

SOME DEVELOPMENTS IN MAGNOLIAS FOR THE GARDEN

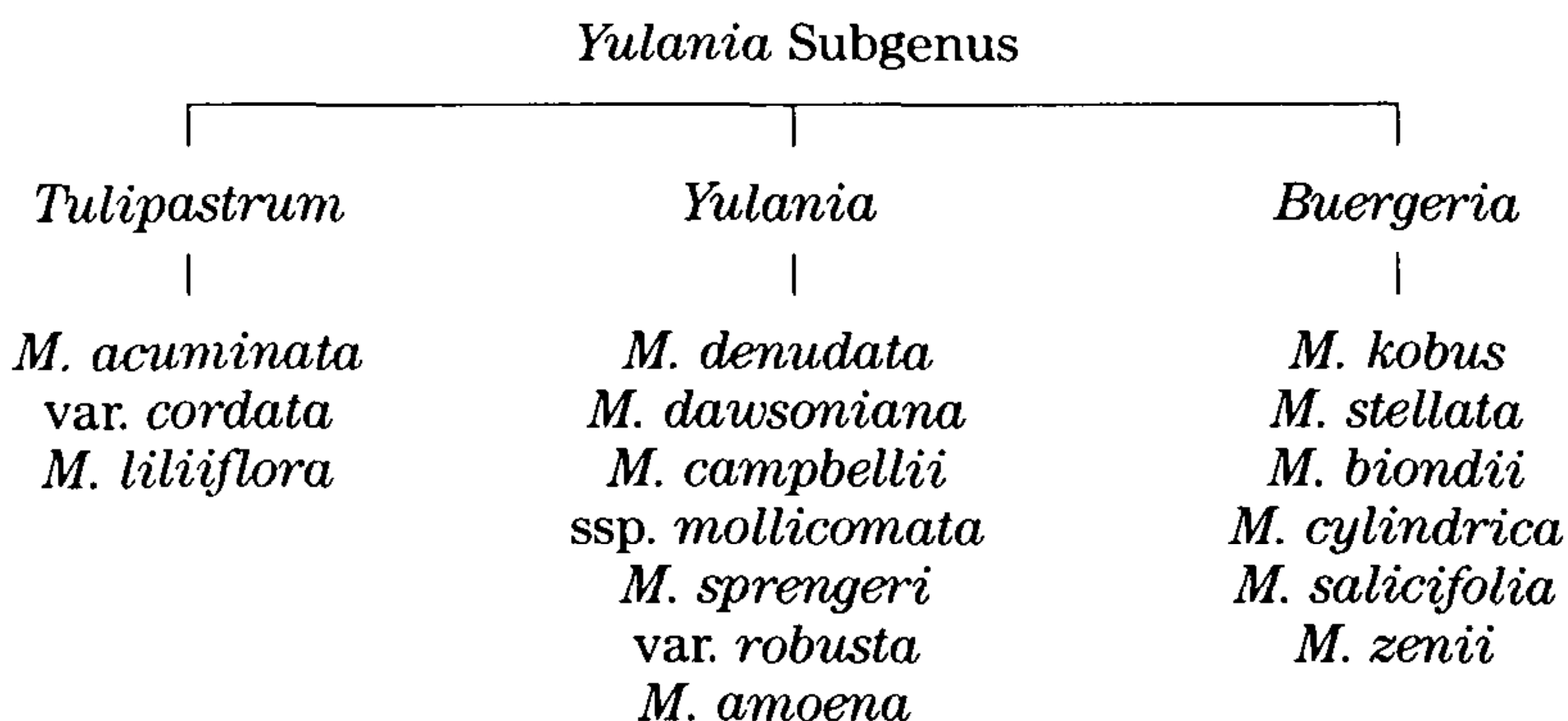
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There are some 80 species of *Magnolia* with a natural distribution confined to two main areas: East and Southeast Asia and the Himalayas, and North and Central America.

The genus is divided into two subgenera: *Magnolia*, comprising mainly American species and the later-flowering species from Japan and China, and *Yulania*, comprising all the precocious flowering species that make such a brilliant contribution to spring gardens in Britain. All the species of the *Yulania* subgenus are worthwhile from a horticultural viewpoint and will provide the main focus for this paper.

The *Yulania* subgenus is divided into sections as follows:



Most of the species have yielded variant seedlings named as individual cultivars mainly because of their distinctive flower colour, and almost all have been used in hybridisation programmes particularly over the last 35 years or so. Most of this hybridisation activity has been in the USA and more recently in New Zealand. Many of the earlier hybrids are now generally available with further selections being introduced progressively by breeders and evaluators.

