

WILD FLOWERS

Banff — Jasper — Kootenay — Yoho
National Parks

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Compiled by The Park Naturalists Banff — Jasper — Kootenay & Yoho National Parks

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Introduction

This flower guide is written to help park visitors recognize some of the hundreds of wild flowers that grow near camp sites, along nature trails, on alpine meadows and on high rocky slopes. It is not intended to make professional naturalists of you, but rather to make your stay in the parks more enjoyable.

One hundred and twenty shrubs and wild flowers have been included in this book because they can be found by most visitors. They are the showiest, the most familiar and the most common in all four National Parks. By comparing an unknown plant with the coloured photographs and by reading the plant's brief description in the text, it is hoped that identification will be fairly simple. The photographs are grouped according to seven flower colours: white, yellow, green, red, pink, purple and blue.

Technical terms have been kept to a minimum and common names have been given precedence over scientific names. The structure of several flowers and leaves is shown in the line drawings (Fig. 1 to 3). Time of flowering, location, altitudinal range, plant height and flower colour are all subject to wide variation, so that remarks regarding such features must be regarded as average or general.

The wild flowers of the Rocky Mountain National Parks are one of the greatest attractions and they are our heritage. By law they must never be picked or dug up. They are ours to enjoy today and ours to preserve for tomorrow.

Life Zones

The four national parks, Banff, Jasper, Kootenay and Yoho contain over 8,000 square miles of mountainous country paralleling the backbone of the Continental Divide. Elevations in these parks range from about 3,000 feet to 12,000 feet. Each park has its own peculiar topographic features but they all have well-drained river valleys, often with wide gravel flats, all have many peaks over 10,000 feet and all are heavily forested.

From a distance, the side of a mountain appears to be banded with various shades of green and above these bands is bare rock or rock with snow and ice. These different bands are commonly called "life zones". Each life zone represents the stage of vegetational development within certain altitudinal limits and each is characterized by its own type of plant and animal life. One life zone merges into another and there is much overlapping because of different topography, exposure, moisture, soil and prevailing winds.

From a study made on the mountain vegetation in the vicinity of Jasper, plant ecologists at the University of Alberta, Edmonton, recognize three life zones above the plains and the foothills. These are the montane, from 3,300 feet to 4,400 feet; the subalpine, from 4,400 feet to timberline (approximately 6,500 feet); and the alpine, above timberline. These life zones are visible along the whole length of the Icefields Parkway but timberline and the other zonal lines are about 300 feet higher at the town of Banff (51° 15' N) than at the town of Jasper (53° N). The montane zone peters out somewhere south of Athabasca Falls and in Kootenay National Park zonation in general is less distinct. There is also an elevation decline in zonal boundaries from East to West across the Continental Divide along the same line of latitude.

Montane

This is the beginning of the mountain forest. The lower part of this zone is a patchwork of grassy meadows and dry park-like woodlands. The trees are aspen poplar, lodgepole pine, white spruce, Douglas fir and in the more moist places balsam poplar. Numerous shrubs are found at this level, such as buffalo berry, common

juniper, snowberry, silver berry, wild rose, wild gooseberry, bracted honeysuckle, Saskatoon, red osier dogwood, shrubby cinquefoil, various willows and mats of bearberry and creeping juniper. Found too are many wild flowers typical of the foothills and prairies. Some of these are the common bluebell, nodding onion, sedum, wild gaillardia, blue flax, blue clematis, baneberry, northern bedstraw, three-flowered avens, shooting star, western meadow rue, wild sweet pea and various kinds of buttercup, anemone, solomon's seal, fleabane, aster, goldenrod, locoweed, vetch, hedysarum, fireweed, everlasting, sage, paint brush, beard tongue, gentian and many others. A little higher up there is an open dry forest dominated by lodgepole pine, white spruce and Douglas fir while aspen poplar grows on the alluvial flats. Higher still the trees grow closer and closer, and mosses, lichens and a variety of shade-loving flowering plants begin to replace the grasses and the montane zone gradually merges into the subalpine zone.

Subalpine

This zone receives the heaviest fall of rain and snow and hence supports the heaviest growth of coniferous trees. It forms a continuous, deep green belt broken by small lakes and bogs, by flower-filled meadows, by rock outcrops and by steep water courses. In the lower section of this zone there are lodgepole pine and white spruce: in the middle section there are Engelmann spruce and alpine fir while in the upper section, approaching the timberline, there are Engelmann spruce, alpine fir, limber pine and white bark pine. Except for the upper limits of the subalpine zone these trees grow so tall and so close together that little light reaches the forest floor. Consequently the ground vegetation consists of a thick, moist carpet of feather mosses and lichens. There is also a scattering of shadeloving shrubs and herbaceous plants. Some of the shrubs are white flowered rhododendron, menziesia, grouse berry, tall huckleberry and green alder. Some of the herbaceous plants are twinflower, bunchberry, one-flowered clintonia, bronze bells, green lily, tall white bog orchid, the dainty Calypso orchid and all the beautiful wintergreens. The lower part of the subalpine zone and the montane zone have been greatly modified by fire. Consequently lodgepole pine is the prevailing species at the lower end of the subalpine zone.

Above this dense growth of spruce and fir the trees gradually thin out and dwindle in height to form the "elfin wood" or Krummholz, so-called because of the stunted, twisted, wind-bent, scrubby appearance of the trees. The Krummholz marks the timberline, the forest frontier beyond which trees will not grow. To many, the timberline is the most interesting part of the Rocky Mountains. Here are found spire-like clumps of stunted trees, open meadows protected from the wind, rocky outcrops and ledges and dense low mats of heather, alpine willow, crowberry, alpine bearberry, juniper and deformed prostrate trees. By early spring, often before the snow begins to melt, many hardy perennials burst into bloom. Some of these are the snow lily, the western and alpine anemones, alpine buttercup, mountain marsh-marigold, alpine forget-me-not and others. By the end of June all the heathers, red, vellow and white, are at their best. By midsummer, the subalpine meadows are a profusion of paint brush, fleabane, lousewort, columbine, ragwort, beard tongue, gentian and elephant head. Above the timberline, the subalpine zone shades off into the treeless alpine zone.

Alpine

The lower part of this zone is called the alpine tundra because of its similarity to the treeless arctic wastes. Here the prevailing cold, the long period of snow cover and the continuous fierce winds prevent any tree growth. But grasses, sedges and mosses form a low close turf often separating wide stretches of barren rock, wind swept gravelly plateaus and banks of snow. Here are found tough, dwarf perennials, many with brilliant and comparatively large flowers. Here too are low, woody mat-forming shrubs and rounded cushionlike plants, all of them able to counter the wind and the cold. A few of the most conspicuous species are purple saxifrage, moss campion, alpine rock cress, mountain sorrel, purple-flowered beard tongue, contorted lousewort, alpine lousewort and both the yellow and white mountain avens. Many subalpine wild flowers work their way up into the alpine tundra. So also do several low shrubs such as the heathers, the alpine willow and the occasional prostrate spruce and fir tree. Between this alpine tundra and the great mass of bare rock, ice and snow, there lies a patchwork of moist rocky slopes carpeted with lichens and mosses and bare gravelly soil strewn with huge boulders. At this height, growing conditions become so harsh that with the exception of a few hardy dwarf perennials and rock crevice plants, such as alpine wallflower, smooth alpine gentian, alpine gentian, alpine bluebell, alpine poppy, alpine campion and moss campion, flowering plants disappear.

ALPINE ROCK CRESS

Mustard Family

Smelowskia calvcina var. americana

This small matted plant blooms during July and August on high alpine slopes and in rock crevices. It has thick low tufts of small finely divided, silvery hairy leaves and tight clusters of small, creamy white flowers set on top of each hairy stem. Like all members of the mustard family each flower is made up of four sepals and four petals arranged in the shape of a Maltese cross.

BANEBERRY

Buttercup Family

Actaea rubra

This familiar perennial is widely distributed in shady mixed woods. It has large compound leaves and a cone-shaped cluster of very small, white flowers borne at the end of each leafy stem. When in flower during May and June every plant of this species looks identical but by the end of the summer some baneberry plants will have bright waxy red berries while others will have shiny white berries. All berries are poisonous.

