Island Woodland Plants

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Island Woodland Plants

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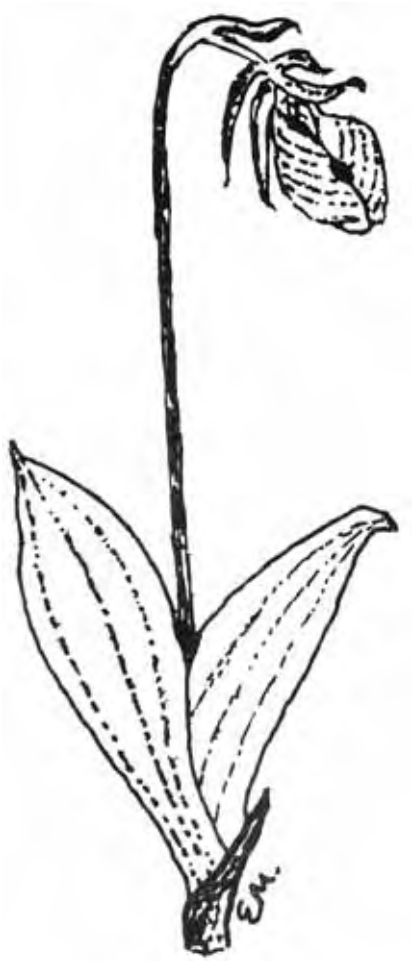


Floral Emblem of Prince Edward Island
The Stemless Lady's Slipper
Cypripedium acaule

Introduction

Island Woodlands – Past and Present

The sandstone swells of Prince Edward Island are everywhere clothed with a rich and varied vegetation. Its flora is much the same as spreads over the rest of eastern Canada, but its dry and fertile soil produces a greater abundance of deciduous forest trees and the flowering plants which usually accompany them.

The above description was written in 1890 by Francis Bain, a Prince Edward Island naturalist. He described upland areas as rolling districts forested by beech, yellow birch, maples, oak and white pine with dense under growths of mountain maple, hazelnut, elderberry and brambles. Hazelnuts grew abundantly in the rich woods and beech trees were so numerous that in the fall, people turned their hogs into the woods to fatten on the nuts.

Bain's description bears little similarity to our woodlands today. No other habitat on Prince Edward Island has been modified so drastically by man. Vast areas of timber were leveled by fire either accidentally or for land clearing purposes, and diseases (e.g., beech canker and yellow birch die back) almost eliminated several species. Oak, beech and pine were lumbered to such an extent

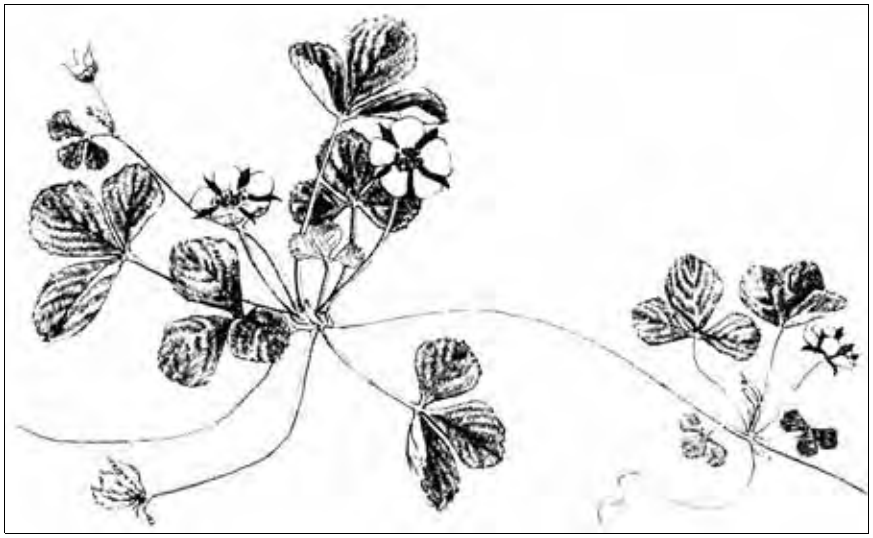
that only scattered forest remnants remained. Today, much of this land has regenerated to a mixture of white spruce, balsam fir and red maple. In these mixed deciduous and coniferous woodlots varying amounts of sugar maple, aspen, white birch and some beech and yellow birch occur. Changes such as those described above have markedly altered the variety and abundance of flowering plants which live under the woodland canopy.

Characteristics of Woodland Plants

The most elementary observation to be made about plants is that they are immobile. Unlike animals, they do not need to move to search for food and cover, and therefore can devote most of their energy to growth and reproduction. This way of life has its disadvantages because once a plant becomes established it must "make do" with the light, temperature, moisture, and nutrients which are available in that particular spot. Frequently these necessities of life are limited and fierce competition ensues. This constant silent struggle for survival has resulted in a wide diversity of plant strategies, making botany (the study of plants) extremely fascinating.

Consider a woodland environment and what it has to offer a plant. If light is limited, as it usually is in a woodland, a plant normally can manufacture enough food to grow but not always enough for production of fruit and seed. Moisture is a necessary item on the survival list of most plants, and one of the biggest culprits in reducing moisture is wind. In a woodland, wind is reduced considerably and thus reasonably high moisture conditions prevail. Temperature is also moderated by dense tree cover, which remains more constant than in open areas. In addition, soil conditions are generally stable because tree roots hold the soil more securely than the vegetative cover of the easily eroded soil in ditches and on sand dunes, and so are favored by moderate wind, moisture and temperature, and a stable soil surface.

Besides just growing, a plant must be concerned with reproducing itself. Many woodland plants are perennial, and this greatly reduces the necessity of producing seeds every year; however, it does involved the expenditure of energy to maintain thick woody roots or underground stems which keep the plant alive over the winter. Many woodland plants reproduce vegetatively by runners (e.g., Wild Strawberry) or underground stems (e.g., Bunchberry). Have you noticed that in deciduous or mixed woodland there are areas where Sarsaparilla or Wild Strawberry grow in abundance but you will seldom find a flower or a berry? Experienced berry pickers avoid shady woodlands and seek disturbed openings in the forest to pick wild raspberries or blueberries.



For most species, a limited amount of sexual reproduction (via flowering) is essential. Frequently, woodland plants flower early in the season before trees have a full complement of leaves. At this time, light conditions are optimal for flower production, and they are likely to be pollinated because early flying insects have a limited supply of flowering plants to feed on. For obvious reasons, few woodland plants depend on wind for pollination or seed dispersal. Poets and naturalists speak glowingly about the delicately fragrant, jewel-like flowers which frequent wooded areas. Plants have an extremely practical reason for being so striking and aromatic. In a habitat which has reduced light and high moisture conditions, a bright, sweet smelling flower is considered highly attractive by insects.

The plant kingdom is not without its parasites. For example, the woodland parasite Beech Drops has an underground bulb which sends out shoots that act like grappling hooks and wind themselves around the roots of beech trees.

The beech root produces its own shoot which forces its way into the parasitic bulb. Nutrients are then released to the parasite; thus, Beech Drops has developed a system where it stimulates the host to voluntarily give up its own food!

Island woodlands have been radically changed since early settlement. Most of our forests today are second or third growth and consist of solid conifers, mixed deciduous or a mixture of coniferous and deciduous stands. Many woodland plants are perennial and produce seeds primarily for colonization of new areas and for genetic variability. Living conditions in a woodland are favorable for lush vegetative growth; hence, in cool, moist woodlots you will find that plants are taller and have larger leaves than plants of the same species in open, dry areas.

Island Woodland Plants is an introduction to forest plants on Prince Edward Island. No trees have been described although they are the most obvious plants in any woodland! Most of the plants discussed are flowering plants, but several club mosses and ferns which you are likely to find in your wanderings have been included. For each of the 43 plants discussed, there is an image plus an accompanying description. Because of the great variability in sizes of plants it was not possible to draw each plant to the same scale. Sometimes only flower clusters and the upper leaves are portrayed and the entire length of the stem is omitted. For these, the artist has made a break in the stem or branch near the bottom of the sketch. The description accompanying the plant should aid you with its history, biology, edibility and unusual habits. Use a ruler to check plant heights or flower size when identifying plants you find. The glossary on pages 59 and 60 will help you understand any botanical terms used in the descriptions.

Keep in mind that we have included only one or two examples from each plant genus or plant family, whereas there may be several to many species occurring in Prince Edward Island woodlands. We chose easily recognized and representative plants; some are common and others are uncommon or rare. Only the name of plants described in the book are capitalized throughout the book.

Don’t be surprised if you see one of these plants growing on lawns, in pastures or along the roadside. Some species occur in a wide variety of habitats. Also, in the open, highly disturbed woodlots of Prince Edward Island, a considerable number of plants occur which are more characteristic of cultivated areas or roadsides.

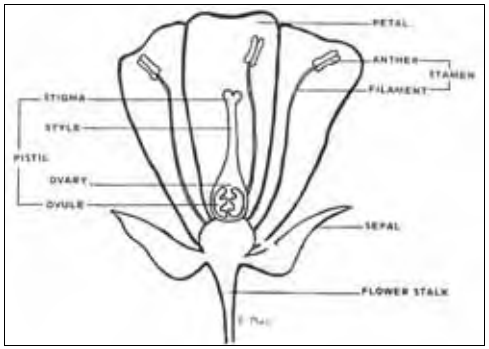
In *Island Woodland Plants*, we have listed in the upper left-hand corner of the page above each species description, the English common names normally used by Islanders. The scientific name of each plant is placed in the center of the page and is always italicized. For the benefit of francophone readers, we have included French common names in the upper right-hand corner.

