

Rytidospermums in Florida

By Steven M. Riefler

... The Umbrella Magnolia

The only reported site of *Magnolia tripetala*, the umbrella magnolia, in Florida was published in *Rhodora* by R.F. Miller in 1975. This magnolia enjoyed an undisturbed life until a logging operation in the fall of 1983 eliminated all but two or three plants.

The Florida site of *M. tripetala* is in the Panhandle, in Okaloosa County, immediately on the south side of the Shoal River about seven or eight miles east of Crestview, due north of the intersection of U.S. highway 90 and Mt. Olives Road.

The original site was a several-parted ravine about 30 feet deep. It included an overstory of laurel oak, white oak, *Magnolia grandiflora*, slash pine, *Pinus glabra*, and so on. There was an understory of *Ilex opaca*, solid *Illicium floridanum* cover, *Stewartia*

malachodendron, needle palm, redbud, *Ostrya*, *Oxydendron*, and others.

Magnolia pyramidata was present, as was *Sabal minor* and *Magnolia virginiana* in the streambed. Dogwood and horse sugar (*Symplocos tinctoria*) were also present, along with several others in a list I have supplied to the Florida Natural Areas Inventory, 254 East Sixth Avenue, Tallahassee, Florida 32303.

At the times I have visited this site the soil (5 inches or so of rich humus over a wet, heavy clay) literally dripped moisture. As the site now remains, it is strewn with slash but not all the cover was cut, and a few oaks remain.

One would hope that the remaining *M. tripetala* may also survive the reduced moisture and the intense heat and light of its altered environment.

... The Pyramid Magnolia

The pyramid magnolia (*M. pyramidata*) in the western Florida Panhandle occupies areas of high relief and even moisture, from the east bank of the Ochlockonee River, in the eastern part of the Panhandle, westward. The pyramid magnolia has a much broader adaptive range than that of the Ashe magnolia (*M. macrophylla* f. *ashei*), which is confined to a relatively narrow area of the Panhandle.

M. pyramidata will occupy rather rich areas, such as the bluffs of the Apalachicola and Chipola rivers, as well as more acid and more sterile sites

such as ravine slopes of the upper Econfinia Creek area in the east to west central section of the Panhandle.

The pyramid magnolia is present in the sandhills from Wausau, in Washington County, westward, and on steep slopes along all the major rivers in the upper Panhandle. The largest *M. pyramidata* I have measured in the Panhandle area is in Torreya State Park, on the east side of the Apalachicola River. This tree was 59 feet tall with a trunk diameter of 13 inches at breast height.

Just south of Vernon, in Washington County, most individuals are less than

4 inches in diameter but some occasionally reach a much larger size, over eight inches across. In this area *M. pyramidata* is much less common than *M. ashei*.

The pyramid magnolia frequently flowers when only six or seven feet tall

... The Ashe Magnolia

The Ashe magnolia (*Magnolia macrophylla* f. *ashei*) is a Florida endemic that grows from Leon County, in the eastern part of the Panhandle, westward on ravine and other steep slopes within the sandhill region of the Panhandle. According to R.F. Miller, this species appears as far west as Avalon Beach, about 20 miles east of Pensacola.

This strip is delineated by sandhill ravines in the Florida Panhandle. On the Ochlockonee and Apalachicola River bluffs the ravines occur as natural outwashes on the east side of each river. They begin as steephead seepage springs where seeping water carries out substrate at the junction of the sand and clay horizons of the subsoil.

These ravines will not support the Ashe Magnolia if the soils are too sterile, as is true of the upper Econfinia Creek area north of Panama City, although a few plants occur in the middle area, which appears to be somewhat more fertile, near state road No 20.

Any cursory examination of U.S. geological survey maps in the southern Florida Panhandle clearly outlines Ashe magnolia habitat, the ravines that drain the northern edge of the sandhills, in a strip averaging four or five miles in width. Occasionally there are a few individuals on the steeper banks of larger streams that flow through the sandhills, but this is unusual.