LABRADOR TEA

Heath Family

Ledum groenlandicum

This well-known evergreen shrub with twisted, soft hairy stems, 1 to 4 feet high, is characteristic of moist, mossy muskegs and of coniferous woods. From June to August its small white flowers are produced in round-topped, showy clusters. Its leathery, oblong leaves are dull green and crinkly above and rusty-woolly beneath and are strongly rolled under along the margins. The leaves were used by the Indians and early explorers as a substitute for tea.



Dogwood Family

Cornus canadensis

Easily recognized in late summer by a solid bunch of red berries on top of a whorl of four to six dark green, deeply veined leaves, the bunchberry is widely distributed in moist coniferous woods across Canada. The four showy white, petal-like parts are not petals but are leaves and these are called bracts. Bunchberry frequently forms wide low patches, 3 to 6 inches high and when in full bloom in June and July provides a lovely sight.









Eriophorum sp.

The cotton grass is one of several kinds of sedges and rush-like plants which make up the vegetation of muskegs and boggy marshland. Here, during the entire summer, its clumps of wand-like leafy stems, 8 to 30 inches high, and its waving cotton-like tufts are a familiar sight. The cottony tufts are actually heads of long silky achenes while the flowers which they succeed, are small, yellowish and inconspicuous.

CONTORTED LOUSEWORT

Figwort Family

Pedicularis contorta

As here shown, the contorted lousewort grows in showy clumps, sometimes a foot high, on high alpine meadows and on rocky slopes. It blooms during July and August. It is recognized easily by its dense cluster of fern-like basal leaves, by its several leafy flowerspikes and by its numerous yellowwhite, shell-shaped flowers. The upper lip of the two-lipped corolla tube is coiled downwards and remarkably twisted.

COW PARSNIP

Carrot Family

Heracleum lanatum

Probably the most widely distributed member of the carrot family in the mountains, the cow parsnip is common in rich moist soil and is found along roadsides and at the edge of woods and thickets. It is easily recognized in June and July by its large, dark green, hairy, deeplylobed trifoliate leaves and by its several large, white flat-topped flower clusters. The hundreds of tiny flowers develop into dry papery nutlike fruits.











CUT-LEAVED FLEABANE

Daisy Family

Erigeron compositus

This hardy perennial, sometimes called the daisy fleabane because of its close resemblance to the short-stemmed English daisy, is common on dry gravelly mountain slopes and on rocky ledges. The showy flower-heads with their yellow centres and numerous white, pink or blue rays, are borne on erect stems 2 to 5 inches high. The leaves grow in tufts and each leaf is divided into three narrow segments.



FEW-FLOWERED ANEMONE

Buttercup Family

Anemone parviflora

Depending on the altitude, the few-flowered anemone blooms in clumps from June to early July in alpine meadows, on moist slopes and in open woods. This beautiful cup-shaped, solitary flower is white inside, the side that shows, and blue outside. The distinguishing feature of this anemone is the deeply three-parted glossy green leaves. Those at the base of the 4 to 12 inch stem have long petioles while those near the top have none.

CUT-LEAVED ANEMONE. WIND FLOWER

Buttercup Family

Anemone multifida

The cut-leaved anemone is very common on grassy or thinly wooded hillsides of the montane zone. The single flower-stem bears several three-parted, deeply segmented leaves at the base and a ruff of finely divided leaves near the top. The five to eight petal-like sepals come in all shades of white, yellow, blue or maroon. The flowers are produced throughout June and July and develop into round heads of woolly achenes.

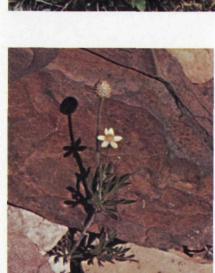
FALSE SOLOMON'S SEAL

Lily Family

Smilacina racemosa var. amplexicaulis

This familiar perennial herb grows in moist woods and thickets of the montane zone. Photographed in the foliage of wild rose it is recognized easily by its graceful leafy stems, 1 to 3 feet high, each ending in a lacy cluster of small, snow-white flowers. Each flower is a six-pointed little lily which after pollination develops into a small, pale red berry. It blooms during June and July.









Willow Family

Salix nivalis

Forming low mats, 2 to 6 inches high, the low alpine willow is found in scrub forests and on rocky ridges of the alpine tundra. The small, thick leaves are dull green on the upper surface and silvery white beneath. Typical "pussy willow" catkins appear at the upturned tips of the prostrate branches as soon as the snow begins to melt. These are soon followed by dry fluffy seed-pods which remain all through the summer.







MOUNTAIN MARSH MARIGOLD

Buttercup Family

Caltha leptosepala

This beautiful perennial has large oval deep green leaves and comes into bloom early in May. The showy white flowers tinged with blue are borne singly at the end of a smooth hollow stem. Each flower measures about 1 inch in diameter and consists of five to fifteen petal-like sepals and has a showy yellow centre of numerous stamens and pistils. It grows in clumps in wet ground at the margins of bogs and streams.

FLAT-TOPPED SPIRAEA

Rose Family

Spiraea lucida

This common mountain shrub, 1 to 2 feet high, is found at the edge of coniferous woods and on dry rocky slopes. The solitary erect leafy stem is topped in July and August by a flat cluster of numerous tiny white, rose-shaped flowers. The many protruding stamens give the flowercluster a fluffy appearance. By fall, the flat-topped flower-cluster turns into a head of small dry papery pods.

FRINGED GRASS-OF-**PARNASSUS**

Saxifrage Family

found in wet boggy ground and in moist woods from the valley bottom to the middle levels. It is recognized easily by its several 6 to 12 inch kidney-shaped leaves and by its solitary star-shaped flowers, which are produced from July to August. The five white petals are veined with green and are delicately fringed at the base.

Parnassia fimbriata

The fringed grass-of-parnassus is flower-stems, by its glossy green,

NORTHERN BEDSTRAW

Madder Family

Galium boreale

The northern bedstraw grows in clumps, 8 to 14 inches high, along the shady borders of moist woods. The leaves are arranged in whorls of four around the rather weak stem and in July and August the upper half of the plant is covered with clusters of tiny, white, four-lobed, wheel-shaped flowers. When boiled the roots yield a red dye, called "madder" or "turkey red", and it was used by the Indians to stain porcupine quills.









Clintonia uniflora

The one-flowered Clintonia or, as it is often called, the queen's cup is a Rocky Mountain perennial and grows in moss in moist, shady coniferous woods of the subalpine zone. In June and July, a single, beautiful, snow-white flower appears at the top of the 6 inch flower-stalk. This lily-shaped flower and the shiny green leaves make it easy to identify. By autumn the flower is replaced by an equally beautiful round, dark blue berry.

GLOBE FLOWER

Buttercup Family

Trollius albiflorus

The globe flower gets its name from the flower buds which look like small globes. When open, the large flower, I to 1½ inches across with its five to seven grayish-white petal-like sepals and with its golden centre, looks like an anemone. It can be distinguished from the true anemones by its broad, deeply divided leaves and after flowering, by its head of dry papery seed-pods. It blooms during July and August near the timberline.

PALMATE-LEAVED COLTSFOOT

Daisy Family

Petasites palmatus

Several species of coltsfoot are found in moist meadows and at the edge of thickets. They all have a single flower-stem which shoots up long before the leaves, in April or May. Each stem ends in a loose cluster of whitish daisy-like flower-heads. After these fade two very large, long-petioled broad leaves unfurl. These are gray green on top and densely white woolly beneath. In this species the mature leaves are palm-shaped.

ONE-FLOWERED WINTERGREEN. SINGLE DELIGHT

Wintergreen Family

Moneses uniflora

This beautiful, small wintergreen was photographed growing in feather moss under the deep shade of spruce and fir. The single flower-stem from 2 to 6 inches high, bears a cluster of small thick evergreen leaves at the base and supports a solitary, drooping saucer-shaped flower at the top. The flower, which appears in June and July, is ¾ inch across and has five, waxy white petals, ten stamens, a conspicuous green pistil and also has a fragrant perfume.









Chrysanthemum leucanthemum

The ox-eye daisy grows in fields and roadsides and blooms profusely from June to August. Like all members of the daisy family what appears as a single flower is actually a collection of flowers or florets held together by a series of leaf-like bracts or scales. The ox-eye daisy has a solid centre of small, tubular-shaped disk-florets and an outside row of showy, white, strap-shaped florets commonly called rays.

