

# Blue Spruce

*Picea pungens* Englem.

## Taxonomic Classification

Domain: *Eukaryotes*

Kingdom: *Plantae*

Subkingdom: *Tracheobionta*

Super Division: *Spermatophyta*

Division: *Coniferophyta*

Class: *Pinopsida*

Order: *Pinales*

Family: *Pinaceae*

Genus: *Picea*

Species: *Picea pungens*

[1]



Cones [2]



Needles and twigs [3]



Entire Tree [4]

## Botanical Description

Trees up to 40 meters tall, often conical in shape. Bark dark gray/ brownish and scaly, sometimes furrowed. Twigs glabrous (without hair) and shiny, rough due to leaf base persistent long after needles are shed, needleless twigs bumpy. Leaves modified as needles, bluish-green, rigid, 4-angled, 12-30 mm long, tapered to a sharp point. Trees dioecious (flowers separated into male and female, both born on a single tree); male cones yellow, forming on the lower branches, 10-15 mm long; female cones form on higher branches, pendulous (hang down), purplish when young, brownish and papery when mature, up to 12 cm long. Seeds up to 3 mm long, winged. [5]

# Identification Tips

The common name comes from the blueish color of the needles, but when identifying a Blue Spruce it is important to keep in mind that female cones hang down and the needles are born singly with the base persistent even after the needles are removed, leaving bare twigs that are rough and bumpy. [5]



# Fun Fact!

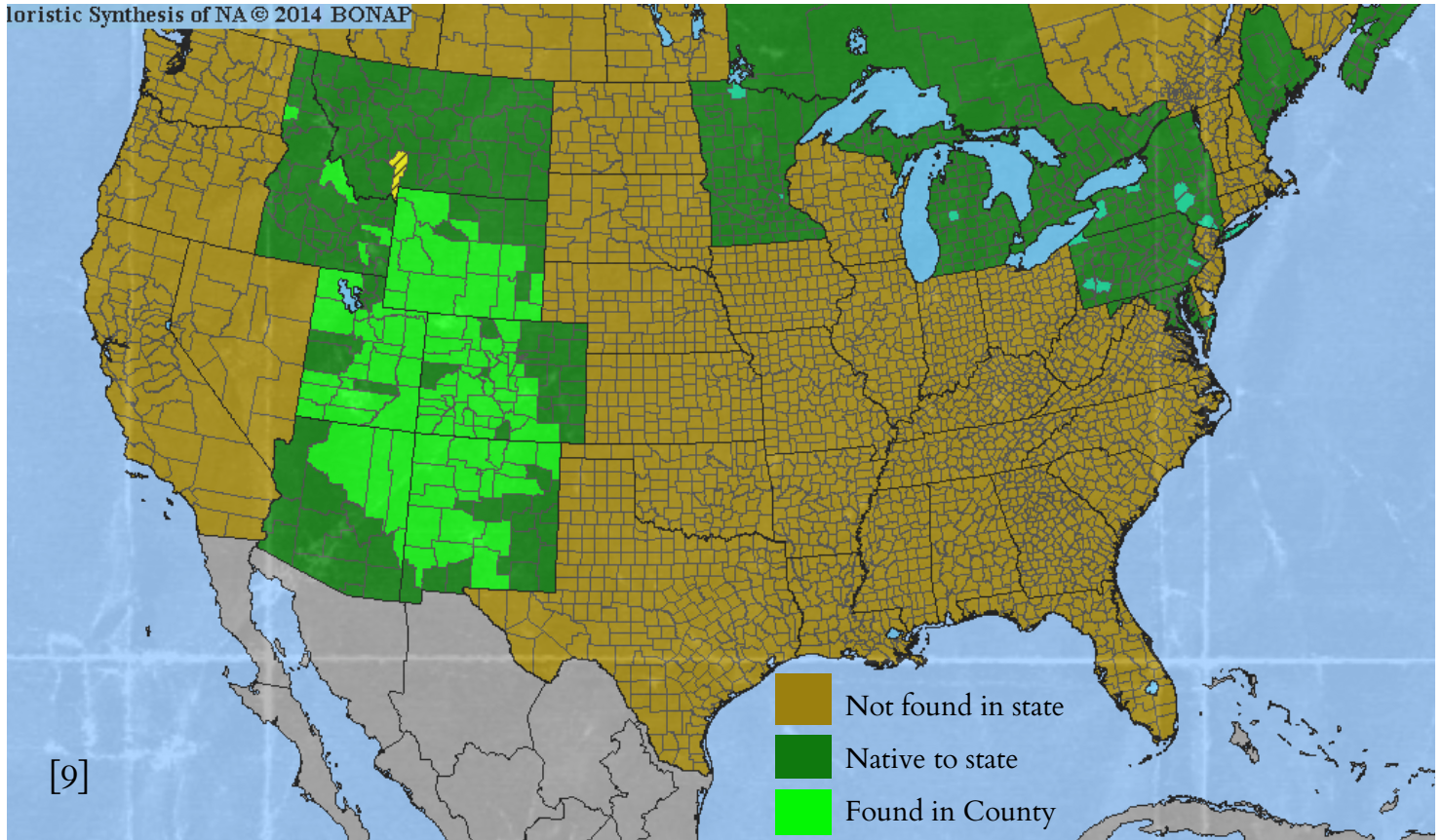
Another common name for *Picea pungens* is the Colorado Blue Spruce. This tree was the state tree for Utah for quite some time until 2013 when a group of 4th graders brought it to the governor's attention that it seems quite silly that our state tree has another state's name in it. This group of elementary students lobbied for and effectively changed the Utah state tree to the Quaking Aspen. [6]

