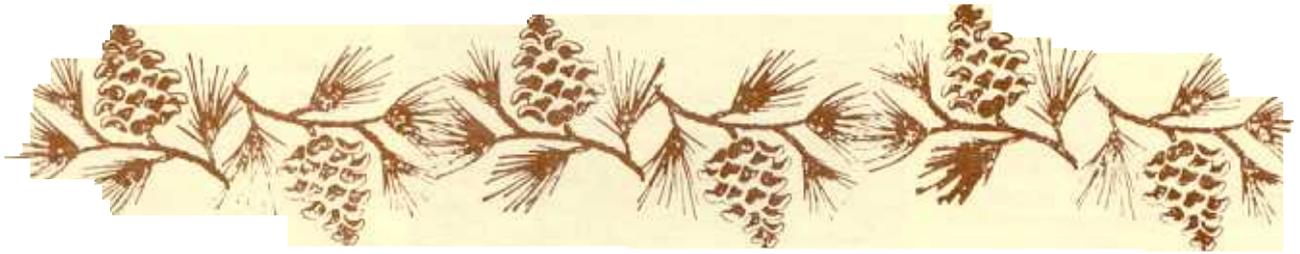


Florida Pines



Evergreens for the Christmas Season

by Maria Minno

The fragrance of evergreens during the holiday season is just as important to some of us as the smell of candied yams and pecan pie. As you gather pine boughs for your holiday table centerpiece or your front door wreath, think not only of the everlasting life of the spirit they represent, but also of the ever-continuing natural heritage of Florida's corner of the world.

In Florida, winter is a particularly good time to look at our many native evergreens. In particular, our pines can give us a sense of the history of the land they persist on; we can guess what kind of habitat our own home was built upon if there are a few old pines around.

There are seven species of pines native to Florida, each with its own story to tell.

Longleaf Pine

Our most noble and elegant conifer, the longleaf pine (*Pinus palustris*), was once Florida's most abundant pine, although now there are not a whole lot of them left. The needles (which are the leaves), 8 to 18 inches long [the editor's father once measured one 24" long], grow in little bunches of three, wrapped in what looks like brown tissue paper around their bases. This is called the fascicle sheath, and on longleaf pines it is over a half inch long.

The buds, too, can be used to distinguish most longleaf pines from other species. *Pinus palustris* is unique in having silvery terminal buds at the end of each branch. Slash pine and other Florida pines have brownish or rusty-colored buds. The cones of the longleaf, which may be ten inches tall, are the largest of any native species east of the Mississippi River.

Young longleafs remain in what is



Photos by Marc and Maria Minno

This longleaf pine is just coming out of its grass phase. Katharine Ordway Preserve, Putnam County.

called the "grass stage" for several years. Although most species of pines are resistant to fires at maturity, very young trees are quite vulnerable. But during the grass stage, the terminal bud, whose survival is crucial to the survival of the entire tree, remains enveloped within a tuft of needles at the surface of the soil. Because fires used to be frequent in sandhills and flatwoods, fuel rarely built up enough to produce much heat. So, historically, most fires just burned the edges of the leaf tuft, and the terminal bud was protected within. Once a large taproot has developed, after 5 to 15 years, the terminal bud shoots straight up on a substantial trunk within a matter of just a few months! This keeps the pine's growing points up high, again out of the reach of the flames.

Longleaf pines may grow to a height of 120 feet.

If you find an old longleaf pine around your home, you're lucky, since most were logged 50 to 100 years ago and are now in the enduring wood of our older

homes. Survivors of the timber industry may have been spared because of the naval stores industry. Tar, pitch, rosin and turpentine were obtained from these resiniferous trees. The scar, called a "catface," resulted when the bark was stripped down to the cambium layer. This caused the flow of the sap, which was funneled into ceramic pots via tin channels nailed to the tree. Cat-facing made the trees unsuitable for saw timber, because of the metal, which would damage saw blades used in lumbering.

A longleaf pine accompanied by turkey oak (*Quercus laevis*) indicates sandhill habitat. Turkey oak is an acorn-bearing tree with deeply and wildly scalloped leaves. Sandhill habitat was a favorite of our early settlers, the Florida crackers, and of the native peoples before them. Natural sandhill habitat is one of the most diverse communities in the southeastern United States, with a plethora of herb species.

