Wildflowers of the Colorado Mountain Tops

Parry’s gentian

Coloring Book
The Rocky Mountains are a large mountain range that reach from Canada all the way to Texas. At the top of these enormous mountains is the alpine tundra, a cold and windy environment. Remarkably, many colorful wildflowers are found in the alpine tundra during the summer. This coloring book displays some of the wildflowers that are found in Colorado’s alpine tundra and the subalpine forests below.

Colorado has many peaks that extend into the alpine, including over fifty mountains that are above 14,000 feet. The alpine tundra begins between 11,200 and 12,000 feet above sea level. “Tundra” is a Russian word meaning “land with no trees.” The harsh environment at the top of our mountain peaks is so cold and windy that most trees cannot survive. During the winter, the winds can reach speeds up to 100 mph and temperatures are usually far below freezing. The upper limit of where trees can survive is called “tree line”. It is also the transition between the subalpine forests and the alpine tundra.

The subalpine forests are made up of coniferous trees, mostly Engelmann Spruce and Subalpine Fir. Most conifers do not lose all of their leaves during the winter. The leaves slowly fall off throughout the year and are replaced by fresh leaves. The leaves are usually dark green and in the shape of a needle. The trees found in the transition between the subalpine forests and alpine tundra are often small and deformed due to the high winds that blow over mountain tops. Occasionally, one can find a tree that looks like a flag pole. The branches only grow on one side of the tree because the winds are incredibly strong and usually blow from the same direction. When the trees are no longer present we are in the alpine tundra.

The only time when the temperature is warm enough for plants to flower in the tundra is during the summer months. Most alpine plants are perennials. This means that they live for more than one year. Some alpine plants live for many years and could be older than you! Due to the high winds and harsh climate most plants that grow at high elevations are short and stout. The small size helps to protect the plants from the wind. Often alpine plants will grow in the cracks and crevices of rock outcrops in order to stay out of the wind and intense sunlight. Most alpine environments are very dry during the summer and winter. This additional stress has forced the alpine plants to adapt dry conditions. During the winter the water is locked up as snow and therefore unavailable to the plants. The summer is often dry due to the intense sunlight and lack of summer rain.

The alpine environment has a few year-round animal residents, including: pocket gophers, voles, shrews, pikas, marmots, weasels, and white-tailed ptarmigans. Most of these species are small, very furry, and hibernate during the winter. These adaptations help them to survive the harsh winters. During the warmer months elk, big-horned sheep and many birds visit the alpine tundra. Most alpine areas have avoided human disturbance, such as logging or mining due to their inaccessibility. Currently, more and more people are begin to use the alpine for recreation including: hiking, camping, and skiing. Please enjoy and respect the alpine environment.
Life Zones

An important clue in wildflower identification is where the plant grows. As you travel along the roads of Colorado, you have probably noticed that certain kinds of wildflowers and trees belong at certain altitude and are not found much above or below these limits. Therefore, you expect to find different plants on top of Mt. Evans (above tree line) than you would at Red Rocks amphitheater (foothills).

These changes are called **life zones**. In Colorado there are 5 life zones, based on the changes scientists see in plant and animal life with increasing elevation.

<table>
<thead>
<tr>
<th>Life Zone</th>
<th>Description</th>
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<tbody>
<tr>
<td>Alpine</td>
<td>Highest elevation zone, above tree</td>
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<tr>
<td>Subalpine</td>
<td>Englemann spruce, subalpine fir, aspen, limber or bristlecone pine may be found on ridges, lush meadows and riparian</td>
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<tr>
<td>Montane</td>
<td>Douglas fir, aspen and lodgepole pine, ponderosa pine is found on warm, dry slopes; white fir or blue spruce can be found in canyons, along streams</td>
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<tr>
<td>Foothills</td>
<td>Often called the shrub zone, gambel oak, pinon pine, juniper, sagebrush, grasslands, and riparian</td>
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<tr>
<td>Plains</td>
<td>Low elevation, no trees except along rivers; grasslands, riparian, shrublands</td>
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<tr>
<td>1</td>
<td>Red</td>
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<tr>
<td>2</td>
<td>Green</td>
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<td>3</td>
<td>Blue</td>
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<td>4</td>
<td>Yellow</td>
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<td>5</td>
<td>Brown</td>
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<td>6</td>
<td>Black</td>
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<td>9 &amp; 10</td>
<td>Alpine Spring Beauty</td>
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<td>14</td>
<td>Northern Fairy Candelabra</td>
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<td>15</td>
<td>Red Orange</td>
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<td>17</td>
<td>Yellow Orange</td>
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<td>22</td>
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<td>20</td>
<td>Blue Violet</td>
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<tr>
<td>22</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Yellow Green</td>
</tr>
</tbody>
</table>
Sometimes this plant is also called Rock Jasmine. It is widespread in forested or open sites on rocky soils from the foothills up to alpine tundra. “Septentrionalis” is Latin for “plant of the north”. This plant is an annual, which means that it lives for only one growing season, and new plants come up from seed each year.
Elephantella

