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Newsletter

of the American Magnolia Society

The Meeting at Philadelphia

PHILIP J. SAVAGE, JR., SECRETARY-TREASURER

Bloomfield Hills, Michigan

Despite the unkind epitaph of comedian W. C. Fields; "Better here than Philadelphia"; there just wasn't a nicer place to be on April 23, 24 and 25. Weather was cool but sunny, and the abundant flowers of our favorite genus were a matter of hours past peak of bloom at two of the three arboreta that hosted us, and precisely on it at the third.

Member attendance was quite satisfactory and the local arrangements committee, headed by Mr. Robert D. MacDonald, Director of the Tyler (Painter) Arboretum, turned in a precision job. Bob is one of those rare individuals who accepts responsibility eagerly and gives it all he's got, and what he's got is plenty.

From the Holiday Inn near Media it was just a short ride to the historic Tyler Arboretum where we were pleasurably humbled by the sight of a sixty-five foot *Magnolia denudata*, blooming beautifully, and a Sweet Bay so huge it was difficult to identify. The *Soulangiana* grex was well represented by big, buxom trees planted twenty to thirty years ago by Dr. John C. Wister. It seemed to me that the loudest clicking of cameras occurred near some fine plants of the clone 'Verbanica', of a notably clean pink and white complexion.

Back at Headquarters, the social hour in late afternoon loosened a few overly modest tongues, and from remarks heard in various conversations, I concluded that Magnolia progress is proceeding at a very healthy rate.

At the business meeting Saturday morning, the Treasurer's report revealed a bank balance of only $112.10, prior to a 1971 dues notice.

Sarah Gladney suggested notifying the membership that the Society is on a calendar year basis, and Gertrude Wister advised that dues should be paid yearly in the month of January. Heretofore the greatest amount of dues has not been received until after publication of the Spring Newsletter.

A motion that annual dues be raised to $5.00 was made by Walter Maynard, seconded by Robert MacDonald and carried.

The editor of the Newsletter, Dr. John M. Fogg, Jr., requested and received approval for publication of Vol. 8 #1, which will include a fine article by Mr. J. E. Dandy outlining and describing his latest thinking on the genera of the Magnoliaceae.

In an open discussion with Col. William Dodd, it was decided that advertising space from now on should be sold at the rate of ten dollars per 1/8 page or twenty dollars per quarter page. Up to now the Society has felt that our advertisers render such a valuable service in providing a source for otherwise unavailable species and cultivars that space has been donated free of charge. With the greatly increased cost of printing, however, free space is no longer feasible, although we are all most appreciative of the benefits we have derived from our advertisers.

Col. William Dodd requested registration forms and information about the registration of clones, and a general discussion followed. Azaleas of the *Obtusum* subseries, (the super multitudinous Glenn Dales for example), should warn us all of the folly of over-registration.

A motion was made by Savage and seconded by McCoy that a charge of $2.00 be made to register a new clone or cultivar. This was held in abeyance for investigation by Dr. Fogg, upon whom the responsibility for such policy rests.

Fig. 1. President McDaniel and Col. Dodd in the Arboretum of the Barnes Foundation.

Photo R. D. MacDonald

Robert MacDonald gave an encouraging report on progress toward ultimate publication of a Magnolia Check List, combined with a "Finding" list, to be sold in soft cover at a figure between three and five dollars a copy. Authorship of the check list is, of course, Editor Jack Fogg, with the tireless assistance of his wife, Helen. The Magnolia Society would share in any profit developed by the publication.

With President Joe McDaniel in the chair, Dr. Fogg described some new Magnolia registrations, with interesting sidelights on *Magnolia grandiflora* in Africa and other parts of the world.

Dr. Frank S. Santamour Jr., of the U. S. National Arboretum, told us of the Magnolia breeding program of the recently retired Mr. William Kosar, showing beautiful slides of a large series of *M. stellata* × *liliflora* seedlings. These closely resembled a similar series of seedlings produced at Wyoming Nurseries near Cincinnati, some years ago. One of these, *M.* 'George Henry Kern' was patented. Somewhat more exciting, to my mind, were slides of a series of seedlings, now twelve to fifteen feet tall, produced by a back cross of *M.* × 'Veitchii' on its own seed parent, M. *denudata.* These very vigorous plants should extend the range of Mr. Veitch's excellent hybrid several degrees north. Dr. Santamour hinted that some M. *virginiana* hybrid seedlings he has presently growing may prove that hybrids between species of subgenus Magnolia and subgenus Yulania are indeed possible.