Longleaf pines grow in dry and moist areas alike, the decisive factor being fire. In the northern two-thirds of our state, flatwoods were dominated by longleaf pines (which are absent from Florida south and east of Lake Okechobee). Flatwoods were once the most widespread biological community in Florida, formerly extending across perhaps half of the state's uplands. Also called pine savannah, this community occupies soils that are covered by standing water part of the year, and are subject to frequent fires (perhaps once every one to eight years). Longleaf pines accompanied by shrubs such as gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), and wax myrtle (*Myrica cerifera*), or wiregrass (*Aristida stricta*), tell you you're in genuine pine flatwoods.

Unfortunately, throughout Florida's

extensive flatwoods, most of the magnificent longleaf pines have been removed for timber and replaced by slash pines, which must be carefully tended by fire-fighters.

Slash Pine

Slash pines (*Pinus elliottii*) have needles five to ten inches long in bundles of twos and threes, with glossy brown cones two to six inches long. Trees of this species normally lack the grass stage that renders longleaf pine so resistant to fire. Thus the species was not particularly fire resistant in a land where most of the vegetation went up in smoke each year from lightning strikes. Historically, slash pine was restricted to areas protected from frequent fires, such as pond margins, small islands, peninsulas, etc. So, although it's now the forester's favorite, it wasn't especially common in days of old. Slash pines do grow fast, however, and may indicate either an area long-protected from fire (such as on very poorly-drained soil), or a former pine plantation.

In South Florida, Dade County pines (*Pinus elliottii* var. *densa*) once occupied flatwoods and limestone rocklands, and can still be found growing in less-disturbed places such as Everglades National Park and on the Keys.



Cones and foliage of sand pine. Fort Lauderdale Executive Airport scrub in Broward County.

Like longleaf pine, but unlike con-specifics farther north, the South Florida slash pine has a grass stage which renders it resistant to fires while it is young.

In northern Florida it is easy to distinguish between slash pines and longleafs. In central Florida, however, the two are hard to tell apart. Only slash pines can be found at the southernmost end of the Florida peninsula. There, however, they are similar to the Caribbean pine, common in the Bahamas.

Sand Pine

The sand pine (*Pinus clausa*) is a short-needled pine common in the Ocala National Forest. As its name implies, this tree is found where the soil is conspicuously sandy. Sand pines don't grow outside of Florida except for an area in the very southwestern tip of Alabama. A sand pine indicates scrub habitat, where rain-washed white-sand barrens appear between patches of scrub oaks.

Scrub habitat is particularly rich in endemic species, and may be Florida's oldest surviving natural community. More information on the ever-fascinating Scrub can be found in the Spring 1992 *Palmetto*.

Loblolly Pine

Loblolly pines (*Pinus taeda*) are nicknamed "old field pines" because of their habit of popping up after an area has been cleared of trees. An old loblolly pine may indicate a farm or pasture once occupied the land.

They have puzzle-patchy bark that exudes the fragrance of vanilla (or is it root beer?). They tend to branch and grow in a characteristically un-pine-like manner. Also, unlike most other pines, loblolly pines can tolerate a lot of shade, so are often found in open hammocks.

The cones, two to six inches long, are relatively small, and the needles, six to nine inches, grow in bundles of three (occasionally two).

Spruce Pine

Spruce pine (*Pinus glabra*) and sand pine are both short-leaved small-coned pines. And although these two pines are superficially very similar, and they both require habitats well-protected from fire, their sunlight and moisture requirements seem to be quite different. Spruce pines grow in moist, shady places such as deep wet woods, while sand pines grow in scrub, the hottest, driest habitat in Florida.

They can also be distinguished by their cones. Unlike spruce pine, sand pine retains its cones so long that the surrounding branches grow around them, and they seem to be imbedded in the wood.

In Florida, spruce pines grow only at the northern end of the peninsula and in the Panhandle.

Pond Pine

True to its name, the crooked, gnarly branches of the pond pine (*Pinus serotina*) may be found spreading over poorly-drained areas in the northern half of the state. Just south of the Oklawaha River in the Ocala National



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Forest, for example, there is a nice pond pine flatwoods.