Pedicularis groenlandica  Scrophulariaceae  the Snapdragon Family

Wet mountain meadows and along streambanks, often in large masses. Each flower resembles an elephant’s head. Elk eat this plant in the early summer. It can be found from Alaska to Labrador, south to Saskatchewan, New Mexico, and California.
Alpine Spring Beauty

Claytonia megarhiza  Portulacaceae  the Purslane Family

Among the rocks or in rock crevices in tundra on the higher peaks. They start blooming very early in the season, just after the snow melts. “Megarhiza” means “big root”, and indeed, it can grow up to six feet long! This flower can be seen on Mount Evans along the Mt. Goliath Trail. The leaves are often eaten by marmots, pikas, and ground squirrels.
Boykinia

Telesonix jamesii  Saxifragaceae  the Saxifrage Family

Scattered on granite or limestone outcrops along the Front Range from Pike’s Peak to Rocky Mountain National Park. This plant prefers rocky soils, talus and vertical cracks. It is one of our most beautiful native plants, named for Edward James, an 1800’s American Naturalist.
Marsh Marigold

Caltha leptosepala   Asteraceae   the Sunflower Family

Found on wet ground along streams, in mountain meadows, and in tundra. Flowers very early, often in large patches while snow is still on the ground nearby. “Leptosepala” means slender “sepals” or petals. A related species in the eastern United States was eaten by American Indians, but this species is reported to be much too bitter.
Alpine Sorrel

Oxyria dygina   Polygonaceae  the Buckwheat Family

Grows in the tundra in shady or moist places, such as rock crevices or ledges. “Oxyria” comes from the Greek word “oxys”, which means sour. The leaves are sour tasting, but people should not be eat them since they are mildly toxic. This plant is distributed around the world in the northern countries of Europe, Asia, and North America. It is wind pollinated, rather than relying on insects such as bees.
Silky Phacelia

Phacelia sericea  Hydrophyllaceae  the Waterleaf Family

Common on gravelly open slopes, and along roadsides or in other areas of disturbed soil, usually above 10,000 feet. “Sericea” means “silky”. Elk and other big game graze it during spring and summer.
**Yellow stonecrop**

*Sedum lanceolatum*  
Crassulaceae  
the Stonecrop family

Common on dry, rocky soils on ridges, slopes, and rocky outcrops from the plains up to the tundra. “Sedum” is Latin for “to sit”, probably referring to the fact that these very short plants “sit” on the ground. It has yellow star-shaped flowers and fleshy leaves. This is a close relative of the Sedum species grown in rock gardens.
1 Red
2 Green
3 Blue
4 Yellow
5 Brown
6 Black
7 Violet/Purple
8 Orange
9 Gray
10 White
11 Fuchsia
12 Red-Violet
13 Violet-Red
14 Carnation
15 Red Orange
16 Vivid
17 Yellow Orange
18 Peach
19 Cerulean
20 Blue Violet
21 Blue Green
22 Jungle Green
23 Yellow Green
24 Green Yellow
Alpine Forget-Me-Not
Eritrichium aretoides  Boraginaceae  the Borage Family

Tiny bright blue flowers arise from a dense mat of small, hairy, silver-white leaves. Look closely at the flowers and you will see that they have five petals and a yellow center or “eye”. Sometimes you can find alpine forget-me-nots with white flowers. Remember the Alpine!
Western Yarrow

Achillea lanulosa  Asteraceae  the Sunflower Family

This flat-topped white flowered species is common in meadows and along roads from the sagebrush to the alpine. It has a long history of medicinal use. It is easy to grow in a flower garden, but can take over if watered too much.
Mountain Death Camus
Zigadenus elegans  Melanthiaceae  the False Hellebore Family

This is a mildly poisonous plant found in subalpine meadows and bogs. Zigadenus species in the Eastern United States are much more toxic, even deadly. Sometimes our Mountain death camus grows along the edges of moist, bog-like aspen groves.
Arctic Gentian

Gentiana algida  Gentianaceae  the Gertian Family

This very attractive flower blooms late in the summer in the alpine and sub-alpine zones. Algida means cold, a reminder of the cold arctic climate. These gentians can be found from Alaska south through the Rockies to New Mexico in alpine bogs and meadows.
1. Red  
2. Green  
3. Blue  
4. Yellow  
5. Brown  
6. Black  
7. Violet/Purple  
8. Orange  
9. Gray  
10. White  
11. Fuchsia  
12. Red-Violet  
13. Violet-Red  
14. Carnation  
15. Red Orange  
16. Vivid  
17. Yellow Orange  
18. Peach  
19. Cerulean  
20. Blue Violet  
21. Blue Green  
22. Jungle Green  
23. Yellow Green  
24. Green Yellow
This delightful little alpine lily grows only two to six inches tall in gravelly ridges, cliffs, rock crevices and alpine meadows in the higher mountains. It is common on the tundra when blooming in June and July.
A grand flower indeed!! This is one of the showiest and most easily recognized alpine plants. Stout woolly stems are topped by bright yellow heads two to four inches across with 3-notched ray flowers. It blooms late in the summer and is very common on high peaks and alpine meadows. The heads of these flowers usually face away from the prevailing winds.
Moss Pink
Silene acaulis  Caryophyllaceae  the Pink Family