PEARLY EVERLASTING

Daisy Family

Anaphalis margaritacea

Several members of the daisy family with dry papery flower-heads are commonly called everlasting. The pearly everlasting has an overall silvery gray appearance. The 1 to 2 foot stems are white-woolly, the many long leaves are densely whitewoolly beneath and green above while the broad cluster of many, small flower-heads are pearly white. It blooms throughout July and August in dry open woods and on rocky slopes of the montane zone.

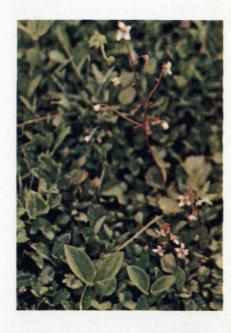
RED-STEMMED SAXIFRAGE

Saxifrage Family

This saxifrage is found in moist places and often along the mossy sides of streams of the subalpine zone. It can be distinguished by its 4 to 24 inch red-purple flower-stalks and by its rosettes of light green, smooth leaves which are embedded in moss. These leaves are fan-shaped and are sharply and coarsely toothed at their rounded apical ends. The small, white star-shaped flowers are blotched with yellow and open during July and August.

Saxifraga lyallii





RED OSIER DOGWOOD

Dogwood Family

Cornus stolonifera

The red osier dogwood is a common shrub, 3 to 6 feet high, widely distributed in wet boggy ground, in moist woods and along streamsides. It often forms an impenetrable thicket of leafy bright red branches. The flat-topped clusters of small greenish-white flowers appear through June and July and are sometimes seen as late as September. The grayish-white berries which follow, remain on the branches until fall when the leaves turn a spectacular red.



Amelanchier alnifolia

This familiar western shrub often reaches a height of 12 feet in open woods while on bluffs and exposed hillsides it forms dense low thickets, stunted by wind and deformed by browsing. The small, rounded leaves coarsely toothed near the apex, the white, ragged-looking flowers and the black-purple juicy berries make it easy to identify. The Indians cooked the berries to make pemmican and cut the tough pliable stems to make arrows.

SPOTTED SAXIFRAGE

Saxifrage Family

Saxifraga bronchialis

The spotted saxifrage forms mats or tufts of tiny, leathery, needle-like leaves through which erect, short, reddish flower-stems appear. It grows on thin mossy soil in the subalpine zone as well as in cracks and crannies of the alpine tundra. Numerous flat-topped clusters of small, white, star-shaped flowers are produced throughout June and July. The maroon or orange spots on the five white petals are its distinguishing feature.

STAR OF BETHLEHEM

Pink Family

This is the best known member of a group of low-growing, leafy, weakstemmed plants commonly called chickweed. It is found on dry stony ground and on thin grassy slopes of the montane zone. Here, from early May to the end of July it produces a succession of small, white, fivepointed, star-shaped flowers. Each flower has a yellow centre and five white petals each one deeply cleft in two.



Cerastium arvense





SMALL WHITE LADY SLIPPER

Orchid Family

Cypripedium passerinum

The small white lady slipper blooms in June along the borders of ponds and streams in deep mossy spruce woods and in bog forests at almost all elevations. The several, lance-shaped prominently veined leaves form a sheath around the 6 to 12 inch tall, stout, hairy stem which grows partially buried in moss. The characteristic pouch-shaped lip of the flower is of a white soft texture and is speckled with small purple dots inside.



TALL MOUNTAIN HUCKLEBERRY

Heath Family

Vaccinium membranaceum

The tall mountain huckleberry is a typical heath. It has tough woody branches, small, white, bellshaped flowers, large, black-purple, juicy berries and thin, finely toothed, dark green leaves which turn bright red in the fall. It varies in height from five feet in the lower subalpine zone to one foot or less at timberline where it blooms in May and June. The common blueberry, V. caespitosum, grows in mats in open subalpine coniferous woods.

STAR-FLOWERED SOLOMON'S SEAL

Lily Family

Similacina stellata

This well-known woodland plant gets its name from the small, white, lily-shaped flowers which look like little stars. These are produced in a loose cluster at the end of a stiff. blue-green, leafy stem. The berries which follow are green with black stripes at first but redden with maturity. It blooms throughout June and July and grows on moist river banks and at the edge of woods and thickets.

TALL WHITE BOG ORCHID. WHITE-REIN-ORCHID

Habenaria dilatata

A magnificent clump of stately "tall whites" like this, photographed at the edge of an undisturbed bog forest, is not uncommon. These orchids are often detected by their sweet scent before they are seen. The numerous, small, waxy white flowers are densely crowded along the upper half of the leafy stems and these stems are often 30 inches high. It is in flower from June till August in wet meadows and coniferous woods of the subalpine zone.

Orchid Family







TIMBER MILK VETCH

Pea Family

Astragalus decumbens

The milk vetches are common on the prairie and in the foothills but the timber milk vetch is a Rocky Mountain species and is found growing in open woods, meadows and on dry slopes at the lower elevations. Here, it forms dense clumps of compound leaves and erect, showy flower-stems. The creamy white pea-shaped flowers are often tinged with lavender and bloom throughout June and July. This plant is extremely poisonous to livestock.



WESTERN ANEMONE. CHALICE CUP

Buttercup Family

Anemone occidentalis

The western anemone or chalice cup, surpasses all other Rocky Mountain anemones in size and in beauty. It blooms in May and June in wet alpine meadows and on high mossy slopes. The solitary, waxy white chalice cup, sometimes tinged with mauve, appears a few inches above a frill of finely divided stem leaves. The three-parted, finely dissected basal leaves do not fully expand until the spectacular head of feathery achenes begins to form.

WILD STRAWBERRY

Rose Family

Fragaria glauca

This familiar wild strawberry grows close to the ground and spreads by long creeping runners. It blooms in May and June and is found at the edge of moist woods and thickets, along the sides of streams and roads and in open fields. It has blue-green trefoil leaves, has loose clusters of rose-shaped flowers and has delicious red, juicy berries. The flowers have five white petals and bright yellow centres.

WILD SWEET PEA. WHITE VETCH

Pea Family

Lathyrus ochroleucus

This common woodland vine is closely related to the garden sweet pea. It has the same flower structure and the same compound leaves which end in the same kind of coiled wire-like extensions called tendrils. The large top petal is the "standard", the two side petals are the "wings" and the two fused lower petals the characteristic "keel". The yellow-white flower-clusters are seen from May through July in open mixed woods.







WESTERN CANADA VIOLET

Violet Family

Viola rugulosa

The western Canada violet stands 8 to 24 inches tall and grows in shady woods where it may be found in bloom from May to August. It is a perennial plant with spreading underground stems and many large long-petioled, sharp-pointed leaves and pansyshaped flowers. The latter resemble the Johnnyjump-ups of the garden. The five white or lavenderwhite petals are streaked with fine purple lines and marked with yellow at the base.



WHITE MOUNTAIN AVENS

Rose Family

Drvas hookeriana

This low-spreading woody plant forms mats of tough wirv stems and small leathery finely scalloped leaves. These leaves are dark green above and white and woolly beneath and are eaten by the grouse-like ptarmigan which lives in this alpine tundra. The showy, creamy-white, rose-shaped flowers are borne on hairy stalks and after pollination give rise to feathery heads of long-plumed achenes. It blooms from June to August.

WILD VALERIAN. WILD HELIOTROPE

Valerian Family

Valeriana sitchensis

This stately mid-summer perennial, from 1 to 3 feet tall, is very common and is found in moist rich soil along shady margins of woods and streams and blooms in July and August. The three to five deeply divided compound leaves, the flat-topped, fluffy clusters of small, white, star-shaped flowers and the sweet fragrance make this plant easy to identify. Its roots have an offensive smell but the Indians used them for food and medicine.

