

TRACKING FLORIDA'S CHAMPION TREES

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Additional index words. American Forests, big trees, Florida Division of Forestry, record trees.

Abstract. Florida is home to over 290 species of plants that can grow as trees. Larger, older specimens may be accorded the title of Florida or National Champion trees. Such titles accord status to the owner and nominator, and can give landscapers and horticulturalists a measure of the diversity of our state's flora. The authors outline the process used to measure and nominate such specimens through the Division of Forestry of the Florida Department of Agriculture & Consumer Services. Guidance is offered as to where additional Florida Champion species may be found. The search for Florida Champions and referrals to the National Register of Big Trees is a activity that can be encouraged by County Extension offices, Master Gardeners, professional horticulturalists, arborists, conservation groups, and interested property owners.

Background

In 1940, the American Forestry Association, Washington, DC., began keeping records of trees that were the largest of their species in the United States. From the start, this list of National Champions was well represented by individuals found growing in Florida. In 1978, the Florida Division of Forestry began to compile similar records of the largest trees in the state. Florida recorded both those that were national champions and those that, although perhaps surpassed elsewhere in the country, were still of record size within Florida. In Nov. 1990 the state's Division of Forestry joined forces with University of Florida Department of Botany to update and expand these records through the Florida Champion Tree Project.

This project was begun by creating a computerized database of the records kept by the Division of Forestry. Rules for inclusion were refined and adapted to meet characteristics typical of Florida's diversity of woody species, yet retained consistency with national guidelines as established by American Forests, the current name for the American Forestry Association. Many additional records of new champions were obtained by interested big tree hunters throughout Florida. As a result of the project, a comprehensive inventory of Florida Champion trees was published by the Florida Native Plant Society in 1997 (Ward & Ing, 1997). This paper examines the present records of national and Florida Champion trees and highlights trends found in the data.

Champion Nomination Process

In 1925, Maryland forester Fred Besley recognized a need to compare trees of different proportions, and developed the quantitative measurement process now used by big tree hunters (Ward and Ing, 1997). The nomination process involves measuring the dimensions of the specimen, certifying the measurements and species identity by a competent authority, and submitting an application to the Florida Division of Forestry. Species eligible to be nominated for National Championship status are then forwarded to American Forests.

Ranking of individual trees with different proportions is possible by comparing points assigned to a *nominee*. Points are awarded on the basis of a formula involving the height, crown spread, and the trunk circumference. Points are calculated as follows: Trunk *circumference* is measured in inches at a height of 4.5 feet above the ground level. In the case of a multi-trunked specimen, the largest individual trunk in the clump is measured. Vertical *height* measurements in feet are made from the ground level to the uppermost branch of the tree. *Crown spread* is the average of the widest and narrowest spread of the dripline in feet, and can be viewed directly under the canopy of the tree. The total points are calculated by adding the average spread (in ft) divided by four, plus the circumference (in inches) plus the height (in ft).

In Florida, measurements are recorded on a form available from local Division of Forestry offices and from some county extension offices (Florida Champion Tree Record, 1991). This form also asks for information about the landowner and the nominator, and requests that a photograph be submitted with the nomination.

In 1992, American Forest guidelines were revised to reflect special cases where a tree whose trunk was greatly enlarged at the base could be displaced by an individual with a greater volume of trunk. This volume rule may be used only when all contending trees can be measured by this method. As a result of this rule, a bald cypress (*Taxodium distichum* L.) located in Seminole County that is known as "The Senator" was reinstated as the Florida Champion because its volume was estimated as twice that of a Hamilton County challenger that had a broader base, but narrower upper trunk (Ward & Ing, 1997).

Championship Designation

Champion Trees are designated as such when the nominee is greater in point size than any other known example of its species. When the point values are so close that the difference between two nominees could be attributed to errors in measurement, the term *Co-Champion* is given to both individuals. *Emeritus Champion* is the term used to designate a previous champion that has been displaced by a larger specimen. *Challengers* are specimens that are close enough in total points that they would become the new champion if the reigning specimen declines or dies. *Honorable Mention* is the term used for individuals trees that have been included in the records but that are less than champion size. For example nineteen live oaks and eight bald cypress trees are listed by Ward and Ing (1997).