How Plants are Classified

The plant kingdom is classified into progressively smaller subdivisions. Every plant may be described according to the following pedigree which is outlined for the Mayflower:

Kingdom:	Plant
Subkingdom:	Embryophyta
Division:	Tracheophyta
Subdivision:	Pteropsida
Class:	Angiospermae
Subclass:	Dicotyledonae
Order:	Ericalies
Family:	Ericaceae
Genus:	Epigaea
Species:	repens
Variety:	glabrifolia
Common Name:	Mayflower, Trailing Arbutus

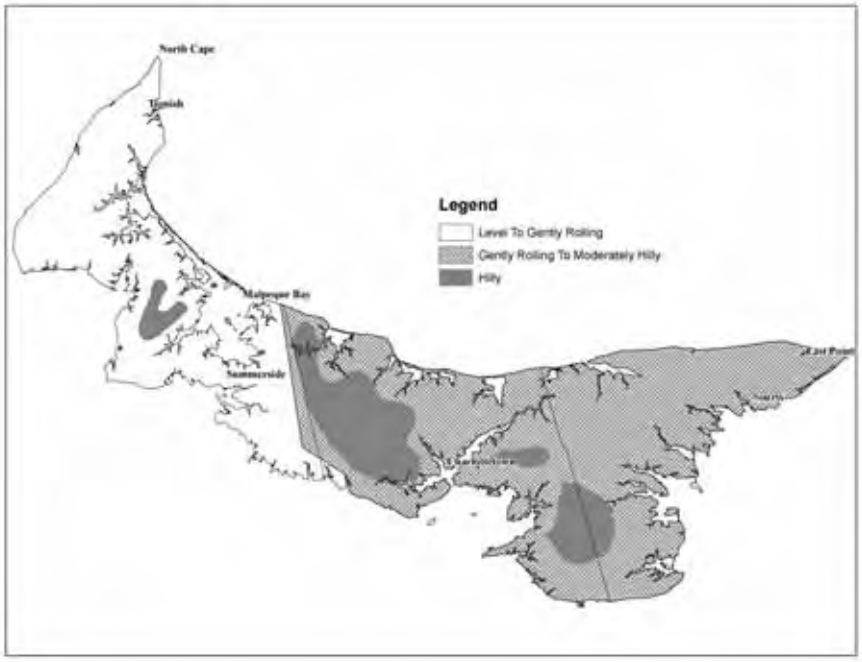
In 1753, Carolus Linnaeus, a Swedish naturalist, developed the consistent use of the modern binomial method of naming plants. By this method each plant species has two names, a genus (equivalent to your family name) and a species (equivalent to your Christian name). Each genus may have several species (equivalent to your brothers and sisters). A number of closely related genera are classified as a family. Some species exhibit distinct types which are not different enough to warrant being classified as separate species. A distinct type is sometimes identified as a variety of the species. To assign plants to their respective family, genus, species and variety, external characteristics are used. The shape of the leaves and nature of underground plant parts are considered, but the reproductive parts, especially of flowering plants, are the most important characteristics, partially because they tend to vary less in response to changing environmental conditions.



Generalized Plant Sketch

Scientific names for plants are logically assigned and generally necessary to avoid confusion and to indicate relationships with other species all over the world; however, to many people, common names are frequently more aesthetic, descriptive, and easier to remember than scientific names.

Relief Map of Prince Edward Island



Relief Map of Prince Edward Island showing level to gently rolling, gently rolling to moderately hilly and hilly.

This map has been included to aid readers in visualizing upland and lowland areas of Prince Edward Island and various locations referred to in the plant descriptions.

Woodland Plant Descriptions

Ground Pine ***Lycopodium obscurum*** **Lycopode foncé**

Club Moss Family Lycopodiaceae

While walking through any coniferous or mixed woodlot on Prince Edward Island, you will likely see what looks like a miniature tree about 12 to 25 cm high. The common name, Ground Pine, aptly describes this club moss which consists of an underground stem and, above ground, tree-like branches spaced more or less regularly along the stem. The needle-like leaves are 1 to 2 mm long and arranged around the branches. Cone-like structures on top of the branches produce mature spores in summer.

Club mosses, from an evolutionary point of view, have had their day. They are extremely primitive plants dating back 400 million years; modern flowering plants are only 120 million years old! Today they are of little economic significance to man and they do not make an important contribution to the earth's present vegetative cover. But in the past, they and many other species now extinct, were the dominant plants of the great swamp forests during the Carboniferous period.

Shining Club Moss ***Lycopodium lucidulum*** **Lycopode brilliant**

Club Moss Family Lycopodiaceae

Shining Club Moss is a small creeping evergreen with dark needle-like leaves approximately 1 cm long. The erect stems are multi branched and about 10 to 20 cm high. This club moss prefers rich deciduous hardwoods and on Prince Edward Island is commonly found throughout the leaf litter of mixed woods.

The trailing stems of club mosses root where they come in contact with soil. These stems produce long runners and, as the older parts die, younger branches continue to grow; thus a single plant can give rise to a number of separate plants. This vegetative method of reproduction frequently results in large colonies.

Club mosses have an alternate method of reproduction. In summer, the Shining Club Moss produces spores in small sacs (sporangia) about 2 cm below the top of the branch where the leaves join the stem (axils). The spores are a sulphur-yellow colored powder when ripe.

Bristly Club Moss ***Lycopodium annotinum*** **Lycopode innovant**

Club Moss Family Lycopodiaceae

This small creeping evergreen has many erect stems (15 to 25 cm high) arising from one runner. The stems are thickly covered with clear green, needle-like, one-veined leaves. It grows abundantly in our mixed deciduous and open woodlands. Some stems of Bristly Club Moss support cone-like spore cases, the tops of which open to disperse ripe spores in summer.

Club Moss spores were formerly used by druggists as an ingredient in medicines and to make a coating for pills. They are traditionally used on the Island to decorate mantels at Christmas and make excellent greenery for Advent or Christmas wreaths. In some parts of New England, picking for this purpose has depleted many large stands; therefore, care should be taken not to pick too many plants from one area.

Interrupted Fern ***Osmunda Claytoniana*** **Osmonde de Clayton**

Flowering Fern Family Osmundaceae

This fern is easily identified even from a distance. The fronds (fern leaves) are arranged in plume-like clusters .60 to 1.3 m high, and the pinnae (subdivisions) are arranged oppositely along the main stem. The clear green vegetative frond is interrupted about halfway down by a number of small reproductive fronds, a unique characteristic of this species. The reproductive fronds contain spores which are green in May, turning brown when mature. Interrupted Ferns grown in damp, partly shaded areas in swamps, moist thickets or at the edge of the woods, and are common everywhere on the Island except in the southeast.

When Interrupted Ferns begin to grow in early spring, the curled fronds (or fiddleheads) are covered with a loose wool, but they become smooth soon after unfurling. They are easily transplanted in a variety of soil types and make good ornamentals for the shaded side of the house.

Cinnamon Fern ***Osmunda cinnamonea*** **Osmonde cannelle**

Flowering Fern Family Osmundaceae

Cinnamon Fern has a very large creeping underground stem from which fronds arise, sometimes stretching to more than a meter in height. They are arranged like those of the Interrupted Fern, in a plume-like cluster. Pinnae are attached alternately along the center vein of the frond. When young and curled, these fronds are clothed with a loose rusty wool, giving the fern its name. When older, the sterile fronds have tufts of cinnamon-colored fluff in the mid-veining of the blade. In the center of this graceful bouquet is a cluster of several fertile fronds which fruit in mid-May.

Cinnamon Ferns are common throughout the Province, on acid soils of swamps, open woods and low fields. In early spring the unexpanded fronds (fiddleheads) are crisp and tender with a nutty flavor. They are tasty when sautéed in butter or cooked with a roast, but be sure to remove the wooly covering! Some people enjoy the partially unfurled fronds (up to 15 or 20 cm high) as a cooked vegetable.

Bracken Fern ***Pteridium aquilinum*** **Grande fougère**
Ptéridium des aigles

Fern Family Polypodiaceae

This is the most common fern on Prince Edward Island, and flourishes in many habitats (pastures, old fields and disturbed mixed woodlots). Bracken Fern can tolerate a wide variety of moisture conditions. The frond (60 to 80 cm high) is distinctly three-forked and broadly triangular in outline. The variety of Bracken Fern which grows on the Island is called “latiusculum”. The roots divide and as the oldest divisions die, new plants appear and separate from the principle root, resulting in fast colonization. The root goes deep (15 to 20 cm) and is usually able to survive a fire or woodland clearing.

Bracken Fern is an aggressive and frequently successful plant which indulges in a little chemical warfare. It releases a compound which prevents the roots of certain grasses from absorbing enough potassium for growth. By effectively eliminating competition for space and nutrients, dense patches are able to thrive in some locations. The rootstocks are starchy and may be roasted and eaten, or ground into flour. The fiddleheads are edible but one should avoid eating large quantities raw because they contain an enzyme, thiaminase, which destroys thiamin and results in a Vitamin B1 deficiency. Cooking destroys thiaminase.