YARROW. MILFOIL

Daisy Family

Achillea millefolium

Yarrow is a common perennial herb that grows ½ to 2 feet tall. It is from the juice of this plant.

found in bloom from June to August on open slopes, along roadsides and stony river flats and in waste places. Its strong aromatic odour, its feathery, carrot-like leaves and its slightly rounded clusters of many small white flower-heads are its characteristic features. Achilles is said to have made a medicinal paste

WHITE MOUNTAIN HEATHER

Heath Family

Cassiope tetragona

This beautiful low, evergreen heath, 4 to 12 inches high grows in moist alpine meadows and in open scrub forests at the timberline. Here, it often forms an impenetrable tangle with other everg/een heaths and stunted trees. Its numerous tufted four-sided stems are closely covered by minute, overlapping scale-like leaves. The small, white bell-shaped flowers hang down by the hundreds and are seen from early June till late July.









WHITE-FLOWERED RHODODENDRON

Heath Family

Rhododendron albiflorum

This beautiful Rocky Mountain shrub, 2 to 6 feet high, is widely distributed throughout the subalpine zone where it grows along the margins of cool, moist coniferous woods and frequently along the shady sides of streams. The white or greenishwhite, bell-shaped flowers, about 34 inch across, are produced singly or in groups of two or three along the leafy stems. Unlike most heaths, the leaves are not evergreen but they are shiny green above and paler beneath.

BRACTED HONEYSUCKLE. **BLACK TWIN-BERRIED** HONEYSUCKLE

Honeysuckle Family

Lonicera involucrata

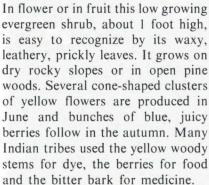
This bushy shrub with several erect leafy stems grows in damp ground along the shady edge of woods and of streams. The typical honeysuckle flowers, with long yellow corolla tubes and protruding style and stamens occur in pairs and bloom in June and July. Each flower is enclosed at the base by a pair of green, leaf-like bracts. By the time a twin black berry is ripe the bracts have turned a bright red-purple.

Barberry Family

In flower or in fruit this low growing evergreen shrub, about 1 foot high, is easy to recognize by its waxy, leathery, prickly leaves. It grows on dry rocky slopes or in open pine woods. Several cone-shaped clusters of yellow flowers are produced in June and bunches of blue, juicy Indian tribes used the yellow woody stems for dye, the berries for food



Berberis repens





Buttercup Family

Ranunculus eschscholtzii

From June to August the alpine buttercup blooms in moist mossy places and in thin stony soil of the alpine zone. Here, its dwarf stature and etout perennial rootstock help it to resist the strong icy winds. As etown in the photograph the bright yellow, open-faced flower, about 1 inch across, is so large in proportion to the rest of the plant that the typical three to five divided buttercup leaves are scarcely visible.









BUFFALO BERRY. SOOPALALIE

Oleaster Family

Shepherdia canadensis

A sprawling shrub, 1 to 8 feet high, is common in open coniferous woods of the montane and lower subalpi e zones. The over-all covering of thin, shiny, rusty coloured scales is its distinguishing feature. The leaves are smooth and green above and coated with brown scales and white down beneath. The tiny, yellowish flowers appear in May and June and are seldom seen. The orange-red berries are inedible and feel soapy when crushed.

COMMON STONECROP. SEDUM

Orpine Family

Sedum stenopetalum

The common stonecrop grows in mossy cracks and crevices on rocky slopes and in dry stony soil. Here, it forms clumps of 3 to 7 inch succulent yellow-orange stems and leaves and during June and July sprays of small bright yellow, starshaped flowers appear. A gelatinous water-holding substance in stems and leaves enables the plant to withstand long periods of drought. S. rosea, with flat fleshy leaves and dark purple flowers grows in the same dry rocky places.

GOLDENROD

Daisy Family

Solidago sp.

Goldenrods are easy to recognize. They make their greatest showing in July and August and they are abundantly and widely distributed. It is however, difficult to tell one species from another. Some are rod-like with bright yellow clusters of small flower-heads closely appressed along the greater length of the stem. Others are plume-like and still others, like the photograph, are torch-like.



VIOLET

Violet Family

Viola orbiculata

This small violet blooms close to the ground throughout June and July and grows in moist shady coniferous woods. It has no stem. The bright yellow flowers and the round-shaped evergreen leaves grow from the top of a stout perennial rootstalk which is buried in moss and fallen needles. In winter the leaves remain green under the snow. The yellow mountain violet, *V. glabella*, which grows in the same moist shady woods has a long trailing stem.









Erigeron aureus

The fleabanes or wild daisies as they are commonly called begin to bloom in early spring and last till mid-summer. The golden fleabane is a little tufted perennial with stems 34 to 4 inches high, golden vellow daisy-like flower-heads about 1 inch across and tight clusters of small hairy leaves. It is a joy to all people who venture above timberline where it grows in stony or peaty soil in alpine meadows at high elevations.

HAWKWEED

Daisy Family

Hieracium sp.

The hawkweeds, the hawksbeards and the ragworts or groundsels all have yellow flower-heads and it is not easy to tell them apart. Several species of hawkweed are common in the mountains where they are found in flower most of the summer and can be seen in wooded river valleys and on dry stony ground at the higher levels. Like the common dandelion, all the yellow florets which make up the flower-head are ray-florets.

PASTURE SAGE

Daisy Family

Artemisia frigida

The pasture sage is a small, softhairy, silver-gray perennial with a strong aromatic odour. It grows on dry, open sunbaked slopes of the montane zone and blooms in July and August. The several stems, 8 to 16 inches high, bear tufts of finely dissected leaves and many small yellow-gray flower-heads. These flower-heads were used by the Indians and by the early settlers to make a bitter tea to cure mountain fever.











HEART-LEAVED ARNICA

Daisy Family

Arnica cordifolia

Photographed from the moist mossy floor of a spruce-fir forest, the heart-leaved arnica is widely distributed in the subalpine zone. The single flowerstem stands 1 to 2 feet high and bears at its base several heart-shaped, long-petioled leaves and at its top one to three showy flower-heads. The conspicuous rays and the solid centre are a bright yellow. The flowering period extends from early June to August.



Senecio sp.

Plants with yellow daisy-like flowers — the ragworts, the hawkweeds and the hawksbeards are common and widely distributed in the Rocky Mountains. They are very difficult to identify. As a group the ragworts frequent moist places and are found in bloom throughout the summer. The one shown here has triangular shaped leaves and an open cluster of bright yellow flower-heads. The ray florets are few in number and are widely spread.

SILVER BERRY. WOLF WILLOW

Oleaster Family

Elaeagnus commutata

This familiar 2 to 12 foot shrub is common in the foothills but it is also found in exposed places in the mountains, on stony cutbanks, on streambanks and on thin grassy slopes. It gets its names from its willow-shaped leaves and silvery coated, dry, mealy berries but all parts of the shrub are covered with the same lustrous coating of silvery scales. The small tubular, yellow flowers which come in June have a fragrant but overpowering scent.

SNOW LILY. AVALANCHE LILY

Lily Family

Erythronium grandiflorum

Beginning in early May patches of this beautiful small lily, 4 to 16 inches high, may be found growing on thinly wooded subalpine slopes and through melting snow at the timberline. It can be recognized immediately by its one or two glossy green leaves and by its one or two large, bright yellow flowers. The photograph shows a typical flower with six petal-like segments curved back to reveal six yellow stamens and a single style.







SHRUBBY CINQUEFOIL

Rose Family

Potentilla fruticosa

This bunchy woody shrub, 1 to 3 feet high grows on grassy and thinly wooded hillsides of the montane zone. The small, velvety hairy leaflets occur usually in fives but sometimes in threes or sevens. The bright yellow, rose-shaped flowers, 3/4 to 1 inch across, are borne in great profusion and almost continuously from early June till late August. Each flower is replaced by a dry papery head of hairy achenes.



Draba sp.

Over a dozen species of whitlow grass grow in the Rocky Mountains. Most of them are low-growing, tufted plants of high alpine meadows, stony slopes and rock crevices. Like all members of the mustard family the sepals and petals of the small yellow or white flowers are in fours. They bloom in May and June and each small flower soon develops into a small, flat seed-pod.

WESTERN LOUSEWORT

Figwort Family

Pedicularis bracteosa

The western lousewort grows in clumps I to 3 feet high at or above timberline. It is shown here growing with white heather in a moist alpine meadow. Its fern-like leaves, its stiff, poker-like stem ending in a dense spike of strongly beaked, tubular-shaped flowers, clearly mark it as one of the louseworts. Its distinguishing feature is the colour of its flowers — an odd mixture of yellow and purple.