The range is exactly limited. Trees will be abundant at the edge of the sandhills (a Pliocene sandbar a hundred miles or more in length), yet

on logged-over areas. A comparative examination of stamen scars indicates that the flowers on this plant have only about a third as many stamens as those of *M. ashei*, a companion plant here. Yet its seed viability is much higher, suggesting a possibly different pollen vector.

are absent a half-mile north, where clay becomes the dominant component of the soil.

The Ashe magnolia seems not to be very exacting as to soil pH or richness. It shares its habitat on the Apalachicola bluffs with such lime lovers as *Taxus floridana* and on the Ochlockonee bluffs with this native Florida yew and the needle palm. Westward, it picks up again in Washington County south of Wausau, where it is associated with plants that require somewhat more acid, such as *Rhododendron austrinum*, *Stewartia malachodendron*, and *Illicium floridanum*.

In more acidic environments such as those occupied by *Rhododendron canescens* and *Kalmia latifolia*, the numbers of Ashe magnolia begin to drop off, though *M. pyramidata* still occurs in such areas.

The typical specific habitat of *M. ashei* is a forest of beeches, magnolias, white oaks and hickories with 100 percent canopy cover, just below the rim of a steephead, that is, at the beginning of a spring-fed ravine. The soil is extremely well drained, the water non-fluctuating. In well populated habitats, there will be a plant every 30 feet or so.

The Ashe magnolia is one of America's natives with excellent ornamental potential. This author has raised several thousand plants from seed. This magnolia is well adapted to pot culture. *M. ashei* will grow and flower well as far north as the Arnold Arboretum in Massachusetts and as far south as Orlando, Florida.

M. ashei usually has completed shedding its seed before September 1 and in dry years will drop its leaves very early in the autumn. This early completion of its annual growth cycle is probably genetic, for in most years there is drought from September to October in this area. Seed viability averages about 15 to 20 percent due to poor pollination. Many clones have rather small seed cones without ornamental attraction.

It is of interest to note that the typically small stature, the twig dieback, the diminution in the size of flowers and cones, and the narrowness of the cones all indicate a genetic adaptation that saves on carbohydrate expenditure. As a result of its shaded habitat, the tree's carbohydrate supply is chronically low. There is not enough to grow more wood or to seal off injuries. The trees never make it out of the understory as will typical *M. macrophylla*. Survival therefore depends on the plant husbanding its carbohydrate supply and flowering and fruiting when very small. Hence the precociousness of this magnolia.

As with any species, not all individuals are of equal garden merit. I have plants whose normal blooms may be as much as 12 inches across or as small as five inches. Some are pure white, some have deep maroon spots at the inside base of each of the three inner tepals. Some have broad, giant leaves (this is typical of specimens from the Apalachicola bluffs). Some are smaller and narrower. Some have cones that color red; some remain green. Still other cones are consistently "heavy duty." Plants from the Vernon area are susceptible to midsummer sunburn. Others are not, and generally trees from the Apalachicola area tend to be more treelike and sun tolerant.

Needless to remark, there is a great deal of room for selection, crossing, and more selection among the Ashe magnolias, and this the author has elected to do. Unfortunately, this plant doesn't propagate well from cuttings,

nor seed well in nature, since the beetle upon which it depends for pollination doesn't do a very good job.

It also is worthy of note that virtually all the area where this species occurs is either part of the Eglin Air Force reservation, Torreya State Park, or in private hands, and therefore is inaccessible to the seed collector. Any program of improvement needs to begin with collection of seed from the best plants across the entire range, then the seed must be grown out to flowering (which takes two to three years), followed by selection, crossing, and re-selection. Only in this way can a very good "pure" species be supplied to American gardeners.

How To Get 'Em

You can't say Steven Riefler, the Florida nurseryman who wrote the three articles on magnolias of the Rytidospermum Section in the Florida Panhandle, isn't motivated. To spread the word about the desirability of the subspecies *M. ssp. ashei* and *M. ssp. pyramidata*, he'll sell bare-root liners for 65 cents apiece, plus shipping. I don't know what he considers a minimum order, but I do know that these two magnolias are considered the rarest of the U.S. species. Also that they both become beautiful trees, and have been grown in a number of northern states without winter injury. His address: Rt. 2, Box 178B, Chipley, Fla. 32428.

AMS Bylaws

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