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## Ethnobotanical and Other Uses

The Blue Spruce is a very popular ornamental tree and can easily be found in most plant nurseries. These trees also have a long history of uses from indigenous tribes and settlers of the western states. Acoma and Laguna tribes would give bits of the twigs as a token of good luck, used it medicinally to aid ailments like colds, gastrointestinal issues, and rheumatism, and use cuttings in religious ceremonies [7]. Navajo tribes also used cuttings of the tree for ceremonial reasons, including in the ceremony known as 'The Chant of the Sun's House' [8].

## Habitat Range



## Conservation Status

On a global scale, *Picea pungens* is considered stable and not endangered. [10]

## Plant Ecology

The blue spruce is found in montane areas in Aspen and Douglas Fir plant communities [5]. It is usually found between 1800 – 3000 meters of elevation and does well in moist canyon bottoms and near stream banks, but it is not limited to the moist areas. It is cultivated easily and can handle a wide range of soil types and sun exposures [1].

## References:

- [1] Moore, G., Goldman, D., Garland, M., Taliga, C., & Hinshaw, J. (n.d.). *Picea pungens* Engelm. USDA Plants Database. <https://plants.usda.gov/home/plantProfile?symbol=ULPU>
- [2] Balonado, G. (2023.). Blue Spruce cone. photograph.
- [3] Balonado, G. (2023.). Blue Spruce twig . photograph.
- [4] Balonado, G. (2023). Blue Spruce entire tree . photograph.

- [5] Buren, R. V., Cooper, J. G., Shulz, L. M., & Harper, K. T. (2011). *Woody Plants of Utah: A field guide with identification keys to native and naturalized trees, shrubs, cacti, and vines*. Utah State University Press.
- [6] Halverson, T. (2013). Students petition governor herbert to change the state tree. *Utah Public Radio*. Retrieved 2023, from <https://www.upr.org/utah-news/2013-09-20/students-petition-governor-herbert-to-change-the-state-tree>.
- [7] Swank, George R., 1932, The Ethnobotany of the Acoma and Laguna Indians, University of New Mexico, M.A. Thesis.
- [8] Elmore, Francis H., 1944, Ethnobotany of the Navajo, Sante Fe, NM. School of American Research, page 20
- [9] *Picea pungens county distribution map*. 2013 Bonap North American Plant Atlas. taxonmaps. (2014, December 15). <http://bonap.net/Napa/TaxonMaps/Genus/County/Picea>
- [10] Aljos Farjon (IUCN SSC Conifer Specialist Group). (2011, March 14). *The IUCN Red List of Threatened Species*. Blue Spruce. <https://www.iucnredlist.org/species/42333/2973433>
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Information collated by Abbigale L. Baum under the direction of Dr. Ashley N. Egan in collaboration with UVU's summer 2023 BOT 2050 and fall 2023 BOT 4300 classes and through the UVU Excelerate Program.