National Champions are the largest known trees of its kind in the United States. With few exceptions, the tree must be native to the United States. Nationally listed trees must meet the definition of a tree as used by E. L. Little of the United States Department of Agriculture's Forest Service (1979). This means the tree must have a trunk diameter of 3 inches or more at a height of 4.5 ft above the ground, with a crown of foliage and a total height of 13 or more ft. Little's checklist is used as the authority when determining if a species is considered a native tree in the United States. Florida Champions are defined somewhat more liberally. They may have 2.25 inch diameter trunk at 4.5 ft above the ground and must exceed 8 ft in total height (Ward and Ing, 1979). In Florida, the Commissioner of Agriculture presents a certificate to the landowner and the nominator upon a tree's designation as a Florida Champion.

It should be noted that championship status is honorary, and does not provide any direct protection to the tree. Two National Champion trees were bulldozed in 1995 to make way for road construction projects (Bronaugh, 1996). Such status may help justify preservation activities. The designation of six Florida Champions trees assisted in the acquisition of land for the redevelopment of a botanical garden in Indian River County (Podell, 1994). The term *Heritage Trees* refers to specimens that have some historical association. They may be quite large or of considerable age, but are not necessarily a champion tree. For example, the "University of Florida Bicentennial Tree" is a longleaf pine (*Pinus palustris* Mill.) estimated to be 227 years old and dedicated as such in 1976, but its 200 points do not exceed the Florida Champion (215 points) or the National Champion (238 points).

Champion Diversity

The National Register of Big Trees (1996) enumerated 840 champions or co-champions in its most recent update (Bronaugh, 1996). Florida contributed 146 National Champi-

Table 1. Selected Champion Trees of Florida and the U.S.

Species & Common Name	Trunk (inches)	Height (ft)	Crown (ft)	Points	State
"Featherweight division"					
<i>Guetardra scabra</i>	13	8	3	22	FL
Rough Velvetseed					
<i>Cornus asperifolia</i>	7	20	16	31	FL
Rough Leaf Cornel					
<i>Cereus robinii</i>	11	23	1	35	FL
Key Tree Cactus					
"Heavyweight division"					
<i>Sequoiadendron giganteum</i>	998	275	107	1300	CA
Giant Sequoia					
<i>Pinus taeda</i>	139	145	65	300	FL
Loblolly Pine					
<i>Ficus racemosa</i>	649	102	95	775	FL
Cluster Fig					
<i>Ficus benghalensis</i>	376	62	191	486	FL
Banyan Fig					
<i>Taxodium distichum</i>	550	89	46	651	FL
Bald Cypress (near Jasper)					
<i>Taxodium distichum</i>	425	118	57	557	FL
Bald Cypress ("The Senator")					

This tree is an Emeritus Florida Champion, having been displaced by the "Volume Rule", which resulted in "The Senator" being declared the Florida Champion.

ons to this list, more than any other state in the United States. Three factors have contributed to concentration of champions within the state. First, more species of trees can be found in Florida than any other state in the nation. According to Nelson (1994), Florida supports 275 native tree species, or 44 percent of the native North American tree species. Additionally, Florida has an extensive number of introduced and naturalized tree species. A second factor is the diversity of soil and climatic differences found throughout the state, which permit a great variety of plant specimens. Finally, Florida has enjoyed the efforts of many big tree hunters which have scoured the state in search of champion trees. Ward and Ing (1997) list 338 persons who nominated trees to the Florida inventory of big trees.

Ward and Ing (1997) list Florida Champions for 228 tree species native to Florida, and 118 non-native Florida Champion trees. While the Florida survey found 1041 valid big tree nominations and many more incomplete records of big trees, only 853 were listed in the Florida register. The difference between these numbers represents non-native species ineligible for national listing, or those that did not exceed the 100 point-level established by the project managers for publication in the Florida register.

Champions may be fleeting visitors to the list or may remain as a champion for extended periods of time. Four National Champions remain on that list since its inception in 1940, while the oldest record found in the Florida register is

Table 2. Florida native trees lacking National Champions.

