

Washington: The Conifer State

By John Neorr, Native Plant Steward

When I first came to Washington from Ohio, my impression that “The Evergreen State” meant just that – the state had one tree – the evergreen. My Ohio eyes could not distinguish between a hemlock and a fir, much less distinguish one fir from another. Now, after more years than I want to say and a little training on the side, I realize those “evergreens” I was seeing were more precisely “conifers” – members of the Pinales order. Species within this family are all cone-bearing (coniferous) trees with “needles” (which are actually leaves). They are resinous, and *most*, but not all, are evergreen. The best reference I could find on Washington conifers was *Trees of Washington*, by Milton M. Mosher and Knut Lunnum. In this book, they list 21 different conifers, all of which are listed below and some of which are discussed in this article. As near as I can tell, we have 8 of the 21 in the Arboretum. But don’t take my word for it - take a stroll and see for yourself how many you can count.

Spiky Spruce, Friendly Fir

The diagram in this article lists the families and genera (plural of genus) within which our 21 Washington conifers fall. Although looking at the taxonomy of conifers can be forbidding, it does

Washington Conifers

- Cupressaceae (Cypress Family)
 - *Thuja* (Cedar or Arborvitae)
 - **Western Red Cedar**
 - *Callitropsis* (Cypress)
 - **Alaska-cedar**
 - *Juniperus* (Juniper)
 - **Rocky Mountain Juniper**
 - **Common Juniper**
 - **Western Juniper**
- Pinaceae (Pine Family)
 - *Abies* (Fir)
 - **Pacific Silver Fir**
 - **Subalpine Fir**
 - **Grand Fir**
 - **Noble Fir**
 - *Tsuga* (Hemlock)
 - **Western Hemlock**
 - **Mountain Hemlock**
 - *Pseudotsuga* (False Fir)
 - **Douglas-fir**
 - *Pinus* (Pine)
 - **Western White Pine**
 - **Whitebark Pine**
 - **Ponderosa Pine**
 - **Lodgepole or Shore Pine**
 - *Picea* (Spruce)
 - **Sitka Spruce**
 - **Engelmann Spruce**
 - *Larix* (Larch)
 - **Western Larch**
 - **Subalpine Larch**
- Taxaceae (Yew Family)
 - *Taxus* (Yew)
 - **Pacific Yew**

provide a useful reference for distinguishing the characteristics of different plants. Thus, members of the pine and yew families have needle-like leaves whereas cypress family members have flat, scale-like leaves. (And you thought they were needles!). Yews are dioecious (they have separate male and female plants) whereas pines and Cypresses are monoecious (male and female flowers are on the same plant).

The *Trees of Washington* book provides excellent help in distinguishing one conifer from another, as does *Plants of the Pacific Northwest* by Jim Pojar and Andy MacKinnon. The latter book is especially good in distinguishing one *species* from another. For some common species and genera you can apply a few simple rules for distinguishing one specific tree or tree type from another. For example, Western Red Cedar (*Thuja plicata*) and Alaska-cedar (*Callitropsis nootkatensis*) are similar, but the Western Red Cedar has distinctive bright reddish-brown bark. A distinguishing characteristic of the Alaska Cedar is its drooping branches and round, brown cones. This tree is also called the “stinking cedar” because, unlike the Western Red Cedar, its needles, when crushed, give off an unpleasant smell. Junipers can be distinguished from other members of the Cypress family by their berry-like cones which typically are covered with a whitish film. Within the pine family, the “pines” (genus *pinus*) are distinguished by clustered round needles. Whitebark (*Pinus albicaulis*) and Western White pine (*Pinus monticola*) have 5 needles in a cluster, Lodgepole pines (*Pinus contorta*) have 2 per cluster, and Ponderosa pines (*Pinus ponderosa*) have 2 or 3. Unlike pines, hemlocks have flat, tapered needles less than 1” long whereas firs have soft, flat, untapered needles greater than 1” long. Finally, spruces have round, relatively stiff needles. Thus the memory jogger – “spiky spruce, friendly fir.”

Our State Tree

OK, ask 10 people what the Washington State Tree is. Do you know what it is? If I knew 10 people I would ask them. Nevertheless, my sample of one leads me to believe that most people do not know what it is. Douglas-fir? Western Red Cedar? NOT! I know you can't stand the suspense any longer, so here it is --- the Western Hemlock (*Tsuga heterophylla*).

It was in 1946 that the Portland *Oregonian* chided Washington for not having a state tree. I guess they were feeling smug, having already snatched the Douglas-fir (*Pseudotsuga Menziesii*) as their state log. Although newspapers in our state favored the Western Red Cedar, state representative, George Adams, convinced the legislature to name the Western hemlock our tree because, he declared, the tree would become "the backbone of this state's forest industry." The Western hemlock was formally anointed in 1947. The Western Red Cedar, a cultural icon in this state and long known as "the life giver," sadly was relegated to second place.

