



Staunton State Park

Plant Identification Training

Volume 1 - Conifers

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Identification of Tree Species

- Elevation
- Type of environment
- Height and shape
- Needles or leaves
- Cone or Flower/Fruit
- Bark
- Isolated or Dense
Stands



Common Trees/Shrubs at SSP

Conifers

- Ponderosa Pine
- Lodgepole Pine
- Limber Pine
- Bristlecone Pine
- Colorado Blue Spruce
- Engelmann Spruce
- Douglas Fir
- Subalpine Fir
- Rocky Mountain Juniper
- Common Juniper

We will cover another time

- Aspen
- River Birch
- Rocky Mountain Alder
- Rocky Mountain Maple
- Willows
- Other Woody Plants

Basic Characteristics of Conifers

- **Non-flowering plants** – ancient family
- Needles are reduced leaves
- Wind pollinated – effective but inefficient
- Female cones produce seeds
- Male cones produce pollen



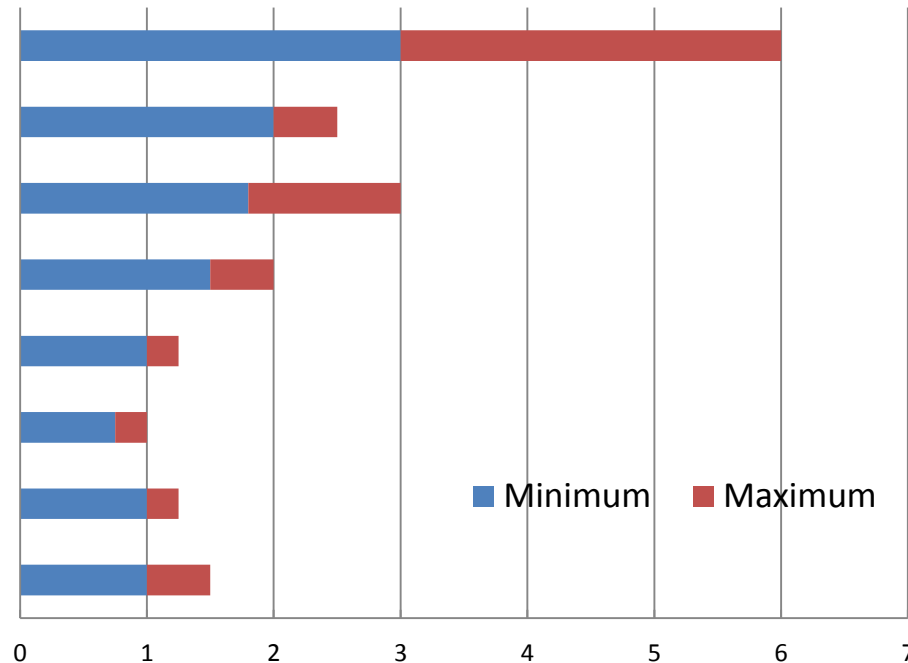
Needle Comparison

Species	Needles/ Bundle
Ponderosa Pine	3
Lodgepole Pine	2
Limber Pine	5
Bristlecone Pine	5
Colorado Blue Spruce	1
Engelmann Spruce	1
Douglas Fir	1
Subalpine Fir	1

Lodgepole
Pine needles



Needle Length (inches)



RM Juniper "needles"

Fir needles



Cone Comparison (female)



Ponderosa Pine *Pinus ponderosa*

Key Elements

- 5000 – 9000 ft. elevation
- South-facing slopes and exposed hillsides
- To 150 ft. tall, park-like settings, rounded crown
- **3 needles per bundle**
- *P* = pines = packets
- Cone to 6", with woody scales that are prickly-tipped
- Mature tree bark is reddish, vanilla scent



Lodgepole Pine *Pinus contorta*

Key Elements

- Above 8000 ft. elevation
- Dense stands “dog hair forests” same age due to fire. Little undergrowth.
- To 90 ft. tall
- Two needles per bundle
- Cone to 2”, is persistent on tree, opens with heat of fire
- Bark – greyish with “bran” flakes



Limber Pine *Pinus flexilis*

Key Elements

- 5000 to 10,000 ft. elevation
- Rocky, gravelly slopes, and windy ridges
- 5 needles in bundle, no resin dots. Branches are “limber”
- Cones to 8 inches long at end of branches
- Bark is light grey to blackish-brown.



Bristlecone Pine *Pinus aristata*

Key Elements

- 7000 ft. to tree line
- Rocky slopes, windy ridges
- 5 needles per bundle with resin dots “dandruff”
- Cones to 3.5” with “bristles”
- 2500 yrs. old in Pike NF.
I-70 is approx. n boundary.
Oldest, *P. longaeva*, are in CA/NV, oldest living thing to 5000 yrs.

