosions for fireworks and photography.



Running Clubmoss



Lycopodium complanatum L.

Lycopodiaceae (Clubmoss Family)

Description

General - clubmoss of erect appearance since the creeping, horizontal stems are subterranean; upright branches usually < 25 cm high (without fruiting cones), irregularly many-branched, foliage flattened 1 to give the appearance of cedar leaves.

Leaves - in 4 ranks, very small; the upper leaves narrow, fused to the stem for much of their lengths; the lateral leaves broadly triangular with free spreading tips; the lower leaves tiny (< 1 mm long).

Fruiting Structures - spores produced in cylindrical cones on long stalks from the ends of the upright branches; cones usually in groups of 2-5.

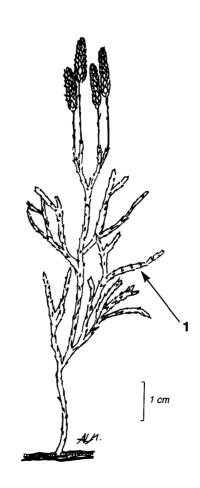
Habitat

Throughout NW Ontario. Infrequent; on dry/fresh, sandy or coarse loamy soils, especially in red pine and upland jack pine/black spruce stands.

Notes



Ground Cedar



Lycopodium obscurum L.

Lycopodiaceae (Clubmoss Family)

Description

General - clubmoss of erect appearance with tree-like, upright branches¹ arising at intervals from a subterranean horizontal stem; the upright branches are usually < 25 cm high, unbranched near the base then densely branched above.

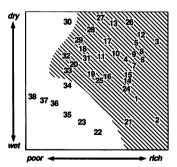
Leaves - shiny, dark green, narrow, needle-like, tapering to a sharp-pointed tip, densely enveloping the branch.

Fruiting Structures - spores produced in cylindrical, solitary cones at the branch tips; cones stalkless ².

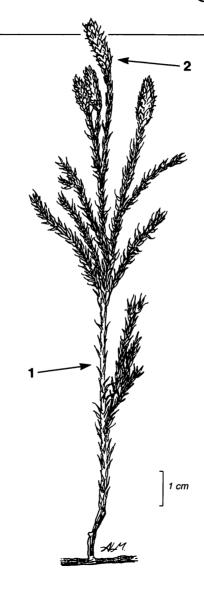
Habitat

Widespread throughout NW Ontario. Frequent; in hardwood and mixedwood forests over a range of soil/site conditions. Especially on dry/fresh, coarse loamy soils, less frequently on moist, fine-textured soils.

Notes



Ground Pine



Onoclea sensibilis L.

Polypodiaceae (Polypody Family)

Description

General - medium to large-sized, somewhat coarse fern; the sterile and fertile fronds are distinctly different¹; forming loose clumps from stout, spreading rhizomes with the fertile fronds surrounded by sterile ones.

Leaves - of two forms: sterile fronds erect, leafy, usually 50-70 cm high, the blade broadly triangular, once-divided (pinnate), the leaflets opposite with wavy margins 2 , the central axis broadly winged towards the tip 3 ; fertile fronds much contracted, < 40 cm high; with leaflets consisting of beadlike segments becoming dark brown with age 4 .

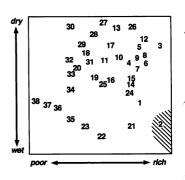
Fruiting Structures - spores produced in beadlike clusters on the leaflets of the fertile fronds.

Habitat

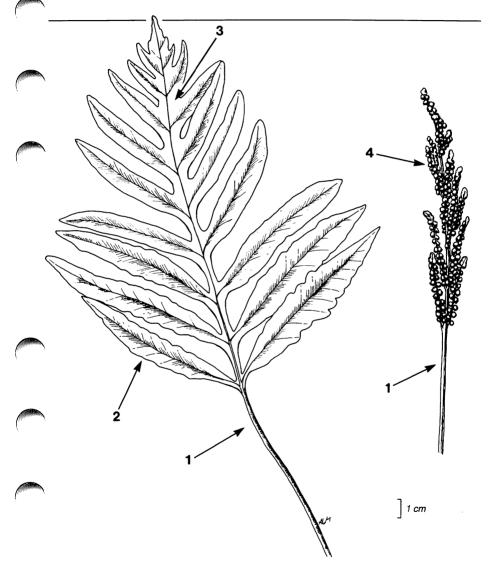
Throughout NW Ontario but more common in the Quetico / Rainy River area. Rare in forested habitats; in rich, moist/wet forests, especially black ash stands. Primarily found along lakeshores and waterways, in swamps and wet meadows.

Notes

The sterile fronds are very sensitive to early autumn frosts, hence the common name. The fertile fronds are persistent throughout the winter. This species is reported to be poisonous to horses.



Sensitive Fern



Osmunda claytoniana L.

Osmundaceae (Royal Fern Family)

Description

General - large, coarse fern with arching "interrupted" fronds, often > 1 m high; fronds growing in clusters from a large, thick rhizome covered with the stubble of old leaf-bases.

Leaves - spreading from a central point, sterile fronds distinctly arching outward, fertile fronds taller than the sterile ones; blade almost twice-divided (pinnate-pinnatifid) with leaflets deeply cut into crowded lobes; fertile blades have 2-4 middle pairs of leaflets replaced by much reduced fertile leaflets covered with brown spore cases (thus "interrupting" the frond); leafstalk smooth, green and stout.

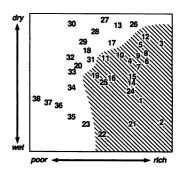
Fruiting Structures - spores produced in clusters on specialized, contracted leaflets in the middle of the fertile fronds.

Habitat

Throughout NW Ontario. Infrequent; in fresh, mesotrophic hardwood and mixedwood forests. Often associated with seepageways and wet pockets within a stand.

Notes

A similar species, O. cinnamomea L. (Cinnamon Fern), is encountered rarely in rich, moist/wet forests in the Quetico / Rainy River area. Its fertile fronds are entirely modified for spore-bearing, rather than merely "interrupted" as in this species, and the leaf-stalks and central axes are covered with reddish-brown, woolly hairs.



Interrupted Fern



Polypodium vulgare L.

Polypodiaceae (Polypody Family)

Description

General - small, evergreen fern typically growing on boulders and rock faces; fronds often forming patches from a network of spreading, mat-like rhizomes; up to 25 cm high but usually < 20 cm.

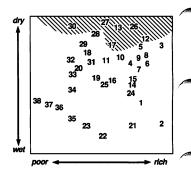
Leaves - single; leathery, green on both sides, erect or spreading; blade elongated, eggor lance-shaped, tapering to a pointed tip, deeply cut almost to the central axis (pinnatifid)¹; leaflets almost alternate, hairless, margins entire or shallowly toothed, blunt-tipped; central axis essentially winged; leafstalk about 2/3 as long as the blade, with a few scales only at base.

Fruiting Structures - spores produced in dot-like clusters on the undersides of the leaflets; spore clusters large, round, forming 2 rows, more abundant on upper leaflets.

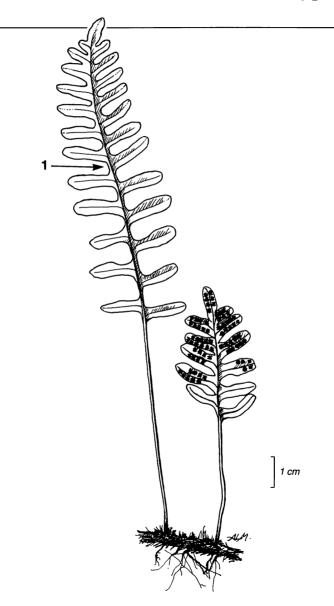
Habitat

Throughout NW Ontario. Infrequent; on lichen or moss-covered boulders and rock faces in semi-shaded locations. Most common in pine dominated stands on dry/fresh, shallow or rocky sites.

