Magnolias in the Philadelphia Area

JOHN C. WISTER, SWARTHMORE, PA.

This will be a discussion, first of some of the American species of Magnolias and then of some of the Asiatic species and their hybrids that have long been known and grown in Southeastern Pennsylvania.

The interest in American species dates back to John Bartram. In 1731 he established a nursery on his farm on the banks of the then beautiful and unpolluted Schuylkill River. He first propagated the plants he had collected on his walks in the countryside. Then, in 1736, he started on his first long collecting trip through the wilderness, as far as Erie in the northwest corner of the state. Magnolia acuminata, (which is not native to eastern Pennsylvania), was one of the species which he brought back to his garden and later dispatched to Peter Collinson in London.

Thus began the pattern to be continued for many years by John Bartram and later by his son William. They brought into cultivation and then propagated for distribution here, and in England, not only other Magnolia species such as macrophylla, Fraseri, tripetala, grandiflora, and virginiana, but hosts of other plants. Among these were: Hemlocks, Tulip-trees, Locusts, Maples, Rhododendrons, Azaleas, and Mountain Laurels. They sent also many native herbaceous plants to grace the gardens of England including, believe it or not, Skunk Cabbages!

In return Bartram received from Collinson many old world garden plants then not known in the colonies. These included: Sweet Briar Roses, Crocus, Daffodils, Tulips, Iris, Lilies, Gladiolus, Oriental Poppies, Carnations, and Snapdragons.

These new plants, American and European, were distributed from his nursery, thus creating a wide interest in gardening. Later his example of establishing collections of plants spread to his cousin Humphrey Marshall of West Chester, who in 1785 published the first American book on trees. Some of the Marshall trees still exist and are worthy of a visit. It may have been Marshall's example which in turn, influenced the brothers Joshua and Samuel Pierce of Kennett Square to begin their collection of trees about 1800. Over a hundred years later, the magnificence of these trees caused Pierre du Pont to buy the property and there he later established Longwood Gardens. Among the finest of these trees today is the biggest Magnolia acuminata I have ever seen.

The Piers are believed to have influenced John Evans near Bryn Mawr to establish his Arboretum in 1825. No trace of this remains. But we know quite definitely what he had because in the 1840's and 1850's he gave literally hundreds of fine species and varieties of trees and shrubs to the brothers Minshull and Jacob Painter, to plant on their farm in Lima. Their property has become the John J. Tyler Arboretum.

Among the gifts from Evans in 1849 and 1850 were Magnolia acuminata and two plants of M. virginiana now grown to great size. A little later Evans gave the Painters, M. Fawesi, (which William Bartram had discovered in 1776), M. tripetala, (which seeded itself so furiously it has become a weed), and M. macrophylla which flourished for over a hundred years, but finally had to be taken out in 1969. In addition to these American species, Evans, in 1859, gave the Painters Magnolia denudata, which still gives spectacular bloom, and M. liliflora, and finally in 1860, M. × Soulangiana and its form 'Alexandrina.'

The Painters planted over a thousand species and varieties of trees and shrubs, over 200 kinds of herbaceous plants, and over 200 kinds of fruits. Their records, show-
I have mentioned a few Magnolia trees of great size. Dr. John Swartley, former professor of horticulture at Temple University, who is now giving courses at the Barnes Arboretum, has made a hobby of measuring particularly large trees in this area and has recently published a list of them. Among them are the following Magnolias: (Unless otherwise noted these figures are all diameter at breast height.)

**acuminata:**
4'3"; Crozer Seminary, Upland.
4'3"; at 1'; Friends Meeting, Nether Providence.

**cordata:**
3'5"; Longwood Gardens.

**Fraseri:**
3'0"; Lutheran Seminary, Germantown.
2'7" at 12"; Montgomery Avenue, Wyndmoor. This is a multi-stem plant.

**grandiflora:**
1'6"; Longwood Gardens.
1'3"; Kedron Avenue, Ridley Township.

**macrophylla:**
1'11"; Netherfield Road, Germantown.
1'9" at 30"; Morris Arboretum, Chestnut Hill.

Two trees of *M. acuminata* at the Woodmere Gallery, Chestnut Hill, Pa.

ing which plants they received as gifts and which they purchased from nurseries, give us an extraordinarily complete picture of the horticulture of the 1840's, 1850's and 1860's.

