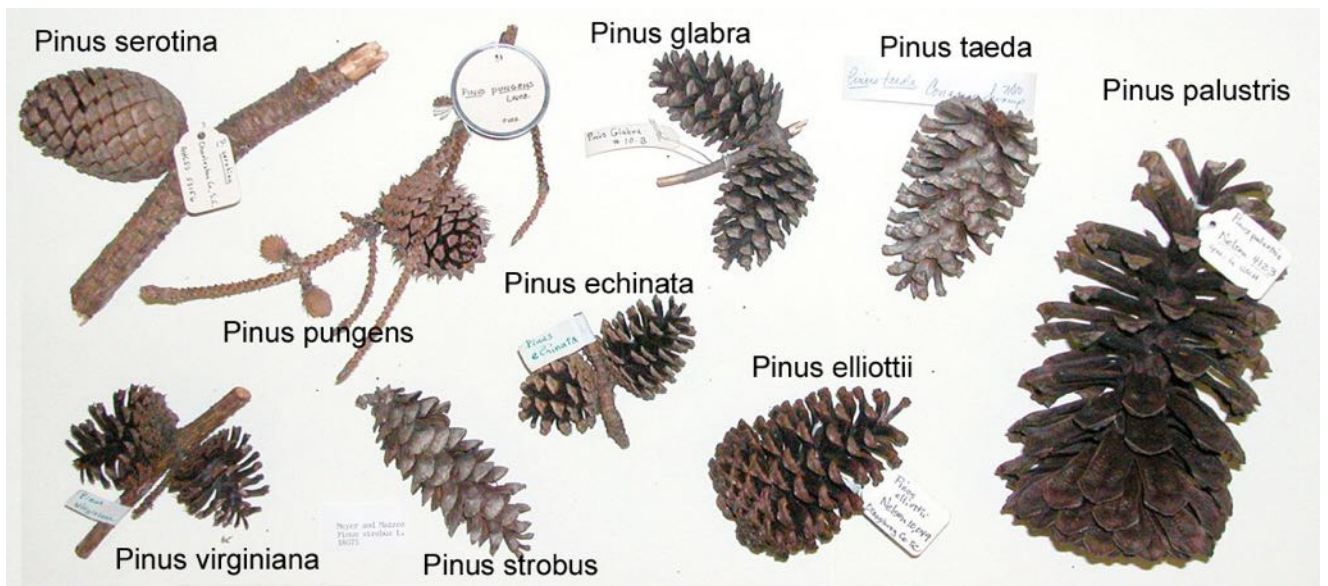


# The Pines of South Carolina

A. C. Moore Herbarium  
University of South Carolina



## 1. Loblolly pine, *Pinus taeda* L.

Loblolly pine is one of the most widespread plant species in South Carolina, possibly the most common tree species of all. It occurs naturally on the coastal plain, but has been planted so widely throughout the state that it is a common sight in all counties, except the most mountainous parts of the Blue Ridge escarpment. Loblolly is potentially an enormous tree: the tallest individuals in the state are at the Congaree Swamp National Monument (Richland County) where some plants are upward of 120' tall.

Loblolly is distinctive, but is sometimes confused with slash pine and short-needle pine. The cones of loblolly are up to about 7" long, dark gray (or nearly black) and with somewhat silvery scale tips. The scales are sharply prickly, and one identifying trick is said to be squeezing the cone, which can be painful!

The needles are medium in length, usually 8-10", and in threes. Rarely, two needles will be found.



## 2. Longleaf pine, *Pinus palustris* Miller

This is one of the most stately and best-recognized plants of the coastal plain. Longleaf (sometimes called "Yellow" or "Southern" pine) was formerly the dominant tree species of millions of acres of coastal plain forests from Virginia to Texas. Sadly, and due to human exploitation, longleaf is present today in only a shadow of its former range. Fortunately, considerable acreages have been maintained which feature this magnificent tree and its naturally occurring habitats.

Longleaf pine has the largest cone of any of the pines in our state, commonly up to 12" long, with the scales broadly flaring or reflexed on fallen, dried examples. The green cones are tight and prickly.

This is the only pine in our state which features a "grass" stage: the young seedlings spend much of their development in the formation of a deep tap root, and the above-ground portion of the young tree resembles a patch of grass. This is a highly effective means of surviving forest fires, as needles which occur on the young stem will protect the sensitive terminal bud from burning. The needles thus act as insulation during times of fire.

The needles are always in threes, and are the longest of all the Carolina pine species. Some actively growing trees produce exceptionally long needles, to nearly 18".



### 3. Pond pine, *Pinus serotina* Ehrh.

Pond pine, occurring in every coastal plain county, is a very distinctive plant. Its needles are held in bundles of 3 (rarely 2), and the cones are short and squatty, shaped like toy tops. Generally these cones are wider than long. The cones tend to remain on the branches for years after they have shed their seeds. This species is highly adapted to repeated fires, and following burns, the trees tend to sprout with new growth directly from the trunks, resulting in "bushy" growth. No other pine in South Carolina does this. Field workers in sites with pond pine frequently complain of being "charcoaled" by burned twigs of previously burned stems of pond pine. What sissies!