Bluebead Lily *Clintonia borealis* **Clintonie boréale**
Corn-lily
Yellow Clintonia

Lily Family Lilaceae

The casual observer is not likely to miss a Bluebead Lily. Although it stands only 30 cm high, the oblong shiny-green, basal leaves and three to five greenish-yellow bell-shaped flowers are striking. Where Bluebead Lilies grow abundantly in mixed and hardwood forests, fruiting is relatively rare. Multiplication occurs vegetatively from secondary branches growing at the base. You may find Bluebead Lily framed in a shaft of sunlight, bearing 2 to 3 shiny, dark blue berries in late July or August. They occur throughout the Island except in the lowlands, and are less numerous in the southeast.

When the young leaves are just unrolling, they have a delicious cucumber flavor. Most humans consider the berries more enjoyable to look at than to munch on, but it is reported that chipmunks eat them and probably other small mammals nibble on the berries or the seeds which follow. Some mainland hunters rub their traps with the roots of Bluebead Lily because it gives off an odor which apparently attracts bears from great distances.

False Solomon's Seal *Smilacina racemosa* **Smilacine à grappes**

Lily Family Lilaceae

False Solomon's Seal grows from a coarse branching underground rootstock and frequently occurs in dense patches. The stems (30 to 90 cm) are slender and arched, bearing numerous alternately arranged oval or pointed leaves which are conspicuously parallel-veined. A plume of fragrant, creamy flowers blooms in June and juicy, round, red-mottled berries follow in August and September. False Solomon's Seal is common throughout Prince Edward Island, except in the east where it is primarily restricted to the uplands. It prefers well-drained mixed or hardwood forests.

The berries are edible but bitter. Both leaves and young shoots are delicious, either raw or cooked as a green. The thick fleshy rootstock can be used as a laxative, a poultice for wounds, or a remedy for rheumatism. Ojibway Indians cooked the rootstocks like potatoes by first soaking them in lye to eliminate their strong disagreeable taste, and then parboiling them to get rid of the lye.

Wild Lily of the Valley ***Maianthemum canadense*** **Maïnanthème du Canada**

Lily Family Lilaceae

Even an amateur botanist would have no trouble correctly identifying the family to which Wild Lily of the Valley belongs. The broadly oblong leaves with parallel veins are a dead giveaway that it belongs in the Lily family. This perennial has a slender creeping underground rootstock which sends up shoots bearing one to three leaves, but usually two (5 to 20 cm high). Wild Lily of the Valley is very common in all Prince Edward Island woodlands and often forms wide carpets of green, under mossy spruce. In these dense beds, the most abundant type of shoot is one single leaf growing directly above the rhizome. White flowers appear in early June, followed in late July and August by gold-brown berries with small red spots which become a translucent red in September and may remain on the plant all winter.

The berries are better to watch than to eat. If you stop near a bed of Wild Lily of the Valley, select a small section of the patch and count the number of shoots bearing one, two or three leaves. Look for stems which have produced flowers or berries.

Indian Cucumber Root ***Medeola virginiana*** **Concombre sauvage Medéole de Virginie**

Lily Family Lilaceae

Indian Cucumber Root is a distinctive, delicate looking plant which stands 30 to 90 cm high and grows commonly in the dry, open, deciduous hardwood and mixed wood uplands of King's and Queen's County. It also occurs in localized areas of West Prince. One whorl of six to eight leaves is situated two-thirds of the way up the stem and a second whorl of three to five leaves occurs at the top. In July, three to five dangling greenish-yellow flowers hang below the top whorl of leaves.

Although there is no record of magical properties for the plant, the generic name "Medeola" is derived from that of Medea, a famous Green sorceress. The root of Indian Cucumber is the size of a man's little finger and tastes very similar to cucumber. It is delicious in a salad with a simple oil and vinegar dressing. Since the supply is easily eliminated, do not collect a plant unless there are three others with a radius of one meter.

Painted Trillium ***Trillium undulatum*** **Trille dressé**

Lily Family Liliaceae

This spectacular and relatively common woodland flower is probably familiar to most people. All conspicuous plant parts are in threes. There is a whorl of three green broadly oval-shaped leaves. A flower stalk (3 to 8 cm) extends above the leaves and supports a striking three-petalled white flower marked with a crimson-purple blaze in the center. Look for the flower between May 20 and June 20. Painted trillium is a perennial and varies in height from 15 to 40 cm. The specific name *undulatum* means wavy and refers to the petal edges.

You are most likely to find painted Trilliums in the central and southeastern deciduous and mixed woodlands. It is rare in Prince County and in the northeast section of the province. The hardwood hills and deciduous woods where trilliums are found here are a marked contrast to its normal habitat in Nova Scotia of acid soil in spruce or pine woods. Although the painted Trillium is still rather common in some locations on Prince Edward Island, it is definitely less abundant than it was 50 years ago. Trilliums should not be picked unless the patch is very large, and then pick only a few.

Nodding Trillium ***Trillium cernuum*** **Trille penché**

Lily Family Liliaceae

The Nodding Trillium is less striking than its painted sister but still quite a thrill to find. A white flower appears under a whorl of three oblong-shaped green leaves between May 20 and June 15 and results in one large purple berry in July. Plants range in height from 20 to 50 cm. The Nodding Trillium is generally less abundant than the Painted Trillium, but patches of the flower occur rather commonly in thick leaf litter or along brooks in damp deciduous or mixed woods.

Trilliums are plants of shaded woodlands. Both species produce their flowers before the forest trees put on their leaves, because at this time light conditions are best for flowering. Trilliums are unusual in that they are the only North American members of the Lilaceae family not to have leaves with parallel venation. They are sometimes called “Wake-Robin”, possibly because, like the robin, they signify to those weary from the rigors of winter that spring has arrived.

Pink Lady's Slipper *Cypripedium acaule* **Sabot de la Vierge**
Stemless Lady's Slipper **Cypripède acaule**

Orchid Family Orchidaceae

Pink Lady's Slipper is the floral emblem of Prince Edward Island, and hence Islanders are more accustomed to seeing a replica of this flower on souvenirs in gift shops than observing it in the local woodlands. It is also known as Stemless Lady's Slipper, Whip-poor-will's Shoe or Moccassin Flower. Basal leaves, bright-green and parallel-veined, arise directly from an underground stem. The plant normally reproduces by sprouting shoots from roots but usually a showy pink moccasin-shaped flower arises. It is scattered throughout the Province and sometimes grows in large colonies. It is not plentiful, but will be found in swamps, bogs or dry or damp woods.

In early June, a pink flower blooms atop each flower stalk (15 to 30 cm high). Lady's Slippers are highly specialized for insect pollination. The petals are modified to form a conspicuous slipper shape which can be used as a landing platform for pollinating bees. Lured by the promise of nectar, the bee tumbles into the slipper and is unable to fly out again or scale the smooth steep walls. The only easy exit is to walk along the hairy path in the center, where the bee must brush against a stigma (female flower part) covered with microscopic barbs which rake the sticky pollen grains from the bee's back. The final squeeze to freedom involves brushing against the anthers (male flower parts) where the bee inadvertently collects a fresh supply of pollen. Orchids produce great quantities of seeds which are extremely small and may take 12 to 15 years to grow to a flowering plant.

Of all the Lady's Slippers in North America, the Stemless Lady's Slipper has the largest distribution. The generic name of this flower, Cypripedium, refers to a sandal or slipper (pedilum) of Aphrodite, the goddess of love and beauty who was born on the Island of Cyprus. Lady's Slippers are very vulnerable to over-picking. If you wish to enjoy our provincial flower, go to its home, do not bring it to yours. A picked Lady's Slipper lasts only a very short time, and it cannot be transplanted successfully.

Floral Emblem of Prince Edward Island
The Stemless Lady's Slipper
Cypripedium acaule

Yellow Lady's Slipper **Cypripedium Calceolus** **Sabot de la Vierge**
Cypripède jaune

Orchid Family Orchidaceae

Yellow Lady's Slipper is easily distinguished from the Pink Lady's Slipper. A bright yellow moccasin-shaped flower appears during June and early July. Broadly oval-shaped green leaves with parallel veins are arranged alternately up the stem which normally stands from 20 to 70 cm high. If you wish to find a Yellow Lady's Slipper, you will have to look extremely hard in rich, moist woods or open swampland where it is very wet underfoot. David Erskine, who wrote *The Plants of Prince Edward Island* was able to find a few plants of the variety "parviflorum" in a cedar swamp in the western part of the Province. He considered the Yellow Lady's Slipper to be rare on Prince Edward Island.

The rhizomes contain oils, resins and tannins and have been harvested by Indians and herbalists for fine medicines. The dried and ground up root was used as a sleeping portion by some Indians. Our Lady's Slippers are much more valuable fore their aesthetic qualities than they are for their medicinal properties. Please look, enjoy, but do not pick any Yellow lady's Slippers you might be lucky enough to find.

