

# Sights and Scents among the Hardy Umbrella Trees

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Photos by Tim Savage

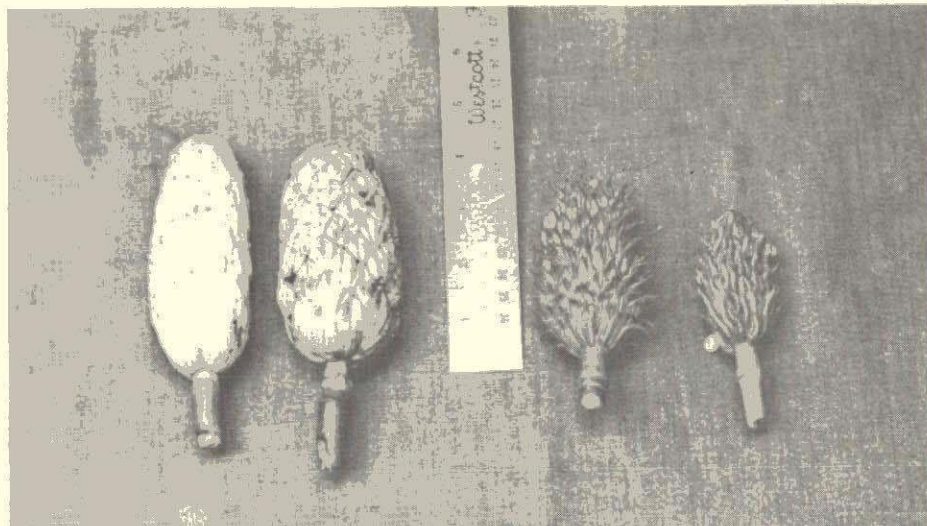


Fig. II. L to R: *M. tripetala*, *M. officinalis*, *M. hypoleuca* & *M. fraseri*.

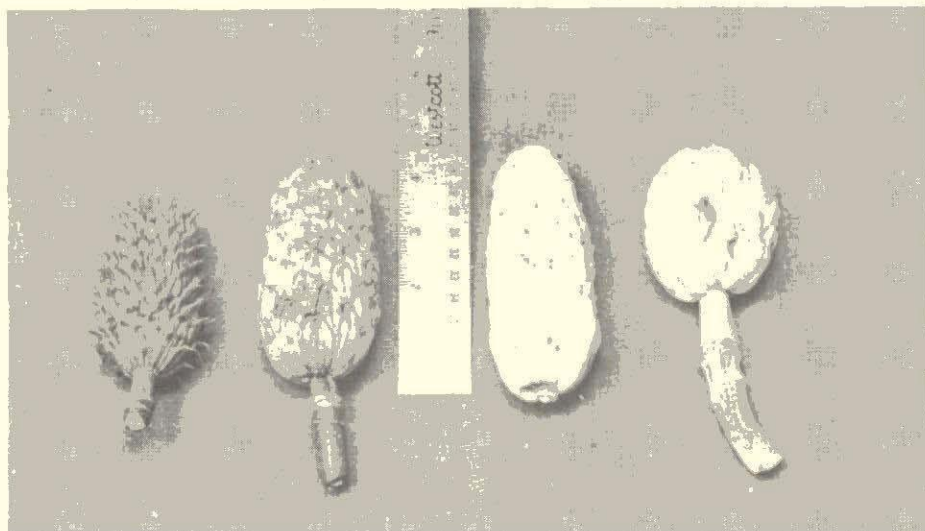


Fig. I. L to R: *M. hypoleuca*, *M. officinalis*, *M. tripetala* 'Bloomfield' & *M. macrophylla*.

To a person like myself, who not only smells every flower, but every cut twig, root and crushed leaf that comes to hand, magnolias of this section show differences between species as wide, or sometimes even wider, than those apparent in a purely visual examination.

It would seem logical to assume, for example, that all parts of any given tree or shrub, except perhaps the flowers, would have the same general scent. Every part of a carrot plant smells like a carrot. Onions smell of onion and so forth. In many woody plants and particularly magnolias, this is not the case.