Pond pine is most frequently seen on sandy swales adjacent to wetlands (especially pocosins or streamheads) commonly on sandy or peaty soils. Frequent associates are sweet bay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), ti-ti (*Cyrilla racemiflora*) and dog-hobble (*Lyonia lucida*).



#### 4. Shortleaf pine, *Pinus echinata* Miller

This is one of the most common pines in our state, and is frequently confused with loblolly pine. The two species are very easy to distinguish, however, as loblolly has its needles in threes and shortleaf has needles in twos. Further, the needles of shortleaf (sometimes called "shortneedle") tend to be shorter (usually not more than about 6" long) and twisted. The cones of shortleaf pine are distinctively small and prickly. This is a very important lumber tree in the Southeast. In South Carolina it is most common in the piedmont and midlands, but may be found in every county of the state.



## 5. Table Mountain pine, *Pinus pungens* Lambert

One of the most striking pines in appearance, Table Mountain pine is restricted to the mountains and upper piedmont. This is a tree commonly with a grizzled look, especially when growing on poor soils on steep slopes. The needles are mostly in twos in a fascicle (sometimes threes), and, unlike most other pines, somewhat stiff, tending to break when bent. The cones are massive and heavy, remaining on the branches for several years. Each cone scale is equipped with a strong, stout spine. A good place to see this tree is on the summit of the Pinnacle at Table Rock State Park in Pickens County.



## 6. White Pine, *Pinus strobus* L.

White pine is the only South Carolina member of the pine subgenus "Strobus", featuring a single strand of vascular tissue in each needle. (All of our other species belong to the subgenus "Pinus", and contain two vascular bundles per needle.) White pine naturally grows in the mountains, and is capable of attaining great height, well over 100' tall. Most of the original stands of old-growth white pine have long since been cut, as this is a highly prized timber tree. The wood is fine-grained and handsome.

This is a very easy tree to recognize in South Carolina: there are five needles per fascicle, and the needles are often bluish. The trees have relatively smooth bark, and the branches arise from the trunk in successive rings or whorls. The cones are long and slender, and the scales lack spines.

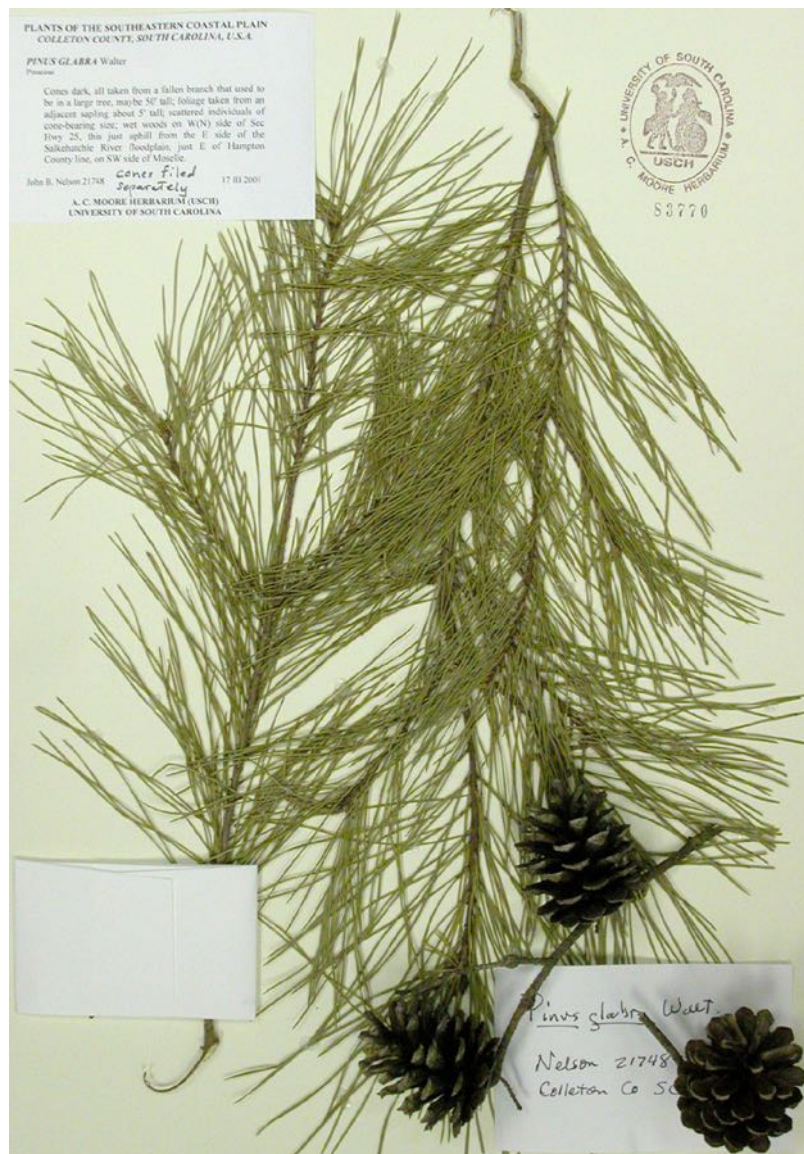
Although it is native to the mountains, white pine does well in cultivation in South Carolina, at least toward the coast as far as Columbia. The trees tend to be susceptible to air pollution, and can suffer from heat stress.