Notes



Common Polypody



Pteridium aquilinum (L.) Kuhn

Polypodiaceae (Polypody Family)

Description

General - large, coarse, often weedy fern, typically of sunny places; fronds arising singly from a deeply subterranean, much-branched rhizome; often forming extensive patches; up to 1 m high but usually 50-70 cm.

Leaves - single; horizontal; broadly triangular or delta-shaped; leaflets opposite on the main axis, the lower 2 much larger and twice-divided, the upper ones essentially once-divided; sub-leaflets more or less alternate, margins often lobed or wavy, edges turned under; leafstalk woody, dark at the base, straw-coloured above, essentially hairless.

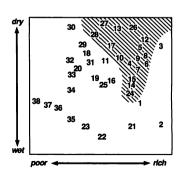
Fruiting Structures - spores produced in linear strips along the edges of the undersides of the leaflets and sub-leaflets¹; strips often hidden or partially hidden by inrolling of the (sub-)leaflet margins.

Habitat

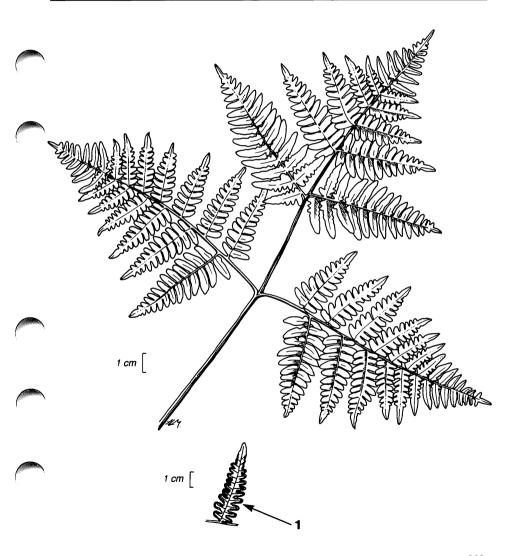
Throughout NW Ontario. Infrequent; in dry/fresh, upland forests, often associated with trembling aspen and pine. Primarily a plant of sunny or semi-shaded locations, especially on dry, sandy, sterile soils of old fields, roadsides and cleared ground where extensive colonies can develop.

Notes

In North America, the rhizome has been boiled and eaten. The fiddleheads and rhizome are eaten extensively in the Orient. However, recent research has isolated a carcinogenic compound from the plant and consumption is discouraged. Mature foliage contains a toxin which can seriously poison cattle and horses. Toxicity is passed through the milk of cattle and is a potential human health hazard.



Bracken Fern



Thelypteris phegopteris (L.) Slosson

Polypodiaceae (Polypody Family)

Description

General - small, somewhat coarse, woodland fern; fronds arising singly or in small groups from slender, spreading rhizomes; up to 40 cm high but usually < 25 cm.

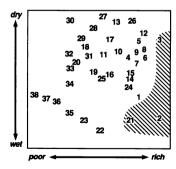
Leaves - single; often hairy on both the central axis and the blade, narrowly triangular, blade almost twice-divided (pinnate-pinnatifid); leaflets opposite and connected at the base by a wing along the central axis except for the lowest pair which is distinctly separated from the others and drooping downward 1; leafstalk longer than the blade, scaly and hairy.

Fruiting Structures - spores produced in dot-like clusters on the undersides of the leaflets; spore clusters with no membranous covering (use hand lens).

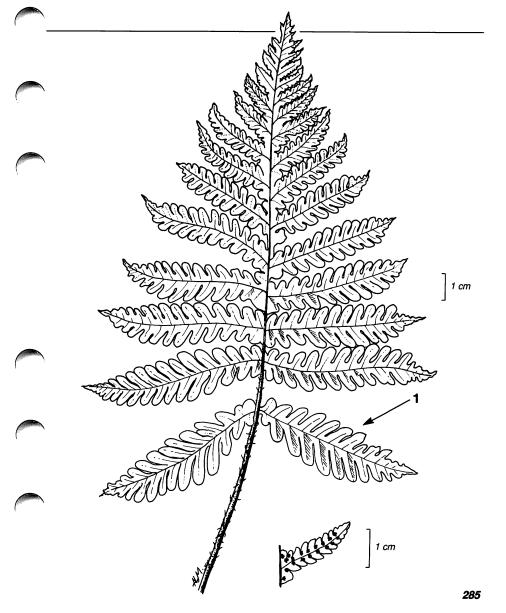
Habitat

Most commonly encountered in the Quetico / Rainy River area and near Lake Superior. Infrequent; in rich, fresh/moist forests, especially black ash and white cedar stands. Also in seepageways, on moist cliffs and moss-covered rocks in streambeds.

Notes



Northern Beech Fern



Section 3.6

Bryophytes and Lichens

Contents:

Aulacomnium palustre
Brachythecium salebrosum
Cladina mitis
rangiferina
stellaris

Cladonia spp.

Dicranum spp.

Drepanocladus uncinatus

Hylocomium splendens

Peltigera aphthosa

Pleurozium schreberi

Polytrichum commune

juniperinum

Ptilidium pulcherrimum

Ptilium crista-castrensis

Rhytidiadelphus triquetrus

Sphagnum fuscum

girgensohnii

magellanicum

nemoreum

warnstorfii

wulfianum

Aulacomnium palustre (Hedw.) Schwaegr.

Aulacomniaceae

Description

General - robust, tuft-forming moss with bright green to yellowish-green or yellowish-brown plants; stems erect, unbranched or forked, with a dense, cream-coloured to reddish-brown, woolly covering.

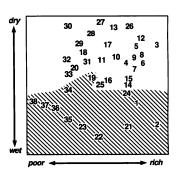
Leaves - erect-spreading on the stem; egg-shaped to lance-shaped with or without a sharply pointed tip; concave or folded, with a prominent mid-rib extending almost to the tip; usually crisp and contorted when dry; margins entire or minutely toothed (use hand lens).

Sporophytes - borne singly at the stem tips; stalks straight or slightly flexed, yellowish-brown to reddish-brown, smooth, somewhat twisted when dry; capsules yellowish-brown to reddish-brown, cylindrical, curved, horizontal to nearly erect, with distinct ribs when dry.

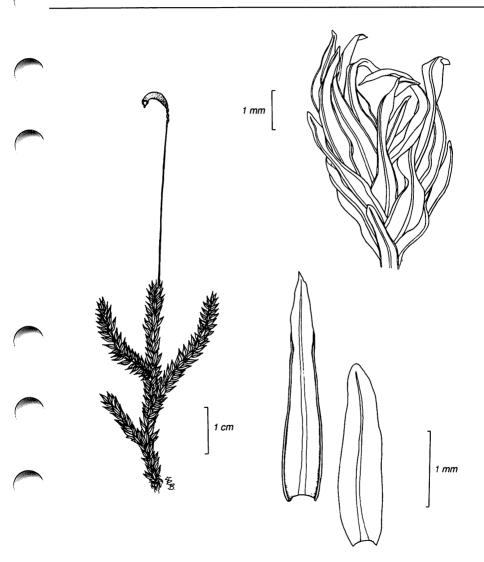
Habitat

Throughout NW Ontario. Infrequent; on either mineral or organic soils, occasionally on rotting wood; primarily in black spruce, tamarack and white cedar wetland forests.

Notes



Ribbed Bog Moss



Brachythecium salebrosum (Web. & Mohr) BSG.

Brachytheciaceae

Description

General - medium-sized feathermoss in loose, *somewhat shiny*, *yellowish-green* mats; stems prostrate or slightly erect, irregularly pinnately branched.

Leaves - stem leaves slightly larger than the branch leaves; all leaves lance-shaped or broadly lance-shaped with a long, tapering tip; with noticeable longitudinal folds or pleats¹; distinct, single mid-rib extending over 1/2 the leaf length²; margins entire or minutely toothed (use hand lens).

