in Santa Cruz, California. Todd mentioned this tree as having twelve, (rather than sixteen), tepals, and scent, "a rather heavy mustiness". I have not detected a scent that would answer this description, but scents, as well as noses, differ.

In the July, 1959, (Vol 38, No 3), issue of the National Horticultural Magazine appeared a splendid article by M. S. member Dr. Elizabeth McClintock, of the California Academy of Sciences. Included is a full page illustration of M. *doltsopa* flowers, as grown in Stryburg Arboretum, where former Director Roy Hudson told M. S. members at the San Francisco meeting that he considered this species, "among the finest ornamental trees ever introduced to California." Another Californian, Mr. Philip E. Chandler, praised M. *doltsopa* and *Talauma hodgsonii* in Newsletter, Vol 8, No 2.

Writing of M. *doltsopa* in his fine book, "Trees and Shrubs For the Southern Hemisphere", Mr. R. E. Harrison mentions that. "There appears to be several types in cultivation in New Zealand, evidently seedlings originally, as foliage varies from six to ten inches long. The smallest leafed type roots freely from cuttings under glass, but the larger leafed form is increased mainly from layers."

I have side-grafted *Magnolia* × *veitchii* on both M. *doltsopa* and M. *figo,* and I understand Michelias have been grafted on *Magnolia* species in Alabama and California.

As to hybridizing, I have not been successful in producing seed on M. *figo* with pollen of M. *doltsopa,* but have ten lusty plants growing of the reverse cross. Leaves are short and broad, in fact nearly round on some of the plants, and very glossy, dark green. About twenty seedlings are growing well from seed of *Magnolia* × 'Sawadas Pink' fertilized with pollen of *Michelia doltsopa,* and *Magnolia* × 'Lennei Alba' with the same pollen. Most of the plants look just like seedling Magnolias, I regret to say, but about half a dozen are very dwarf, with strange, hard textured leaves. Time will tell. ***

Variations Within Magnolia Liliflora

by J. C. McDaniel, Urbana, Illinois

Not many years after its introduction to Europe (1790), *Magnolia liliflora* Desrouss, was crossed with M. *denudata,* and in 1827 Soulange-Bodin described the first of what was later joined by many other M. × *soulangiana* hybrid clones. Some of the latter, including the darkest flowered, are probably accidental backcrosses, with more *liliflora* ancestry. Relatively recently, American breeders have crossed *liliflora* with other Asiatic Magnolias including *stellata,* and with the Asiatic hybrid M. × *veitchii,* as well as with the American M. *acuminata.* Two qualities of M. *liliflora* which principally have given value to its hybrids are 1) its flowers, purple-pigmented (to various degrees) and 2) its relatively late flowering season, compared to other Asiatic members of its subgenus. Some, but not all hybrids, have the bushy growth of *liliflora.* The *liliflora* plant usually is

not as hardy as those of *denudata, kobus, stellata* and *soulangiana,* but its more tardy development of flowers makes it more reliable for flower production in the deep south and in other areas where it is wood-hardy.

The Magnolia Checklist, in preparation, at this stage lists under *Magnolia liliflora* thirteen variety or cultivar names not definitely reduced to synonymy under some other species or hybrid. They include, with dates of publication:

'Arborea' (1891)
'Atropurpurea' (1916) (probably = 'Nigra')
'Borreriana' (1891)
'Darkest Purple' (1949)
'Discolor' (1803) (= M. *liliflora* var. *liliflora)*
'Gracilis' (1805)
var. *inodora* (1817)
var. *liliflora* (1792)
'Nigra' (1883)
'O'Neill' (misspelled by Pickard in 1970 as "O'Niel")
'Purpurea' (1797) (may = var. *liliflora)*
'Reflorescens' (ca. 1850)
'Trewithen' (1955 illus.)

There are fifteen clones, cultivars or variety forms referable most likely to *liliflora* which were described under M. *obovata.*

By its 1891 description ("leaves a little smaller, reddish, rusty in the upper half and very pubescent. . .") is doubtful that 'Arborea' is pure M. *liliflora.* With 'Atropurpurea' combined with 'Nigra', and 'Discolor' now considered to be the typical var. *liliflora,* this still leaves ten names which may not represent that many clones.