We are all agreed, I'm sure, that *M. tripetala* has ill-scented flowers. The only plus we can give its floral odor is to say that in some clones it is not as strong as in others, with desirability in an inverse ratio to strength. Seldom noted, however, is the fact that tough old *tripetala* holds a variety of other scents, all of which are most attractive. The cut end of a twig, for instance, is redolent with the refreshing northwoods smell of Balsam Fir needles, perhaps from an essential oil as primitive as its conifer type of growth, and the "pine cone" appearance of its dried and empty carpophores. Even these have a different and refreshing aroma. The salmon-pink outer testa of its rough black seeds smells of tangerines when cut with a thumb nail, and while not strong, the scent of a crushed leaf is spicy.

Sometimes confused with *M. tripetala*, even in the nursery trade is another American "umbrella tree," *M. macrophylla*. Surprisingly, the huge flowers of this striking species are stingy with scent, and to my nose have an odor somewhat similar to that of the pink-gilled edible mushroom (before frying in butter). Cut ends of twigs and crushed leaves have an uninteresting, indistinctive odor like any handfull of crushed garden weeds, perhaps red-root pigweed. The light coral pink outer testa of *M. macrophylla* seeds smells vaguely of window putty. When cleaned, ready for storage, its elongated seeds have a smooth surface of a medium brown color and both appear and feel very distinct from the file surfaced and jet black seeds of *M. tripetala*. Altogether, *M. macrophylla* completely strikes out in the olfactory department, all parts of it, including crushed rootlets, are blah.

The glory of *M. macrophylla*, of course, lies in its enormous leaves of an exceedingly pretty bright green color. This is a light, or apple green, but in no way yellowish. It can only be called a "green green," like the Irish ballad, and surprisingly, dried herbarium specimens fully retain this startling color. One such specimen, at the Chicago Natural History Museum, was collected in 1859, but looks today as if it would revive if placed in water! Fall color is a pretty lemon yellow, soon marred with brown.

*Magnolia fraseri* is obviously an umbrella tree, though less gaunt in winter and better furnished with leaves in summer than the above two species. Its yellowish flowers open several weeks before those of *M. tripetala* and *M. macrophylla*, which probably accounts for the lack of natural hybrids in the mountains where all are native. Hybrids are easily produced by hand pollination from properly stored pollen. The "ear lobes" at the base of leaves of *M. fraseri* are a very dominant characteristic strongly inherited by its hybrid



progeny. Plants grown from seed of *M. tripetala* and pollen of *M. fraseri* have "ear lobes" as large as the latter parent, and rather surprisingly, seedlings of *M. hypoleuca* X *M. fraseri* are almost impossible to tell from pure *M. fraseri* even though the latter was the "father," or pollen parent. Even the bright purple color of young leaves is inherited and as the seedlings mature a bit it will be interesting to see if they are fortunate enough to inherit their sires unique and very attractive fall color. First turning a pretty golden yellow, the leaves abruptly darken to a uniform, bright mahogany color throughout the tree. This is not a "dead leaf brown," and they are not dry and withered, but smooth, glossy and healthy looking until they drop. This may, of course, vary somewhat from tree to tree as I have only one adult specimen at home. There is much variation in flowers of *M. fraseri* from tree to tree and year to year. Flowers bloom here the first week in May, just after trade form *soulangiana* but before *M. X 'Lennei'*. The colder the spring, the yellower the flowers. This miserable spring they were as yellow as lemons, and are very resistant to frost. The blooms have a flowery scent, as opposed to the "crocodile breath" of *M. tripetala*, but it varies from merely mild to what the musicians call "too piercing, man". Pollen of these umbrella trees will produce hybrids with *M. virginiana*, the *M. fraseri* cross having little "earlobes" and the telltale purple new growth, and the *M. macrophylla* cross very vigorous with "king sized" sweetbay leaves fourteen inches long by four across and glossy.

The rather ancient (1833) *M. X 'Thompsoniana'*, a putative hybrid of *M. virginiana* X *M. tripetala* and surprisingly rather tender to cold, has been updated by McDaniel with his cultivar 'Urbana' of the same parentage but improved hardiness.