A fine, slide-illustrated talk by Dr. Frederick G. Meyer, also of the U. S. National Arboretum, followed, giving us a step by step history of the 'Freeman' hybrids of M. *virginiana* × *grandiflora,* from their production by Mr. Oliver Freeman, around 1930, to the present selections growing so beautifully at the National. Backcrosses to both parents have been made by McDaniel in recent years.

After lunch we were off to the Arboretum of the Barnes Foundation, the demesne of our fearless founder, Jack Fogg. The beautifully kept Barnes is a heaven to non-professionals like myself, because every plant, thank God, has a label, large and readable at a distance. Any boob with 20-20 vision is the equal of Alfred Rehder in the sun-dappled glades of the Barnes. The magnificient 'Veitchii', the giant *M. Fraseri* and a strange aberrant M. *virginiana* with rough, "alligator" bark were objects of much interest. After the tour, refreshments were served at the beautiful Arboretum Headquarters.

The program presented to the membership on Sunday morning was of great quality and usefulness.

Mr. Angus Heeps, of the Morris Arboretum, spoke on stockscion compatability, several aspects of hardiness other than the usual cold tolerance, and the use of *M. grandiflora* as an espalier in Britain. There was audience comment and participation in such questions as why the *M. grandiflora* clone 'Edith Bogue', of reputed Florida origin, survives New Jersey winters without the severe leaf burn common to this species when grown in the northern states.

Our good friend Dr. John Wister whose infectious enthusiasm could have made a nature lover out of Attila the Hun, next spoke on the abundant botanical history of Philadelphia. He mentioned specific trees collected and brought to the area by the Bartrams and the discovery of *M. Fraseri* by William Bartram. The works of Humphrey Marshall, the Pierce family and the Evans, were briefly traced, the story being made even more real by pinpointing individual trees we had seen the previous day, such as the huge M. *denudata* at the Tyler Arboretum, planted by Evans in 1859 or 60, and M. *cordata* from André LeRoi in France. Dr. Wister also mentioned a forty to fifty foot M. *denudata* beside his grandmother's

Fig. 2. Group in the Magnolia collection at Swarthmore.

house in Germantown. This no doubt "imprinted" him as a child.

Col. William Dodd, who with his brother Tom, hosted us so royally at the Mobile meeting, is custodian of a staggering number of Todd Gresham's hybrids. Bill gave us a fine progress report with many slides, plus a history of Todd's dedicated work. Beginning in 1955, Todd crossed *M.* × 'Veitchii' with *M.* × 'Lennei Alba', and in another series, with M. *liliflora* 'Nigra'. The resulting cultivars are now becoming available from specialty nurseries advertising in the Newsletter. Between 1961 and 1964, Todd's efforts reached a crescendo, with four hundred and thirty recorded crosses producing some twelve thousand hybrid seedlings! The long lasting, fragrant bloom of the clone 'Heavenscent' would appear to be Bill's favorite of the early crosses, while an unnamed cross of *M.* × 'Lennei Alba' × *M. Sprengeri* 'Diva' obviously caught his eye in the more recent flowerings.

Mr. William Flemer III is a nursery executive of national reputation. He is also superbly educated, and one of those unusual people whose clarity of expression leaves no shadow areas in getting a message across. Tried and true methods of propagation, modified by the most up-to-date technology, were carefully explained. Propagation from seed, cuttings and layers, plus the latest in spring grafting and late summer budding were fully covered. I hope it will be possible to reproduce this information in several future issues of the Newsletter. We all felt it was very fine of Mr. Flemer to give up a Sunday morning with his family, in his busiest season, and drive many miles in order freely to give away trade secrets learned by himself and Princeton Nurseries through long, (and expensive) experience.

Following luncheon, we were conducted on a tour of the Scott Horticultural Foundation plantings at nearby Swarthmore College. The *Soulangiana* cultivars here were at the absolute peak of perfection, the earliest bloomers still sound and the latest freshly opened. This is but one of the many splendid horticultural achievements of Dr. John and Gertrude Wister, I am sure they were extremely, (if undetectably), proud of their Magnolias. Mr. Joseph Oppe, Swarthmore College's Director of Magnolias, and his able assistant, David Melrose, attended and contributed to the entire meeting, and made our tour of the horticultural highlights of Swarthmore a pleasure indeed. Joe and his lovely wife provided hospitality at their beautiful home after the tour and president Joe McDaniel and I, (between us), consumed at least a pound and a half of cheese before starting home.

Safely back again in Michigan, I surveyed my own frost-shattered Magnolias, (somehow so much smaller than I remembered) and had to say; "Better Philadelphia than here".