Purple Fringed Orchid ***Habenaria psycodes*** **Habénaire papillon**

Orchid Family Orchidaceae

During late July and August, this Orchid adds a touch of purple to Prince Edward Island marshes, damp meadows and thickets along rivers. It has a cluster of showy flowers, each of which has six petals. The top three petals are relatively small and smooth in outline. The bottom three form what is frequently referred to as a "lip". They are larger than the top petals and fringed like a scarf tassle. Large laceolate leaves spring from a cluster of thick underground roots and are sheathed around the flower stem for a short distance before they extend out at an angle. This plant can attain a height of 50 to 60 cm.

Purple Fringed Orchids are rare in the Province and very localized in their distribution. They have been recorded in western Prince County and along rivers in several locations between Charlottetown and Souris. Purple Fringed Orchids should not be picked, but rather left to brighten up the fading brilliance of summer colors.

Early Coral Root ***Corallorhiza trifida*** **Corallorhize trifide**

Orchid Family Orchidaceae

This most unusual orchid occurs uncommonly in western Prince County and in scattered areas to the east. Coral Root (8 to 25 cm high) grows in dry to damp coniferous woods, frequently in dense young growth where there is little light. The stems are brownish or yellowish and the white flowers, present in June and July, are arranged in a cluster at the top of the stem. The common name is derived from the mass of short, fleshy brittle underground stems.

Early Coral Root, a saprophyte, lacks the chemical chlorophyll essential for a plant to manufacture its own food from sunlight, water and nutrients. A saprophyte is unable to produce its own food and so obtains nourishment from decaying vegetable matter in the soil. Coral Root must be an efficient saprophyte because it usually has an abundance of starch in its rhizomes (root stalks).

Creeping Buttercup ***Ranunculus repens*** **Renoncule rampante**

Buttercup Family Ranunculaceae

Creeping Buttercup frequents pastures, meadows, ditches, wet woods and also forms dense mats of foliage along the borders of streams. It is commonly associated with agricultural areas throughout Prince Edward Island. The main stem supports bright green leaves, divided into three leaflets. Each leaflet is deeply cleft again to form three distinct lobes. This buttercup tends to creep along the ground, but can attain heights of 10 to 30 cm. Bright yellow flowers are present from early June to August.

All parts of the plant have poisonous juices which may serve to injure the stomach and intestines. Francis Bain reported that Creeping Buttercup was introduced to Prince Edward Island from Europe sometime previous to 1890.

Goldthread *Coptis trifolia* **Savoyane**
Coptide du Groenland

Buttercup Family Ranunculaceae

Goldthread is a common plant of the coniferous woods and occasionally occurs on bog hummocks. During mid to late May, it produces a white star-like flower on stalks up to 15 cm high. The bright evergreen leaves are sharply divided into three leaflets. If you dig below the moss, you will find a root resembling a gold wire. This root inspired one of our ancestors to name the plant, Goldthread.

Micmac Indians have used the root as a dye. One french common name, Savoyane, comes from an Indian word which means “dye for skins”. The boiled root has been used as a tonic, an antiseptic and a cure for stomach ache. If you taste a piece of the root, you will quickly understand why this medicine would cure someone who was only slightly ill. It tastes so terrible, one would immediately get better to avoid taking a second dose!

Red Baneberry *Actaea rubra* **Actée rouge**
Poison de couleuvre

Buttercup Family Ranunculaceae

Red Baneberry adds beauty to the deciduous woodland throughout spring and summer. In the latter half of May, a spike of foamy white flowers is accentuated by dark green, deeply-toothed leaves. During mid-summer the berries are green and in August become shiny red. Sometimes there are two sets of berries or flowers on the plant which stands about 30 to 40 cm high. One set of flowers occurs at the top of the plant and another part way down. Red Baneberry is found rather commonly in dry damp areas throughout Prince County and the Queen’s County Uplands, but rarely in the northeastern hills.

All parts of the plant, but especially the berries and roots, contain a poison that causes stomach cramps, headache, increased pulse rate, vomiting, delirium, dizziness, circulatory failure and worse. Children are especially susceptible to this poison. A half-dozen berries can cause symptoms persisting for hours.

White Baneberry ***Actaea pachypoda*** **Actée à gros pédicelles**
Doll's Eyes

Buttercup Family Ranunculaceae

The plant height, leaf shape and flower of White Baneberry are similar to Red Baneberry. Flowering time on the Island is from late May to mid-June. The Latin species name pachypoda means thick-footed and refers to the thick stalks which support flowers and berries. Note also that the French common name "Actée à gros pédicelles", refers to this characteristic. The white berries in July and August are conspicuously marked with a black dot which has earned them the name "Doll's eyes". Small wild bees pollinate in this plant.

White Baneberry is less common than Red Baneberry on Prince Edward Island. It is relatively common in localized areas of West Prince and the central and northeastern uplands, and is likely to be found in hardwood leaf litter. When eaten, the rootstock of this plant causes severe diarrhea, and swallowing a few berries may cause increased pulse rate, colic, dizziness and general sickness.

Dutchman's Breeches ***Dicentra Cucullaria*** **Dicentre à Capuchon**

Fumitory Family Fumariaceae

Dutchman's Breeches was one of the few plants which evaded David Erskine when he did a botanical survey in 1952 and 1953 and published *The Plants of Prince Edward Island* in 1960. Each delicate, waxy, white, yellow-topped flower looks like a tiny pair of inflated pants, attached by the waist to the smooth slender flower stem. Blooming dates are from late May to early June. The leaves are 15 to 25 cm high and almost fernlike, with soft, thin blades and rounded edges. The stems grow each year from round orange tubers on the roots.

Dutchman's Breeches is a rare plant on Prince Edward Island, being known to occur in very few locations. However, where it is found, it grows in goodly numbers in lush mixed deciduous woods and in alder bottoms near streams. The Iroquois have given this plant a picturesque name which means "that on which the spirits feed".

Wild Strawberry *Fragaria virginiana* **Fraisier des champs**
Fraisier de Virginie

Rose Family Fosaceae

Most people recognize Wild Strawberry but they might not consider it a woodland plant. The small white flower (up to 10 cm high) is very common in Island pastures and old fields in May. In woodlands, Wild Strawberry plants are common, especially in open deciduous stands. As the shade deepens, one rarely finds flowers or berries, but the size of the leaves increases. Wild Strawberries produce flowers in pastures but depend on runners (stolons) for reproduction in the woods. A close examination of a strawberry flower will reveal why it is a member of the Rose family; it looks like a miniature rose.

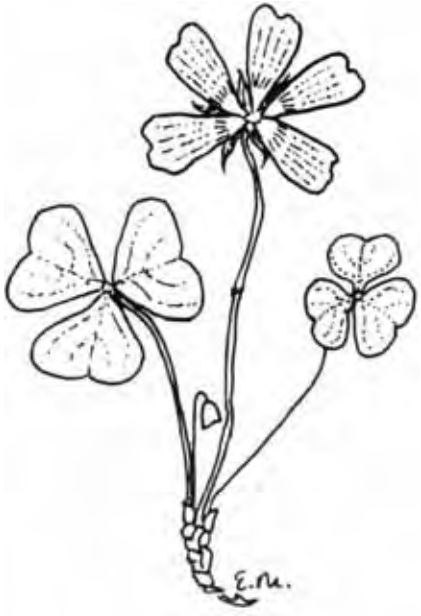
The leaves are high in vitamin C. If they are picked and dried when the plant is in flower, they make a pleasant, healthful tea. Wild Strawberries ripen from mid-June to mid-July and are universally appreciated by the animal kingdom. Humans, small mammals, birds and insects search for the berries. Most people would agree with Izaak Walton who is reputed to have said: "Doubtless God could have made a better berry, but doubtless God never did!"

Common Wood Sorrel *Oxalis montana* **Oxalide de montagne**

Wood Sorrel Family Oxalidaceae

A Wood Sorrel leaf distinctly resembles a clover leaf, but it has a finer texture. Compound leaves arise from an underground stem and have three broad heart-shaped leaflets. Flowers are borne singly on stalks (3 to 10 cm high) from early June through July. The five petals are white, veined with pink or purple. Common Wood Sorrel is found most frequently on the mossy floor of mixed coniferous woods in lowlands or ravines. It is relatively common throughout Prince and Queens County, but rare in Kings County.

The narrow seedpods split explosively to scatter the seeds, a rather unusual method for a woodland plant. The scientific name *oxalis* is derived from a Greek word for sharp, referring to the sharp taste of the leaves due to the presence of oxalic acid. The leaves are poisonous in large quantities, but pleasant and refreshing in small amounts.



Yellow Wood Sorrel *Oxalis stricta* **Surette, Oxalide dressée**

Wood Sorrel Family Oxalidaceae

The compound leaves of Yellow Wood Sorrel bear three heart-shaped leaflets and emerge from an underground stem. In July, a cluster of between five and ten yellow flowers appear, with each having a separate flower stalk. Yellow Wood Sorrel can be easily distinguished from Common Wood Sorrel because the leaves and flowers are smaller and the petals are yellow instead of white. Yellow Wood Sorrel is taller and branched, rather than having leaves and flowers spring singly from a basal stem like the Common Wood Sorrel. When its leaves fall on damp soil they take root and produce new plants.