The base of this plant is low and matted, like moss, with little pink flowers barely taller than the mat. This slow growing species blooms in early July. This species is sometimes used as a rock garden plant.
Sky Pilot

Polemonium viscosum  Polemoniaceae  the Phlox Family

Smell Something? Sky pilots can have a mild skunk like aroma along with their deep blue flowers and sticky glandular leaves. Most often these flowers are found above timberline in open rocky places like boulderfields and alpine meadows. Sometimes you can find a rare white flowered sky pilot in a population of the blue flowered ones.
1 Red
2 Green
3 Blue
4 Yellow
5 Brown
6 Black
7 Violet/Purple
8 Orange
9 Gray
10 White
11 Fuchsia
12 Red-Violet
13 Violet-Red
14 Carnation
15 Red Orange
16 Vivid
17 Yellow Orange
18 Peach
19 Cerulean
20 Blue Violet
21 Blue Green
22 Jungle Green
23 Yellow Green
24 Green Yellow

Rocky Mountain Thistle
Fireweed
Shooting Star
Mountain Dryad
Not all thistles are weeds!! This woolly native is common along the continental divide. Stout stems hold nodding white or cream colored heads of flowers in dense woolly or cobwebby clusters. The leaves, like many thistles, are spiny. This is a common thistle of alpine and subalpine slopes, flowering in July and August.
Shooting Star

Dodecatheon pulchellum  Primulaceae  the Primrose Family

These plants have attractive rose-pink flowers arranged in drooping clusters on a leafless flowering stalk. The common name actually describes the flowers: bent back petals with fused yellow anthers forming a beak. The best place to find them are along streams and other wet places.
Fireweed

Epilobium angustifolium  Onagraceae  the Evening-primrose Family

The brilliant rose-purple flowers are bundled closely together near the top of the plant. The leaves are long, narrow, and look similar to a willow leaf. Fireweed is usually found in moist areas, but commonly takes over burned areas and along roadsides.
Mountain Dryad

Dryas octapetala  Rosaceae  the  Rose Family

This small shrub has cream colored flowers with 8 petals per flower. The evergreen leaves are thick and shiny on top, but a dull white beneath. It is found in rocky, exposed areas of the alpine tundra.
Amazingly bright purple flowers with brilliant yellow centers make this plant a difficult one to miss. The plant is usually over a foot tall with the flowers clustered near the top. It is found along streams in alpine and subalpine habitats.
The Colorado Columbine is our state flower. The flowers are white and blue with large spurs pointing behind the flower. The unusual shape of the flower make it an easy plant to recognize. It is common in Aspen groves and moist, forested areas. This plant was so heavily collected in the early 1900’s that a law was passed limiting the number of flowers one person could pick in one day.
Dusky beardtongue

Penstemon whippleanus  Scrophulariaceae  the Figwort Family

The tube-shaped flowers are grouped in nodding clusters at the top of the flowering stem. The flowers are usually a dingy purple in color. This is a common wildflower throughout the mountains from ponderosa pine to timberline.
Harebell
Campanula rotundifolia Campanulaceae the Bellflower Family

The purple flowers are bell shaped and hang slightly downward from a slender stem. This plant is very widespread. In the northern hemisphere it can be found from the low elevation foothills all the way to the alpine tundra.
Celebrating Wildflowers

The third week of May each year is National Wildflower Week. It is the kickoff week for a year long season of celebrating wildflowers. National Wildflower Week is an annual event sponsored by many federal agencies and partners in the Native Plant Conservation Initiative. This event promotes the importance of conserving and managing native plants and plant communities in America. More than 630 million acres of public lands managed by the Bureau of Land Management, the U.S. Forest Service, the National Park Service and the U.S. Fish and Wildlife Service are habitat for America’s wildflowers. We encourage you to explore these lands, to look for and delight in your beautiful native flora.

To find out more about Celebrating Wildflowers, call the National Wildflower Hotline 1-800-354-4595 from April through August. The hotline is updated weekly with current events and places with spectacular blooming wildflowers. Also, visit Celebrating Wildflowers on the Native Plant Conservation Initiative web page (www.nps.gov/plants/) where you can find many of the drawings and color charts used in this coloring book and other information about native plants.

The 1999 Wildflower Coloring Book is presented by:

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KARL URBAN
Karl Urban was a USDA Forest Service botanist on the Umatilla National Forest in northeastern Oregon. Among many other efforts, he devoted countless hours of his personal time at home to creating wildflower drawings for “Celebrating Wildflowers” coloring books. This was a “labor of love” for Karl. Eventually, his drawings were posted on the World Wide Web where they became extremely popular nationwide. This coloring book is dedicated in memory of Karl Urban.

Celebrating Wildflowers in Colorado