## 7. Spruce pine, *Pinus glabra* Walter

The northern limit for this species is probably lower Georgetown County. It occurs as an outer coastal species to the Savannah River and farther south. Spruce pine is somewhat unusual in being shade-tolerant, commonly occupying wet soils along river drainages of the coast. The needles are relatively flexible and slender, up to about 4" long, and not twisted. There are two needles per fascicle. The cones are small, closely resembling those of shortleaf pine, but the scales are not as prickly. Spruce pine resembles White pine in overall growth form.

This pine was named by a South Carolina botanist, Thomas Walter, the author of the first published Flora in North America. The trees are sometimes called "Walter's" pine. A good place to see this species would be along the lower Edisto River, including Givhans Ferry State park.





## 8. Slash pine, *Pinus elliottii* Engelm.

Slash pine is native to South Carolina from about Charleston County to the Savannah River, but has been very widely planted over all of the Coastal Plain. This is an extremely rapidly growing tree, much prized for pulpwood. The trees are very susceptible to ice damage during winter storms. Slash pine is commonly seen as a street or yard tree, frequently confused with longleaf or loblolly. It is distinguished by having needles up to about a foot long, considerably longer (usually) than those of loblolly, and with needles in both twos and threes on the same branch. The cones are relatively large, between longleaf and loblolly in size. The ripe cones tend to be reddish, and not very prickly. (This is the preferred cone for constructing Thanksgiving "turkeys" for the dinner table...the cones don't take up as much room next to the gravy as longleaf "turkeys".)

A separate variety of slash pine occurs in south Florida.

Slash pine was named *Pinus elliottii* in honor of noted South Carolina botanist Stephen Elliott (1771-1830). Elliott, a native of Beaufort, also served as a state senator for several years, and helped found the Medical University of South Carolina. USC's Elliott College, located on the Horseshoe, is named in his honor.



## 9. Virginia pine, *Pinus virginiana* Miller

This is a common pine in the mountains and piedmont, seen only occasionally in the midlands (for instance, Fort Jackson). It is sometimes called "scrub pine" for its usually scrubby appearance. The bark tends to be scaly and somewhat orangeish. When the plants grow with other trees (that is, in forest settings) the lower branches, after dying, tend to stay on the trunk. The needles of Virginia pine are in twos, up to 4" long. The cones are dull reddish brown, remaining on the branches for several years after dropping seeds.

Virginia pine is an active colonizer of disturbed ground, such as storm-damaged forests or old fields. It is of little importance as a timber species.



## 10. Pitch pine, *Pinus rigida* Miller

Pitch pine occurs from eastern Canada south through the Alleghenies and Blue Ridge, as far south as upper Georgia. It is not particularly common in South Carolina, and is restricted to our mountains. This relatively small tree has squatty, long-persisting cones which resemble those of pond pine. In fact, earlier botanical treatments sometimes maintained pitch pine and pond pine as varieties of a single species. The needles are in threes, and somewhat twisted, up to about 5" long. In the northern states, this was an source of naval stores (pitch and resin, whence its common name). However, the southern longleaf was vastly superior for naval stores, as well as for turpentine.



## Introduced Pines

### 1. Scotch Pine, *Pinus sylvestris* L.

Native to Europe and Asia, where it is an important source of lumber, Scotch pine is introduced in the US, sometimes grown for Christmas trees. The needles are in twos, strongly twisted, and sometimes bluish-green. The seed cones are small, up to about 3.5" long, and not prickly. In South Carolina it is sometimes found in persisting stands after cultivation.



## 2. Sand Pine, *Pinus clausa* (Chapm. ex Engelm.) Vasey ex Sarg.

Native to Florida and portions of the Gulf Coast, sand pine is at home on deep sands. In South Carolina, it has been introduced sparingly as a potential pulpwood source. The flexible needles are up to 4-5" long, slightly twisted, and usually dark green. The cones are small, not prickly, remaining on the branches for several years. Sand pine may be seen in parts of the Manchester State Forest (Sumter County) and some other sites.



### 3. Japanese Black Pine, *Pinus thunbergii* Parl.

Japanese black pine is introduced in South Carolina, apparently not naturalizing. It is an attractive landscape plant, and is frequently seen planted especially along beach developments, being tolerant of salt spray and wind. The trees are generally small, with bendable needles up to about 5" long. The elongated buds on the stem tips are silvery and white.