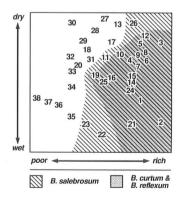
Sporophytes - scattered individually along the stems; stalks yellowish or reddish, smooth; capsules short, oblong-cylindrical, curved, inclined or nearly horizontal.

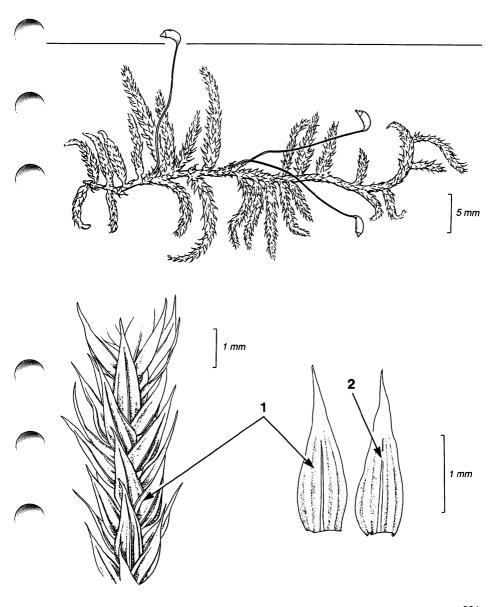
Habitat

Throughout NW Ontario. Infrequent; forming small patches on humus, rocks, logs and tree bases; primarily in hardwood and mixedwood forests.

Notes

There are several other species of *Brachythecium* which occur in NW Ontario. The 2 most common ones are *B. curtum* (Lindb.) Limpr. and *B. reflexum* (Starke ex Web. & Mohr) BSG. Both occur primarily in hardwood and mixedwood forests. *B. curtum* is similar to *B. salebrosum* in size, colour and habitat substrates, however its leaves are broader (eggshaped), more distinctly toothed and lacking pronounced longitudinal folds (use hand lens). *B. reflexum* is a much smaller species, darker in colour and typically found on bark at the bases of trees.





Cladina spp.

Cladoniaceae

Description

General - erect, much-branched, "shrubby" ground lichens forming colonies, often extensive, of intertwined stems; scale-like "squamules" lacking; *stems rounded in cross-section*¹, hollow, *surfaces appearing "cottony"* (use hand lens), finely branched, the branch angles open.

Cladina mitis (Sandst.) Hale & Culb.

similar in form to *C. rangiferina* but distinguishable by its *yellowish-grey colour*.

Cladina rangiferina (L.) Harm.

ashy-grey lichen forming scattered, entangled masses without distinct coral-like heads.

Cladina stellaris (Opiz) Brodo

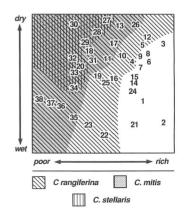
yellowish-grey lichen forming distinct, compact, coral or cauliflower-like heads ².

Habitat

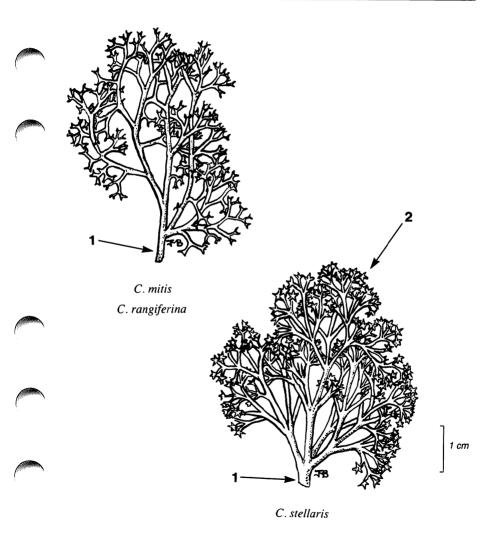
Widespread throughout NW Ontario. Frequent; in exposed locations on mineral soil or humus, occasionally on dead wood. *C. stellaris* tends more to dry sites, especially those with infertile sand or bedrock substrates. *C. mitis* and *C. rangiferina* are found across a broader range of soil/site conditions. All species are most prevalent in conifer dominated stands.

Notes

C. arbuscula (Wallr.) Hale & Culb. is also encountered throughout NW Ontario. It is very similar to C. mitis in appearance but its fine branches are strongly swept in one direction. The Cladina spp. are extremely important as forage for caribou and, in Scandinavia, reindeer (hence the common name). Stems of C. stellaris are often used to simulate trees on model railways.



Reindeer Lichens



Cladonia spp.

Cladoniaceae

Description

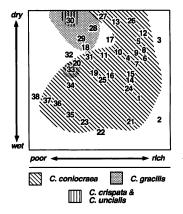
General - erect, hollow projections (podetia) usually growing in small patches, ranging in form from cup-shaped (like golf tees) to narrowly pointed, usually unbranched or sparsely branched; small scale-like "squamules" often surround the base of the podetia; colour ranges from yellow to green to grey, the fruiting structures on the podetia may be blackish or red.

Habitat

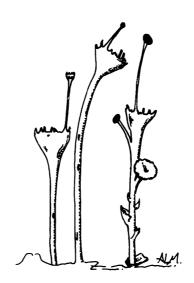
Ubiquitous throughout NW Ontario. Forming small patches on rotting wood, tree bark, mineral soil and humus. These species are drought resistant and, hence, often found in dry, exposed locations. Overall, they occur on a wide range of substrates in a variety of habitats. However, extensive ground cover by *Cladonia* species is rare.

Notes

There are many species of *Cladonia* which occur in NW Ontario. This is a highly variable and diverse genus: some species are large and distinct, occasionally occurring in abundance, however most are small and obscure, often identified only on the basis of microscopic or biochemical characteristics. Four of the more commonly encountered *Cladonia* spp. are represented on the habitat ordination diagram. They are *C. coniocraea* (Flk.) Spreng., *C. gracilis* (L.) Willd., *C. crispata* (Ach.) Flot. and *C. uncialis* (L.) Wigg. One of several forms of *C. gracilis* is illustrated.



Club Lichens Cup Lichens



1 cm

Dicranum spp.

Dicranaceae

Description

General - erect, long-leaved plants, small to large (0.5 to 10 cm high), forming loose to very dense tufts; colour ranging from yellowish-green to brownish-green, some species glossy, others dull; stems unbranched or occasionally forked, commonly matted with a white or orange-brown woolly covering.

Leaves - sometimes scythe-shaped and swept to one side of the stem, otherwise erect to widely spreading; lance-shaped, tapering to a long, narrow tip; strongly undulating in some species; often crisp and contorted when dry; margins entire or toothed above the middle (use hand lens); single midrib extending to the leaf tip, often forming a ridge on the back of the leaf.

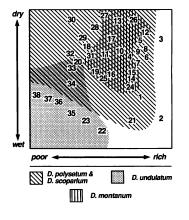
Sporophytes - solitary or in clusters at the stem tips; stalks straight, erect, yellow to reddish-brown, smooth; capsules yellow to reddish-brown, cylindrical, straight or curved, semi-erect to horizontal, with a long, tapered beak before maturity.

