MAGNOLIAS HARDY IN THE ARNOLD ARBORETUM

The magnolias comprise our most conspicuous flowering trees. There are some that can be grown in all but the coldest sections of the United States. Forty-six species and varieties are currently being grown in the Arnold Arboretum, but there are a few more that will prove hardy, too. They are valued chiefly because of their large and showy flowers, which start to appear at the end of April, with some plants still in bloom by early summer. Few have much to offer as far as autumn color is concerned, but all have bright red and interesting fruits during late summer and early fall.

Some of these interesting trees are native to North America, indeed some like Magnolia acuminata and M. virginiana are native to the state of Massachusetts. Those with colored flowers are mostly native in the Orient, except M. cordata which has canary yellow flowers. It should also be noted that there are quite a few excellent species native or hardy in the South that are not hardy in New England. Some of the most beautiful of all, namely M. sargentiana robusta and M. sprengeri diva, are natives of Asia, but not hardy in the North. When one has once observed the large, delicate, rose-colored flowers of these species, one does not soon forget them.

In height, magnolias range from large shrubs or small shrubby trees to standard trees maturing 90' tall. The tallest in the Arnold Arboretum are the two splendid specimens of M. acuminata in front of the Administration Building. This species, as well as M. obovata, will eventually grow to 90' high. The smallest is M. liliflora nigra which is actually a shrub of 9' but never has been hardy for more than a few years at a time for us here.

Among the lowest would be the extensive M. soulangiana clan, which contains the many varieties to be discussed later. In the eastern United States, M. stellata seldom grows over 20' tall, although I have seen it at “Bodnant” in Wales close to 40' high.
Admittedly, the foliage of most of the magnolias is coarse. The exceptions are probably *M. salicifolia* and *M. stellata* with leaves 1 1/2–4" long. On the other hand, there are several species which may have leaves 12" long or even longer, namely *M. fraseri, macrophylla, obovata, officinalis* and *tripetala*. On occasion, *M. macrophylla* will have the largest leaves of all, sometimes nearly 3' long. Foliage such as this greatly restricts the usefulness of the species, for, in a windy spot, the leaves are ripped and torn and thus can look disreputable for a great part of the season. On the other hand, when used properly in protected places, such trees create tropically exotic effects which can not be created in any other way.

The blooming period in the Arnold Arboretum extends from late April until early summer, depending on the species. Some years the *M. soulangiana* varieties make an attempt to bloom a second time in the late summer, but usually, when this occurs after a very wet summer, only a few flowers are produced. Because the flowers are so large, and come so late in the season, they frequently make a great impression on the gardener.

The order in which the species in the Arnold Arboretum bloom, is as follows:

- **Late April**—*denudata, salicifolia, stellata, kobus, loebneri, proctoriana*
- **Early May**—*soulangiana* and many varieties
- **Mid-May**—*fraseri*
- **Late May**—*acuminata, cordata, liliflora nigra, soulangiana lennei, tripetala, watsonii, virginiana*
- **Early June**—*obovata, sieboldii*
- **Mid-June**—*wilsonii*
- **Early July**—*macrophylla*

It is interesting to note, that in the warmer parts of the southern United States some magnolias will bloom as early as February, and *M. wilsonii* has been known to bloom in August.

The major number of magnolias in the Arnold Arboretum have white to creamy white flowers. The exceptions to this are *M. cordata* with creamy yellow flowers, *liliflora nigra* with very dark purplish-red flowers, *soulangiana* with its many varieties with pinkish to purplish flowers, *stellata rubra* with reddish flowers and *wilsonii* with pinkish flowers. In the following list of recommended magnolias, those in hardiness Zone 6, namely *M. liliflora nigra, sieboldii, thompsoniana* and *wilsonii* are not thoroughly hardy in Boston, for they have died out several times in the Arnold Arboretum (which is Zone 5) and no large plants are in the collections now. However, they should prove fairly hardy in Rhode Island and the warmer parts of Connecticut.

**Recommended Magnolias**

- **acuminata** 90' Zone 4 New York to Arkansas Cucumber Tree

A pyramidal tree, becoming spreading at maturity, chiefly of value for its foliage. The small flowers are greenish yellow and none too conspicuous, appearing
PLATE IV

Magnolia species—fifteen different leaves: 1, kobus; 2, loebneri; 3, sieboldii; 4, proctoriana; 5, soulangiana; 6, liliflora; 7, virginiana; 8, denudata; 9, stellata; 10, fraseri; 11, tripetala; 12, obovata; 13, acuminata; 14, cordata; 15, salicifolia.
after the leaves are fully developed in late spring. The leaves are 5–11 inches long. This is often used as understock in grafting other magnolias. There is a magnificent old specimen on the Hunnewell Estate in Wellesley, and two younger pyramidal trees in front of the Administration Building in the Arnold Arboretum.