One of the nearest nurserymen was Josiah Hoopes of West Chester from whom the Painters, in the late 1850's, purchased the Big Tree (*Sequoiadendron*) and the Cedar of Lebanon (for 25 cents each, size not recorded).

A few of the other nurserymen selling plants to the Painters were Buist of Philadelphia, Landreth of Bristol, Moon of Morrisville, Prince of Long Island and Barry of Rochester. The most distant was André Leroy of Angers, France, who, among other plants, shipped back to America, the American species *Magnolia cordata*.

These, and other nurserymen of the period, grew many plants not commonly available nowadays. Economic stresses have forced nurserymen into mass production of fewer and fewer kinds. This is certainly obvious to those who would like to try many kinds of Magnolias.

A few members of the Magnolia Society have become specialty nurserymen and breeders. Let us hope that the Society will encourage them and their followers and make it easier for us to get new and improved hybrids. This has happened in other special plant societies.
tripetala:
3'1" at 24": William Timesman property, Limersville. This has multiple stems from the ground.

virginiana:
4'7" at 6": Schoolhouse Lane, Germantown.
1'10" at 3": Longwood Gardens.

ASIATIC MAGNOLIAS

The Chinese and Japanese Magnolias made spectacular early spring displays in our area long before the advent of the Japanese Cherries and before the present day interest in Asiatic Crabapples and in our native Dogwoods.

There was a Yulan (Magnolia demudata) at my grandmother's in Germantown, that must have been planted before 1850. It was magnificent in bloom, but every third or fourth year it was blackened by a late frost.

In the 1870's my father had planted a Magnolia × Soulangiana directly north of our house. By the time I was ten years old, I had learned two valuable lessons from it. The first was that branches lying on the ground would send down roots and in two or three years could be cut off and transplanted to make a new tree.

The second was that a plant on the north side of a house would bloom later than one on the south side, because of what today is called a microclimate. Right across the street there was another Magnolia × Soulangiana —on the south side of a house. It used to bloom a few days, or a week or even more before our tree and it was blackened by frost in many years when our tree was not hurt.

Magnolia stellata is very popular in the Philadelphia suburbs. Magnolia Kobus is less known and I don't think many people know or grow Magnolia salicifolia. All three of course bloom so early that, like the Yulan, they are often injured by frost.

Magnolia × Soulangiana is the most popular of all. From the size of commonly seen specimens they must date well back of the turn of the century, but not as far back as the larger Yulans.

Dr. Swartley has made measurements of the following trees of great size:

\textit{demudata}:
4'3": Crozier Seminary, Upland.
4'3" at 1': Friends Meeting, Nether Providence.

\textit{Kobus}:
2'2" at 2': Longwood Gardens.

\textit{liliiflora gracilis}:
1'11" at 12": Lankenau School, Germantown. This is about 20' high and has layered itself and is about 45' across.

\times Soulangiana:
Tree with three trunks about 1' diameter at 18", opposite Cherokee Apartments, Chestnut Hill.
Another large specimen on Rittenhouse Street, Germantown.

\textit{stellata}:
2'4" at 3": Roberts Estate, Penn Valley.
This has three trunks. The measurement was taken in the largest.

In 1932 Barney Slavin, Superintendent of the Rochester Parks, gave to the Scott Foundation scions of the Soulangiana forms that comprise most of the present Swarth-
more Collection. They were cut from the famous collection that John Dunbar had imported for the Ludwig Spaeth Nursery near Berlin in the 1890's. We therefore think the names are about as authentic as we can get, but the whole 'Soulangiana' story is so confused that I doubt if it can ever be completely verified.

The first plants of the Magnolia denudata—liliiflora cross flowered in the Soulanges Garden in Fromont near Paris, in 1826. All were supposedly sent to England. They were apparently never heard of again under the name of 'Soulangiana', but Loudon in 1838 reported 'Norberti' as a variety of Magnolia denudata. Meanwhile as early as 1830, two named varieties had been listed in French nursery catalogs and still others were offered in other nurseries twenty, thirty, and forty years later. But no publications seem to have given any definite information about their origin or enough details about their colors to make it possible to really identify them today.

In the Philadelphia area there are to be seen comparatively few light colored varieties, but a good many dark ones. But most of all, we see the pink ones which for lack of clone name is simply called 'Soulangiana' or 'Dunbar'—the type.'