Common Name	Botanical Name
Long-spine Acacia	<i>Acacia macracantha</i> Humb. & Bonpl.
Black Calabash	<i>Amphitecna latifolia</i> Mill.
Balsam Torchwood	<i>Amyris balsamifera</i> L.
Marlberry	<i>Ardisia escallonioides</i> Schlecht & Cham.
Flag Pawpaw	<i>Asimina obovata</i> Willd.
Cocoplum	<i>Chrysobalanus icaco</i> L.
Myrtle-of-the-River	<i>Calyptanthus zuzgium</i> L.
Limber Caper	<i>Capparis flexuosa</i> L.
Seven-year Apple	<i>Casasia clusiifolia</i> Jacq.
Coffee Colubrina	<i>Colubrina arborescens</i> Mill.
Cuban Nakedwood	<i>Colubrina cubensis</i> Jacq.
Rhacoma	<i>Crossopetalum rhacoma</i> Cranz
Varnish-leaf, Florida Hop-bush	<i>Dodonaea viscosa</i> L.
Spanish Stopper	<i>Eugenia foetida</i> Pers.
Red Stopper	<i>Eugenia rhombea</i> Berg.
Wahoo	<i>Euonymus atropurpureus</i> Jacq.
Princewood	<i>Exostema caribaeum</i> Jacq.
Krug's Holly Tawnyberry Holly	<i>Ilex krugiana</i> Loesn.
Georgia Holly	<i>Ilex longipes</i> Chapm.
Eastern Red Cedar	<i>Juniperus virginiana</i> L.
White Mangrove	<i>Languncularia racemosa</i> L.
Florida Licaria	<i>Licaria triandra</i> Sw.
Twinberry Stopper	<i>Myrcianthes fragrans</i> Sw.
Lancewood, Florida Nectandra	<i>Nectandra coriacea</i> Sw.
Bitterbush	<i>Picramnia pentandra</i> Sw.
Swamp Cottonwood	<i>Populus heterophylla</i> L.
Bahama Stopper	<i>Psidium longipes</i> Berg.
Maidenbush	<i>Salvia bahamensis</i> Britt.
Potato Tree	<i>Solanum erianthum</i> D.
Florida Tetrazygia	<i>Tetrazygia bicolor</i> Mill.
West Indies Trema	<i>Trema lamarkiana</i> Blume
Possum Blackhaw	<i>Viburnum nudum</i> L.
Tallow-wood	<i>Xemenia americana</i> L.
Spanish dagger, Aloe Yucca	<i>Yucca aloifolia</i> L.
Biscayne Prickley Ash	<i>Zanthoxylum coriaceum</i> A. Rich

These species are recognized as tree species by American Forests, but currently lack a champion. They are considered native to Florida.

Table 3. National Champion species lacking Florida Challengers.*

Common Name	Botanical Name
Wild Poponax, Huisachillo	<i>Acacia tortuosa</i> L.
Chalk Maple	<i>Acer leucoderme</i> Small
Sand hickory	<i>Carya pallida</i> Ashe
Georgia Hackberry	<i>Celtis tenuifolia</i> Nutt.
Pagoda Dogwood	<i>Cornus alternifolia</i> L.
Parsley Haw	<i>Crataegus marshallii</i> Egglest.
Washington Haw	<i>Crataegus phaenopyrum</i> L.
Winterberry	<i>Ilex verticillata</i> L.
Florida Anise-tree	<i>Illicium floridanum</i> Ellis
Yellow cucumber tree	<i>Magnolia acuminata</i> L.
Ashe Magnolia	<i>Magnolia ashei</i> Weatherby
Umbrella Magnolia	<i>Magnolia tripetala</i> L.
Odorless Bayberry	<i>Myrica inodora</i> Bartr.
Black Tupelo, Black Gum	<i>Nyssa sylvatica</i> Marsh.
Swamp Bay	<i>Persea palustris</i> Raf.
Smooth Sumac	<i>Rhus glabra</i> L.
Bladdernut	<i>Staphylea trifolia</i> L.
American Snow-bell	<i>Styrax americanum</i> Lam.
Bigleaf Snow-bell	<i>Styrax grandifolium</i> Ait.
White Basswood	<i>Tilia heterophylla</i> Vent.