**cordata** 30' Zone 5 Georgia Yellow Cucumber Tree

A smaller tree than *M. acuminata*, sometimes shrub-like, this has 4-inch canary yellow flowers, much better than those of *M. acuminata*. The leaves are 3–5 inches long. This might be used as the substitute for *M. acuminata* on the small place.

**denudata** 45' Zone 5 China Yulan

Formerly termed *M. conspicua* this tree produces beautiful creamy white, fragrant, flowers 6 inches in diameter in early May before the 4–6 inch leaves appear. An excellent tree, one of the best of the magnolias, it blooms at the same time (late April) as *M. stellata*.

**fraseri** 45' Zone 5 Virginia to Georgia Fraser Magnolia

The leaves are large, 8–15 inches long, and the milky white, fragrant flowers are about 8–10 inches in diameter, produced in May and June when the plant is in leaf. Because of large coarse foliage and flowers, this plant is difficult to use properly in the small garden.

**liliflora nigra** 9' Zone 6 China Purple Lily Magnolia

This variety has darker reddish-purple flowers than does the species, the flowers being 4–5 inches long and larger than those of *M. liliflora*. This is the hardiest of the *M. liliflora* varieties, but does not seem to last indefinitely in the vigorous climate of Boston, Massachusetts. It is actually a bush, not a tree. The flowers appear over a period of several weeks starting in late May or early June, usually with the leaves.

**× loebneri 'Merrill'** 50' Zone 4 (*stellata × kobus*)

This cross was made in the Arnold Arboretum in 1939 and the resulting hybrid is a vigorous growing tree, the original seedling now being over 25 feet in height with a sturdy trunk. It blooms before the leaves appear, at the same time as *M. kobus* and *stellata* (late April) with larger white flowers (often 15 petals) than either species, and may start to bloom when only five years old. One of the best and most vigorous of the early white flowering magnolias.

**macrophylla** 40' Zone 5 Kentucky to Arkansas Bigleaf Magnolia

This has the largest leaves and flowers of any of the hardy magnolias (in fact larger leaves than any hardy native tree in North America), and because of this should not be used in any planting exposed to winds where the leaves can be easily ripped and torn. The leaves are 15–25 inches and sometimes up to 36 inches long, as much as 7–12 inches wide. The creamy white, fragrant flowers
PLATE V

Magnolia buds. Left to right. Top row: *kobus borealis*, *denudata*, *cordata*, *soulangiana*, *kobus loebneri*. Middle row: *stellata*, *liliiflora nigra*, *proctoriana*, *salicifolia*, *liliiflora nigra* × *stellata rosea*. Bottom row: *virginiana*, *virginiana australis*, *tripetala*, *obovata*, *acuminata*, ‘Merrill.’
may be 8–14 inches in diameter, appearing in early July after the leaves are fully
developed. It should be used with extreme care, chiefly for exotic or tropical effects.

**obovata** 90' Zone 5 Japan Whiteleaf Japanese Magnolia

Although flowering after the leaves have developed in early June, the creamy white, strongly scented flowers, 8 inches in diameter, are most conspicuous. There is an excellent 40 foot specimen of this species at the rear of the Administration Building. The leaves 8–18 inches long and half as wide, are bluish white on the under side. This is better for garden use than the native *M. tripetala* which has flowers of a disagreeable odor. Still, it is a coarsely leaved tree, not good for wind swept situations, but most useful in creating exotic effects.

**salicifolia** 30' Zone 5 Japan Anise Magnolia

The aromatic odor of the leaves when crushed is what gives this densely branched, pyramidal magnolia its common name. The leaves are narrow, 1 1/2–4 inches long; the flowers white, 3 inches in diameter before the leaves appear in late April or early May. A good foliage tree as well as a good ornamental in flower.

**sieboldii** (parviflora) 30' Zone 6 Japan, Korea Oyama Magnolia

Small white waxy flowers 3–4 inches in diameter, with the center a mass of magenta purple stamens, and distinctly fragrant, are borne on this small tree in May or later. The leaves are 3 1/2 inches long. The plant is not long lived (25 years), but the branches root readily wherever they touch moist ground.

**× soulangiana** 15' Zone 5 (denudata × liliflora) Saucer Magnolia

A cross made by one of Napoleon's retired soldiers, about 1820. Undoubtedly many other crosses of these two species have been made since, most of the plants being large shrubs or small trees with vari-colored, large cup-shaped flowers, blooming just after *M. stellata*, *kobus*, *salicifolia* and *denudata*, but just before *M. liliflora*. It is best to select the better of the named clones for asexual propagation.

**Varieties of M. soulangiana**

'Alba' (syn. 'Superba,' 'Alba Superba') introduced 1867 by Louis Van Houtte, Belgium. Flowers white, outside of petals colored very light purplish. The tree is very compact.