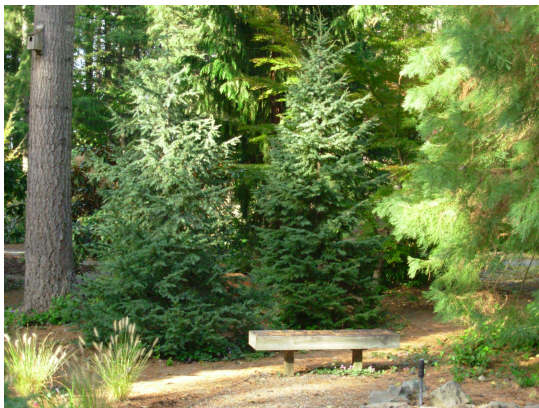
An Ugly Duckling

Most of our native confers tend towards stateliness. The marked exception is the Pacific yew (*Taxus brevifolia*). At first glance, we may think that this is only a plant that has little redeeming value. It usually is found hiding under the cover of hemlocks and Douglas-firs, surviving on scraps of sunlight. It can look slightly bedraggled as it slowly grows and pushes out spindly branches. Though not rare, Pacific yews are not a common sight in our local forests. That is why I was surprised to discover several of them growing in our Arboretum forest. Again, I will leave it to intrepid explorers to seek out these specimens. (If you find more than three, you have found uncharted plants!).

This lowly conifer, first documented by the Lewis and Clark expedition, leapt into the limelight in 1963 when the compound Taxol was extracted from its bark and proved to be effective in treating cancer. That was the good news – the bad news was that treating one patient required effectively cutting down 6 100-year old trees! Still, *Taxus brevifolia* featured prominently during the initial Taxol research effort. Fortunately, as the research progressed, a semi synthetic process was developed that eliminated any further need of yew bark. Once again Pacific yews returned to a peaceful, sleepy existence in our forests.

So why am I devoting so much space to this lowlife? As it turns out, this ugly duckling tends to (figuratively speaking) grow on you. Its uncommonness and its refusal to conform give it a quirky charm, that can give you, if nothing else, a conversation piece. Placing *Taxus brevifolia* in your landscaping arsenal provides a source of unusual shape and structure that, when surrounded by more conventional plants, can lend attractive variation to your yard and garden. Check for this plant in our nursery or look for it in other nurseries specializing in native plants.

What should I plant?



Mountain Hemlock in Lake Wilderness Arboretum

The question that you might ask is, "What tree should I plant?" That's easy: the answer is, "It depends." If you have 40 acres, plant at least one of each! There is something exciting about having a "set" of trees for which you can say, "these are our state's trees." Furthermore, it provides a "test set" from which you can make observations about what grows good and what doesn't. Obviously, not all trees will grow well (if at all) in your local soil, light, elevation, and water conditions, but it's fun experimenting and learning. Of course, most of us do not have 40 acres. You may then have one or more of these three requirements: a border/screen, specimen tree(s), accent tree(s). If you want to plant conifers as a buffer/screen for your property,

you can't go wrong planting Western Red Cedar. Douglas fir also makes a good screen as long

as it gets sufficient light. These trees will eventually get enormous, so you might want to talk to a local nurseryman about alternative cultivars. If you plant either of these species, I recommend that you make your initial planting close together (5' -10' apart) depending on the size of tree being planted. Later, remove intermediate trees as they grow bigger. Too often, people try to prune intermediate trees rather than removing them and letting the remaining trees fill in. If you want to be a little more adventuresome, intermix Western White pine and Sitka spruce in your border. The spruce will provide a thick screen whereas the pine will be sparser. Likewise you could plant Shore pine (*Pinus contorta*) as a border that would be sparse enough to allow seeing into and out of your property. Again, with the possible exception of the Shore pine, these trees will get very large.

If you need accent trees for your yard, two possibilities are the Pacific yew mentioned earlier and the common juniper (*Juniperus communis*). Both of these slow-growers provide unusually shaped year-round color that not only adds accent to your yard, but provides food for wildlife.

Interesting and attractive specimen trees for your yard include the Sitka spruce (*Picea sitchensis*), Mountain hemlock (*Tsuga mertensiana*), Noble fir (*Abies procera*), and Pacific Silver fir (*Abies amabilis*). All of these specimens are growing in the Arboretum and doing well. My personal favorite is the Mountain hemlock which is beautifully shaped with soft needles and dense foliage. It seems to grow slowly at our altitude which is also a plus. The Pacific Silver fir is also an extremely beautiful tree (*amabilis* means lovely), but it will eventually get quite large (over 150')! My recommendation is to start fairly small (4'-5') and let the next guy worry about the size. If you become the "next guy," you may be forced to cut down a tree that is beautiful, but simply too large for your property. Don't feel bad; just plant another tree or two.