

# Arctic Flora Guide

## ERICACEA HEATH FAMILY

All of the plants in this family are tiny shrubs. Many of them have tiny bell-shaped flowers, and some of them have berries in the autumn. The flowers range from showy purple to small pink or white bells.



Although **Lapland rosebay** (*Rhododendron lapponica*) only grows up to 10 centimetres in the Arctic, it can grow up to 80 centimetres in a sheltered location in northern Manitoba. These flowers are quite fragrant when in full bloom.



**Labrador tea** (*Rhododendron tomentosum*) has narrow, leathery, green leaves. It also has a stunning inflorescence of five to fifteen white flowers, sometimes tinted with pink. These plants give off a wonderful aroma when crushed—it is quite noticeable when you are walking on the land.



**Arctic heather** (*Cassiope tetragona*) has interesting looking leaves. They are arranged in four rows and look somewhat like a braid. These leaves are evergreen like many of the heath plants although at the beginning of the growing season they are a rusty, dull green. They change as the weather warms up to a bright green. They have lovely hanging white bellflowers.



**Mountain cranberry** (*Vaccinium vitis-idaea*) is a dwarf creeping shrub with leathery leaves. The leaves stay on the plant all winter to give it an early start the following spring. In the fall, the leaves turn bright red, and are still that way in the spring, but gradually change to green. The flowers are small bell-shaped white blossoms.

Cranberry has beautiful bright red berries in the fall. They are sour, but good to eat.



**Alpine bearberry's** (*Arctous alpina*) leaves die in the fall but stay on the plant until the following growing season. The flowers are small white bells that usually grow in groups of three or four. The fruit of this plant is a berry-like drupe. The fruit starts out red but turns to dark black when it is ripe. The fruit is edible—although not particularly tasty.



**Crowberry** (*Empetrum nigrum*) is a dwarf shrub with needle-like leaves. The leaves remain on the plant all

winter. They turn a rusty red in the winter, but gradually change to green with the warmer summer weather. These plants flower early in the season and have tiny burgundy blossoms between the leaves.



**Large-flowered wintergreen** (*Pyrola grandiflora*) has large leathery round leaves that stay on the plant all winter. When the snow melts and the hours of sunshine increase, the leaves gradually change from a dull brownish red to a bright green. These plants are joined together by underground rhizomes and can form large colonies. The flowers are beautifully scented. They are cream coloured with pinkish stems.

## POLYGONACEAE

### BUCKWHEAT FAMILY



**Alpine bistort** (*Bistorta vivipara*) can have between ten and eighty flowers per inflorescence. The flower spike contains white or pinkish flowers. If you're lucky, you will see a whole field of these tiny beauties.



**Mountain sorrel** (*Oxyria dygina*) is one of the first plants that children learn to identify because its leaves are so tasty. People call this plant “sweet leaves”, but in fact they taste quite sour. This plant is easily identified by its

bright red spike-like inflorescence. It can have between fifty and one hundred tiny flowers per spike. These flowers do not have petals or sepals and therefore are not typically what we think of as a flower.

## OROBANCHACEAE

### LOUSEWORT FAMILY

Louseworts have irregular flowers, which means that all of the petals on one flower are not the same shape or size. The other name for plants in this family is fernweeds and, like this name implies, their leaves resemble those of a fern.



**Flame lousewort** (*Pedicularis flammea*) is quite tiny at less than fifteen centimetres tall. The petals are fused—the top two fused petals are called the helmet. They are brownish red at the tip and then yellow. The bottom three fused petals serve as a landing pad for pollinating insects, and they are completely yellow.



**Lapland lousewort** (*Pedicularis lapponica*) is a little taller and its flowers are pale yellow. It has a purplish tubular calyx (part of the plant just below the petals). Although common around Iqaluit, it is only found on Southern Baffin Island, Southampton Island and on the Mainland.



**Hairy lousewort** (*Pedicularis hirsuta*) is usually a little larger than flame lousewort, and it is dark and light pink in colour. This plant is quite hairy near the inflorescence. The helmet of this flower is short and stubby as opposed to some of the other louseworts where the helmet looks like a beak.



**Woolly lousewort** (*Pedicularis lanata*) has more hair than hairy lousewort. It is a dark pink colour. The flower cluster, before it reaches full bloom, looks like a round woolly mound. As the flowers develop, the cluster elongates and becomes cylindrical.