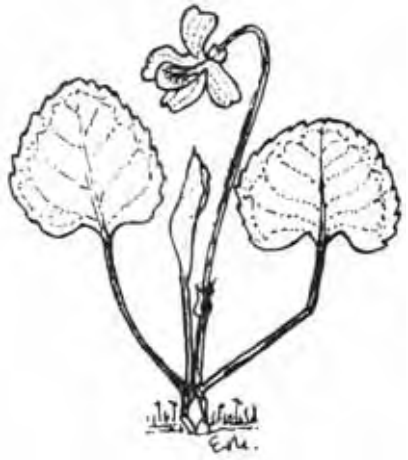
Yellow Wood Sorrel is a common native weed which occurs on lawns, agricultural areas, wood edges and stream banks. It is scattered throughout Prince and Queens County and occurs commonly in cultivated areas in Kings County. The acid smell of Wood Sorrel is pleasant in warm weather and the refreshing taste of its leaves has long been popular with hikers and mountain climbers. In small quantities, the foliage is a wholesome addition to a salad.

Blue Violet *Viola cucullata* **Violette cucullée**
Purple Violet

Violet Family Violaceae

Blue Violet is a perennial with weak stems which sprawl and branch to produce tufts of thin green oval leaves with heart-shaped bases. Blue flowers are borne on stems that extend above the leaves. Flowering occurs during mid-May to June and pollination is accomplished mostly by bumblebees. Blue Violets are quite common throughout Prince Edward Island and prefer damp locations either shady or open, in swamps, weedy fields and along stream banks.

While violets normally bloom in spring, they may be kept blooming year-round if each day they have an amount of light similar to that which occurs during their normal flowering time. The fleshy root stalks (rhizomes) were used in soups during times of hardship. Blue Violet is the floral emblem of New Brunswick.



Small White Violet *Viola pallens* **Violette pâle**

Violet Family Violaceae

Look for this common violet in moist sites in woods, along brooks and in marshes or wet thickets. Small White Violet, which is usually less than 8 cm high, has a thin rhizome and produces stolons which often carry small leaves. A white flower with purple veins is normally produced between the first week in May and mid-June.

Small White Violet is the smallest of the eleven species of violets which have been found in Prince Edward island. Pythagoras considered violets to be the same as spinach. Perhaps, it is fortunate that he devoted most of his interest and energy to geometry instead of botany!

Fire Weed
Willow Herb *Epiloblum angustifolium* **Epilobe à feuilles étroites**

Evening Primrose Family Onagraceae

Within two to three years of a fire, the naked landscape is covered with a blaze of bright purple. Fire Weed is a tall showy plant (.5 to 2 meters high) carrying a loose spike of four-petalled flowers which bloom in July and August. It is common throughout Prince Edward Island, although probably less abundant than after the great fires of the land clearing and lumbering days in the 18th and early 19th centuries. It can be found in dry open land and woodland clearings, along roadsides, and in other disturbed areas. When the flowers mature, the long narrow seed capsules split open and tiny down-tufted seeds are carried across the countryside by the wind.

Fire Weed goes to considerable lengths to avoid self-fertilization. Flowers open first at the bottom of the cluster and mature progressively towards the top. The life of each individual flower is approximately 48 hours. On the first day, pollen on the stamens is mature and the pistil is curved back and closed. When a bumblebee visits the flower on Day one, pollen sticks to the bee's body. On Day Two, the pistil straightens and opens. A bee visiting a Day Two flower carries pollen from a Day One flower and deposits it on the stigma.

Fire Weed is the floral emblem of the North West Territories.

Sarsaparilla *Aralia nudicaulis* **Salsepareille**
Aralie à tige nue

Ginseng Family Araliaceae

John Stewart in 1806 reported that Sarsaparilla was very common in our large timber forests, and today it is still plentiful in deciduous and mixed woods throughout the Island. Each shoot which sprouts from a long underground rhizome divides into three stems bearing three to five irregularly shaped leaflets. Plant height ranges from 30 to 90 cm. It does not normally flower in heavily shaded areas. In open woodlands, a second type of shoot arises from the rhizome and divides into three umbrella-shaped groups of white flowers in late May and June. In August, the flower stalks support a rounded cluster of purple-black berries.

In pioneer days, Sarsaparilla roots were used to make a solution which was applied to legs of exhausted horses. Indians used the root as an emergency food when they were on forced marches or long journeys. In some Island homes, Sarsaparilla wine (normally pronounced “Sasparilla”) is a favorite Christmas drink, accompanied frequently with fruit cake. Sarsaparilla flavoring or concentrate is made from plants belonging to the genus *Smilax*.

Bunchberry *Cornus canadensis* **Quatre-temps**
Pigeon Berry **Cornouiller du Canada**
Dogberry
Canada Dogwood
Dwarf Dogwood

Dogwood Family Cornaceae

Bunchberry lights up the dark evergreen shadows of our coniferous woods, but is also very common in all our woodlands, bush areas and roadside thickets. It is usually less than 15 cm high and has a whorl of six green leaves and a flower which blooms during June. Four white petal-like structures which are really modified sepals (flower holders) act as a lure for insects and provide a frame for the numerous tiny true flowers which are small, greenish-white and inconspicuous. Scarlet red berries occur in clusters during July and August.

Stewart in 1806 described Bunchberries as having a “mawkish sweet” taste and the ability to “fatten fowl fast”. Ripe berries, although edible, are more useful in catching minnows. The number of common names for this plant indicates that it is well known over a widespread area. It provides a good example of the value of having one consistent world-wide scientific name.

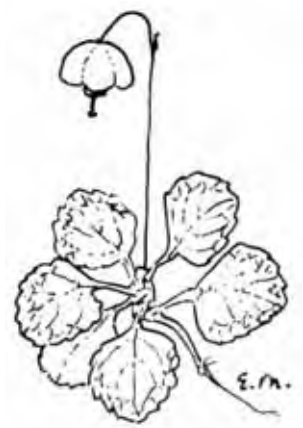
Dogwoods were originally called Dagwoods; not after the cartoon character Dagwood Bumstead, but because the wood from these trees was used for making primitive daggers and skewers.

One-flowered Wintergreen ***Moneses uniflora*** **Monésès uniflore**

Wintergreen Family Pyrolaceae

This single fragrant white flower with a somewhat waxy texture seems to look down on its basal rosette of rounded evergreen leaves. One-flowered Wintergreen has also been called Single Beauty or Single Delight. The large blossom seems almost too heavy for the long slender flower stem (5 to 15 cm high) to support. Flowers appear between June 20 and July 20. As the flowers age and a seed capsule is produced, the flower stem gradually lifts its head until the mature seed capsule is held upright.

One-flowered Wintergreen is relatively common on Prince Edward Island in mossy coniferous woods, in ravines and around swamps. You will find it sometimes forming considerable beds scattered throughout the upland regions of West Prince, Central Queens, and in the southeast and northeast.



Shinleaf ***Pyrola elliptica*** **Parole ellipticum**

Wintergreen Family Pyrolaceae

Shinleaf risks producing a flower in the heat of the summer (July to August 10) and at the peak of woodland shade conditions. If you wish to find Shinleaf flowers, walk through open woods, roadsides, old pastures or knolls on sandy soil. A green flower stem (15 to 25 cm) arises from a basal rosette of evergreen leaves, and as many as 15 waxy white blossoms with green veins hang from the top. In dry upland woods Shinleaf generally forms extensive beds where the roots creep underground and reproduce vegetatively clusters of glossy dark leaves, slightly scalloped at the edges.

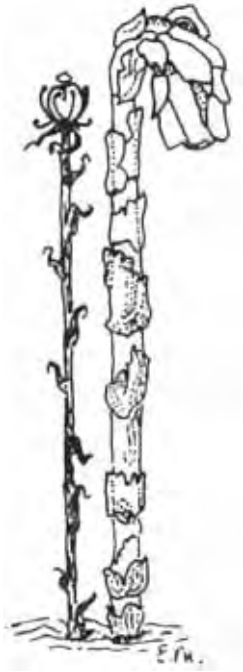
Shinleaf, our most common wintergreen on Prince Edward Island, is neither abundant nor unusual in our woodlands. The generic name *Pyrola* is derived from “pyrus” meaning pear-shaped and refers to the shape of the leaves. The plant is called Shinleaf because in early days the leaves were used in making plasters for injured shins.

Indian Pipe *Monotropa uniflora* **Monotrope unifore**
Ghost Flower **Pipe d'indien**
Corpse Plant

Wintergreen Family Pyrolaceae

Eerily white in the deep shade of coniferous woods, one to several waxy, white Indian Pipe appear overnight in July and August. Stems arise from spreading, brittle masses of roots. When fresh, the flowers are pinkish-white and usually borne singly at the top of a stem (8 to 20 cm) which at first droops to form a "pipe". Within one to two days of emerging, the above-ground portion turns brown or black, and as the fruit forms the seed capsule becomes upright. Through geological time, the leaves have degenerated to scales, since they are not needed to produce food. Indian Pipe is relatively uncommon, but occurs throughout the Island in the leaf litter of dry, dense coniferous stands.

Indian Pipe belongs to the Wintergreen family, while Early Coral Root is an orchid. However, both have evolved similar lifestyles. They are saprophytes and hence lack chlorophyll. The underground roots of Indian Pipe extract food from a fungus which digests organic material from decaying plants or animals in the soil.