WILD CURRANT

Saxifrage Family

Ribes sp.

Several kinds of wild currant grow in the Rocky Mountains and bloom in early spring. They all resemble the garden currant having three to five-lobed leaves and loose clusters of small yellow-white flowers. But they differ in stem and fruit. Some currants have smooth stems, others have sticky glandular stems and still others have prickly stems. The fruits are either black or dark red and these vary also from smooth to sticky to prickly.







WILD GAILLARDIA

Daisy Family

This familiar prairie flower flourishes on the slopes of the lower montane zone. It is a drought resistant perennial with a long tap root, with one or several erect flower-stems, 8 to 24 inches high, and with many, gray-green, hairy leaves. The daisy-like flower-head has a large purple-brown centre and a circle of bright pale yellow, wedge-shaped rays, notched at the tips. It blooms all July and August.

Gaillardia aristata



YELLOW ALPINE PAINT BRUSH

Figwort Family

Castilleja occidentalis

As its name suggests this paint brush is found in quantity in meadows and on dry rocky slopes near the timberline. The dwarf, densely hairy brushes, 2 to 8 inches high, are at their showiest in July and August. They come in all shades of yellow and yellow-green and some of them are tinged with red. The bracts beneath the protruding tubular flowers are wider, more conspicuous and of a deeper colour than the flowers themselves.



Figwort Family

Pentstemon confertus

Our Rocky Mountain National Parks have a wealth of beard tongues. They all bear brightly coloured flowers which have openmouthed, tube-shaped corollas and a protruding feathery sterile stamen. The yellow beard tongue grows on open slopes or in moist woods and thickets from the montane zone to the timberline. The small yellow flowers are arranged in dense whorls around the upper part of the 4 to 20 inch leafy stem and bloom from June through August.

YELLOW LADY SLIPPER

Orchid Family

Cypripedium calceolus var. pubescens

The yellow lady slipper is the best known and most widely distributed of all our lady slipper orchids. It blooms in June and July in moist shady woods and in woodland bogs. Its spectacular flower with its yellow, inflated slipper-shaped lip, often 1½ inches long, and flanked by three long, brown, twisted sepals, grows at the top of the leafy stem. The flower may last several weeks and after pollination ripens into a brown papery seed-capsule.









This Rocky Mountain perennial grows in the higher subalpine zone, where a succession of beautiful, yellow, irregular-shaped flowers are produced from May to July. Each flower is characterized by five yellow, wing-shaped sepals and by five yellow, tube-shaped petals; each petal ends in a hooked nectar-filled spur. Only insects with sucking mouth parts can reach the nectar. The compound leaves are mostly basal and are divided into many broad lobes.





VELLOW HEDYSARUM. YELLOW SWEET VETCH

Pea Family

Hedvsarum sulphurescens

Except for its sulphur vellow or cream colored flowers the vellow hedvsarum is very similar to the purple-flowered MacKenzie's hedysarum and though not so common it blooms throughout June and July in the same sunny, open places of the montane zone. Both species have the same compound leaves made up of many small leaflets, the same elongated flower-clusters, the same butterflyshaped flowers and the same flat, jointed seed pods.

YELLOW MOUNTAIN SAXIFRAGE.

Saxifrage Family

Saxifraga aizoides

Photographed in a familiar setting, the vellow mountain saxifrage is found in moraines, gravel bars and rock ledges of the alpine zone. Here. it forms matted tufts of low leafy stems, 2 to 4 inches high and from June to August produces a profusion of small, bright yellow, star-shaped flowers. The leaves which are very small, thick and succulent and barely 1/4 inch long are closely crowded along the stems.

YELLOW-FLOWERED FALSE DANDELION

Daisy Family

Agoseris glauca

The yellow-flowered false dandelion blooms in July and August and is common in the montane zone Unlike the common dandelion it has an all over stiff appearance. The stiff flowering-stem is 4 to 6 inches high, the rosette of stiff erect leaves spreads near the ground and the large flower-head has many stiff yellow rays. It has a long tap root with milky juice and at maturity has a head of fluffy achenes.





YELLOW LOCO WEED. YELLOW POINT VETCH

Pea Family

Oxytropis campestris

Photographed growing among stones, the yellow loco weed enlivens grassy hillsides and rocky slopes with its numerous spikes of lemon yellow flowers. The characteristic keel of each pea-shaped flower ends in a sharp beak which distinguishes all loco weeds from the milk vetches. Like most loco weeds it contains a poison which produces a nervous disease in cattle. The early yellow loco weed, O. sericea var. spicata blooms early in May and has pale vellow flowers.



YELLOW MOUNTAIN AVENS

Drvas drummondii

The yellow mountain avens grows close to the ground in tough mats of prostrate leafy stems and is found on river bars and on dry gravel flats. A succession of nodding funnel-shaped buds, yellow rose-shaped flowers and erect, papery, feathery seed-heads are produced from June through August. The small, leathery leaves with roundtoothed margins, dull green and crinkly above and silvery beneath are another distinguishing feature.

FALSE HELLEBORE

Lily Family

Veratrum eschscholtzii

This tall coarse-looking perennial. from 3 to 6 feet tall, grows in rich soil in forest clearings and in moist meadows from the lowest valley to timberline. The over-all green stem with its large, clasping deeply-veined leaves, with its terminal corn-like tassel of numerous small greenyellow flowers catches the eye from a great distance. The small lilyshaped flowers appear in July and August and the leaves and rootstock contain a deadly poison.

GREEN LILY

Lily Family

Rose Family

Zvgadenus elegans

This familiar plant is found in bloom during July and August on grassy or thinly wooded slopes of the upper montane and subalpine zones. It grows every spring from an onionlike bulb and produces a basal growth of firm, grass-like leaves. It also produces one flower-stem, 1 to 3 feet high, which ends in a spike of widely spaced green-white flowers. An over-all whitish bloom gives the plant an iridescent sheen. This bulb is poisonous.

YELLOW MOUNTAIN **HEATHER**

Heath Family

Phyllodoce glanduliflora

The yellow mountain heather is very similar to the red mountain heather and grows with it in the same alpine meadows and in the low twisted woodland at timberline. The tough woody stems, 3 to 12 inches high are densely covered with small evergreen needle-like leaves and in June and July bear a profusion of small vase-shaped pale yellow flowers. These and the short drooping flower-stalks are coated with sticky glandular hairs.









Oxyria digyna

This dwarf perennial grows on stony ground near the timberline. It forms low dense clumps of small, green, kidney-shaped leaves and tufts of short flower-stalks, 2 to 6 inches high. In June and July the ends of the flower-stalks are covered with clusters of small, green flowers. In August, these develop into shimmering spangles of bright red papery fruits and the leaves turn a rich red brown.

GREEN-FLOWERED WINTERGREEN

Wintergreen Family

Pyrola virens

Growing often with the more common pink-flowered wintergreen or in the same mossy spruce-pine woods, the green-flowered wintergreen is one of our most beautiful and fragrant woodland plants. The leaves are smaller, thicker, more rounded than those of the pink-flowered wintergreen and they are an olive green colour. The waxy, green-white cup-shaped flowers with their protruding trunk-like styles open in July.

ONE-SIDED WINTERGREEN

Wintergreen Family

Pyrola secunda

Low leafy colonies of this unusual looking wintergreen are found growing with other wintergreens in mossy mixed coniferous woods. It differs from them in that the single slender flower-stalk is bent over sharply and from the underside all the small greenish-white flowers hang down like little lanterns. In other respects, its evergreen leaves, its five waxy petals and its long protruding style, are characteristic of the wintergreen family. It blooms from June to August.

COMMON RED Figwort Family PAINT BRUSH. RED INDIAN PAINT BRUSH

Castilleja miniata

The paint brush surpasses all our mountain wild flowers in abundance and in the variety of its colour. The common red paint brush blooms from June to September and comes in every shade of red, pink and orange. In general, the higher the altitude the more brilliant the colour. The so-called paint brush consists of many closely appressed leaf-like bracts and many partially concealed tubular flowers. It is the bracts which give the brush its colour.