There is a danger, as in other genera, of over-naming, and care will be needed to ensure that duplication does not become a problem. The new introductions will also need to be evaluated under UK conditions. There is empirical evidence that a warmer

environment with more prolonged sunlight can enhance the vividness and depth of flower colour so that some cultivars imported from the USA or from Southern Europe can be disappointing in the relatively dull maritime climate of the UK.

In the *Yulania* subgenus, the *Tulipastrum* section comprises two of the most important species—*M. acuminata* and *M. liliiflora*. Both have unique flower colour and both open their flowers simultaneously with the leaves, rather than precociously. This is a distinctive characteristic of this section.

Good yellow seedling selections have been named from *M. acuminata* and its subspecies *cordata*, both in Japan and in the USA. It is also sometimes known as the 'Blue Magnolia' due to the metallic blue colour of its flower buds in some clones.

'Kobandori' ('Green Yellow Bird') and 'Seju' ('Blue Eternity') are typical Japanese selections, as are 'Miss Honeybee' and 'Golden Glow' from the USA. Possibly more exciting are the hybrids made in search of a yellow of improved form. Crossed with *M. liliiflora* at the Brooklyn Botanic Garden Research Centre, *M. acuminata* has produced *M. × brooklynensis* grex of which 'Eva Maria' is the type clone with flowers a curious mixture of rose magenta and yellow shaded with purple and green. Back crosses have yielded stronger yellows like 'Yellow Bird', a smaller, true canary yellow flower, on a hardy vigorous upright tree. A cross with *M. denudata* yielded the well known clone *M. 'Elizabeth'*, more cream than yellow at maturity, but precocious, hardy, and easy to propagate. Other breeders are introducing yellow clones both from this parentage and with pollen from *M. × soulangiana* forms.

M. liliiflora is the most widely used parent species—for its deep purple flowers. In addition to the Brooklyn hybrids with *M. acuminata*, it has produced the *M. soulangiana* grex with *M. denudata*; with *M. stellata*, the de Vos and Kosar hybrids, and with most other species some excellent individual hybrids. Its pollen has even been tried with *M. grandiflora*, with white flowers resulting.

M. × soulangiana is too well known to dwell on and many older cultivars have probably now been surpassed for quality of flower. However 'Brozzonii' still holds its own; 'San Jose' is excellent in the creamy pink end of the range, the ill-named 'Burgundy' has different lavender tones and is quite weather-proof, and 'Lennei' is still worth its place anywhere in spite of its untidy sprawl.

The *M. × soulangiana* Picture seedlings, raised by Amos Pickard of Canterbury are generally an improvement on *M. × soulangiana*, with greater vigour and flowers of greater size and substance. About a dozen clones have been named and a selection is a matter of taste and experience. We like 'Crystal', a white with a flatter goblet form, 'Opal' is another first class white with a purple base,

'Garnet' is a good dark purple, but reluctant to grow. 'Sundew' has no such inhibitions and is an excellent creamy white with a pink flush.

The so-called "Little Girls" hybrids by Kosar, the *M. liliiflora* × *M. stellata* hybrids from the U.S. National Arboretum at Washington, D.C. are so mixed up in the trade that 'Ann', 'Betty' and 'Jane' *et al.* could turn up under any pseudonym. Their colour as general garden decoration is good, though the individual form is wanting. Savill Gardens at Windsor, U.K. has them all and is the place to sort out your own preference. My own three are 'Ann' and 'Susan', reddish purple and upright, and 'Pinkie', a pale pink on a more spreading bush.

M. liliiflora continues to be widely used as a parent; with *M. sprengeri* 'Diva' its pollen has produced two neat trees, vigorous and very easily propagated from cuttings. 'Galaxy' and 'Spectrum' have blooms of good shape and a half-way colour of purplish rose. A cutting of 'Galaxy' taken in 1984 produced flowers in 1989 and this year carried 15 blooms on a tree that has exceeded three metres even after two successive years of drought.

The majestic *M. campbellii* as seed parent crossed with *M. liliiflora* has produced 'Star Wars'. Not the most appealing name, but arguably one of the very best modern hybrids with a 25 to 30 cm flower shading pale pink to a deep purplish red at the base on a vigorous tree. It is also easy from cuttings and extremely hardy. This will be featured in many gardens over the next 10 years as it becomes known and visible.

Apart from the *M. × soulangiana* grex, *M. denudata* has produced *M.* 'Wada's Snow White' with *M. salicifolia* as the other parent. This has a small *M. denudata* style of flower on a vigorous bush that flowers when very small.

M. salicifolia crossed with *M. stellata* has produced the *M. × proctoriana* grex. This is the first to flower in our Kent garden—a neat, densely branching small tree, exceptionally free-flowering.