Mayflower *Epigaea repens* **Fleur de Mai**
Trailing Arbutus **Epigée rampante**

Heath Family Ericaceae

Mayflower hardly waits for April snows to disappear before producing sweet-scented, pinkish-white blossoms in clusters at the end of its shoots. Its scientific name, *Epigaea*, "meaning on the earth" and *repens*, signifying creeping, describes the habits of this perennial evergreen. Leathery, rounded laves with heart-shaped bases and prominent veins distinguish the plant. It can be easily found on low, trailing woody vines in western Prince County and the central Queens and southeastern uplands. It prefers acidic, bushy barrens, forest edge or second-growth mixed woods. Mayflower is found in bloom from April 15 to May 15, during which time flowers are pollinated by flies and bumblebees.

The flowers, spicy and slightly acid, are a pleasant nibble. The fruit, rarely produced, ripens at the same time as Wild Strawberries. Humans seldom harvest them, but ants enjoy this food. Mayflower is the provincial floral emblem of Nova Scotia. Its charm has led to over picking, and in some areas extermination has been caused by children picking flowers for Mother's Day and gardeners removing them for transplanting.

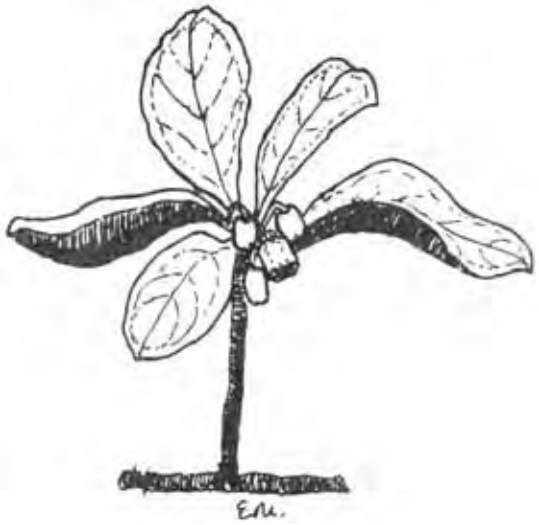
Teaberry *Gaultheria procumbens* **Thé des bois**
Wintergreen **Gaulthérie couchée**

Heath Family Ericaceae

Wintergreen or Teaberry, a close relative of the blueberry, has woody creeping stems that divide frequently and bear erect branches, usually less than 15 cm high. Dark green, shiny, leathery leaves cluster at the top of the branches, below which several flowers are formed in late July or August. The fruit is a fragrant, bright red, mealy, five-celled berry-like structure which ripens in autumn and increases in size during winter. Teaberry occurs in dense mats and is common east of Charlottetown. In West Prince it occurs only in localized areas. It prefers dry peat, acid sites, or bare patches in open woods barrens or old filds.

Wintergreen has been used as a substitute for tea, particularly after the Boston Tea Party when new Englanders were short of this essential. Young tender leaves steeped in boiling water for a few minutes result in a refreshing mint-flavored drink. A mixture of blueberries and Wintergreen fruits is delicious.

The oil of Wintergreen used so much as a flavoring and in medicine is derived, when not made synthetically, from twigs of black birch.



Foxberry *Vaccinium Vitis-Idaea* **Pommes de terre**
Cowberry **Graines rouges**
Airelle vigne d'Ida

Heath Family Ericaceae

Foxberry is a low, mat-forming, shrub-like evergreen, which has branches arising from slender, creeping stems. Small dark leaves are arranged more or less oppositely on slightly hairy twigs (5 to 8 cm high). In June, pink or reddish nodding, bell-like flowers form clusters of three to five or more at the end of a stem. A shiny, dark red berry ripens by mid-September. Foxberry is relatively common on the north and east coasts, but is less abundant inland where it is generally found in rich woods. It is so small that many people overlook it and may consider Foxberry to be uncommon. On the coast, search for Foxberry on the inner sand dunes, or in open sandy woods, old fields or shrubby banks.

Berries frequently remain on the plant throughout the winter and into the following spring. They are quite tart, and their flavor improves after being touched by autumn frosts. Foxberries, when properly sweetened, make excellent sauce and jelly.

Starflower ***Trientalis borealis*** **Trientale boréale**

Primrose family Primulaceae

In warm June days this pure white, star-like flower stands in almost every well-drained woodland or mixed woodlot where competition for space has been reduced by shade. You can easily recognize it by the single whorl of thin leaves and star-like flowers. Normally each plant (12 to 25 cm high) produces two flowers, each on a separate stalk.

The Starflower has most of its parts in sevens: seven sepals, seven petals, seven stamens and approximately seven leaves in each whorl. Although it is able to tolerate a lot of shade and still produce flowers, it frequently reproduces through stolons.

Bittersweet **Solanum Dulcamara** **Morelle douce-amère**
Bitter Nightshade **Vigne de Judée**

Nightshade Family Solanaceae

Francis Bain in 1890 described Bittersweet as “resembling the inferior growth of a potato plant.” This is entirely appropriate since the Nightshade family to which it belongs includes potatoes, tomatoes and peppers. Bittersweet is a woody climber 91 to 3 meters) which is becoming quite common in damp waste ground, near old buildings, along streams and around ponds. The blue-purple flowers, similar in shape to a potato flower, are present from May until September. The berries are green and change to a very bright red upon ripening. Sometimes berries and flowers occur on the same plant simultaneously.

Bitter Nightshade was introduced from Europe and has the potential of becoming a troublesome weed on Prince Edward Island. The species name *Dulcamara* combines two Latin words meaning “bitter” and “sweet”. Leaves and unripe berries contain the poison solanine. When ripe, the berries are apparently harmless, and all parts are less poisonous when cooked; but perhaps it would be best to refrain from eating any of the plant. In farm areas, the Colorado potato beetle is found quite frequently and in great numbers on Bittersweet. In autumn, the leaves are frequently very tattered as a result of beetle munching.

Beech Drops ***Epifagus virginiana*** **Epifage de Virginie**

Broom-rape Family Orobanchaceae

Most of the plants discussed in this book produce their own food and are called autotrophs, which means self-feeding. Other plants must obtain all or part of their food from external sources and they are called heterotrophs. There are two types of heterotrophs: saprophytes (e.g., Indian Pipe, Coral Root) and parasites, of which Beech Drops is a good example. Beech Drops lack chlorophyll necessary to make food and instead attaches itself to the roots of beech trees and draws nourishment from them in the manner described on pages 5 and 6. Varying from yellow to brown in color, dry, slender flower stalks about 15 to 30 cm high arise from underground root-stocks.

Beech Drops is normally found under beech trees in autumn. It is rare on Prince Edward Island, probably because we have few good beech stands. Where it does occur (e.g., the Strathgartney area), it is usually numerous; however, it is easily overlooked because at first sight it may appear to be the dried remains of a green plant.

Partridge Berry ***Mitchella repens*** **Pain de perdrix**
Twinberry **Mitchella rampant**

Madder Family Rubiaceae

Partridge Berry has a somewhat woody stem which trails close to the ground and branches freely over mossy hummocks in damp, shady, mixed woods. The blue-green, round to heart-shaped leaves, often patterned with white veins, are arranged oppositely very close to the stem and have a distinct crease down the middle. In July, pink or white flowers occur in twinlike pairs at the end of a creeping stem. The two flowers are the end of each stem form a single red berry. Hence the fruit, which is a product of two ovaries, invites the observation that a Partridge Berry has “two eyes”.

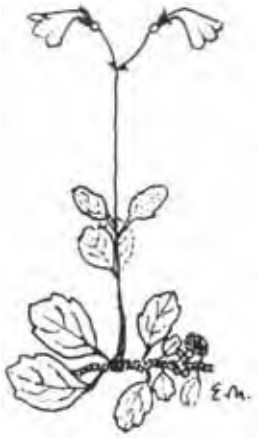
This plant is rather uncommon on Prince Edward Island. Erskine (1960) was the first to record Partridge Berry and he found it in only one location in West Prince County. The berries remain on the plant and their flavor is improved by freezing. They are eaten by birds, especially in winter and early spring, when food is usually in short supply.

Twinflower **Linnaea borealis** **Linnée boréale**

Honeysuckle Family Caprifoliaceae

This 4 to 8 cm high plant sports a matched pair of hanging, pink and white, bell-shaped flowers. The broadly oval-shaped leaves are bright green and arranged in pairs opposite each other along a runner. The variety of Twinflower called "americana" is common on Prince Edward Island, and most easily identified when flowering during the latter part of June and throughout July. You will find it hidden from direct sunlight and perhaps covering a mossy stump or log in a coniferous forest or wooded swamp.

The generic name *Linnaea* was assigned to the plant in honor of Carolous Linnaeus, the father of modern botany, who liked to have his portrait painted while holding or wearing a sprig of Twinflower. Possibly because the flowers and leaves are arranged in pairs, Twinflower represented to Linnaeus the modern binomial system of naming plants and animals which is described on page 6.



Heart-leaved Aster ***Aster cordifolius*** **Aster à feuilles cordées**

Composite Family Compositae

Individual Heart-leaved Asters vary considerably in leaf shape and plant size, a characteristic of many aster species. The dark green leaves are sharply toothed, broadly heart-shaped and attached to the main stem by slender leaf stalks. Small leaves occur interspersed among the many branched stalks which support pale, blue-violet, daisy-shaped flowers from August to October. Heart-leaved Aster is normally found in thickets, along the edges of woods and roadsides, and around buildings, but its preferred habitat is rich open deciduous stands.