MACKENZIE'S HEDYSARUM. Pea Family PURPLE SWEET VETCH

Hedysarum mackenzii

This colourful member of the pea family is best known by its scientific name because its several common names are very confusing. It ranges from the plains and foothills well into the mountains where its beautiful, red-purple, butterfly-shaped flowers are found in bloom from June on through August. It has typical vetch-like compound leaves and like all the hedysarums, it has flat, jointed seedpods.

WESTERN MEADOW RUE

Buttercup Family

Thalictrum occidentale

The western meadow rue graces the moist borders of woods and of streams with its tall willowy stems, 1 to 3 feet high, with its abundance of lacy, blue-green foliage and its drooping tassels of small greenpurple flowers. The flowers which bloom in June and July are of two kinds; the male with stamens and the female with pistils and these occur on separate plants. Two other similar species occur in the same shady places.

Figwort Family

Pedicularis groenlandica

At first glance the reddish-purple hue of leaves, flower-stems and flowers is all that is needed to recognize this unusual perennial. It often forms wide patches in bogs, along lake and river margins and in wet meadows. From June to August, a 1 to 11/2 foot flower-stem rises above a growth of fern-like leaves to end in a dense spike of many small flowers. Each flower resembles the head of an elephant.









The heathers are the pride of the timberline meadows and of the high thinly forested slopes. The red heather is the most common and with the vellow heather and other heaths forms a low, thick tangle of tough woody branches and shiny evergreen, needle-shaped leaves. The small, red cup-shaped flowers are produced in tight, drooping clusters at the tips of the branches and appear from the end of June until well into July.



Dodecatheon radicatum

The shooting star is common in damp open ground and along the margins of streams and lakes. It blooms in June and July. Its slender red stem, from 4 to 12 inches high, emerges from a basal cluster of dark green, spoon-shaped leaves and at the top supports one to three red-purple drooping flowers. As each flower opens and expands the five lobes of the corolla bend straight back to expose five protruding stamens.



Lily Family

Lilium philadelphicum

The western wood lily with its large, wide-open, orange-red, black-spotted flowers can never be mistaken for any other wild flower. For each flower grows erect at the end of a 1 to 2 foot green leafy stem and has six similar petal-like segments, six long protruding stamens and a centrally placed ovary which ends in a long style and a three-lobed stigma. It blooms through June and July in open woodlands.

ALPINE BISTORT

Buckwheat Family

Polygonum viviparum

The alpine bistort, only a few inches high, grows in moist meadows and wet gravelly flats of the subalpine and alpine zones. The lower part of the solitary flower-stem bears a few glossy green leaves while the upper part ends in a spike of beautiful, small, coral-pink flowers. The flowers open in succession most of the summer and among them are found tiny bulblets, each capable of producing a new plant.



Epilobium alpinum

HERB

Photographed at the edge of a small mountain stream, this dwarf willow herb, scarcely 6 inches high, is common in moist alpine meadows and on high wet rocky slopes. Here, during July and August it produces a succession of small pale pink flowers at the tip of several leafy stems. Each small flower has the conventional evening primrose structure and each develops into a characteristic long slender seed-capsule.









COMMON BEARBERRY. KINNIKINNICK

Heath Family

Arctostaphylos uva-ursi

A low shrub, with tough, spreading branches and small, paddle-shaped, thick, shiny evergreen leaves is found in great abundance on exposed hillsides and rocky slopes. From May till early July the prostrate mats of stems and leaves are studded with myriads of small pinkish-white flowers. In early fall clusters of orange-red, mealy berries provide food for birds and bears. The dried leaves of this plant provided smoking material for the Plains Indians.

NODDING ONION

Lily Family

Allium cernuum

The strong pungent odour, the onion-like leaves and the onion-like bulb proclaim this plant to be related to the homely garden onion. It is also one of our most beautiful wild flowers. It grows on open dry hillsides and on dry rocky slopes, where, depending upon the elevation, its drooping rocket-like cluster of pink, lavender or white flowers may be found from June through August. Each small flower is a miniature lilv.

PINK WINTERGREEN

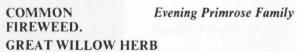
Wintergreen Family

Pyrola asarifolia

Often mistaken for an orchid, the



pink wintergreen grows in moist mixed woods and blooms in June and July. It is a delicate perennial with a single, erect flower-stalk 6 to 15 inches high bearing at its base several, rounded, leathery, shining evergreen leaves and ending in a loose elongated cluster of small, pink cup-shaped flowers. Each flower has five small sepals, five pink waxy petals, five stamens and a long thick trunk-like style.



Epilobium angustifolium

One of Canada's best known and most colourful wild flowers, this tall steeple-like herb makes a brilliant showing along stony riverbeds, roadsides and trails in forest clearings and in burned-over forest land. It is recognized easily by its long spike of showy magenta flowers and by its long, narrow, dark green willow-like leaves. It blooms almost continuously from June to September and in the fall, the leaves turn a brilliant red.









Menziesia glabella

This fairly common subalpine shrub grows along the moist shady margins of coniferous woods often in company with other tall heaths. The light green leaves arranged in loose whorls at the ends of the branches and the drooping clusters of salmon coloured flowers are its distinguishing features. Produced in June and July, each flower is a typical four-lobed heath-like bell and by fall it has developed into a hard dry seed-capsule.

ROUND-LEAVED ORCHID

Orchid Family

Orchis rotundifolia

Photographed on the moist, mossy floor of a shady pine woods in June. this beautiful little woodland orchid is widely distributed across Canada. It is a slender plant, 6 to 10 inches high, with a terminal spike of loosely set pale pink flowers. Each flower is a typical little orchid, the characteristic lip of which is spotted with purple. The single dull green rounded leaf lies at the base of the stem, half buried in moss.

WILD ROSE

Rose Family

The wild rose is the best known of all our western wild flowers. It is recognized easily by its prickly stems, dark green compound leaves, beautiful large, pink open-faced flowers and by its bright orange-red fruits commonly called rose hips. It blooms from June to early August and can be seen along roadsides, stream banks, and in and around open woods, thickets and forest clearings. Though unpalatable, the





Rosa acicularis

fruits are rich in vitamins.



Pink Family

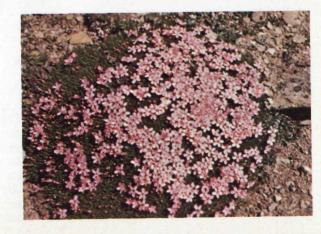
Silene acaulis var. exscapa

This dwarf, compact, cushion-like plant forms rounded mounds of tufted leafy stems and is found in the alpine tundra. Its compact rounded form allows the wind to swirl over it and its stout woody root keeps it securely anchored in its place. A profusion of small, almost stemless, wheel-shaped, five-lobed flowers are produced from June through August, and these range in colour from pink to lavender.









MOUNTAIN LAUREL. **BOG LAUREL**

Heath Family

Kalmia polifolia var. microphylla

The mountain laurel is a typical low-growing heath, 3 to 8 inches high, with showy, pink saucer-shaped flowers and small, leathery evergreen leaves. These leaves are rolled under along the margins and are extremely poisonous. This shrub is found in low ground bordering muskegs and in thin coniferous woods. It is shown here pushing through a thatch of white heather in a subalpine bog. It is in flower during June and July.

BRONZE BELLS

Lily Family

Stenanthium occidentale

This lovely lily with grass-like leaves grows from an onion-like bulb to a height of about 18 inches. It gets its name from the loose cluster of small greenish-purple lily-shaped flowers which during June and July hang down from the top of the slender stem like little bells. It is not a rare plant but because it prefers the shade of mossy pine-spruce woods it is not very often seen.

CALYPSO.

Calypso bulbosa

This little orchid may be found in July and August growing in clumps off the beaten path in pine or pinespruce woods. It has been described as the most beautiful terrestrial orchid. The flower, shaped like a little shoe, is smooth outside and hairy inside and is borne on a stem 3 to 7 inches high. It is coloured purple, pink and yellow. The single, small, dark green leaf is often covered with pine needles or moss.