## BRASSICACEAE MUSTARD FAMILY

Plants in the Mustard family generally have tiny flowers and are more easily recognized by their fruit. The fruit is a silique, which is a long thin capsule that splits in two when the seeds are ripe. Both the outer walls fall off leaving a fine membrane to which the seeds are attached. Mustard flowers come in yellow, white, and even shades of purple. All flowers have four petals.

Most mustard plants have leaves that grow close to the ground while their flowers are much taller. Many of the mustards have small white flowers and similar leaves thus making it hard to distinguish the different species.



(Latin names for the photos enclosed: **Alpine draba** (*Draba alpina*), **Cuckoo flower** (*Cardamine pratensis*), **Smooth**

**whitlow-grass** (*Draba alpina*), **Scurvy-grass** (*Cochlearia groenlandica*).

## DIAPENSIACEAE DIAPENSIA FAMILY



**Lapland pincushion** (*Diapensia lapponica*) is a dwarf shrub that forms compact cushions. Usually the leaves are so tightly packed that you can't see any branches so it's difficult to tell this is a shrub. The bright white flowers that grow out of the cushion make quite an impression. The flowers are much larger than the leaves.

## FABACEAE PEA FAMILY

One of the traits of the pea family is that the roots of these plants can fix nitrogen from the air into forms of nitrogen that the plant can use to make proteins. There are bacteria that live in small nodules on the roots that make this chemical reaction possible. The plant is thus supplied with nitrates needed for growth, and when the

roots die, the decomposing nodules release the nitrates into the soil thereby providing nutrients for other plants as well. There is a lack of nitrogen in Arctic soil so pea plants are a welcome addition to this environment.



**Alpine milk-vetch** (*Astragalus alpinus*) produces a beautiful cluster of small flowers that can be white, pink, purple, or blue. It has compound leaves made up of smaller leaflets. As with other pea plants, Alpine milk-vetch grows pods that contain the seeds. The pods on this particular species are drooping as opposed to upright; even in fruit it is fairly easy to distinguish this plant from other pea plants.



**Yellow oxytrope** (*Oxytropis maydelliana*) is easily recognized by its cluster of bright yellow flower. Like other pea plants, it has compound leaves and pods. Yellow oxytrope pods are upright.

## ONAGRACEAE FIREWEED FAMILY



**Dwarf fireweed's** (*Chamerion latifolium*) spectacular flowers are some of the largest in Nunavut. They have four purple petals and four dark purple sepals. They are unmistakable. All parts of the plant are edible. This plant is the national flower of Greenland.

# CARYOPHYLLACEAE PINK FAMILY

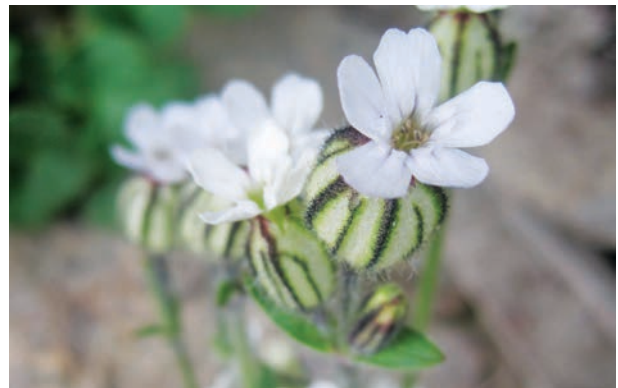
Plants of the pink family have opposite leaves, that is, leaves that grow in pairs, one on each side of the stem opposite the other. The flowers have five petals. Although this makes it sound as if all the plants in this family might look similar, this is not the case. This family has quite a variety.



**Moss campion** (*Silene acaulis*) is a good example of a cushion plant. The plant is compact and grows tightly pressed to the ground. It has no visible stems. When the plant is in bloom it is difficult to see the leaves since the plant is covered in tiny pink blossoms.



**Mouse-eared chickweed** (*Cerastium Arcticum*) usually grows in clumps. It has hairy leaves that resemble a mouse's ear. It has showy white flowers (one or two per plant) that have five notched petals.