It is probably less numerous today than it was 100 years ago. Bain (1890) describes it as growing abundantly on the north side of the Island. McSwain (1907) and Hurst (1933) also indicate that it was present. Today it occurs from Malpeque Bay to the central uplands and uncommonly in West Prince. This is the first aster in North America to appear in scientific literature. It was described by Cornut in 1635.

Wood Aster *Aster acuminatus* **Aster acuminé**
Whorled Aster

Composite Family Compositae

As the growing season progresses, the whites and pinks of early spring subtly succeed to the purples and reds of summer. The blues and yellows of asters and goldenrods unmistakably herald the coming of autumn. Blue or purple daisy-shaped flowers top Wood Asters stems (30 to 100 cm high) during August and September. The leaves are generally lanceolate, sharply toothed and attached directly to a slightly hair stem. Wood Asters occurs commonly on well drained sites along streams, or in mossy deciduous or mixed woodland. It grows to its largest size in clearings or along the borders of woods.

The general biology of asters poses problems to a taxonomis, the most thorny of which is variability. Sometimes, there are only small differences between several species. In addition, individuals within a species may vary tremendously, especially in reaction to environmental changes.

Lion's Paw *Prenanthes trifoliolata* **Prenanthe trifoliolée**

Composite Family Compositae

Lion's Paw prefers dry, open sites, borders of woods and streams, and in clearings and thickets. The leaves vary greatly in shape and size but are usually divided into three distinct lobes. Stout stalks affix the leaves to the waxy, reddish stem. Eight to twelve creamy white, bell-like flowers nod from the top of a flower stem which varies in height from 15 to 15o cm. Waxy pale green or pinkish bracts cover the petals and contribute towards the tubular shape of the upper portion of the bell-shaped flower. The leaf is supposedly similar in shape to a lion's foot.

Lion's Paw is fairly commonly found in disturbed and open Prince Edward Island woodlands. It is reputed to be capable of curing the bite of a rattlesnake; but, as there is no good evidence to verify this statement, don't depend on it! On the Island, we don't have to worry about encountering rattlesnakes, so we can enjoy our acquaintance with Lion's Paw without having to test this theory.

What To Do with the Captured Plant

Following are a few ways to use the plants (including trees and shrubs) found in Prince Edward Island woodlands. Some of the most familiar uses of plants are not described because they do not grow in the forest (e.g., rosehip tea, dandelion salad, or cattail pancakes).

A Word of Warning

Before you start preparing dyes, drinks or food, it is highly recommended that you correctly identify the plants you plan to use. Be sure to consult a plant guide to confirm edibility before consuming large quantities.

If you cannot find any information and wish to experiment, eat or drink only a small amount initially and note carefully the condition and parts of the plant you used. Fortunately few plants exist which contain lethal poisons, so most of your mistakes you will live to regret! There is little point in taking chances and unduly stressing your digestive system when, with a side dish of knowledge, the woodlands abound in culinary delights.

How, When and Where to Pick Wild Plants

When harvesting edible wild plants, pick only what is necessary and in a way which results in minimum disturbance. In other words, harvest, don't eliminate. When gathering leaves or flowers, take some from several plants rather than all from a single plant. If bark is desired, remove it from small branches rather than from large limbs or tree trunks. Generally roots should be gathered in spring before the sap rises in the plant or in fall after flowering. For use as cooked vegetables or greens, leaves should be gathered before flowering; most leaves become fibrous with age. Flowers should be picked when in full bloom. Fiddleheads should be picked before or while the frond unfurls. Young fiddleheads frequently have a nutty taste but after unfurling exchange their flavor for a woody texture.

Historical Uses of Plants

Our forefathers were more dependent on the unprocessed goods which woodlands have to offer. Historical accounts of plants and their uses present a contrasting picture to the situation today.

John Stewart in 1806 described the size and usefulness of white birch on the Prince Edward Island he knew:

> ... in the forest this tree grows to a large size, the Indians forming canoes of the bark of a single tree, which will carry five or six people. The bark is also used for making various useful articles, such as buckets, bowls and baskets. They are chiefly made by the Indians, and are sewed when cut to the shape intended, with small slips of the roots

of black spruce trees. They are made to hold water, are light and will last a long time.

Maple sugaring is an infrequent activity today, but years ago it was an integral part of Island life. Every spring from mid-March to mid-April, the rising sap was collected from sugar maples by cutting a small gash in the tree and attaching a trough and a collecting pail. A full grown tree releases approximately two gallons a day. After the sap was collected it was boiled down to a thick syrup. In John Stewart's opinion:

The sugar thus obtained from the maple is all clear gain, being made at a time when very little other out-of-door work can be performed. Three smart lads working together, will often make one hundred weight each in the course of a fortnight, and sometimes in a favorable year, more. The trees are found in more or less plenty all over the Island, where the original growth of forest remains. The greatest part of the inhabitants supply themselves with all the sugar they consumer in this manner, and many have a good deal to dispose of.

Accounts of historical uses of plants other than trees are not so numerous but one can read about the Indian practice of drying blueberries in the sun, which they used later as currants in puddings, cakes and pemmican. Stewart in 1806 wrote that the whortleberry or blueberry:

... grows in great abundance in many districts, and is very good, a gallon of spirits resembling gin in flavor, has been distilled from a bushel of them. In some districts they are in such plenty as to furnish the swine with their chief food for several weeks.

Additions to Your Menu

One could write volumes on the edible aspects of woodland plants. Hopefully, the suggestions included whet your appetite and entice you to explore further afield.

Mixed-Fruit Jelly
Why try new combinations of fruits when making jam or jellies? Sour apples go well with many fruits (e.g., blueberry, strawberry) and contain their own pectin, thus eliminating the need for commercial thickener.

Common Elderberry Pancakes
(Sambucus canadensis)

½ cup elderberry flowers
1 cup flour
2 tsp. baking powder
1 pinch salt
1 beaten egg
1 cup milk

Use fresh Common Elderberry flowers which have been picked while in full bloom. Mix dry ingredients. Add beaten egg and milk. Stir. Cook like ordinary pancakes.

Common Elderberry Fritters
(Sambucus canadensis)
A tasty fritter can be made by picking the whole flower cluster, dipping it into a batter and frying it. Use fresh elderberry flowers.

Glazed Cranberries

1 cup brown sugar
1 pinch salt
½ cup water
c tsp. Cream of tartar

Boil ingredients until the mixture shows a faint sign of browning. Then set in a pan of hot water, to keep the syrup liquid. Spear cranberries on toothpicks or small skewers and dip them in the hot syrup. A couple of dozen stuck in a green apple or pear makes a delectable centre-piece for the table.

Fiddleheads

Fiddleheads may be added raw to salads or cooked in numerous ways. Place them in soups or stews, or around a pork or beef roast for the last hour of cooking. Another tasty and simple way to prepare fiddleheads is to simmer them in a small amount of water until tender (usually five to ten minutes). Drain and add pepper, salt and butter. Leftovers can be sprinkled with lemon juice and added to a salad.

Creamed fiddlehead sauce can be made by removing the fiddleheads after simmering and using the juice to make a thick white sauce by adding butter, pepper, salt and flower. Add the fiddleheads to the sauce, stir and serve on toast. For extra flavor, add a small amount of seafood (e.g., lobster, shrimp).

Wood Sorrel and Sour Cream Dressing
(Oxalis acetosella)

Clean leaves under boiling water. Add boiling water to Wood Sorrel leaves and cook for 5 minutes. Remove from heat and let steep for 2 hours. Pour sour cream into a large mixing bowl. Stir in sugar, salt, pepper and 4 tablespoons of the cooked Wood Sorrel juice. Beat until smooth and thoroughly blended. Add more Wood Sorrel juice if a stronger taste is desired.

Spruce Gum

When a spruce tree is injured, resinous sap flows over the wound and hardens like a scab. Where it accumulates at the bottom of the wound, it forms a hard lump. This was the original chewing gum used by the Indians and early settlers. The dull, rough cover of the gum is removed only by chewing. Make sure you avoid the not-so-pleasant tasting resin of balsam fir.

Making Herbals

A refreshing healthful tea is easily made from the leaves or flowers of many woodland plants. Pick several handfuls of healthy leaves. It is preferable, but not necessary, that the leaves are dried. Bring water to a boil, add 1 to 2 handfuls of leaves to a warmed tea pot, pour water over the leaves and allow to steep for 5 to 10 minutes or until desired strength is attained. For herbal teas, one should not boil the leaves with the water, as this sometimes releases undesirable tastes or toxins. In general, one should not add milk to a herbal tea, despite the fact that one would normally take milk in their "Orange Pekoe". Add sugar or honey to taste. One or two drops of lemon may improve the flavor. Examples: Wild Strawberry, Wintergreen, Sarsaparilla and Fireweed.

Spruce Drink

Pick young twigs and needles from black or white spruce. Wash, then steep in boiling water for a drink high in Vitamin C.

Sarsaparilla Wine
(Normally pronounced "Sasparilla")

Add 1 quart of water for each cup of berries. Put berries in water and allow to set until most of them float to the top (usually 3 to 4 days). Strain berries and retain the juice. Add sugar to taste (usually less than ½ cup per quart). Heat until sugar is dissolved but do not boil. Let cool and bottle. The longer aged – the stronger!