Habitat

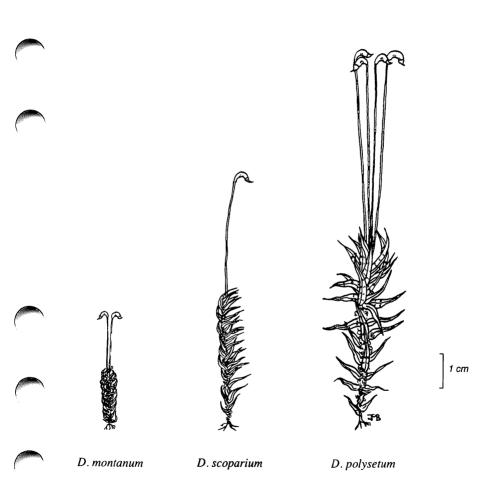
Widespread throughout NW Ontario. Some species (e.g. *D. montanum* Hedw., *D. flagellare* Hedw. and *D. fuscescens* Turn.) typically grow on rotting wood and tree bases. Some occur, in conjunction with feathermosses, on mineral soil or humus in dry/fresh upland forests (e.g. *D. polysetum* Sw., *D. scoparium* Hedw. and *D. ontariense* Peters.). *D. undulatum* Brid. is characteristically found in wetland black spruce forests, especially in association with hummock-forming Sphagnum mosses.

Notes

Species of *Dicranum* are generally distinguishable on the basis of size, leaf characteristics, habitat and substrate. The most prominent species, *D. polysetum*, is a large, glossy, bright green plant with thick, whitish "wool" on the stem. Its leaves are wide-spreading with conspicuous undulations; the sporophytes occur in clusters at the stem tips. *D. fuscescens* occurs frequently in all forest habitats (NWO FEC V-Types). Due to its ubiquitous distribution, it is not shown on the ordination diagram.



Broom Mosses



Drepanocladus uncinatus (Hedw.) Warnst.

Amblystegiaceae

Description

General - slender, medium-sized feathermoss forming loose, often shiny, light-green or yellowish mats; stems prostrate to semi-erect, irregularly pinnately branched.

Leaves - scythe-shaped, strongly curving to one side¹, appearing hooked at the ends of the stems²; lance-shaped, tapering to a long, pointed tip; strongly pleated with longitudinal folds³; single midrib extending into the leaf tip; margins minutely toothed (use hand lens).

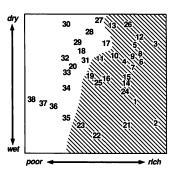
Sporophytes - scattered individually along the stems; stalks reddish, somewhat flexed, smooth; capsules cylindrical to oblong, brown, usually horizontal and strongly curved.

Habitat

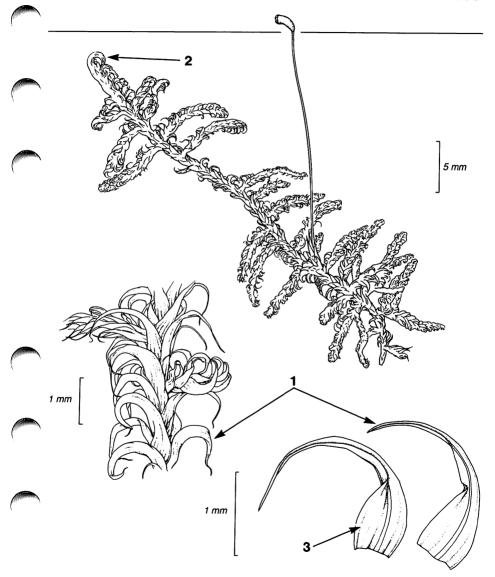
Throughout NW Ontario. Occasional; on dead wood, stones, tree bark and humus; primarily in dry/fresh, upland hardwood and mixedwood forests, less common in moist/wet habitats.

Notes

This species is typically found on bark at the bases of trees in upland forest habitats. Other species of *Drepanocladus* (e.g. *D. aduncus* (Hedw.) Warnst. and *D. fluitans* (Hedw.) Warnst.) are encountered in wetlands and flooded habitats within NW Ontario.



Sickle Moss



Hylocomium splendens (Hedw.) BSG.

Hylocomiaceae

Description

General - yellow to brownish-green feathermoss of delicate appearance; forming loose mats; stems and branches reddish, covered with tiny green scales¹; stems stiff and wiry, bi- to tripinnate in horizontal fronds forming stepwise layers², each frond originating from the centre of the previous year's layer with an arched shoot³.

Leaves - loosely overlapping on the main stem, more tightly arranged on the branches; egg-shaped to oblong, sharply pointed at the tip; concave, with 2 short mid-ribs (use hand lens); margins turned inwards, with tiny teeth (use hand lens).

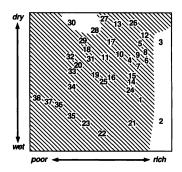
Sporophytes - scattered along the stems; stalks reddish, smooth, twisted when dry; capsules brown to reddish-brown, egg-shaped to cylindrical, horizontal, smooth except wrinkled at the mouth when dry.

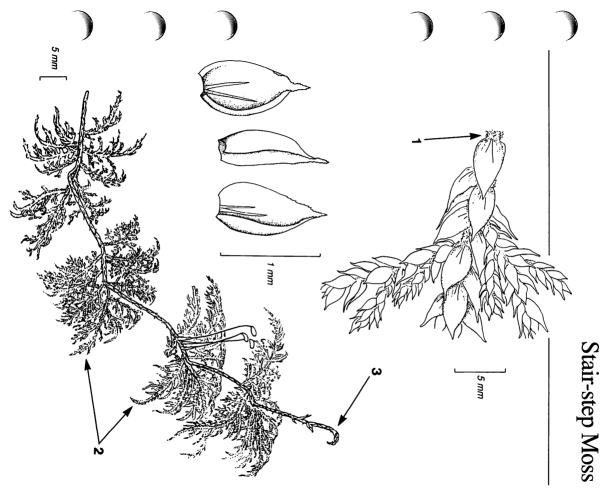
Habitat

Widespread throughout NW Ontario. Frequent; on humus, mineral or organic soils and rotting logs, usually in association with *Pleurozium schreberi* and *Ptilium crista-castrensis*; across a range of habitat conditions but most prevalent in fresh/moist, conifer dominated forests.

Notes

This species is readily recognizable by the "steplike" layers formed by annual growth increments of the fronds.





Peltigera aphthosa (L.) Willd.

Peltigeraceae

Description

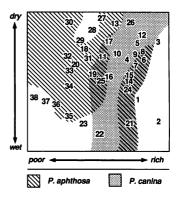
General - Large, foliose, ground lichen ranging from a wide, flat, shallowly lobed structure to a collection of many small, semi-erect lobes; upper surface green or greenish-grey (bright green when moist) with dark green or brown "warts"; lower surface greyish-brown, dirty white near the margins, with raised, pale, indistinct veins.

Habitat

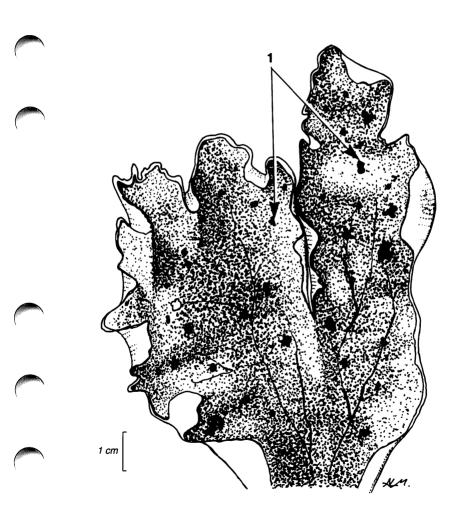
Throughout NW Ontario although possibly more common in the northern, boreal areas. Occasional; on humus and organic or mineral soils in fresh/moist conifer and mixedwood forests. Often overgrowing ground layer mosses and lichens.

Notes

Several other species of *Peltigera* occur within NW Ontario. Two of the more common ones, often found in dry/fresh forest habitats, are *P. canina* (L.) Willd. and *P. polydactyla* (Neck.) Hoffm. These species are grey or grey-green, never bright green. The common name "dog lichen" was applied to *P. canina* in Europe where it was recommended as a cure for rabies.



Spotted Dog Lichen



Pleurozium schreberi (Brid.) Mitt.