In **bladder campions** (*Silene uralensis*, *Silene involucrata*), the calyx (part of the plant just below the petals that protects the flower when in bud), which is made up of five sepals, is fused. In both of the bladder campions, the bladder is inflated. The white petals stick out of the top of the bladder.





**Long-stalked starwort** (*Stellaria longipes*) is a much more delicate plant than *C. Arcticum*, and the leaves have no hair at all. Instead, the leaves are covered with a bluish-green waxy covering. Like the other plants in this family, *Stellaria* has five petals. Sometimes this is hard to see on first inspection, because the petals are so deeply cleft it looks like ten petals.



**Sea-beach sandwort** (*Honkeye peploides*) is a mat-forming plant that is found on the beach. It has fleshy green leaves with white flowers that are not particularly showy. The leaves are quite tasty—albeit a little salty.

## ROSACEAE ROSE FAMILY

Plants belonging to the rose family in Nunavut can have yellow, white, or cream coloured blossoms. These plants have alternate leaves.



**Arctic cinquefoil** (*Potentilla hypartica*) has compound leaves and yellow flowers with five heart-shaped petals. It also has a splash of orange on the petals near the centre of the flower.



**Mountain avens** (*Dryas integrifolia*) is the territorial flower of the Northwest Territories. It is a dwarf shrub with leaves that are leathery and shaped like arrowheads, making it easy to identify. When the flowers are in fruit, the seed hairs (styles) all swirl together in a spiral. When the seeds are ripe, the spiral uncurls and the seeds are dispersed.



**Shrubby cinquefoil** (*Potentilla fruticosa*) is found in the western Arctic. It is a taller rose plant and looks much like the garden potentillas in the south. It has yellow flowers with five petals.

## PAPAVERACEAE POPPY FAMILY



**Cloudberry** (*Rubus chamaemorus*) is better known for its fruit than its flowers. It has yellow fruit that look like raspberries. The plant has white flowers and large leaves.



Arctic poppies can be light or dark yellow, whitish or yellow green. They have four petals and two sepals (petal-like structures just below the petals) that protect the petals and reproductive organs when the flowers are

in bud. Poppies are heliotropic—they follow the sun as it crosses the sky.

## PLUMBAGINACEAE LEADWORT FAMILY



**Thrift** (*Armeria maritima subsp. sibirica*) has grass-like leaves in a tuft at the base of the plant. The flowers are grouped together in a flowering head. There are between 30–50 flowers per head. Each flower has five petals that are red in bud but pink when in bloom. When the flowers are past their peak, they become paper thin, and are straw coloured—or even white. You can see them above the snow in the winter.

## RANUNCULACEAE BUTTERCUP FAMILY



Buttercups are found mostly in moister habitats in Nunavut, some in fact, are aquatic. They range from very tiny plants, such as *R. hyperboreus*, to much larger plants like **snow buttercup** (*R. nivalis*). Yellow buttercups can be distinguished from yellow potentilla blooms because the buttercups are much shinier.



**Northern white anemone** (*Anemone parviflora*) is a lovely white buttercup that is found in western Nunavut. It is a large solitary flower between 5–15 centimetres tall.



**Floating buttercup** (*Ranunculus hyperboreus*) is an amphibious plant. It can grow both on land and in water. It has tiny yellow flowers with 3–5 petals.

## SAXIFRAGACEAE

### SAXIFRAGE FAMILY

There is a great variation in the plants of the saxifrage family. Most of the plants have alternate leaves. All flowers have five petals. The flowers can be white, purple, or yellow. Some even have spots!



**Purple saxifrage** (*Saxifraga oppositifolia*) is one of the earliest blooming plants in Nunavut. The leaves are fleshy and preserve water for periods of draught. Purple saxifrage is the territorial flower of Nunavut and grows in even the harshest environments.



The leaves of **prickly saxifrage** (*Saxifraga tricuspidata*) have three tooth-like divisions with sharp points at the tips, thus its common name. The flowers occur in terminal clusters that are much taller than the leaves. The flowers are creamy-white with yellowy-orange or red dots.



Typically in the Arctic, **yellow mountain saxifrages** (*Saxifraga aizoides*) have only one flower per inflorescence. If you look closely you can see that the yellow petals have orange spots at the base of the petals. This helps to distinguish it from **yellow marsh saxifrage** (*S. hirculis*), the other yellow saxifrage in Nunavut.