The Classification of Magnoliaceae

J. E. Dandy
British Museum (Natural History)

Magnolia is well known as the typical and largest genus of *Magnoliaceae*; but the family includes eleven other genera, most of them tropical and not so well known, though a few, such as *Manglietia, Michelia* and *Liriodendron,* have species in out-of-door cultivation in temperate countries. Growers of Magnolias may therefore be interested to know what these allied genera are and how they are classified in relation to *Magnolia*. The following account of the family is a re-edited version of one contributed to Dr. John Hutchinson's *The Genera of Flowering Plants,* vol. 1, pp. 50–57 (1964); I am grateful to Dr. Hutchinson for permission to re-publish it in this form.

MAGNOLIACEAE

Jussieu, Gen. Pl. 280 (1789) (*Magnoliae*)

Trees or shrubs, glabrous or with an indumentum of simple hairs composed of one row of cells. Leaves evergreen or deciduous, alternate, simple, entire or 2–10-lobed, penninerved; stipules present, at first enclosing and protecting the young growths, later deciduous and leaving an annular scar around the node. Flowers terminal or axillary, mostly large and solitary, bisexual or very rarely unisexual, pedunculate; peduncle bearing 1 or more deciduous spathaceous bracts which leave annular scars. Perianth 2– or more-cyclic; tepals 6 or more, 3–6-merous, free, imbricate, usually subequal and fleshy but the outer whorl sometimes reduced in size or texture so as to simulate a calyx. Androecium of numerous free stamens spirally arranged; filaments short or more or less elongated; anthers linear, 2-locular, dehiscing introrsely or latrorsely or extrorsely; connective usually more or less produced into an appendage, rarely unappendaged; pollination by insects. Gynoecium sessile or stipitate; carpels numerous to few (rarely reduced to 1), spirally arranged,

free or sometimes concrescent; ovules 2 or more, biseriate on the ventral suture. Fruit apocarpus or sometimes syncarpus; fruiting carpels longitudinally dehiscent along the dorsal or ventral suture, or more rarely circumscissile or indehiscent. Seeds 1 or more in each fruiting carpel, large, suspended (when carpel dehiscent) by a silky thread, the testa externally arilloid or more rarely adherent to the endocarp; endosperm copious, oily; embryo minute. Type genus *Magnolia* Linnaeus.

Genera 12; species about 220.

DISTRIBUTION. Temperate and tropical SE. Asia; also SE. North America and thence southward through the West Indies and Central America to E. Brazil; represented in Europe by fossil remains; absent from Africa, Australasia and Polynesia.

CLASSIFICATION. Bentham & Hooker, Gen. Pl. 1: 16 (1862) (trib. *Magnolieae*); Engler & Prantl, Nat. Pflanzenfam. 3, 2: 12 (1888) (trib. *Magnolieae*); Dandy, Kew Bull. 1927: 257 (key to genera of *Magnolieae*); Dandy, Camellias & Magnolias, Rep. Conf. R. Hort. Soc. 64 (1950) (key to subgenera and sections of *Magnolia*), and in Hutchinson, Fam. Fl. Pl. ed. 2, 1: 123, fig. 1 (1959). Shaparenko, Act. Inst. Bot. Acad. Sci. USSR, ser. 1, 4: 93 (1937) (*Liriodendron*). Johnstone, Asiatic Magnolias in Cultivation (London, 1955).

Characters occurring in relatively few Genera. Leaves 2—10-lobed and enclosed in bud within opposite stipules in *Liriodendron*. Flowers unisexual in *Kmeria* and *Magnolia* spp. Perianth 2-cyclic with only 6—7 tepals in *Kmeria* and *Michelia* spp.; apparently heterochlamydeous (the outer whorl of tepals much reduced in size and simulating a calyx) in *Magnolia* spp. and *Michelia Mannii* King. Anthers extrorse in *Liriodendron*. Fruit a woody loculicidal capsule in *Pachylarnax*. Fruiting carpels circumscissile in *Talauma* and *Tsoongiodendron*; samaroid (winged, deciduous and indehiscent) in *Liriodendron*.