Though native evidently in China, M. *liliflora* has not in modern times been found in an undisputably wild state. Most of the clones currently or recently cultivated were probably first propagated in China. So far as known, the clones in cultivation produce seeds only after cross-pollination, which usually has involved pollen of another species. The possibilities of breeding strictly within *liliflora* through inter-clonal crosses seem not to have been explored, and it cannot be stated at this time how compatible these are to each other's pollens. Some cultivars now listed under *liliflora* could perhaps be actually part of the seedlings which have arisen from backcrosses between M. *liliflora* and the various M. × *soulangiana* cultivars. Another possible source of new cultivars is somatic mutation; while this is as likely to occur in *Magnolia* as in apple trees, and has been frequently seen in some other species (particularly as leaf variegation chimeras), it does not seem to be documented in *liliflora.*

Among the older named *liliflora* clones, what I take to be 'Gracilis' seems to be less floriferous, lighter in flower color and less hardy than typical var. *liliflora,* but it suckers profusely in southern gardens and because it propagates so easily, has been perhaps the most common clone in gardens in the deep south. Otherwise, it seems inferior to the typical var. *liliflora* in floral value.

'Nigra' is said to have been imported from Japan to England by James Gould Veitch in 1861, and may have first reached America some years later. But "M. *obovata nigricans*" of Bouche & Bouche, 1855, was cultivated in Germany before the Veitch importation, and may be the same clone as 'Nigra'. On both sides of the Atlantic, 'Nigra' has frequently been called "M. *soulangiana nigra",* and probably is the "*Magnolia* Niagara" of one carelessly spelling Tennessee

advertiser, who gives no description. John C. Wister in Swarthmore Plant Notes (1955-56) described 'Nigra' as "hardiest *liliflora* form . . . fls. deep purplish maroon, darkest of all. 8-10 petals, 4 x 2 in. flower has narrow effect, dark inside as well as outside."

What is seen most commonly on the American market as *liliflora* 'Nigra' or *soulangiana* 'Nigra', however, appears to me not to fit this description. It is more likely the typical var. *liliflora* or something closer to that than to the 'Nigra' of Wister's description. Some sources have supplied 'Nigra' plants true to his description.

According to Pampanini (1916), Rinz of Frankfurt am Main, Germany, circa 1850, listed a cultivar similar to Veitch's 'Nigra' under the name "M. reflorescens". This was described as "flowers large, dark purple, reblooms in August-September." (So do several if not most *liliflora* clones, under good growing conditions, and so will the common M. × *soulangiana.*) A clone at the U.S. National Arboretum, referred to this cultivar, was crossed × M. *stellata* 'Waterlily' to produce the new hybrid 'Jane', a sterile triploid.

'Darkest Purple', offered by a Mobile County nursery as early as 1949 (under M. × *soulangiana)* was later transferred to *liliflora* by William Kosar of the U.S. National Arboretum. Aside from the name, I lack a description of it.

'Trewithen', simply illustrated by Johnstone (Asiatic Magnol. Fig. 11. 1955), was later described by Kruessmann (1961): "Flowers very large, to 12 cm. long, outside dark carmine, inside pale rose." I do not know it in America.

The relatively hardy, dark and large flowered M. *liliflora* that I call for propagation identity the O'Neill clone, has been grown by several nurseries in recent years, from material I collected on a tree at the home of Miss Mabel Irene O'Neill, 615 W. John Street, Champaign, Illinois. It came from an unknown nursery source and was on the property when Miss O'Neill and her sister purchased it in the 1950's. Its description fits what Wister wrote of 'Nigra' in 1955-56, and its flowers closely match the color illustration for *liliflora* without cultivar designation in Johnstone's book. Similar trees grew on a few other Champaign properties. Pending full identification (if possible) of its original cultivar name, I suggest that propagators keep it labeled as "O'Neill clone" and describe it as what 'Nigra' ought to look like. Further description: Flowers with 3 to 4 small sepaloid tepals, plus 7 to 9 large petaloid tepals, larger and darker than the 6 petaloid tepals of what is mostly cultivated in America as 'Nigra', and slightly later in season of spring bloom. It reflowers sometimes in late summer.