The deep mahogany, almost maroon fall leaf color of *M. fraseri* is repeated in its smaller cousin, *M. pyramidata*, leading one to wonder anew if there is really a defensible specific difference in the two. Seeds of *M. fraseri* are notably small, much smaller than other species of this section except for *M. rostrata*, noted by Johnstone and others as having surprisingly small seeds. Fruits of *M. fraseri* ripen and split their carpels here earlier than any other magnolia, some years the first week in August.

Back in 1936, I obtained plants of *M. hypoleuca* from the late Mr. Charles Hetz, of Fairview Evergreen Nursery in Ohio. Young trees grow as straight as lances, and I would guess, to a much larger size than the American species of this section. Inner bark and seed coats of this species have an indistinctive, mildly spicy scent when crushed, and flower odor is rather like *M. fraseri*.

*M. officinalis*, wood and leaves are near scentless, but a crushed bud has a slight carbolic acid, "hospital" smell. Since bark and buds of this species are used in Chinese medicine, perhaps Chinese pharmacists beat Louis Pasteur to the discovery that carbolic acid kills germs! The variety *biloba* with "fish tail" leaves, appears to be the one favored for extraction of useful medicines, and useful they must be to have supported an industry in growing, collecting and shipping bark and buds of this species throughout

temperate China for hundreds of years. This is not apt to be humbug.

The "fishtail" leaves on *M. officinalis*: *biloba* come fairly true from seed, but to pollen of *M. tripetala* it produces vigorous trees with unlobed leaves.

There has been a surprising amount of discussion in Magnolia literature questioning whether *M. officinalis* is really distinct from *M. hypoleuca* or if both are grown for their bark in Chinese "Magnolia Plantations" indiscriminately. Some writers have noted only the slightest differences between them. I personally feel that both of them are more closely related to other species of this section than they are to each other. It is well to keep in mind that in Magnolia evolution we are dealing in mind-boggling millions of years during which continents drifted about and bumped each other like carelessly anchored skiffs, so that species which are close neighbors now, may have evolved with other groups of species half a world away,

It is interesting and perhaps useful to consider close relationships in this section from the standpoint of similarities in the shape and external structure of their fruit aggregates or carpophores. "By their fruits you shall know them," as the Book says. Seen in this light, the species fall into groups having little regard for the geography of today's world. Fruits of *M. hypoleuca*, with long "beaks" on each carpel, appear very unlike the huge russet colored and beakless fruits of *M. officinalis* (Fig. 1) and both fit much better into the grouping shown in Fig. 2. I don't grow the western Chinese *M. rostrata*, but feel it could well join *M. hypoleuca* and *M. fraseri* as close "kissin cousins" on the right side of the ruler in the picture.

The white to pale pink color of *M. tripetala* 'Bloomfield' fruit clusters does not seem significant since a sibling from the same fruit aggregate has brilliant red ones. This range in fruit color is found in sub-genus YULANIA also, and I have a white fruited *M. acuminata* among many red ones.

Very different in shape, feeling, and scent are the inverted pear shaped to nearly spherical fruits of *M. macrophylla* (Fig. 1). A thick velvety pubescence covers the carpels, and the entire structure has a softer and more yielding feel to it than the other members of the section. They ripen salmon rather than red or pink, and have no spice in their scent at all.

Hybrids of *M. tripetala* and *M. hypoleuca* with *M. macrophylla* as pollen parent appear rather poor do-ers and have little vigor. Pubescence shows up as a dominant characteristic and confirms the cross. They have not been hurt by two winters outdoors, but grow only a couple of inches annually. I have quite a few seedlings this year of *M. macrophylla* X *M. X 'Watsonii'* which seem considerably more vigorous. Pollen of *M. X 'Watsonii'* is viable, though it is sterile as a seed parent for me.

*M. macrophylla*, *M. ashei*, and *M. dealbata* are extremely closely related and may ultimately be considered races of one species. This species may indeed be less closely related to the other "umbrella trees" than appearances would suggest.

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