Hylocomiaceae

Description

General - robust, prostrate feathermoss often forming extensive mats on the forest floor; light green to yellowish green, somewhat glossy; *stems red* ¹, pinnately branched.

Leaves - loosely overlapping on the stem giving the branches a somewhat succulent appearance when wet²; egg-shaped to broadly oval, rounded at the tip; very concave, no apparent mid-rib³ (2 very short ones at the base); margins turned inwards, entire or with tiny teeth at the tip (use hand lens).

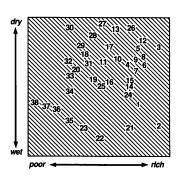
Sporophytes - scattered individually along the stems; stalks red, smooth, often twisted when dry; capsules brown to reddish-brown, cylindrical, curved, horizontal, smooth.

Habitat

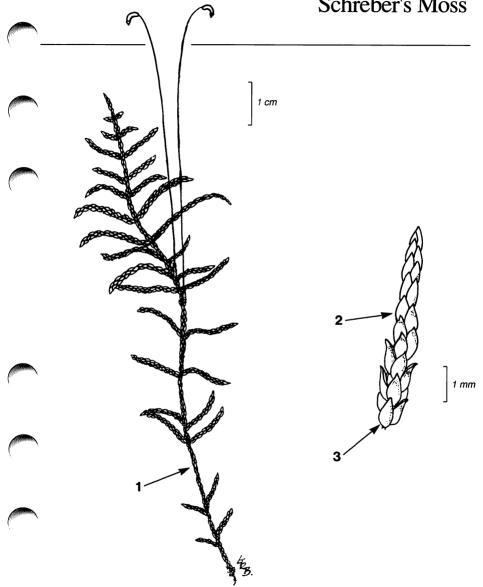
Ubiquitous throughout NW Ontario. Very common; occurring in all forest habitats and on all site conditions. Forming small patches on rocks, logs, humus and mineral soil in hardwood dominated stands; often forming extensive, continuous mats in upland conifer forests. Also associated with the drier microsites in Sphagnum-dominated wetland habitats.

Notes

This species is, by far, the most common and the most abundant feathermoss in the boreal forest of northern Ontario.



Schreber's Moss



Polytrichum commune Hedw. Polytrichum juniperinum Hedw.

Polytrichaceae

Description

General - coarse, stiff, erect plants up to 10 cm (*P. juniperinum*) or 30 cm (*P. commune*) high, usually forming loose patches; stems unbranched; colour ranging from dark green to bluish-green or somewhat brownish for older plants, never glossy.

Leaves - wide-spreading when moist, tightly pressed to the stem when dry¹; linear or lance-shaped, tapering to a long, pointed tip; in the case of *P. juniperinum*, with a short, brown awn²; single mid-rib extending to the leaf-tip; margins distinctly toothed (use hand-lens) in *P. commune*³, entire and inrolled (use hand-lens) in *P. juniperinum*⁴.

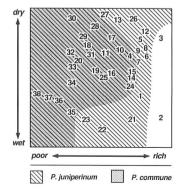
Sporophytes - solitary at the stem tips; stalks upright, smooth, brown to reddish-brown; capsules somewhat cubic, straight, reddish-brown, semi-erect to horizontal, *covered by a loose, pale, hairy cap* ⁵.

Habitat

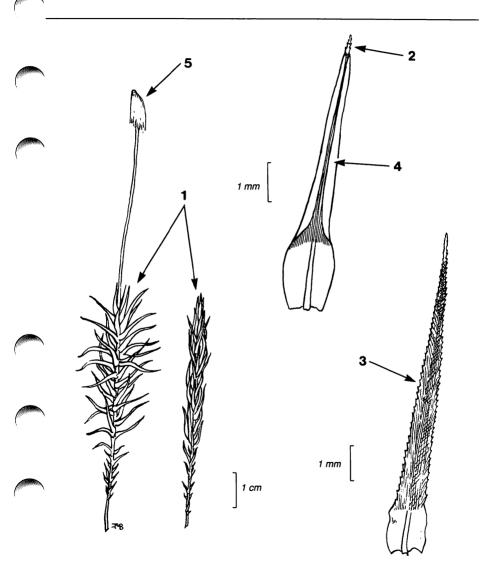
Throughout NW Ontario. Occasional; both species occur over a broad range of habitat conditions. *P. juniperinum* is primarily a species of dry, often exposed or disturbed, sites. It grows on mineral soil or occasionally on dead stumps (see note on var. *affine* below). *P. commune* is most prevalent in fresh/moist, conifer dominated forests. It grows on mineral soils, moss-covered rocks, Sphagnum hummocks and rotting logs.

Notes

These 2 species are the most common of the *Polytrichum* genus in NW Ontario. They are easily distinguished by their leaf characters. *P. juniper-inum* is an important pioneer species on exposed mineral soil after disturbance. A somewhat larger variety of *P. juniperinum* var. *affine* (Funck) Brid., has conspicuously white-woolly stems and less distinct awns on the leaves. It is characteristically found on the dry tops of old Sphagnum hummocks in open wetland forests, bogs and poor fens.



Hair Cap Mosses



Ptilidium pulcherrimum (Web.) Hampe

Ptilidiaceae

Description

General - prostrate liverwort forming small, flat, dense, often circular, patches *on wood*; colour usually *deep green with distinctive tawny mottles*, occasionally reddish- or purplish-brown; stems prostrate with ascending tips, densely leafy (use hand lens).

Leaves - arranged in 2 rows along the upper side of the stem (use hand lens); loosely overlapping; somewhat rounded or square, concave, *deeply divided into several narrow, ciliate lobes*¹; midrib absent.

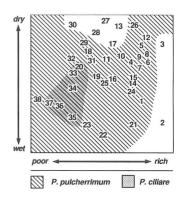
Fruiting Structures - spores produced in inflated, cylindrical to pear-shaped capsules at the stem tips.

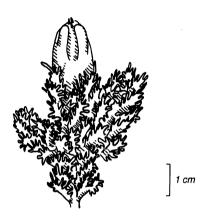
Habitat

Widespread throughout NW Ontario. Frequent; on dead wood and tree bark across a broad range of forest habitats; rarely on soil.

Notes

A similar species, *P. ciliare* (L.) Hampe, is infrequently encountered within the ground moss layer of conifer forests.







Ptilium crista-castrensis (Hedw.) De Not.

Hypnaceae

Description

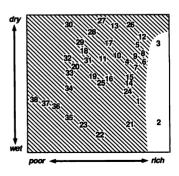
General - shiny, delicate, bright green feathermoss growing in tight, often extensive, mats on the forest floor; stems semi-erect, regularly pinnately branched with a distinct plume-like appearance¹; branches progressively shorter towards both the base and tip of the frond.

Leaves - stem leaves larger than the branch leaves; all leaves tightly overlapping; egg-shaped to lance-shaped, tapering to a long point which is strongly curled downwards and/or sideways²; concave with longitudinal folds or pleats and 2 short (less than 1/2 the leaf length) midribs or none; margins minutely toothed (use hand lens).

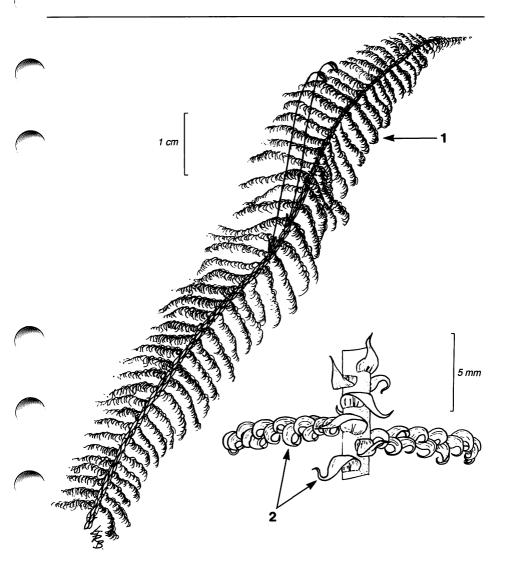
Sporophytes - scattered individually along the stem; stalks reddish, smooth, slightly twisted when dry; capsules brown to reddish-brown, oblong to cylindrical, horizontal.