M. stellata itself has many forms selected over the years. One of the best is 'Waterlily'. According to Treseder there are three clones under this name in the USA. That available in the UK appears different again and is a pure white of good form. 'Royal Star' is another good clone, very hardy and free with a distinctive flower, and the form from Trewithen in Cornwall I particularly like—a slow growing, rather spreading bush with a big, nicely scented flower. There is also a double white with some 50 tepals.

The pink forms can be disappointing in Kent. They all tend to have the same characteristic of quickly fading to white. 'King Rosea' and 'Rosea Massey' are more or less indistinguishable. The best pink form is probably that known as 'Rosea 32 petals' which has a good

rose bud and keeps the pink colour on the petal reverse. The general effect is pink. 'Dawn' is paler and 'Chrysanthemumiflora', a double that fades.

M. kobus × *M. stellata* has produced, in my experience, one of the best grexes for general garden decoration—hardy, reliable, very free flowering, easy to grow, and generally easy to propagate.

M. × loebneri 'Ballerina' and 'Spring Snow' are both outstanding, with the latter too rarely seen as it is slow growing and more difficult to propagate by cuttings. The ubiquitous 'Merrill' deserves all its popularity, as does the only coloured clone, 'Leonard Messel', with its strap-shaped tepals purple outside and white within. 'Starbright' is like an arborescent *M. stellata*. Plants from this grex ought perhaps to replace some of the common crab apple and cherry cultivars in parks and public places, as accommodatingly easy small trees.

M. sprengeri 'Diva' is potentially the finest genuine tree with vivid flowers for general use. There are several excellent colour selections. 'Wakehurst' and 'Copeland Court' are good pinks. 'Eric Savill' is a large tousled flower of really bright deep red/purple, and 'Burncoose' an excellent rather stronger purple on a big upright tree.

Apart from its *M. liliiflora* progeny, a hybrid of *M. sprengeri* 'Diva' with *M. sargentiana* var. *robusta* is 'Caerhays Belle'. A most beautiful clear pink with rather salmon tones.

M. sargentiana var. *robusta* is itself an excellent tree and does well in Kent with more exposure than it might be expected to tolerate from its size of flower and leaf. Its influence is being seen in some of the newer hybrids.

M. campbellii is providing the genes for large flowers of pure colour and I suspect it will not be too long before big pink flowers of genuine *M. campbellii* colour purity will appear on a tree of *M. × soulangiana* toughness, flowering late enough to avoid frost. With its subspecies *mollicomata* providing size and the 'Lanarth' form, lending vivid colour, the prospects are exciting. Already clones like 'Star Wars', 'Iolanthe', and 'Mark Jury' are available and more cultivars with *M. campbellii* "blood" are being bred in New Zealand and emerging from the later Gresham seedings.

Another species likely to be more used because of its form and freedom of flower is *M. cylindrica*, a magnificent small flowering tree in its own right. It usually sets some seed cones in Kent and is probably the most free flowering of all magnolias, which is no mean claim. A putative chance hybrid with *M. × veitchii* has produced 'Albatross', a small tree of exceptional quality to be seen at Lanhydrock in Cornwall.

The Gresham hybrids in the USA are providing some of the finest magnolias available for general planting. The first crosses were made in the mid-fifties and a steady stream of new introductions is providing a continuous supply of new forms and colours.

The original crosses were with *M. × veitchii* as seed parent with pollen from *M. liliiflora* and *M. × soulangiana* 'Lennei Alba', respectively. Many hybrids from these crosses are now available: 'Manchu Fan' and 'Sayonara' are excellent whites, the latter receiving the Award of Merit from the Royal Horticultural Society this year; 'Royal Crown', 'Heaven Scent', 'Raspberry Ice' are well known clones with shades of purplish pink.

Todd Gresham in California used a very wide range of species and cultivars in subsequent crosses. On his death in 1969 some 10,000 seedlings were sent to the Tom Dodd Nursery in Alabama and 1,600 larger plants to the Gloster Arboretum in Mississippi. Many are flowering now for the first time with *M. campbellii* "blood" and have inherited its size and quality of flower. The most worthwhile of these are progressively being selected and introduced as they flower.

The future will see more Gresham hybrids with flowers of greater size, substance, and more vivid colour on plants that are vigorous and hardy. Flowers of the quality of *M. campbellii* are likely to be produced on smaller trees that are later flowering. The attempts to produce a brighter yellow with the classical form and character of the *Yulania* section and the hardiness of *M. acuminata* will continue. Further crosses of *M. acuminata* with *M. sprengeri* 'Diva' and other pink species are, I understand, already producing apricot and orange shades that could extend the colour range of magnolias by a quantum leap.