

What is a Conifer?



Female cones

Male cones

Conifers are woody plants that produce separate male and female cones on the same tree. Male cones produce pollen and are often smaller than females. The male cones are usually found on the lower branches enabling wind to carry the pollen to the female cones found higher on the branches. Seeds are produced in the female cones which protect the seeds from cold temperatures, wind, birds, and other animals. Not all cones are woody, some resemble fruits or berries, like those found on junipers and yews.

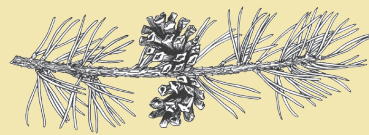
The leaves of conifers are often referred to as needles and function like other plant leaves. Conifer needles have some advantages over other leaves. The waxy coating protects them from drying out, they can capture sunlight all year, and they are difficult for insects and animals to eat. Most conifers are evergreen, but some are deciduous and lose their needles in autumn.



European Larch after losing its needles.



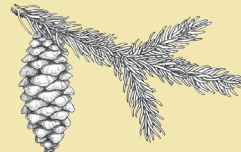
Use needles and cones to identify conifers



PINES

Needles are in clusters of 2 to 5. Cones are woody and rigid. Counting the needles in each bundle is the first clue to identifying pines.

Images Courtesy VA Department of Forestry.



SPRUCE

Needles have sharp points and attach singly to the stem on short stalks. Cones dangle from the branches and fall to the ground whole. Spruces are hard to shake hands with. You might come away with a few scratches.



FIRS

Needles are flat and blunt and attach directly to the stem. Cones are upright and disintegrate and fall to the ground in pieces. Firs are easier to touch as their needles are softer than spruces.

Birds and Conifers

Several species of birds are frequent visitors to the conifers at Blandy. **Pine Warblers** are summer residents that nest almost exclusively in pines, and feed on insects. **Pine Siskins** migrate to Virginia forests from the northern part of North America in winter and feed on conifer seeds. **Cedar Waxwings** are beautiful and unique looking birds that feed on juniper "berries" which are really a type of cone.



Male Pine Warbler



Female Pine Warbler



Pine Siskin



Cedar Waxwing

YOUR SUPPORT MATTERS

The Conifer Walk is supported by the Foundation of the State Arboretum. Become a member of FOSA and help preserve the conifers and other trees.

Other benefits include discounts at other gardens across the country. Visit our website blandy.virginia.edu and click on the "Support" tab for more information.

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STATE ARBORETUM
of VIRGINIA
BLANDY
EXPERIMENTAL FARM



A Guide to the Conifer Walk

The State Arboretum of Virginia
at the University of Virginia's
Blandy Experimental Farm

Exploring the Conifers

The Arboretum's conifer collection includes about 1,400 specimens from North America and around the world. There are several State Champion trees found along the Conifer Walk. The stops provide opportunities to learn more about each tree through signage, and some of the trees tell their own stories accessible through QR codes.

1. Japanese umbrella pine
(*Sciadopitys verticillata*)
Native to southern Japan, the unique needles are arranged like the spokes of an umbrella.

2. Bald cypress
(*Taxodium distichum*)
A deciduous conifer native to wetlands in the southeast US, needles turn bronze and fall from the tree in autumn.

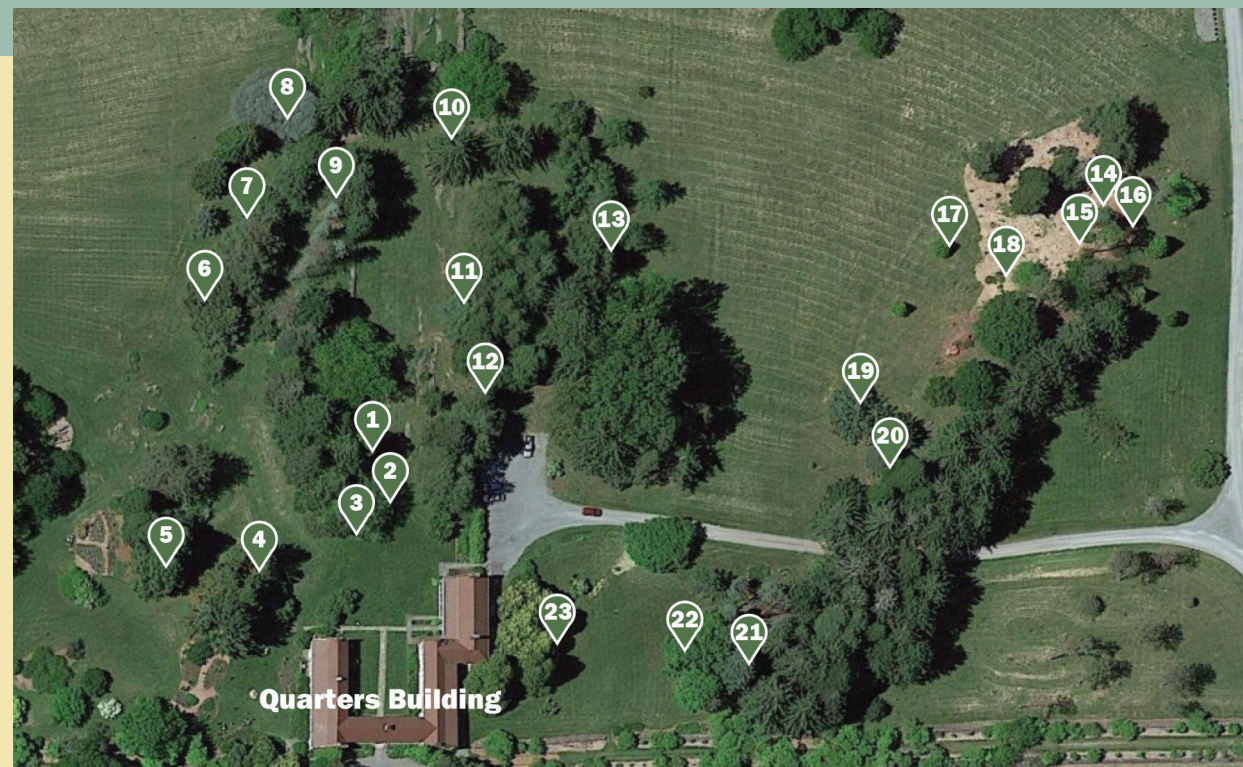
3. Incense cedar
(*Calocedrus decurrens*)
In its native range (western US) this tree can grow two to three times as tall as this specimen.