I know of no really pure whites. The whitest at Swarthmore is 'Alba,' (or 'Alba Superba'), which apparently was introduced by van Houtte of Ghent in 1867. The petals are faintly tinged light purplish rose on the outside. Almost as light and making a broader, better tree is 'Brozzoni'. It was apparently first offered by the Leroy Nursery in 1873 as having been received from Brozzon. I have not been able to find out if Brozzon was a man or a place. At Rochester it has long been considered the best white. 'Amabilis' (listed by A. N. Bauman in Bolwiller, Alsace, in 1865), also gives a white effect from a distance, but at close range the flowers are distinctly darker. 'Speciosa,' (offered by the Cachet (or Cochet), Nursery in Orleans in 1830), is also pale but the flowers have a little more purple, and the tree is taller, or faster growing, and is more upright.

All these are lighter than the clone we call 'Soulangiana 'the type.' About the same shade, but purer pink is 'Versicolor' which lacks any really purplish tones. As far as I am concerned, it is the loveliest of the lot. It is usually at its best just a little later than 'the type,' sometimes even when the flowers of the clones I have mentioned are dropping and sometimes it escapes a frost that nips the early ones. It forms a broad tree and is slower growing than the earlier blooming clones. It was listed in the 1878 Leroy Catalog again without any real information beyond the fact that the name is an English version of 'Vervienne,' the French word for Verbena.

Among slightly darker clones is 'Alexandrina.' As early as 1831 it was listed by Cels, who had a nursery on, or near, the Soulanges property in Fromont, or who was, or had been associated with Soulanges. The Swarthmore plant has petals purplish on the outside, and the cup of the flower is rounder than that of 'Verbena.' I mention the details because there are evidently one, or more, quite different plants in the trade under this name.

The clone bearing the honored name, 'André Leroy,' is much darker. It appeared in the 1892 Leroy catalog. I had a letter from the firm of Barbier of Orleans that seemed to imply that it had been sent to Leroy by Barbier. That is one of the matters that I assume cannot now be straightened out. The plant at Swarthmore gives a deep red effect, perhaps not quite as dark as 'Lennei,' and has a more rounded cup. In some years it has been so close to 'Rustica,' (or 'Rustica Rubra?'), that some people have thought they were the same. The origin or identity of 'Rustica,' is not too clear, either. It was reported to have been raised in Boskoop about 1892 and then later to have been introduced by the firm of Wezelenburg of Hazewoude.

With the exception of Magnolia liliiflora and its varieties or clones, the darkest and latest variety, grey, or clone is 'Lennei.' And what a story it has!
It apparently originated in Italy about 1840. There are two conflicting reports as to its parentage, three conflicting reports of who raised it and where, two conflicting reports about the Italian name first given to it, and three conflicting reports of the spelling of the second of these names.

It was sent to Germany, but the story that 10,000 francs was paid for it seems hard to believe. About 1850, Alfred Topf, a nurseryman in Erfurt, apparently renamed it 'Lenné' (not 'Lennel'). And now apparently there are a number of different clones in the trade under this name.

The new Magnolia Check List lists some eighty clones under the heading of "Soulangiana Hybrids." Whoever tries to straighten them out will have a job on his hands!

I always think of Chevalier Etienne Soulange-Bodin whenever I see or think of Magnolias. He was an officer under Napoleon and after 1812 settled in Fromont and started a garden and nursery. He had not liked war and he piously hoped that gardening would lead men to peace.

In 1819 he wrote:—"It is to gardening that I cheerfully devote the remainder of my life. For the past thirty years great obstacles have presented themselves to the simple care the earth demands. The Germans have encamped in my garden. I have encamped in the gardens of the Germans; and it was with sword in hand that I visited the botanical collections of Vienna, Stuttgart and Moscow."

"I have said of others as they have said of me, 'Barbarus per Segetes.' It had doubtless been better for both parties to have stayed at home and planted their cabbages. We are returned there, and the rising taste for gardening becomes one of the most agreeable guarantees of the repose of the world." I am afraid he was too optimistic!

(Note:—the Latin phrase, "Barbarus per Segetes," though not an exact quotation from Virgil, refers to the fact that Virgil's farm had been taken from him to divide among the soldiers who had served in the battle of Philippi. The poet asks if he will ever again look upon his native district as he had formerly known it. A free translation is "shall Godless soldiers possess these carefully tended areas and uncouth foreigners these grainfields?")

I think of the "Godless" and "Uncouth" whenever I hear of proposals to dam the Grand Canyon or to turn the Everglades into an airport. I think of them every time I see building developments or new super highways ravaging our beautiful countryside.