Habitat

Widespread throughout NW Ontario. Common; occurring in virtually all forest habitats. Forming small patches on logs, stones, humus and mineral soil in hardwood dominated stands; often forming extensive ground mats, in association with *Pleurozium schreberi*, in upland conifer stands. Also found with *Sphagnum* species in wetland forests.



Plume Moss



Rhytidiadelphus triquetrus (Hedw.) Warnst.

Hylocomiaceae

Description

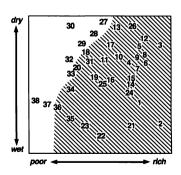
General - coarse, robust feathermoss forming loose, somewhat shiny, dark green to yellowish-green patches; stems prostrate to semi-erect, irregularly and unequally branched; stems and branches orange-red.

Leaves - usually spreading from the stems and branches, tufted near the branch tips¹; triangular, large (up to 5 mm long), tapering to a broad tip; wrinkled both longitudinally and transversely²; 2 prominent mid-ribs extending at least to the leaf middle ³; margins toothed above the middle (use hand lens).

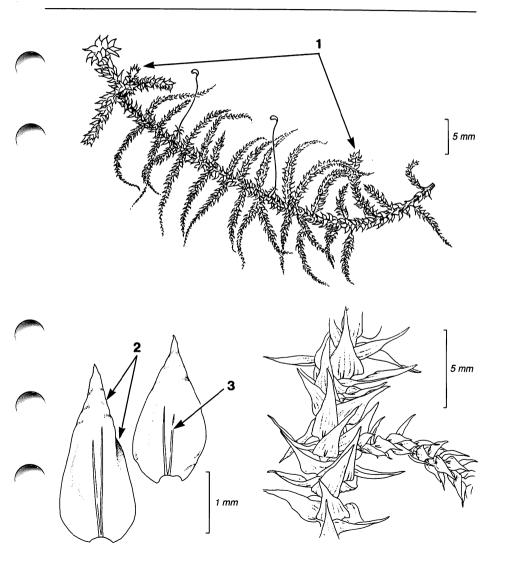
Sporophytes - scattered individually along the stems; stalks somewhat flexed, smooth, reddish brown, twisted when dry; capsules reddish-brown, oblong, curved, horizontal or drooping.

Habitat

Throughout NW Ontario. Occasional; on humus, mineral or organic soils and rotting logs; primarily in fresh to wet, moderately rich forest habitats, especially white cedar stands.



Shaggy Moss Electrified Cat's Tail Moss



Sphagnum fuscum (Schimp.) Klinggr.

Sphagnaceae

Description

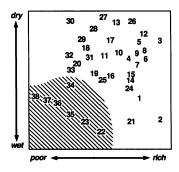
General - small, slender, wiry plants forming dense, brown or brownish-green hummocks; heads small and compact¹; branches in clusters of 3-5; stems dark brown when scraped².

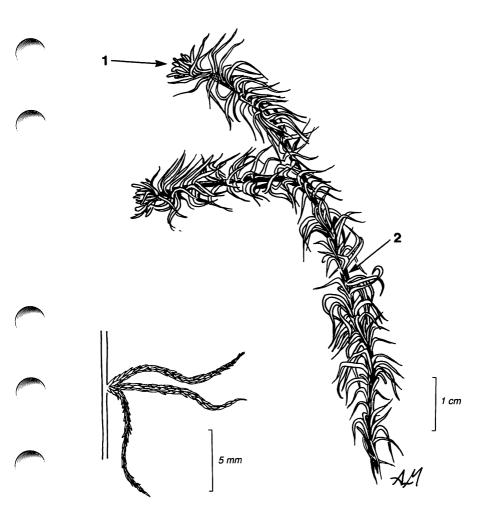
Leaves - stem leaves tongue-shaped with ragged, rounded tips, not closely overlapping; branch leaves lance-shaped, tapering to a narrow point, tightly overlapping, margins minutely toothed and inrolled at the tip (use hand lens).

Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

Habitat

Throughout NW Ontario. Infrequent; forming distinctive hummocks in poor black spruce wetland forests, open bogs and fens.





Sphagnum girgensohnii Russ.

Sphagnaceae

Description

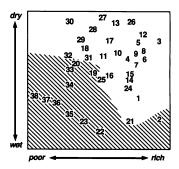
General - slender, medium-sized to large plants growing in loose, bright green (never red) mats; heads distinctly star-shaped with 5 radiating points¹, somewhat flattened with a large, glossy, terminal bud protruding from the centre ²; branches in clusters of 3-5.

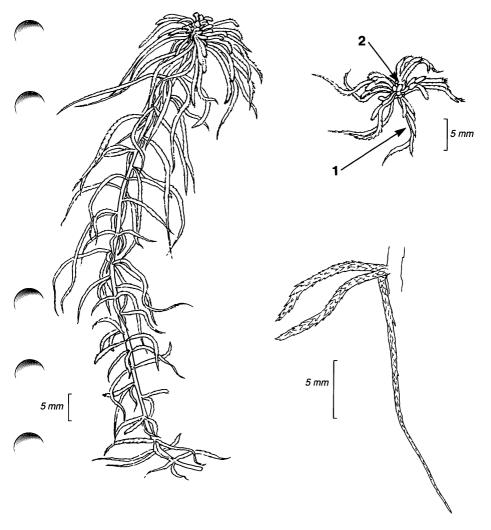
Leaves - stem leaves broadly tongue-shaped with a blunt, ragged tip; branch leaves closely overlapping, egg-shaped with a narrowed tip, margins entire and infolded at the tip (use hand lens).

Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

Habitat

Throughout NW Ontario. Occasional; in rich to poor, moist/wet forest habitats. Often in white cedar and black spruce swamps and wooded fens, usually in wet depressions; also along seepageways on slopes.





Sphagnum magellanicum Brid.

Sphagnaceae

Description

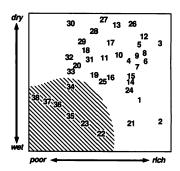
General - medium-sized to large, robust plants forming small patches or loose mats; often tinged with red (pale green in the shade); heads and branches with a thick, swollen appearance¹; branches in clusters of 4-6; stem red when scraped².

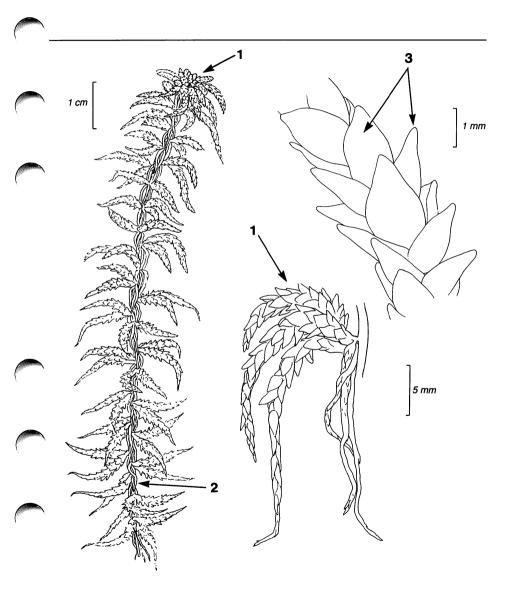
Leaves - stem leaves tongue-shaped, flat, with a blunt tip; branch leaves somewhat spreading, broadly egg-shaped, concave, hooded at the tip, large and swollen³, minutely toothed at the tip (use hand lens).

Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

Habitat

Throughout NW Ontario. Infrequent; in moderately rich to poor, moist/wet conifer forests. Occurring on the sides and tops of hummocks in wetland habitats, also occasionally mat-forming in seepageways and wet depressions.





Sphagnum nemoreum Scop.

Sphagnaceae

Description

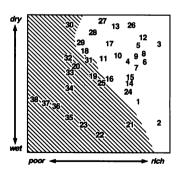
General - rather slender, small to medium-sized plants often forming small, dense hummocks; colour ranging from light green to reddish; heads small, rounded, compact¹, often double²; branches in clusters of 3-5; stem branches long, sweeping, curving outwards at the ends, like "ladies tresses"³.

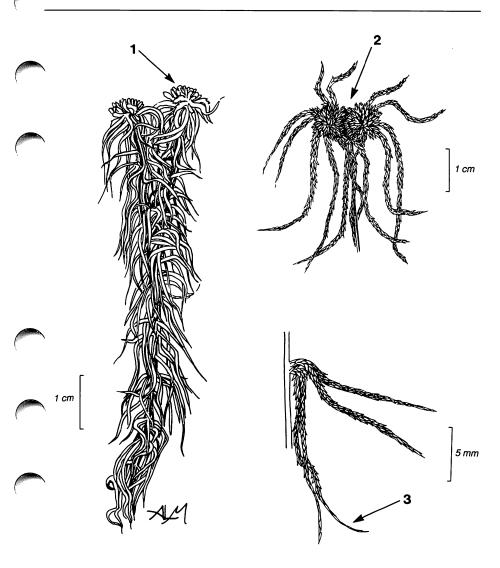
Leaves - stem leaves oblong to tongue-shaped, tapering to a bluntly pointed tip, margin slightly inrolled at the tip (use hand lens); branch leaves closely overlapping, lance-shaped, tapering to a pointed tip, margin inrolled at the tip (use hand lens).

Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

Habitat

Throughout NW Ontario. Occasional; primarily in moist/wet conifer forests, especially in black spruce wetlands. Occurring on the tops and sides of existing mounds or initiating characteristically tight, compact hummocks. Also found in moist depressions in upland forests.





Sphagnum warnstorfii Russ.

Sphagnaceae

Description

General - rather slender, delicate, small to medium-sized plants occurring individually or forming loose mats; colour ranging from green to red or purple, but rarely wholly green (usually at least flecked with red or purple); stems reddish when scraped; branches in clusters of 3-5.

Leaves - stem leaves oblong to tongue-shaped, tapering to a bluntly pointed tip; branch leaves spreading at the tips when dry, spirally arranged in 5 distinct rows¹, lance-shaped with a pointed, inrolled tip.

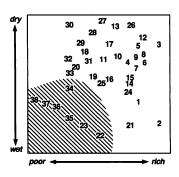
Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

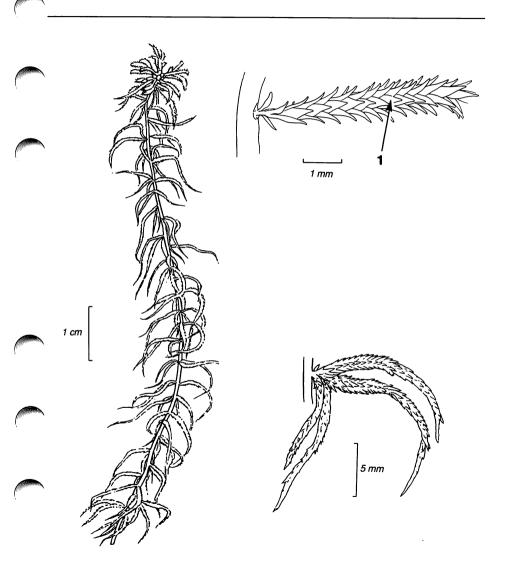
Habitat

Throughout NW Ontario. Infrequent; in moist/wet conifer forests, especially black spruce and white cedar swamps; also moderately rich open fens.

Notes

Generally indicative of calcareousness and, thus, of enhanced wetland nutrient status.





Sphagnum wulfianum Girg.

Sphagnaceae

Description

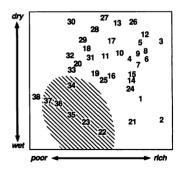
General - medium-sized to large, robust plants forming loose patches or mats; colour dark green to brownish-green; stems blackish when scraped¹, wiry, brittle and breaking with an audible snap; heads large, rounded, packed with densely crowded branches, resembling a head of clover²; branches in clusters of 6-13³.

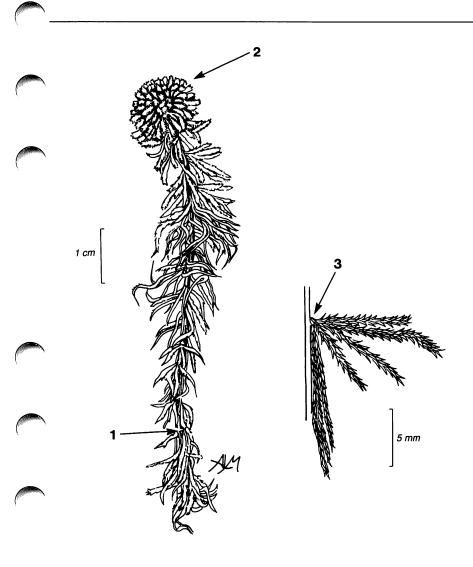
Leaves - stem leaves small, somewhat triangular with a broad, rounded tip; branch leaves lance-shaped, tapering to a long tip, spreading at the tip when dry to give the branches a fuzzy appearance, margins entire and inrolled (use hand lens).

Sporophytes - uncommon; small, dark brown or black, globular capsules on short, erect stalks from the head.

Habitat

Throughout NW Ontario. Infrequent; in moist/wet conifer forests, especially black spruce and white cedar swamps. Occasionally found on moist humus or rotting logs in dry/fresh, black spruce stands.





4. Glossary

Δ

Alternate attached singly along a stem or axis; not opposite or whorled

(see pictorial glossary).

Awn a slender, terminal bristle.

B

Basal pertaining to the base of a plant.

Berry a fleshy fruit with a pulpy interior, usually containing several

seeds.

Bipinnate twice-divided in a pinnate arrangement; usually of ferns (see

pictorial glossary).

Blade the flat, expanded part of a leaf.

Bog an open or sparsely treed wetland habitat which is poor in

mineral nutrients because water is supplied exclusively by pre-

cipitation; characteristically acidic.

Bract a reduced or modified leaf, usually at the base of a flower or

inflorescence.

Branchlet a small branch, usually referring to the most recent year's

growth.

Bristle a stiff hair.

C

Capsule a dry fruit, usually containing 2 or more seeds, that splits into

sections at maturity; also the spore-bearing structure of a moss

sporophyte.

Catkin a dense spike of small male or female flowers without petals.

Ciliate fringed with hairs.

Clasping usually referring to leaves which partially surround a stem.

Compound (leaf) consisting of 2 or more leaflets (see pictorial glossary).

Cubic shaped like a cube.

Glossary

D

Double-toothed with 2 sizes of teeth: fine teeth lining the margins of coarse

teeth (see pictorial glossary).

E

Egg-shaped (ovate) broader at one end than the other, like the longitudinal section

of an egg, and attached at the wide end (see pictorial glossary).

Elliptic broadest in the middle and tapering equally towards both ends

(see pictorial glossary).

Entire margins without teeth, lobes or divisions (see pictorial glossary).

Erect-spreading spreading at an angle of about 45 degrees.

Ericaceous Species belonging to the family *Ericaceae* (Heath Family).

F

Feathermoss a group of mosses generally with a prostrate growth habit and

pinnately branched stems.

Fen an open or sparsely treed wetland habitat which is more

mineral-rich than a bog due to groundwater input; ranging from

acidic to alkaline.