Pond pines have small (two- to three-inch) roundish cones that are retained on the tree for at least a year, and perhaps well over a dozen years, remaining unopened for several years. Its needles, four to eight inches long, grow in fascicles of threes and fours. The bark is dark gray or reddish-brown,



Pond pine. Port Orange wellfield in Volusia County.

forming irregular vertical plates that are thin and narrow. If you see a pond pine that planted itself, then you know that—even if the place has changed over the years—it used to have a fluctuating water table and frequent fires.

Shortleaf Pine

In some parts of the Panhandle, shortleaf pine (*Pinus echinata*), can be found invading fertile, upland old fields alongside the loblolly pine. This tree has distinctive bark, forming heavy, reddish-brown, rectangular plates. The needles vary from two to five inches, and come in bunches of twos and threes; the cones are just one and a half to three inches long.

Spruce pine, which may occur in the same mixed hardwood forest as shortleaf pine, differs in that it has needles in fascicles of two, and dull dark gray bark, closely ridged and furrowed.

Although it is a colonizing species, relict individuals can be found in mixed hardwood stands. If you find this pine, then you'll know that the area was probably once used for pasture or agriculture, even if it's all grown up into a forest!

Things in nature change, but much of this metamorphosis is cyclical and predictable. For example, with the absence of fire in the longleaf pine

community, slash pines, which produce abundant seeds, will replace longleaf pines. Eventually oaks (such as live oak (*Quercus virginiana*), maple (*Acer rubrum*), magnolia (*Magnolia grandiflora*), and other fire-sensitive plants are able to grow and shade out the forest floor. These hardwood species block out more sunlight and prevent longleaf pines and other sun-loving sandhill species from reproducing. But they also enrich the soil with the leaf litter they produce. Under these conditions, a more shade-tolerant pine, such as spruce pine, or one that requires rich soil, such as loblolly pine, would be able to grow.

A little knowledge about pines, and a little bit about ecology, gives you a window into the past, and makes your Christmas decorations of sweet-smelling pine boughs more significant.

Maria Minno, who contributed the article on "Why Children Should Study Nature" in the last issue of The Palmetto, has a Master of Science in Botany, and is co-author of The Handbook to Schoolyard Plants and Animals of North Central Florida (available for \$4.50 from the Nongame Wildlife Program, Florida Game & Fresh Water Fish Commission, 620 S. Meridian, Tallahassee 32399-9969).

References

- Clewell, Andre F. 1985. Guide to the Vascular Plants of the Florida Panhandle. University Presses of Florida, Gainesville, Florida. 605 pp.
- Elias, T. S. 1981. The Complete Trees of North America: Field Guide and Natural History. Van Nostrand Reinhold Co., New York, New York. 948 pp.
- Feinsinger, Peter and Maria Minno. 1990. Handbook to Schoolyard Plants and Animals. Florida Game and Fresh Water Fish Commission, Tallahassee, Florida. 128 pp.
- Florida Natural Areas Inventory and Florida Department of Natural Resources. 1990. The Natural Communities of Florida. Florida Natural Areas Inventory, 1018 Thomasville Road, Suite 200-C, Tallahassee, Florida 32303.
- Kurz, Herman and Robert K. Godfrey. 1962. Trees of Northern Florida. University Presses of Florida, Gainesville. xxxiv + 311 p.
- Little, Elbert L. 1971. Atlas of United States Trees Volume 1. Conifers and Important Hardwoods Miscellaneous Publication No. 1146. United States Department of Agriculture, Forest Service, Washington, D.C. V + 9 pp. + 200 maps + overlays.
- Mattoon, Wilbur R. 1925. Forest Trees of Florida. Florida Forestry Association. 110 pp.
- Tomlinson, P. B. 1980. The Biology of Trees Native to Tropical Florida. Harvard University Printing Office, Allston, Massachusetts. v + 480 pp.
- West, E. and L. E. Arnold. 1946. The Native Trees of Florida. University of Florida Press, Gainesville, Florida. 212 pp.
- Ward, Daniel B. 1963. Contributions to the flora of Florida - 2, Pinus (Pinaceae). Castanea 28: 1-10.
- Wunderlin, Richard P. 1982. Guide to the Vascular Plants of Central Florida. University Presses of Florida, Gainesville, Florida. 472 pp.

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