VENUS' SLIPPER Orchid Family







PINK PUSSY-TOES. **EVERLASTING**

Daisy Family

Antennaria rosea

The pink pussy-toes can be found in irregular silver-gray patches. These are made up of tough creeping stems, clusters of small, white woolly leaves and numerous erect flower-stems, which are 6 to 8 inches high. The small, terminal clusters of pink flower-heads soon dry but retain their pink colour until covered by the snow. It is a hardy perennial and is found in bloom throughout the summer in the montane and subalpine zones.



THREE-FLOWERED AVENS. OLD MAN'S WHISKERS

Rose Family

Geum triflorum

The common name three-flowered avens refers to the three drooping urn-shaped flowers which open in May and June, while the name old man's whiskers refers to the heads of the gray-coloured, plume-like achenes which replace the flowers in late summer. A hood of five purplish-pink sepals hides almost completely the five yellow petals while a mat of fern-like leaves hides the base of the stem. It is common in the montane zone.

COMMON BUTTERWORT

Bladderwort Family

Pinquicula vulgaris

The common butterwort grows in bogs, wet rocky stream banks and in wet calcareous soil. Here, it is recognized easily by its rosette of fleshy, pale green, tongue-shaped leaves and during June and July by its single, purple, violet-shaped flower. The leaves spread out flat on the ground and their upper surfaces are covered with a greasy sticky fluid. This fluid captures flies and other small organisms and these provide the plant with nutrients.

NORTHERN GENTIAN. FRINGE-THROATED GENTIAN

Gentianella amarella

The northern gentian is the most abundant and widespread of all the Rocky Mountain gentians. Like the others it has opposite or whorled leaves and erect showy flowers with bottle or vase-shaped corollas. It is a bunchy plant, 6 to 18 inches high and blooms profusely all summer in moist grassy places. The vaseshaped, five-lobed corolla-tube is lined with fine hairs in the throat and comes in pale mixtures of pink, violet, green and yellow.



Gentian Family



TWIN FLOWER

Honeysuckle Family

Linnaea borealis var. americana

This small, dainty perennial covers large areas in cool, moist coniferous forests of the subalpine zone. It creeps over the mossy forest floor by means of wire-like, evergreen leafy stems and in June and July sends up numerous slender flower-stalks from 2 to 4 inches high. From each stalk a pair of small pink flowers hangs down like little bells. On a still warm evening they fill the air with a haunting perfume.



WESTERN SPRING BEAUTY

Purslane Family

Claytonia lanceolata

This 6 inch, delicate, little perennial has weak, redcoloured stems and may be found sprawling along the shady moist margins of woods and thickets. Each stem bears a pair of opposite, succulent, dark green leaves half way up and a short cluster of flower-buds at the very top. The beautiful, pale pink flowers, delicately etched with fine purple lines, open one at a time from May through June.

PURPLE SAXIFRAGE

Saxifrage Family

Saxifraga oppositifolia

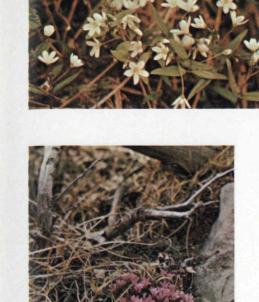
This hardy perennial forms low clumps or mats scarcely 2 inches high and is found in alpine meadows, rock crevices and on high rocky slopes. The four-sided little stems are covered with tiny, overlapping fleshy leaves and in July bear at their tips small, five-starred, cup-shaped, royal purple flowers. It is one of our most beautiful alpine plants and when in full bloom resembles a small purple pin-cushion.

PURPLE-FLOWERED BEARD TONGUE

Figwort Family

Pentstemon fruticosus

This hardy perennial is representative of several species of beard tongue. It has large purple, lilac or lavender flowers which open in July and August. It grows close to the ground in dense clumps of stems, leaves and flowers from 4 to 16 inches high, and is found at the timberline. Each flower has a twolipped, trumpet-shaped corolla, about 1½ inches long, four normal stamens, one hairy stamen and a pistil with a long style.





BROAD-LEAVED WILLOW HERB

Evening Primrose Family

Epilobium latifolium

Photographed among stones at the side of a mountain stream the broad-leaved willow herb is the most spectacular of all the mountain fireweeds. It has a much shorter stem than the common fireweed but the flowers are larger and they are more brilliantly coloured. The flowers are borne in great profusion in July and August and when fully expanded the four red-purple petals reveal eight yellow stamens and a protruding white four-lobed stigma.



Cirsium vulgare

Thistles are familiar to everyone as miserable, almost indestructible weeds. All of them have prickly stiff leaves and showy prickly flowerheads. The bull thistle or the scotch thistle as it is commonly called is the tallest, the showiest and the most prickly. Its large, purple flower-heads, 11/2 to 2 inches across and often 2 inches high, are produced in succession throughout July and August. C. hookerianum a very similar thistle has white flower-heads.

SHOWY LOCO WEED. SHOWY POINT VETCH

Pea Family

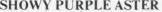
Oxytropis splendens

Loco weeds are a distinct feature of the sunny slopes of the lower montane zone. They all have typical peashaped flowers, compound leaves and come in every shade of blue, purple and yellow. The showy loco weed grows in clumps up to 12 inches. It gets its name from its short spikes of blue-purple flowers and its overall silver-gray appearance. It blooms most of the summer and is not poisonous.

SHOWY PURPLE ASTER

Daisy Family

More than a score of asters grow in the Rocky Mountains. They take over from the fleabanes in late summer and reign supreme until October growing on grassy slopes and in open woodlands. They have the same wheel-shaped flower-heads as the fleabanes but their rays are fewer and much broader. The one pictured here, the showy purple aster with rough hairy stems and about 2 feet high is probably the most beautiful of them all.



Aster conspicuus



Crowberry Family

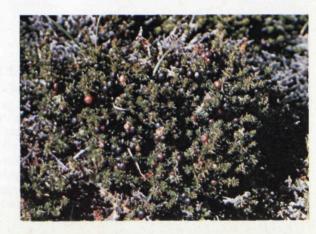
Empetrum nigrum

Crowberry is not a true heath but a heath-like shrub which forms mats of creeping evergreen leafy stems in moist scrub forests near the timberline. The tiny, leathery, evergreen, needle-shaped leaves are shiny green above, downy underneath and distinctly rolled under along the edges. Minute, purplish flowers appear in little tufts near the ends of the branches in May and June and the round, black berries relished by birds are ripe by August and September.









SCORPION WEED. PHACELIA

Waterleaf Family

Phacelia sericea

Several species of scorpion weed are common on gravelly roadsides, rocky slopes and crevices and often are found growing at high altitudes. They all have silvery, hairy finely divided leaves and during July and August they produce showy spikes of densely packed small flowers. The one shown in the photograph has spikes of violet-blue flowers and each small flower has the five-lobed tubular corolla and a conspicuous fluffy tuft of protruding stamens and pistils.

ALPINE FORGET-ME-NOT

Borage Family

Myosotis alpestris

One must climb well above the timberline into high meadows and onto rocky slopes to see this truly alpine plant. Here, it grows in low clumps, 4 to 9 inches high, and blooms freely from June to the end of August. It has numerous small hairy leaves and tight clusters of beautiful small light blue flowers. Each small flower, about 3/16 inch across, has a salver-shaped, five-lobed corolla and a yellow centre.

BLUE CLEMATIS

Buttercup Family

Clematis verticellaris var. columbiana

By means of tendrils this common vine sprawls and climbs over shrubs and trunks of trees and is often found in the open woods of the lower montane zone. Its large, spectacular flowers, 2 to 4 inches across, and its trifoliate leaves make it easy to recognize in May and June. The colour of the flowers varies from blue to purple depending on the amount of shade. The feathery seedheads are equally conspicuous in the autumn.







Violet Family

Viola adunca

The early blue violet grows in moist thickets and open woods where, as its name suggests, it blooms early in May. The beautiful blue-purple flowers and the numerous long-stalked leaves come off mainly from the stem. The characteristic feature shared by all violets, is the irregular-shaped corolla made up of five petals. The largest petal, which is also the lowest, extends backwards to form a somewhat hooked spur.



Prunella vulgaris

Heal-all is an introduced species which is now well established in moist ground and along roadsides. It is a typical mint with square stems, opposite leaves and with two-lipped tubular flowers but it lacks the characteristic mint odour. The small, purplish-blue flowers are closely packed in a short spike and open a few at a time during most of the summer. It was used as a remedy for sore throats.