Floret a small flower, usually one of a dense cluster (esp. in the Grass

and Aster Families).

Foliose in lichens, a leaf-like growth form.

Frond the leaf of a fern; in mosses, a stem which is closely and regu-

larly branched in 1 plane, thus resembling a fern leaf.

G

Glandular-hairy having hair-shaped structures, each with a swollen tip which

secretes oils, waxy material or other substances.

Glume a bract at the base of a spikelet in the Grass Family.

H

Head a dense flower cluster with individual flowers stalkless or nearly

so on a short axis or receptacle (e.g. in the Aster Family).

Ĭ

Internode the section of stem between 2 adjacent nodes.

328

Inversely Eggshaped (obovate) egg-shaped (see above) but attached at the narrow end (see pictorial glossary).

ovale) io

Inversely Lanceshaped (oblanceolate)

lance-shaped (see below) but attached at the narrow end (see pictorial glossary).

K

y popular terminology for the fruit of maples and ashes (technically a samara); a dry, winged fruit which does not open at

maturity.

L

Lance-shaped (lanceolate)

shaped like a lance-head, much longer than wide, tapering towards the tip from below the middle and attached at the wide

end (see pictorial glossary).

Lateral on or from the side of an organ.

Leaf Scar the mark on a stem after a leaf falls off. **Leaflet** one of the divisions of a compound leaf.

Ligule in grasses, the thin outgrowth from the inner surface of a leaf at

the junction of the sheath and blade.

Linear very narrow and elongated, with parallel sides (see pictorial

glossary).

Lobe a partial division of an organ such as a leaf (see pictorial

glossary).

M

Mesotrophic

of a habitat: moderately rich or productive.

... Node

Nut

the point on a stem at which a leaf, bud or branch arises; in

grasses there is a noticeable swelling or "joint" at each node.

a hard, dry, one-seeded fruit which does not open at maturity.

Nutlet a small nut.

0

Oblong longer than broad with parallel sides (see pictorial glossary).

Opposite occurring in opposing pairs at the same node, esp. leaves or

branches (see pictorial glossary).

Glossary

Oval broadly elliptical (see pictorial glossary).

p

Panicle an elongated, branched inflorescence.

Perennial a plant that normally lives more than 2 years.

Perigynium a special bract which encloses the seed of *Carex* spp.

Petal a segment of the inner set of leaf-like flower parts (the corolla),

often coloured.

Pinnate divided, as with a compound leaf, such that the segments are

arranged on 2 sides of a central axis; featherlike (see pictorial

glossary).

Pinnatifid cleft in a pinnate manner; almost pinnately divided; usually of

ferns (see pictorial glossary).

Pistiliate unisexual (flower) with only female reproductive organs.

Pith the central part of a stem.

Pod a dry fruit, especially of the Pea Family.

Podetia hollow, upright structures in the genus *Cladonia*.

R

Ray in the Aster Family, one of the showy, petal-like florets

encircling the flower head.

Reticulate forming a network, as the veins of a leaf.

Rhizome a horizontal, underground stem bearing roots and leafy stems. **Rosette** a circular cluster of leaves, usually at the base of a plant.

Runner a very slender, wiry stolon.

S

Saprophyte a plant, usually without green colour, which derives its food

from dead, organic matter.

Scale a thin, reduced leaf or bract; in cones of conifer tree species the

scales are woody and enclose the seeds.

Scythe-shaped strongly curved to one side; like a scythe.

Sepal a segment of the outer set of leaf-like flower parts (the calyx),

usually green.

Sheath a tubular envelope surrounding another organ, as the lower part

of the leaf of grasses and sedges which surrounds the stem.

Spikelet the smallest flower cluster in grasses and sedges.

Spine a sharp, woody outgrowth from a stem; a thorn.

Sporophyte literally, the spore-bearing plant — all plants have a sporophyte generation; in mosses this is represented by a stalked capsule

generation; in mosses this is represented by a stalked capsu attached to the leafy, non spore-bearing plant (gametophyte).

Squamule a small, scale-like lichen body; common in the genus *Cladonia*.

Stalk the stem of a leaf, flower or moss capsule.

Staminate unisexual (flower) with only male reproductive organs.

Stipule a small, leaf-like growth at the base of a leafstalk.

Stolon from the base of a plant, a creeping, horizontal branch or stem

which produces new shoots.

Style the stalk of the pistil, connecting the ovary and the stigma.

Sub-tripinnate almost tripinnate; not quite fully 3 times divided; usually of

ferns (see pictorial glossary).

Succulent fleshy, juicy.

7

Tendril a slender, twining outgrowth from a stem or leaf; used for

climbing or support.

Terminal at the tip or end of an organ.

Thorn a spine.

Transverse across the width of an organ.

Trifoliolate with 3 leaflets (see pictorial glossary). (3-foliolate)

Tripinnate fully 3 times divided in a pinnate manner; usually of ferns (see

pictorial glossary).

Tuber a short, thickened underground stem.

V

Variety a taxonomic sub-division below the rank of species.

Venation the arrangement of veins on a leaf.

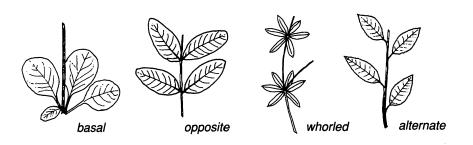
W

Whorl a group of 3 or more similar organs radiating around a node (see

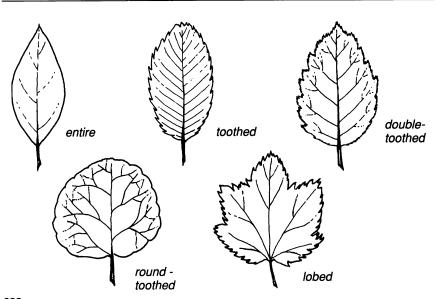
pictorial glossary).

Glossary

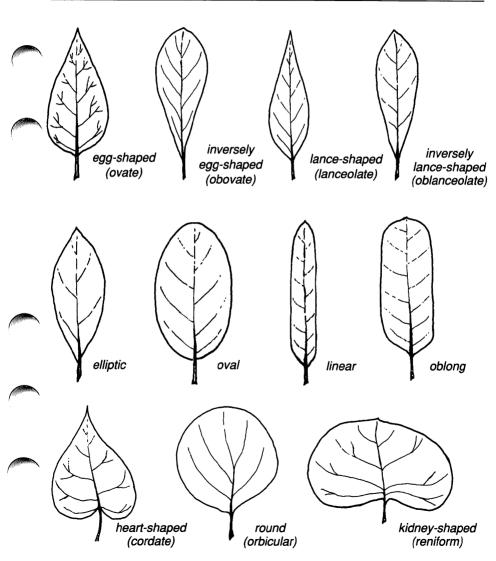
Leaf Arrangement



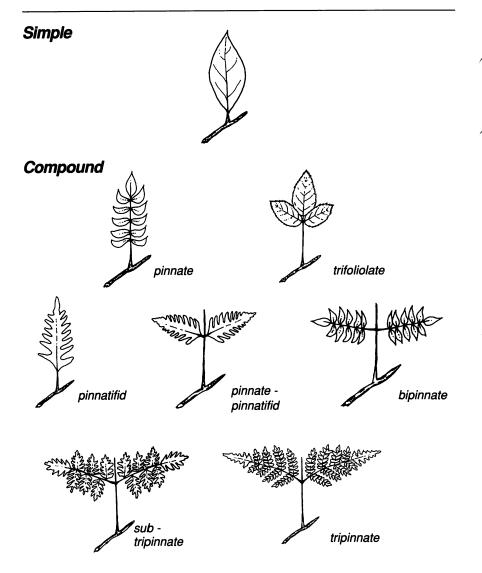
Leaf Margin



Leaf Shape



Leaf Structure



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