I think of them particularly in the Swarthmore Magnolia Collection where a half dozen of the largest trees were taken out a few years ago to make way for a new building. I tried to persuade the College authorities to save these trees by moving the building about a hundred feet to the south. They evidently did not consider the trees as important as the extra cost of a longer entrance road. I wish they and all of us could take the quotations from Soulange and Virgil to heart.

Notes on Two Magnolia Relatives

PHILIP E. CHANDLER, Santa Monica, California

MICHELIA DOLTSOPA

Five-to-seven-inch cream-white flowers adorn this twenty-foot evergreen tree. From fat brown velvet buds they open satin-like and fragrant, suggestive of Magnolia, to which they are closely related. As early as Christmas in southern California the blossoms cover the tree; as late as April they appear here and there against shining deep green leaves that are thin, leather-like, lanceolate, three to eight inches long. Tall in its native Himalayas, the tree here is somewhat shrubby, upright, close-limbed but more open than M. compressa. Plants are easily thinned and shaped, inclined to curving, multiple stems. Seldom available locally, M. Doltsopa deserves promotion. Rich leafy soil, well aerated, some wind protection and a cool, moist root-run are recommended. A magnificent subject graces the entry court of Mr. and Mrs. Ira Hilgers, 14221 Sunset Boulevard. This tree produces seed. The species is hardy to at least 25 degrees.

TALAUMA HODGSONII

The most conspicuous features of this Talauma are the twenty-inch, oblong-oval leaves nine inches wide and glabrous. They are crisply leathery, rather rigid, often beautifully quilted. The new growth is pinkish bronze, erect and blossom-like in spring. The older foliage is milky green and darkens with maturity. Growing to sixty...
feet in the lower Himalayas, the tree has not surpassed thirty feet in southern California. Here it thrives in the fog belt well back from the ocean and protected from strong salt wind. The cup-shaped flowers, to six inches across and three inches deep, appear in branch ends in summer. The petals are ivory and fleshy and fade to amber. The three sepals are purplish blue and emit a spicelike aroma. Terminal fruits may be six inches long. One of the most entrancing specimens adorns the north entrance to the portico at Huntington Botanical Gardens in San Marino. Another, near the northwest corner of Royce Hall at UCL A, flowers generously. A twenty-year-old tree at 4300 Isabella, Riverside, loses some growth in unusual freezes, but always recovers, although it has never bloomed. Frost damage can occur at 25 degrees Fahrenheit. Top leaves may scorch in dry heat above 100. T. Hodgsonii likes a cool, moist root-run with ample humus. The crown tolerates full sun but seems to hold best color in thin, high shade. Under the vaulting, open canopy of a clump of lemon gum (Eucalyptus citriodora) or the lacy layers of the sugar gum (E. cladocalyx), this boldly elegant member of the Magnolia family can be superb.

Magnolia ‘Freeman’ at the Arnold Arboretum—Its Hardiness and Propagation

ALFRED J. FORDHAM
Arnold Arboretum, Harvard University

Magnolia ‘Freeman’ came to us from the National Arboretum, Washington, D.C. in April of 1962. It was planted at an out-of-the-way end of a shade house, where saran screening used in summer is removed in winter. Since 1962, its condition following winter has varied from year-to-year. At present it is about 5 feet tall with the top three feet consisting of two vigorous growth flushes. These were produced last summer, after the plant was killed to snow level during the winter of 1970-71. A large root system has developed through the years, and shoots which arise after the plant has been killed back grow vigorously. Records kept at a nearby Arboretum weather station indicate when the above damage occurred and also show temperatures which M. ‘Freeman’ cannot endure.

For a number of years the Arnold Arboretum has operated a simple weather station in collaboration with the U.S. Weather Bureau. The equipment consists of a maximum and minimum thermometer and an non-recording precipitation gauge. Daily at 8 A. M. observations of temperatures and precipitation are recorded and some interesting data have been accumulated. Additional thermometers were placed below the official thermometer so temperatures at the ground at the one and two foot levels could also be recorded. The official thermometer is positioned at 5 feet. Table 1 shows some temperatures at different levels during nights of radiational cooling in January 1971. They were the coldest recorded during the winter of 1970-71 and it is likely that Magnolia ‘Freeman’ killed to the snow level during this period.