BLUE-EYED GRASS

Iris Family

Sisyrinchium montanum

This well-known little plant, 4 to 16 inches high, is not a grass but belongs to the iris family. It gets its common name from the cluster of small, blue-violet flowers and the sheath of long narrow, stiff grasslike leaves. The six-pointed, starshaped flowers, with centrally placed yellow "eyes" open one at a time during June and last only one day. It grows in moist meadows and along grassy streamsides of the montane zone.

COMMON BLUEBELL

Bluebell Family

Campanula rotundifolia

Easily recognized by its beautiful purplish-blue, bell-shaped flowers, the common bluebell blooms profusely from June to the end of September. It grows in clumps, 4 to 18 inches high, almost everywhere in the Rocky Mountains, in lowland fields, along dry streamsides, roadsides and in alpine meadows. dwarfed species, 1 to 6 inches high has a single large blue bell and may be found in high alpine meadows and in mossy rock crevices.



The alpine harebell, C. lasiocarpa, a

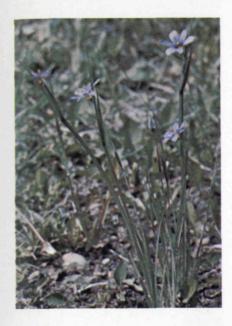


Buttercup Family

Anemone patens

The prairie anemone is as abundant in the foothills as it is on the prairie. It comes into bloom early in May often before the snow has melted. The big, soft hairy bluish-purple blossoms push up, open and even wither before the large, woolly, deeplydivided leaves are fully expanded. After the silky, petal-like sepals have blown away, the flower turns into a dense head of long-plumed achenes.









STICKSEED. **FALSE FORGET-ME-NOT**

Borage Family

Hackelia floribunda

The flowers of this plant are the same shape as those of the alpine forget-me-not but they are smaller, paler blue and are arranged in loose clusters along the ½ to 3 foot hairy stems. Unlike the alpine forget-me-not, it grows in moist woodland at the lower elevations. The small nutlike fruits are barbed and these catch on one's clothing while the fruits of the alpine foreget-menot are smooth.

FOUR-PARTED GENTIAN

Gentian Family

Gentiana propingua

The four-parted gentian, 2 to 7 inches tall blooms from July through September in meadows and on rocky open slopes of the alpine zone. The beautiful blue flowers are borne in whorls at the axils of the paired leaves. The bottle-shaped corollas are four-parted at the top. Two other dwarf alpine species, G. glauca and G. calvcosa with thick, glossy dark green leaves and large, funnelshaped blue flowers grow in the same damp mossy ground.

Pea Family

Vicia americana

The wild vetch is common in open woods, thickets and on grassy stream banks where it forms a tangle of climbing stems and in early summer has a profusion of bluepurple flowers. It is recognized easily as a member of the pea family by its compound leaves which end in a branched tendril, by its pea-shaped flowers and by its pod-like fruits. It enriches the soil by building up nitrates in its roots.





Linum lewisii

WILD BLUE FLAX

The wild blue flax grows in open valley flats, on hillsides and on mountain slopes where its delicate, saucer-shaped blue flowers open and blow away through June and July. Few flowers have the same pure sky-blue colour and few flowers last such a short time; one brief day and they are gone. In contrast, the 8 to 24 inch stems are as tough and wiry as those of the commercial flax whose strong fibres make linen thread.









FLOWER STRUCTURE

Ovary (inferior) Section of Rose Stamen Petal - like segment

Figure 1.

GLOSSARY

Achene — a small dry hard one-seeded fruit, not splitting open. Annual — a flowering plant that completes its life history in one season. Axil — the upper angle formed by a leaf with the stem; where a bud originates. Basal — at the bottom of the stem. Berry — in general any juicy or pulpy fruit.
Biennial — a flowering plant that lives for two growing seasons.
Blade — the flat, broad part of a leaf. Bract - a scale or leaf, usually small. **Bulblet** — a small bulb, often borne on the stem. Calyx — the sepals, distinct or united. Capsule — a dry fruit opening at maturity.

Catkin — a closely clustered spike of small flowers.

Cluster — a number of flowers, fruits etc. growing or grouped together. Compound — a leaf composed of two or more leaflets. Coniferous — referring to the conifers or evergreen trees. Corolla — the petals distinct or united. Deciduous — falling away at the end of the growing season.

Disk-floret — a single floret making up the central disk of a flower-head.

Fertilization — the union of the male and female reproductive cells.

Flower-head — a terminal dense cluster of small flowers (florets).

Flower-stalk — the stem bearing the flowers. Fruit — the matured ovary which contains the seeds. Glandular — bearing secretory structures, often referred to as hairs. Herb — a green soft-stemmed plant.
Hip — the fruit of the wild rose.
Keel — the two joined lowermost petals of the pea flower.
Leaflet — a single division of a compound leaf. **Lobed** — cut so as to leave prominent projections. Margin — the edge of the blade of a leaf. Muskeg — a bog or marsh formed by the deposit of moss or peat, usually wooded. Nectar — a weak sugar solution. Nut — a one-seeded fruit with a hard outer shell. Ovary — the lowermost or swollen part of the pistil which contains the ovules and later the seeds. Perennial — a plant that lives for several or many years. Petal — one of the showy leaf-like parts of a flower. Petiole — stalk of a leaf.

Pistil — the central organ of the flower, made up of ovary, style and stigma, ripens into the fruit. **Pod** — a dry many-seeded fruit that opens. Pollen — the powdery contents of the anther (stamen). Pollination — the transfer of the pollen grains from the stamen to the stigma. Prostrate - flat on the ground. **Ray-floret** — a strap-shaped marginal floret, often called the ray. Rootstock — a more or less elongated underground stem; rhizome. Rosette — a cluster of leaves often basal in position. Salver-shaped — like a saucer or tray. Seed — a ripened ovule, develops into a new plant. Segments — equal and similar parts of the flower.
Sepal — one of the outer leaf-like parts of the flower, usually green. Spike — a cluster of few to many flowers borne on a common stalk. Spur — a hollow, slender extension of the corolla. Stamen — the pollen-bearing organ of the flower.

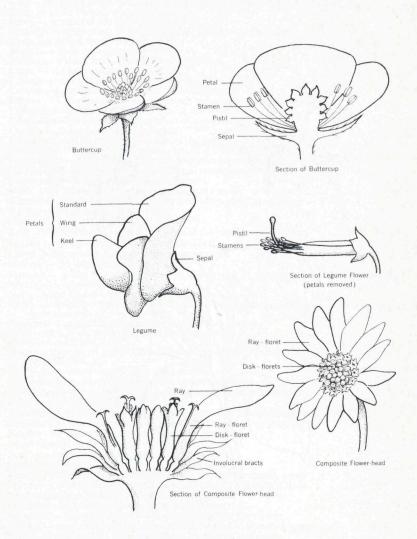
Standard — the uppermost and largest petal of the pea flower.

Stigma — the tip of the pistil, often sticky, on which the pollen grains land. Style — the part of the pistil connecting the stigma and ovary. Tendril — a modified leaflet used in climbing.

Trefoil — a leaf divided into three leaflets, e.g. clover. Trifoliate — leaflets in threes. Wing — the two side petals of the pea flower.

Whorl — a circle of leaves or flowers at the same joint.

Woolly — covered with long and matted or tangled hairs.



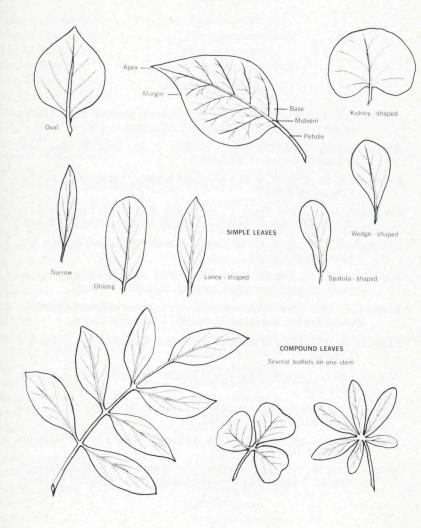


Figure 2.

Figure 3.

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