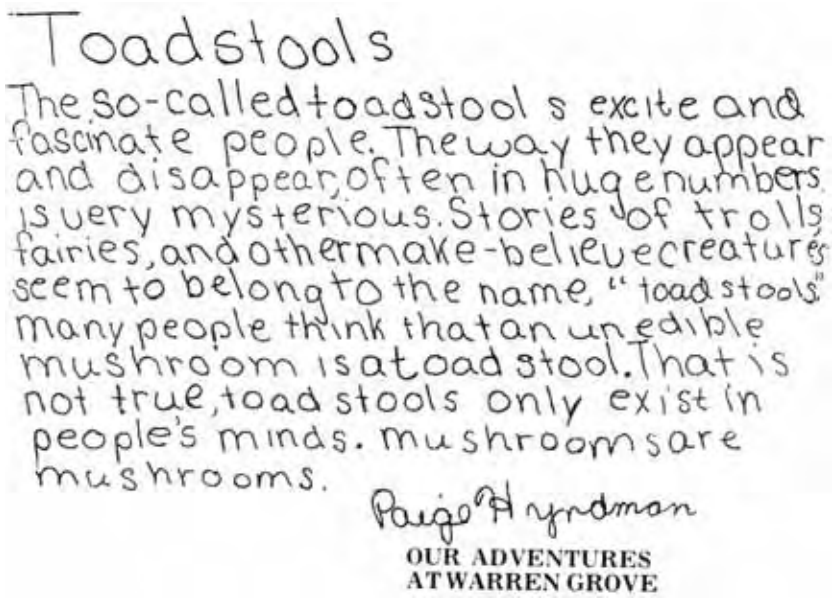
To the Woods – for Inspiration and Creativity

The woodlands are an ideal setting for inspiration and creativity. Sketching and photography are two obvious ways to capture moods expressed by woodlands. Volumes of prose and poetry have been inspired by forest rambles:

> *This evening I stood by the Indian camps in a glade in the woods. The death-like stillness of night rested on the gloomy forest: through the opening, surrounded by the wreathed and pinacled tops of the trees, calming looked the golden cressant of the new moon, accompanied by her glittering phalanse of stars. A holy reverential, solemn calm rested on the soul, while quietly contemplating this scene, and the effect was hightened by the measured beat of the saw-whetter's plaintiff bell.*

Bain, Francis, 1866. *Natural History Notes*, Public Archives, Accession No. 2353, Item 93.

A grade five student from West Kent School is no less effective:


Toadstools

The so-called toadstool s excite and fascinate people. The way they appear and disappear, often in huge numbers is very mysterious. Stories of trolls fairies, and other make-believe creatures seem to belong to the name, "toad stools" many people think that an unedible mushroom is a toad stool. That is not true, toad stools only exist in people's minds. mushrooms are mushrooms.

Paige Hyndman

OUR ADVENTURES AT WARREN GROVE

And the poetry of Monroe Sprowl conjures up warm memories of the good life:

If ever I dies an' you ain't certain I's dead,
Just butter some biscuit an' new made bread
An' spread 'em all over with raspberry jam.
Then step mighty softly to whar I am
An' wave dem vittles above my head.
If my mouf don't open, I'm certainly dead.

Crafting It

Preserving Flowers and Leaves

When your attitude is flexible and your vision broad, you will be able to make dried plant arrangements you never dreamed possible. Pick flowers on a bright sunny day when they are at the height of blooming. Take only the plants you wish to use, as some woodland plants will not die if you remove only the stems: their underground roots may be able to produce another shoot.

The best and simplest method of preserving flowers is to hang them upside down in a dry, well-ventilated location. While the plants are fresh, arrange and hang in the desired configuration. Small plants with thin petals and fibrous stems (e.g., asters) will dry faster. In 8 to 10 days, depending on the weather, most plants will dry. Large fleshy flowers may be better preserved if they are sprayed with vanish, hair spray or a clear liquid plastic and hung upside down.

For a two-dimensional effect, press leaves or flowers by carefully arranging and placing them between two sheets of absorbent paper. Newspaper will do. Put a sheet of corrugated cardboard above and below each plant and place a weight on top. For best retention of color, moisture should be removed from the plant quickly. Change the absorbent paper three times in the first 24 hours and then allow to dry undisturbed for two to three weeks.

It is probably sufficient to press colorful autumn leaves between sheets of newspaper under the weight of several books for a couple of days. This should remove enough moisture to prevent the leaf from curling or crinkling. Leaves will also retain most of their color if they are pressed between pieces of wax paper with a warm iron.

Greeting Cards

You can make attractive greeting cards for any occasion by collecting leaves or flowers and pressing them in the manner described above. Prepare the proper-sized card you wish to send (white or colored Bristol board is ideal). Attach the leaves or flowers to the card by using glue or two-sided carpet tape. Use a single leaf, an entire plant, different colors and sizes of leaves or flowers, or any combination of the above.

Framing Wildlife Prints

Choosing a suitable frame for a wildlife or nature print can sometimes be a difficult decision. Mount the print on a piece of Bristol board, fabric or light wood which is several centimeters larger on all sides than your print. Then arranged dried mosses, lichens or small twigs around the print as a frame. One possibility is to arrange a line of lichens above and below the print and have a thin line of twigs or roots along both sides. Use a suitable sticking agent.

Lichen Art

You may also wish to gather several kinds of lichens (e.g., old man's beard, reindeer moss, British soldier lichen) and construct a wildlife subject or nature scene. By arranging colors and shapes properly, one can produce a likeness of a tree, a forest or a map of Prince Edward Island. The base or background for this work of art could be heavy paper, light wood, cloth, driftwood, a gnarled root or a shell. Glue or two-sided carpet tape are suggested sticking agents.

Other Ideas

The variety of plant crafts is almost endless. The artistic see potential shapes which could be carved out of roots, bark or tree galls. The industrious can produce colorful dyes from roots, bark and lichens. The academically inclined may enjoy making a terrarium of club mosses, true mosses and lichens. (A brandy snifter or a glass with a broad base and small mouth will serve nicely as the container.)

Glossary

Annual – a type of plant which completes its life cycle (producing flowers and seeds) in one growing season.

Alternate – flowers or leaves attached at regular intervals along a main stem but at different levels.

Axil – the upper angle formed by a leaf with the stem.

Biennial – a type of plant requiring two years to complete its life cycle.

Bract – a modified leaf, usually small, near the base of a flower or flower cluster.

Compound Leaf – a leaf divided into two or more parts.

Flower Stalk – the stem which supports one or more flowers.

Frond – the leaf of a fern.

Genus – a group of closely related species clearly distinct from other groups.

L**anceolate** - lance-shaped; considerably longer than broad.

Leaflet – a single division of a compound leaf.

Opposite – flowers or leaves attached at the same level along a main stem.

Ovary – the part of the pistil (swollen base) containing the seeds.

Perennial – a plant living from year to year, not dying after one flowering.

Petal – leaf of a flower, usually colored.

Pinna – a main division of a fern leaf

Pistal – seed-bearing organ of the flower, consisting of stigma, style and ovary.

Rhizome – an underground stem producing leaves on the upper side and roots on the lower; rootstalk.

Saprophyte – a type of plant which lacks chlorophyll and obtains food from nonliving plant or animal remains.

Sepal – flower holder; a small modified leaf (usually green) around the base of the flower.

Sexual Reproduction – reproduction by means of flowers and seeds.

Species – a group of closely related individuals; the unit of plant classification.

Sporangia – spore case; a sac in which spores are produced.

Spore – microscopic reproductive cells of ferns and their allies; corresponding to the seeds of higher plants.

Stamen – the male flower organ which bears pollen.

Sigma – the tip of the pistil (female flower organ); the part that receives the pollen grain.

Stolon – a runner; a creeping stem which originates from an upright stem.

T**axonomist** – a person concerned with classifying plants and animals into categories.

Vegetative Reproduction – reproduction by stolons and rhizomes; reproduction by means other than seeds or spores.

Whorl – three or more leaves radiating from a single point on the stem.

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The artists, Betsy MacArthur and Cheryl Olsen have made a fine portrayal of Island flora and woodland scenes. Accuracy as to habitat, status, flowering dates and other aspects of our woodland plants would have been extremely difficult if not impossible, to achieve without comments from Diane Griffin, Bruce McLaren, Betsy MacArthur, Daryl Guignion, Ian McQuarrie and Lawson Drake. Cathy Rooney helped chose French common names for the plants and suggested several references. Harry Baglole contributed suggestions to improve the "readability" of this book. The author and the Prince Edward Island Forests, Fish and Wildlife Division wish to thank all these people for their efforts in producing *Island Woodland Plants*.

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Web References

1. The Northern Ontario Plant Database (NOPD) is a website that provides free public access to herbarium records
   http://www.northernontarioflora.ca/index.cfm

2. The Boreal Forest Organization has a data base of some 85 species of mammals, 400 species of birds, 80 species of amphibians and reptiles, 160 species of fish, and 3,200 species of plants living in Canada's northern forests. Many are found in Island forests as well
   http://www.borealforest.org/

3. This site contains photographs of some common wildflowers that grow in and around the city of Sudbury, Ontario, Canada. All flowers were photographed in their wild setting.
   http://www.ontariowildflower.com/fern.htm

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