4. China fir
(*Cunninghamia lanceolata*)
An unusual tree in appearance, it holds some dead branches in its crown, and regularly sheds others.

5. Japanese cedar
(*Cryptomeria japonica*)
Native to Japan and southern China, this tree has been harvested for timber, and cultivated for centuries as an ornamental.

6. White fir
(*Abies concolor*)
Well-adapted and tolerant to a wide variety of conditions making it very suitable for home landscapes throughout the US.

7. Balsam fir
(*Abies balsamea*)
Currently being decimated by the balsam woolly adelgid, a tiny insect accidentally introduced from Europe that feeds on the tree's sap.



8. Blue Atlas cedar
(*Cedrus atlantica*)
A popular landscape tree prized for its blue needles and attractive form.

9. European larch
(*Larix decidua*)
Native to the Alps and other European mountains, the needles of this deciduous conifer are arranged in a spiral along the shoots.

10. Norway spruce
(*Picea abies*)
The most planted ornamental spruce in the US. Its drooping branches are its most distinct feature.

11. Cedar of Lebanon
(*Cedrus libani*)
Once used to build ships, temples, and palaces. Harvested extensively in its native Turkey and Lebanon, but restoration efforts are underway.

12. Sawara cypress
(*Chamaecyparis pisifera*)
An important timber tree in Japan known for its strong, fragrant wood. A relative of the native American arborvitae.

13. Eastern hemlock
(*Tsuga canadensis*)
Once an important member of eastern forests, these trees are threatened by the hemlock wooly adelgid, an accidentally introduced pest.

14. Douglas fir
(*Pseudotsuga menziesii*)
The timber is used around the world to build ships, docks, telephone poles, and railroad ties. The cones have a unique three-pronged appendage.

15. White pine
(*Pinus strobus*)
True pines hold their needles in bundles, counting the number of needles in the bundle is the first step to telling the pines apart. How many needles per bundle does this pine have?

16. Ponderosa pine
(*Pinus ponderosa*)
A dominant tree in the western US that can reach 250' tall. Indigenous people used the pitch from the pine in medicines.

17. Western redcedar
(*Thuja plicata*)
A massive, long-lived native of the Pacific Northwest. Indigenous tribes used the wood to construct homes, totem poles, canoes, instruments, and tools.

18. Long leaf pine
(*Pinus palustris*)
Currently one of the most endangered forested ecosystems in the US. Critical habitat for several wildlife species. Restoration efforts are underway in Virginia and other southeastern states.

19. Himalayan white pine
(*Pinus wallichiana*)
This pine is widely used for timber and a source of turpentine in its native range. How many needles does it have per bundle?

20. White spruce
(*Picea glauca*)
Native to the northern forests of the US and most of Canada. The needles are eaten by rabbits and grouse, and the seeds are a favorite of red squirrels.

21. Arizona cypress
(*Hesperocyparis arizonica*)
A drought-tolerant native of the southwestern U.S. A good landscape specimen even in our area. Virginia State Champion.

22. Dawn redwood
(*Metasequoia glyptostroboides*)
A "living fossil" thought to be extinct by western science until found growing in China in the 1940s. Now widely planted throughout the world.

23. American arborvitae
(*Thuja occidentalis*)
A unique native conifer with awl-shaped needles and small, flower-like cones. Wildlife feed on the foliage and the dense canopy provides shelter.

Confusing Conifer Names

An example of confusing names found in our area is the Eastern red cedar. Despite its common name, the tree is not a true cedar (belonging to genus *Cedrus*) it's a juniper (*Juniperus*). There are no true cedars native to Virginia, but there are several planted in the collection.



The needles and cones of Eastern red cedar (*Juniperus virginiana*), not a true cedar.
GeoO, CC BY-SA 4.0 via Wikimedia Commons.



The needles and cones of a true cedar, Cedar of Lebanon (*Cedrus libani*).

Nurture your conifer curiosity as you explore the walk, taking note of the different shapes, colors, textures, and scents.