Table 1

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<th>1 Foot</th>
<th>2 Feet</th>
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<td>20</td>
<td>—12**</td>
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<td>—6</td>
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*Thermometer in path dug in snow at base of thermometer stand.

**Thermometer removed from path and placed on snow near base of the stand (snow was 15 inches deep).

Propagation of Magnolia ‘Freeman’

At the Arnold Arboretum we shut down our misting equipment during fall and winter and propagate either under polyethylene plastic or on open greenhouse benches. Cuttings of broadleafed evergreens such as rhododendrons, illex, kalmia, pieris, etc., propagate well under polyethylene. Magnolia ‘Freeman’ also roots easily when handled in this manner. Cuttings about 8 inches long are taken in October or November before they are exposed to low temperature injury. A deep 1½ inch long wound made at the base of the cuttings cuts through the rind and takes part of the wood. Shallow wounds can be unsatisfactory for they frequently heal over, leading to what is essentially an unwounded cutting. Next the cuttings are treated with a root-inducing substance. Various materials have proven satisfactory. Therefore, it seems practical to treat with the one simplest to use. This comprises a powder formulation of 8 mg of IBA in a gram of talc with the fungicide Thiram added at the rate of 15%. After treatment the cuttings are placed under polyethylene plastic in a rooting medium consisting of equal parts sand and perlite with bottom heat at 75°. In 10 to 12 weeks sufficient roots will have developed so the cuttings can be moved on. No dormancy is involved and plants about 18 or 20 inches tall can be expected after the first growing season.

In October of 1969, Mr. Howard A. Van Vleck, 21 Van Vleck Street, Montclair, New Jersey, brought a plant of Magnolia grandiflora to the Arnold Arboretum. He stated that this particular clone had shown exceptional hardiness in Montclair and that he had never observed browning of the leaves. He therefore felt it should undergo hardiness testing in the climate of Boston, Massachusetts. The plant has gone through the past two winters unsathed. However, during the more severe parts of both winters it was well protected by a blanket of deep snow.
Magnolia × brooklynensis ‘Evamaria’

George Kalmbacher

Magnolia × brooklynensis Kalmbacher sp. nov.

Species hybrida, parentis Magnolia acuminata et M. lili-flora. Omne progener conjunctio hisus comprehendit, aut aliquidus proprietatibus plenis parentis unius aut alterius, aut gradibus mediis.

Hybrid species, the parents Magnolia acuminata and M. lili-flora. Includes all progeny of this union whether with some full characteristics of either parent, or with intermediate degrees.

Type: Colored sketch of Plant Patent 2,820.
Isotypes #8-4 Brooklyn Botanic Garden Herbarium, #8-7 Barnes Arboretum Herbarium.

Discussion

An important aspect of this cross is that it involves two different subgenera within the genus Magnolia. M. acuminata belongs to the subgenus Magnoliastrum D. C., in which flowers appear after leaves have expanded. M. lili-flora belongs to the subgenus Gwillimia Rottler, in which flowers appear before leaves. This latter group, where adaptable to cold climates, blossoms before the first group in the same areas. However, M. lili-flora is later flowering than the others and overlaps. Therefore, pollen of M. lili-flora var. nigra at the Brooklyn Botanic Garden is ripe about the time the Magnoliastrum group is in flower. Another outstanding fact is that Magnolia × brooklynensis is a cross between an American species and an Asiatic species. This is probably the first time that this cross has been successful. It should be noted that the remarkably popular Soulangiana cross was between two Asiatic species of the same subgenus. Most probably the tetraploid nature of both parents made possible this union of an American and an Asiatic species of two different subgenera.

Due to the presumed high degree of heterozygosity in both parents, M. × brooklynensis has proved very variable. For instance: leaf varies as to size, shape and texture; flower also varies as to size, shape and color, favoring the acuminata flower in the crosses made at the Brooklyn Botanic Garden where all crosses involved M. acuminata as the female parent.

The type clone for M. × brooklynensis is M. × brooklynensis ‘Evamaria’, the subject of U. S. Plant Patent 2,820, hereby published as such for the first time. Its characteristics are as follows:

The blooming period is a long one for hardy Magnolias—about the tenth of May to the seventh of June in the New York area. Flowering occurs when the danger of frost is past. The plant is very floriferous with large flowers. The flowers have six petals arranged in two whorls of three. These petals are spatulate, the tip broadly rounded, varying from 10.4 to 11.5 cm. in length and 4.5 to 5.4 cm. in width. The flowers are about 9.6 cm. across at maturity. They do not open widely. The colors of the outside of the petals involve three shades of magenta rose .27/5, .27/2, and .27/1 suffused with pale orange-yellow ochre .7/2 (Robert F. Wilson’s Horticultural Color Chart, 1941). The inner side of the petals is pale pink, but because of the rather closed nature of the flower, this is not a significant aspect of the whole. There are three sepals.