*These species are recognized by American Forests as tree species and have a National Champion occurring outside Florida. There are currently no Florida Champions for these species.

that of a loblolly bay (*Gordonia lasianthus* L.) that was nominated in 1963. Although the term champion tree may impart the idea that a title holder is large, the ultimate size of a tree is dependent on the capacity of that species and its environment. Table 1 lists selected champion trees that demonstrate the range of champion measurements.

Missing Champions

Currently missing from the records are twenty-eight Florida native tree species and many more naturalized ornamental trees. With the publication of the Florida Register, the search can now be directed towards enlarging and updating this list of impressive Florida flora. Table 2 lists the missing twenty-eight Florida natives missing from the National Regis-

Table 4. Other Florida tree species lacking Championship nominations.

Common Name	Botanical Name
Small's Acacia*	<i>Acacia smallii</i> Isely
Indigo-bush*	<i>Amorpha fruticosa</i> L.
Sour orange*	<i>Citrus aurantium</i> L. Osbeck
Sweet orange*	<i>Citrus sinensis</i> L.
Grapefruit	<i>Citrus paradisi</i> Macf.
Rufous May Haw*	<i>Crataegus rufula</i> Sarg.
Golden Dewdrop*	<i>Duranta repens</i> L.
Wild Cotton*	<i>Gossypium hirsutum</i> L.
Rose of Sharon*, Shrub Althaea	<i>Hibiscus syriacus</i> L.
Sponge-bark Hypericum*	<i>Hypericum chapmanii</i> Adams
White Mullberry*	<i>Morus alba</i> L.
Jerusalem Thorn*	<i>Parkinsonia aculeata</i> L.
Guava*	<i>Psidium guajava</i> L.
Archibold Oak*	<i>Quercus inopina</i> Ashe
Pearl-berry*	<i>Vallisia antillana</i> Woodson

*These non-native species are listed by Little and may be eligible for National Championship status.
*These species are not recognized by American Forests as native species or do not meet Little's definition of a tree, and are ineligible for National Championship status. They are eligible for Florida Championship listing.
*This non-native species has a listed National Champion, but no Florida Challenger exists.

Table 5. Florida Counties with potential to yield Champion Tree nominations.

Counties without champion tree nominations = 10	
DeSoto	Gulf
Dixie	Hillsborough
Flagler	Holmes
Franklin	Osceola
Glades	Okeechobee
Counties with only one champion tree nomination = 8	
Baker	Hardee
Bay	Highlands
Bradford	Jefferson
Brevard	Union

ter. Table 3 lists species for which a National Champion has been designated but a Florida Challenger has not been recorded. Table 4 lists trees that would not be eligible for national listing but would be accepted as Florida Champions if a nomination is submitted to the Florida Division of Forestry. Notably missing on this list are the orange (*Citrus sinensis* L.), grapefruit (*Citrus paradisi* Macf.) and the sour orange (*Citrus aurantium* L. Osbeck).

Where to Find New Champions

Differences between the number of nominees found among Florida's 67 counties are dramatic. Ten counties in Florida lack any champions or nominees, while 59 of the 853 nominees listed by Ward & Ing (1997) are located in Monroe County. Some of this inequality can be attributed to climatic variation, especially in the Florida Keys, with unique temperature and habitat. The absence of nominations in other areas may possibly be due to a lack of effort expended in those areas. Table 5 lists Florida counties where few nomination records exist, and by implication, where investigations are likely to yield a number of nominations.

The search for Florida's champions may be undertaken by a variety of interested persons. Recent efforts have included formal appeals through horticultural groups. For example, Ward and Ing (1997) requested assistance in relocating 138 formerly listed trees in 1992; of that number, all but six were accounted for by early 1995. Informal training is suggested and encouraged. Young people can also learn how to measure big trees and develop neighborhood champion tree lists. Training materials have been developed to assist in these educational efforts (Ruppert et al., 1997).

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