'Alexandrina' introduced 1831, Paris, France. Flowers flushed rose purple outside, inside of petals pure white. One of the larger and earlier flowering varieties.

'Andre LeRoy' introduced 1900, Barbier, Orleans, France. Flowers are dark pink to purplish on the outside (color close to that of 'Verbanica'). The petals are white inside and the flowers are decidedly cup-shaped.

'Burgundy' introduced 1930 by W. B. Clarke, San Jose, California. Flowers are the deep purple color of Burgundy wine, appearing earlier than those of most other varieties.
'Brozzoni' introduced 1900, Barbier, Orleans, France. When wide open the flowers are 10 inches across making this one of the largest flowered varieties of the M. soulangiana group. The outside of the petals are tinged a pale purplish rose, but all in all it is considered one of the best of the white flowered varieties.

'Grace McDade' introduced 1945, C. McDade, Semmes, Alabama. Flowers are white with pink at the base of the petals.

'Lennei' introduced 185?, originated in Florence, Italy. This has the darkest purplish magenta flowers of this group (not as dark as M. liliflora nigra). 'Rustica' has more red in the flowers.

'Liliputin' originated in the Semmes Nurseries, Crichton, Alabama, a few years ago with small flowers and a smaller habit than most M. soulangiana varieties. It is slow in growth. The variety sold under the name 'Late Soulangiana' is similar in every way, although this supposedly came from England. We have not yet had the opportunity to observe either of these in growth.

'Lombardy Rose' introduced before 1957 by C. McDade, Semmes, Alabama. Lower surface of the petal is dark rose, upper surface white. This is a seedling of M. soulangiana lennei with flowers continuing to bloom for several weeks.

'Rustica' (syn. 'Rubra' or 'Rustica Rubra') introduced about 1893, Boskoop, Holland. Flowers are more rose red than those of 'Lennei' but they are somewhat similar, being 5½ inches in diameter. The inside of the petal is white but the general effect is more red than 'Lennei.'

'San Jose' originated about 1938, San Jose, California. Flowers are larger than many other varieties, rosy purple, and fragrant, and the plant is vigorous growing. This blooms earlier than most other M. soulangiana varieties and is said to be deeper colored than most, with the exception of 'Lennei.'

'Speciosa' introduced before 1830 in France. The flowers are almost white, 6 inches in diameter, very close to 'Alba' but just a trifle more color than 'Brozzoni.' It is important because it is the last of this group to bloom. Upright, tall and fast growing.

'Verbanica' - Flowers outside a clear rose pink, inside white. This blooms late, making a beautiful effect when most of the other varieties are dropping their petals. Its one drawback is that it is slow growing.

stellata (halleana) 20' Zone 5 Japan Star Magnolia

Double, white fragrant flowers, 8 inches or more in diameter, and appearing in late April before the leaves. The flowers contain 12–15 narrow petals. One of the hardiest of the Asiatic magnolias, usually more of a tall shrub than a tree, it makes an excellent and very popular ornamental specimen. We have grown many seedlings of M. stellata, as have others, and it must be said that many of the seedlings are inferior plants, growing much more like M. kobus and the flowers have fewer petals as well. Hence this species, if it is a species, should not be grown from seed but from cuttings taken from a good clone.
stellata rosea – Pink Star Magnolia

Flower buds pink, flowers usually white. This is mostly disappointing in flower, since by the time the flowers are fully open they have faded completely white.

stellata rubra – Red Star Magnolia

Flowers purplish rose, imported from Japan about 1925. There is another form of this which was raised in Boskoop, Holland, by Messers Kluis, before 1948. The flower color was noted as being fuchsia purple 28/3 in the Royal Horticultural Colour Chart. It is said to have been a chance seedling in a batch of M. stellata. I have not yet seen this in flower, but J. H. Johnstone notes that the flower color is vastly superior to that of M. stellata rosea.

There are several other seedlings of M. stellata with purportedly “red” flowers which may well merit further trial. Mr. K. Sawada of the Overlook Nurseries, Mobile, Alabama raised one in 1946 and calls it ‘Red.’ The flowers are 3-4 inches in diameter with 10-16 petals. The outside of the petals is a dark purplish red, the inside is white, but he says that when the tree is in bloom the general appearance is of more red than some that are being sold under the varietal name of rubra. The Arnold Arboretum is growing these forms together, and sometime will be able to say just which is best. Since the early flowering magnolias, in the North at least, all have white flowers, a premium should be placed on the best of these with colored flowers.

stellata ‘Waterlily’

Originated at Greenbrier Farms, Inc., Norfolk, Virginia, prior to 1939. It is more upright, bushy and twiggy than M. stellata. The flower buds are pink, the flowers eventually white and are slightly larger, with more narrow petals. It has always been assumed to be a cross of M. stellata × soulangiana but it looks very much like M. stellata. Mr. Paul Vossberg writes that 1,000 seedlings of ‘Waterlily’ were grown on Long Island and not one showed any traces of M. soulangiana or its parents M. liliflora and M. denudata.