The leaves of ‘Evamaria’ are oval with acuminate tips, entire, and 14-18 cm. long and 8.5-11 cm. wide. The upper surfaces are bright green and inconspicuously hairy. The lower surfaces, also bright green, have a silvery cast because of their soft-pubescent growth.

‘Evamaria’ attained fifteen feet in ten years. In habit it is multi-trunked.
Evamaria Sperber was the hybridist who made the cross at the Brooklyn Botanic Garden, and the plant is named in her honor. Mrs. Richard (Doris) Stone had the responsibility over several years of raising, recording, and evaluating the various seedling crosses. In planting them out, the one that was to become 'Evamaria' was in Plot Number 224, and it was under that number that this clone was known until its present application. It was Doris Stone who applied for the patent for the Brooklyn Botanic Garden.

Possible Origin of Magnolia Stellata

Neil G. Treseder
Truro, Cornwall, England

At the Arnold Arboretum experiments have been carried out among conifers to investigate the progeny of seeds from cones off 'witches broom' growths, that curious phenomenon which occurs from time to time on a wide range of trees and shrubs. It has been demonstrated that such seeds not only give rise to many diminutive plants, similar to ones raised vegetatively from these stunted growths, but also to individuals ranging in stature up to that of seedlings off a normal tree of that species.

These demonstrations have led the author to ponder over the possibility that this might be the key to the origin of Magnolia stellata. Might it not have originated perhaps as a witches broom, maybe from a hybrid between Magnolia salicifolia and M. Kobus and long propagated as a garden plant by the Japanese? Such an origin would account for the wide variation in stature reported among seedlings of M. stellata, from assumed self-pollinations, which have been raised in America and elsewhere. It would also account for the willow-shaped leaves of M. stellata which are quite unlike those of M. Kobus. More especially it would account for the elusive whereabouts of M. stellata as a wild plant in Japan. Both M. Kobus and M. salicifolia share part of their natural ranges in the mountains on the island of Honshu in the Sea of Japan drainage area.

Ohwi, in his "Flora of Japan" gives for M. stellata a small natural distribution in the mountains of southern Honshu (Western Tokaido District), whilst Makino cited only the woods of Owari and Mikawa, a small district east of Nagoya in central Japan, where it is supposed to have been collected by Tschonoski, the skilled assistant of Maximowicz, in the early 1860's. My Tokio correspondent tells me that these localities are one and the same.

Alexandrina’, a Favorite Magnolia

James Merrill
Painesville, Ohio

We have found in our location that the true Magnolia × Soulangiana 'Alexandrina' is by far the best Magnolia we have grown to date. It does not bloom as freely as the common Soulangiana, but blooms a little later and its flowers are bigger. We have never seen any dry weather foliage damage on any ‘Alexandrina’.

A Useful Grafting Tool

Philip J. Savage, Jr.
Bloomfield Hills, Michigan

"The Knife," old plant propagators say, "must be razor sharp. No matter how skillful the grafter's hand, a dull knife gives a low percentage of takes."

Hitherto, I've had no talent and a dull knife. Now I've got the same talent and a sharp knife. I hope it makes a difference.

The tool is a Stanley Slimknife, made by Stanley Tool Works, New Britain Conn., and available from your hardware dealer. The blade holder, or handle, is number 28-109, and comes bubble packed on a card for about a buck and a half. Inside the handle are five blades, of various shapes, of which number 28-111 looks the most useful. Extra blades of any number you like are packed three for fifty cents.

Don't try the edge on your thumb.

A Correction

Through an unfortunate error, the number of species of Magnolia in Dr. J. E. Dandy's excellent article on the Classification of Magnoliaceae in Volume 8, Number 1, was wrongly stated. On page 6, left-hand column, line 10, for “8” please read “26”. Ed.

At Last

Our latest List of Bud-grafted Magnolias contains no less than

26 Species
and 11 Hybrids
with 60 Clones and Cultivars
many of which have never been offered before.

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Nurserymen since 1820 and still growing strong!