I have used the O'Neill clone in breeding. It is the pollen parent of the hybrid M. × *brooklynensis* 'Woodsman' (KO-2), discussed without the recently selected cultivar name in "Illinois Clones in M. × *brooklynensis*" in the first 1973 issue of Newsletter, American Magnolia Society.

The late D. Todd Gresham told me that his several hybrids with *liliflora* by M. × *veitchii* parentage also did not involve the usual 'Nigra', but another clone, the best *liliflora* he had seen in California. He did not otherwise identify it, and we can now only surmise which one of the named cultivars or unnamed clones it may have been. Possibly it was the same as the O'Neill clone.

The experience of other members with different cultivars of M. *liliflora* will be welcomed, for publication in future issues of the Newsletter.

At this point I had given copy for the article to my typist, and mentioned it in a phone conversation to Phil Savage. "What about *liliflora* 'Orchid'?" he asked, and briefly gave me his reasons for liking a hardy clone obtained under that name from Hillenmeyer Nurseries of Lexington, Kentucky.

Reference to the checklist showed no *liliflora* 'Orchid', but there was under M. *stellata,* cv. 'Orchid', a brief quotation from a letter (24 August 1961) by Louis Hillenmeyer, Jr.: "Flower buds more winter hardy. This clone was the only M. *stellata* to bloom in 1960." According to Santamour, Morris Arb. Bull. 16: 46 (1965), tepals, anthers and stigmas of 'Orchid' are colored red-purple. Inquiries are now under way to determine just where this 'Orchid' will fall, and to try to learn more about its origin and history. Who else has had experience with this? (There is no connection with 'Orchid Beauty', a M. × *soulangiana* cultivar produced by Otto Spring, and registered in 1970, except that the latter has M. *liliflora* 'Nigra' listed as one parent.)

I asked Phil to add on to this article a description of his plant of 'Orchid', and how he acquired it. His letter follows.

Dear Joe:

In about 1966, I was taking a phone order from a nurseryman-customer, one Fred Steinkopf. He said, "By the way, Phil, I know you are a Magnolia nut, what do you think of *Magnolia* 'Orchid'?" I told him I had never heard of it. Fred said he had one plant which was mixed in with an order of M. × *soulangiana* and M. *stellata* from the Hillenmeyer Nurseries at Lexington. I told him to hang on to it and I'd buy it from him. Fred set the plant aside.

Since then, I have grown fond of M. 'Orchid'. When Neil Treseder was here, he was delighted with the neat, round habit of the plant, and its magnificent foliage. Here is an unscientific description of 'Orchid':

Habit: Completely shrubby, symmetrical, dense but uncrowded, ball-shaped. It does not have the staggy, stubby, upright growth of M. *liliflora* 'Nigra'.

Foliage: Leaves obovate; acuminate tip; smooth, glossy; about the size and shape of leaves of M. 'Alexandrina', but considerably prettier, more like the Iufer clone of 'Diva'. Revolute edges.

Flowers: Buds curved like *liliflora.* Always have three tiny sepals and six, invariably six, showy tepals. Color is a jolly bright purple, not sullen like 'Nigra', but showy and visible from far away. A *faint* but refreshing and attractive scent is apparent. Flowers never open more than halfway to the horizontal. Inside of tepals much paler than outside, but not white.

Plant: Wood dark brown, like *liliflora.* Continuous sprouting from crown like *liliflora.* More arctic than 'Nigra', but tip kills in severe winters. Flowering goes on and on.

To me, 'Orchid' is a form of M. *liliflora* and I now see no *stellata* in it. Sexual parts of the flower are dark purple and typically *liliflora,* with much pollen produced. I have not observed seed, although fruits developed for a month or so last year to pollen of *cylindrica* and *kobus.* ★★★

Please address all general correspondence, dues and inquiries to our eager and energetic new Secretary, Mrs. Virginia Melnick, whose address appears on the inside front cover. Dues checks should be made out to the American Magnolia Society, rather than Mrs. Melnick or myself.

Late again, (with regrets) but at least a bigger Newsletter.

P.J.S.

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