

Alpine larch in late September in the Purcell Mountains of northwestern Montana.

RANDY BEACHAM

Alpine larch

Larix lyallii

by Braden Collard

As storms dust western Montana's peaks and ridges with the first snows of autumn, that white is sometimes streaked with the gold of alpine larch. Often mistaken for the western larch that paint the lower elevations in mid- to late October, alpine larch have uniquely adapted to survive deep snow, avalanches, and raking winds, thriving where few other trees can.

APPEARANCE

To differentiate alpine larch from the more widespread western larch (also known as tamarack), you need to get up close and count the number of sides on each needle: Western larch have three while alpine have four. Alpine larch needles grow in large bundles of 30 to 40, which are soft and light green during the summer.

Unlike most conifers, larch are deciduous, meaning they shed their needles like trees with leaves every fall, though later in the season. In October, alpine larch fade from green to gold. Once their needles drop, paths below turn gold for a short time, to the delight of hunters and hikers.

Western larch may grow up to 180 feet tall while alpine larch typically max out around 80 feet, although one alpine larch in the Cabinet Mountains is reported to have reached 152 feet. Another way to tell the two species apart is by their surroundings.

HABITAT

Western larch tend to cluster along creek bottoms and middle-elevation mountain faces. Above 5,000 feet, alpine larch take over, thriving in thin, rocky soils that may be covered in snow for six months each year. A pioneer species, it will sprout from recently burned ground and in the aftermath of rockslides and avalanches.

Stands of alpine larch grow at a higher elevation than most other conifers, but they can also be found lower down, where you may spot them growing next to subalpine fir, Engelmann spruce, and whitebark pine.

DISTRIBUTION

The isolated range of alpine larch stems from the end of the last ice age, when cool, alpine habitat covered far more land across western North America than it does today. Most of Montana's documented stands of alpine larch are in the Bitterroot Range, including a well-known stand decorating Carlton Ridge below Lolo Peak. The trees also show up in the Anaconda-Pintler Wilderness, the Cabinet Mountains, and parts of the Bob Marshall Wilderness and Glacier National Park. Beyond Montana, alpine larch can be found in northern Idaho, Washington's Cascades, and in the Canadian Rockies south of Banff National Park. By comparison, western larch grow across a much wider swath of the Pacific Northwest.

ADAPTATIONS

Larch seeds sprout and take root in cold, rocky, infertile soil. During their first quarter-century of life, alpine larch grow at a snail's pace. Most of their energy goes into their deep taproots, resulting in young trees that are short but strong. This allows the species to withstand the mountain gales that blast across the tundra. The alpine larch has a flexible trunk (also known as a bole), allowing it to bend rather than break when struck by an avalanche. By dropping their needles, the trees can resist drying out in bitter cold and wind. That may be one reason they can grow higher up than Montana's other high-elevation tree species.

All these adaptations lead to impressive longevity. Many alpine larch have been documented to be over 700 years old, and one ancient specimen in Alberta is estimated to have lived more than 2,000 years, making it the oldest tree ever found in Canada.

VALUE TO WILDLIFE AND PEOPLE

Not long after the snow melts in summer, elk, mule deer, bighorn sheep, pika, and snowshoe hares feed on the grasses, sedges, forbs, and other succulent vegetation that grow below stands of alpine larch. The tree's soft, green needles provide an important summer food source for grouse, and grizzly bears will often den in larch thickets.

Once snow returns, those same stands may help reduce avalanche damage in spots by stopping or slowing snow slides. Equally important is the character that this tree brings to the Rockies, especially on a crisp autumn day when alpine larch are decked out in full gold against the deep blue sky.

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