×thompsoniana shrub Zone 6 (tripetala × virginiana) Thompson Magnolia

Originating about 1808, this hybrid has leaves 4-10 inches long, glaucous beneath and otherwise similar to those of M. virginiana. The creamy white flowers are 4½-6 inches in diameter, hence larger than those of M. virginiana and they are more globular as well, appearing in late June and July after the leaves have been fully developed.

virginiana (glaucá) 60' Zone 5 Eastern U.S. Sweet Bay Magnolia

A native shrub or tree from Massachusetts to Florida, one of the most fragrant of all the magnolias, with 3-5 inch leaves, whitish on the underside and white, waxy, very fragrant flowers in late June and July. In the far South the leaves are evergreen, but the plant is deciduous in the North, and more shrubby.

[ 26 ]
\( \times \text{watanii} \) 30' Zone 5 (oboata}\times\text{sieboldii}) Watson Magnolia

First known in France in 1889, but originally from Japan. This small tree has leaves 4-8 inches long and fragrant, saucer-shaped flowers that are pink with a ring of prominent crimson stamens in the center. It has larger flowers and leaves than \( M. \text{sieboldii} \), a closely similar magnolia. The flowers are borne in late June and July after the leaves have been fully developed.

\( \times \text{wilsonii} \) 24' Zone 6 W. China Wilson Magnolia

A magnolia very easy to grow, blooming normally in mid-June, but often with a second crop of white, saucer-shaped, fragrant and pendulous flowers in August. They are 3½-4 inches in diameter with a ring of red stamens in the center. The leaves are 4-6 inches long.

Magnolias which might be Considered Mediocre as Ornamentals

cylindrica - extremely rare, closely related to \( M. \text{kobus} \).

\( \times \text{kobus borealis} \) - the hardiest of the Asiatic magnolias, but not free-blooming. Sometimes it takes 22 years before the first flowers are produced. The species is frequently used as understock on which other magnolias are grafted.

\( \times \text{loebneri} \) - \( \text{stellata}\times\text{kobus} \). Select named clones only. 'Merrill' is the best at present.

\( \times \text{officinalis} \) - Zone 6 with large leaves (14-21 inches) and flowers (6-8 inches), but \( M. \text{oboata} \) is hardier and has better foliage.

\( \times \text{officinalis biloba} \) - a variety merely with notched leaves.

\( \times \text{proctoriana} \) - poor flowers, blooms with \( M. \text{stellata} \) and \( \text{kobus} \).

\( \times \text{slavinii 'Slavin's Snowy'} \) - 'Merrill' has larger flowers.

\( \times \text{slouangiana} \) - use the better named clones.

\( \times \) 'Amabilis' - differs little from other varieties.

\( \times \) 'Candelleana' - differs little from other varieties.

\( \times \) 'George Henry Kern' - Plant Patent #820 - with us, this does not have as large flowers as some of the other varieties.

\( \times \) Highland Park #2636; AA 885 - flowers brownish.

[ 27 ]
soulangiana 'Lennei Alba' – mediocre flowers.

'Norbertiana' – mediocre flowers.

purpurea – probably a name applied to mediocre seedlings.

'Spectabilis' – 'Brozzoni' is better.

'Triumphant' – resembles 'Rustica,' not rated outstanding by W.B. Clarke Co., San Jose, California, which has discontinued it.

tripetala – M. obovata has better flowers.

variegata – poor variegated foliage.

virginiana australis – differs little from the species.

wilsonii taliensis – differs little from the species.

Magnolias Needing More Trial

kobus 'Nana Compacta' (?) – originated in the old Kohankie Nursery of Painesville, Ohio, before 1930. A slow growing, compact plant with flowers as yet unknown.

grandiflora × virginiana – several hybrids now being grown at the National Arboretum deserve further trial.

× kewensis (salicifolia × kobus) – originated as a seedling at the Royal Botanic Gardens, Kew, England, in 1938 and first flowered in 1951. The flowers are pure white and the leaves are 4–5 inches long.

DONALD WYMAN

Still Time to Register for the Following Spring Classes

Spring Field Classes in Ornamental Plants  Instructor: Dr. Donald Wyman
Six meetings, Friday mornings, 10–12, April 29–June 3.  Fee: $2.00

Contrib. de l'horticulture francaise aux jardins americains
Instructrice: Madame C. Weber  Prix: $10.00

Field Botany II  Instructor: Dr. Burdette Wagenknecht
Five meetings. Tuesday afternoons, 2–4, May 3–31.  Fee: $2.00

Reminder

Arnoldia Subscriptions for 1960 not paid by May 1 will be discontinued.