**Nodding saxifrage** (*Saxifraga cernua*) has white flowers

and red bulbils (little plantlets). Nodding saxifrage reproduces asexually through these tiny bulbils.

## ASTERACEAE ASTER OR DAISY FAMILY

Flowers in the daisy family are composite flowers. They are composed of ray florets and/or tube florets. The florets have all the sexual parts and are complete flowers. So in a flowering head, there may be between forty and fifty florets making up the inflorescence. The ray florets are the long skinny flowers on the outside of the flowering head, and the tubular disc florets are in the centre of the flower. Many species in the daisy family have seeds that have hairs to help them disperse in the wind.



**Alpine arnica** (*Arnica alpina*) is widespread across Nunavut and grows as far north as Ellesmere Island. The leaves are found in a tuft at the base of the plant

while the flowering head is much taller (10–30 centimetres high). Arnica has both ray and disc florets.



**Dandelions** (*Taraxacum ssp.*) are examples of daisy plants with only ray florets, while **wormwood** (*Artemisia borealis*) only has disc florets.



**Alpine Arctic fleabane** (*Erigeron humilus*) and one-flowered **fleabane** (*Erigeron uniflorus*) look alike. You can tell them apart by their different colour petals, and their different colour hairs. **Cut-leaf fleabane** (*Erigeron compositus*) is found in the western Arctic.



**Seashore chamomile** (*Tripleurospermum maritimum*) is a daisy-like flower with white ray florets and yellow disc florets. It is found by the sea.

# SALICACEAE WILLOW

## FAMILY

Willows are one of the few tree species in Nunavut. These trees (or shrubs) grow mostly along the ground, but can get to be as tall as people in a few areas of the Arctic.

Willow plants are either male plants or female plants—it is possible to identify which sex they are by looking closely at their flowers.



**Net-veined willow** (*Salix reticulata*) stands out from other willows because of its dark green, shiny leaves covered in veins. They can also be identified by their small red catkins.



**Least willow** (*Salix herbacea*) is the smallest tree in the Arctic. Because they have underground stems (rhizomes), these plants tend to form large mats. They have tiny red catkins making them relatively easy to spot on the tundra.



**Arctic willow** (*Salix Arctica*) is the most common willow on the Arctic islands, and it grows further north than any other willow. Its catkins come in a variety of colours—red, yellow, or green. These plants can be hard to identify since they are able to hybridize with other species of willow.

## BETULACEAE BIRCH FAMILY



**Dwarf birch** (*Betula glandulosa*) has round leaves with scalloped edges. It is a low-lying shrub with male and female flowers on the same catkin.

## POACEAE GRASS FAMILY

Grasses are common plants in the Arctic. There are over sixty species of grasses found in Nunavut. Grasses have wind-pollinated flowers. Grass stems are round and their leaves are mostly found in a tuft at their base. Their flowers contain both male and female parts. Grasses also produce grains as fruit.



Latin names for grass photos included: **foxtail grass** (*Alopecurus magellanicus*), **alpine holy grass** (*Hierochloë alpina*), **glaucus bluegrass** (*Poa glauca*), **sea lyme-grass** (*Leymus mollis*)





## CYPERACEAE SEDGE FAMILY

There are over fifty species of sedges in Nunavut. Sedges differ from grasses in that in most species their male and female sexual parts are not in the same flower. Most of the times, the male flowers are on one spike while the females are on another spike. Most sedges have triangular stems and this helps to distinguish them from grasses easily in the field. Sedges produce an achene as a fruit.

Although cotton grasses have round stems, and flowers of both sexes in the same floret, they produce a fruit that is an achene thereby making them a sedge and not a grass.



Latin names for grass photos included: **Arctic bluegrass** (*Poa Arctica*), **goose grass** (*Puccinellia phryganodes*), **polar grass** (*Arctagrostis latifolium*), **alpine fescue** (*Festuca brachyphylla*)



Latin names for photos to accompany sedges: **Arctic cotton grass** (*Eriophorum scheuchzeri*), **common cotton grass** (*Eriophorum angustifolium*)

Latin names for photos to accompany sedges: **membranous sedge** (*Carex membranacea*), **scirpus sedge** (*Carex scirpoidea*), **maritime sedge** (*Carex maritima*)