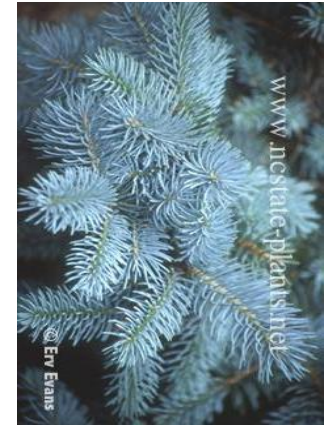


Colorado Blue Spruce

Picea pungens

Key Elements

- 7000 to 9500 ft. elevation
- Moist areas, stream banks
- To 80-100 ft. tall
- Single needles, 2-sided (diamond), bluish green
- **S = spruce = sharp = square**
- **Cones** to 5 inches long, **hang down**
- Gall (aphid) at end of twigs
- Mature bark gray, furrowed
- **Colorado's State Tree**



Gall



Engelmann Spruce

Picea engelmannii

Key Elements

- 8500 ft. to tree line
- N. slopes, sheltered canyons
- To 100-125 ft. tall, narrow steeple-shaped
- Single needles, 4-sided, bluish color not as obvious as cousin's, also galls
- Cone to 2.5 inches, hangs down. Shorter than cousin's
- Bark – paper-thin, scaly reddish brown, flaky



Douglas Fir *Pseudotsuga menziesii*

Key Elements

- 5000 to 10,000 ft. elevation
- Shady ravines, rocky slopes
- To 150 ft., not like Pacific NW
- **F = Fir = flat = friendly**
- **Cones to 4", hang down, with 3-pronged bracts longer than scales.**
- Bark = thick, furrowed, young is gray and smooth
- *Pseudotsuga* = false hemlock; NOT a true fir



RM Subalpine Fir *Abies bifolia*

Key Elements

- North-facing slopes, 9000 ft. to tree line, with Engel. Spruce
- To 100 ft., spire-like crown
- Single needle, flat, notched tip.
- **Cones erect** at top of tree, disintegrate, leaving **“candles”**
- Bark – light grey to grayish brown



Rocky Mountain Juniper (Red Cedar)

Sabina scopulorum

Key Elements

- Plains to 10,000 ft.
- In Eastern CO. north of Palmer Divide
- To 50 ft. tall, bark is shaggy and grey/reddish brown
- Needles – grayish green, scale-like. **Bark - shaggy**
- Cones are called “**berries**”, 3/8” dia. Bluish color
- Separate male and female trees



Common Juniper

Juniperus communis alpina

Key Elements

- 6000 ft. to above tree line
- Dry sites, forest clearings
- Low Spreading **shrub** to 3 ft.
- **Needles ½” long bi-colored**
white above, green below
with **sharp tips**
- Cones called **“berries”**,
used to flavor gin
- Separate male and female
plants



Where would you find them?



Conifer Species	Known Locations
Ponderosa Pine	Cabin areas, Base Camp, Visitor Center, Davis Ponds
Lodgepole Pine	Middle elevation trails, SR Overlook, NW corner
Limber Pine	MP trail, EF Overlook, SR Overlook, other exposed areas
Bristlecone Pine	Only found (so far) on MP trail up from EF pond
Colorado Blue Spruce	MC trail, OM trail, BL trail, cabin area
Engelmann Spruce	Lion's head, behind SR Overlook, other high areas
Douglas Fir	MC trail, BL trail, OM trail, EF Overlook, SL trail
Subalpine Fir	Only found (so far) above upper Black Mountain Creek
Rocky Mountain Juniper	Relatively open areas in central park
Common Juniper	Many areas in forest and open sites

Progress Quiz 1

- 1) It has 5 needles in a bundle and the needles have resin dots making it look like it has dandruff. This tree is the _____.
- 2) Its cones have three-pronged bracts longer than the scales. This tree is the _____.
- 3) The scales on its cones disintegrate leaving a “candle” sticking up like a toothpick. This tree is the _____.
- 4) Its branches have long cones hanging from their ends. This tree is the _____.

Progress Quiz 2

- 5) It has cones that are called “berries” and is the only coniferous shrub in Staunton. This shrub is the _____.
- 6) It grows at elevations from 5000 to 9000 ft. and has 3 needles in a bundle. This tree is the _____.
- 7) The cone opens and releases its seeds in the heat of a fire. This tree is the _____.

Progress Quiz 3

- 8) It is the State Tree of Colorado. This tree is the _____.
- 9) This tree grows at higher elevations than its cousin and its cones are smaller and shorter. This tree is the _____.
- 10) This tree has both male and female trees. The cones are only on the female trees. This tree is the _____.

Bonus Questions

US Postal Service Holiday Evergreen Forever Stamps



- 1) _____
- 2) _____
- 3) _____
- 4) _____