Economic Properties. The wood of *Liriodendron Tulipifera* Linnaeus is one of the most valuable timber products of the E. United States; the American Indians made their canoes from it, and it has been largely used for the interior finish of houses, door panels, boat building, utensils, etc.; at one time imported into Britain as Whitewood or Poplar. The wood of most other *Magnoliaceae* is light, close-grained and easily worked, but not very durable. The Japanese used *Magnolia* wood for making swords and sheaths. The bark and flower-buds of *Magnolia officinalis* Rehder & Wilson and other species yield a valuable drug exported from central and W. China; the bark when boiled yields an extract taken internally as a cure for coughs and colds, and as a tonic. The source of Champak in India is *Michelia Champaca* Linnaeus. An alkaloid of *Liriodendron* bark stimulates the action of the heart (Lloyd, Drugs & Med. N. Amer. 2: 1—21 (1886); Sargent, Sylva N. Amer. 1: 18 (1891). Many *Magnoliaceae* are cultivated for their ornamental qualities, *Magnolia* being one of the best-known genera of trees and shrubs in cultivation. In temperate regions the most popular species are the precocious-flowered E. Asiatic Magnolias which are remarkable for their beauty when in flower; a number of garden hybrids of these species are established in cultivation. Species of *Manglietia, Michelia* and *Liriodendron* (especially *L. Tulipifera* Linnaeus) are also grown in temperate countries. Several species of *Magnoliaceae* are widely cultvated in the tropics, notably *Magnolia grandiflora* Linnaeus, *Michelia Champaca* Linnaeus and *M. Figo* (Loureiro) Sprengel.

Phylogeny and Morphology. As here defined the *Magnoliaceae* are a natural and homogeneous group; this the family certainly was not when, as a wider concept, it was held to include the *Winteraceae, Schisandraceae, Trochodendraceae,* &c. The *Magnoliaceae* are here regarded as one of the oldest, if not the oldest, of existing angiospermous families.

A constant feature of the family is the deciduous stipules which leave annular scars at the nodes; they are either free from the petiole or more or less adnate to it. Another constant feature is the presence on the peduncle of one or more deciduous spathaceous bracts which leave similar annular scars. There is no doubt that these bracts consist of a petiole plus a pair of adnate stipules, and that the adnate condition is primitive. In no case is there any transition between bracts and tepals. The stamens and carpels, like the bracts and foliage leaves, are always spirally arranged; but the tepals, at least as regards the outer whorls, are always strictly cyclic. Usually there are three or more whorls of tepals, but in *Kmeria* and some species of *Michelia* there are only two. In some species of *Magnolia* and *Michelia* the outer whorl of the perianth is much reduced in size and calyx-like; this is well seen in *Magnolia liliflora* Desrousseaux.

Prolongation of the anther connective into an appendage, often short but sometimes very long, occurs in most *Magnoliaceae* and is very marked, for example, in *Aromadendron elegans* Blume.

The basic type of gynoecium (sessile, with numerous free carpels) has undergone modification in some genera. In *Alcimandra, Michelia, Paramichelia* and *Tsoongiodendron,* as well as in some species of *Magnolia,* the gynoecium is stipitate. Sometimes the number of carpels is much reduced, the extreme being reached in some species of *Michelia* (e.g. *M. montana* Blume) where the flowers occasionally have only one carpel; in *Pachylarnax* there are 2—8. Concrescence of the carpels occurs in several genera. This may result in a fleshy syncarp (as in *Aromadendron* and *Paramichelia*) or in a woody loculicidal capsule (*Pachylarnax*), but in *Talauma* and

Tsoongiodendron the fruting carpels are circumscissile, the upper portions falling away and leaving the persistent concrescent basal portions with their suspended seeds. When the fruit is apocarpous the carpels usually dehisce primarily along the dorsal suture (as in *Magnolia*), but in *Kmeria* the dehiscence is primarily along the ventral suture, while in *Liriodendron* the carpels are samaroid and do not dehisce at all. It is characteristic of all Magnoliaceous seeds (except those of *Liriodendron*) that the outer testa is fleshy and arilloid, and that when the fruiting carpels are dehiscent the seeds hang suspended on silky threads.

Kmeria is exceptional in the family in having unisexual flowers, but is clearly a close ally of *Magnolia,* which it resembles in having terminal flowers and biovulate carpels, and in which, moreover, the flowers are occasionally unisexual.

Liriodendron, on the other hand, occupies an isolated position and is well worthy of tribal rank as *Liriodendreae*. The distinctive characters of its fruits and seeds have already been mentioned. In addition it has extrorse anthers, whilst the highly characteristic lobing of the leaves is well known to all botanists.

Geographical Distribution. The *Magnoliaceae* have a markedly discontinuous distribution and they once occupied a much larger area of the earth's surface, fossil remains being well marked and widely distributed. These are found in Tertiary deposits in the Arctic Circle, Greenland, Europe and the central plains of North America. The advent of the ice ages probably destroyed the greater part of the family, those now remaining occurring in SE. North America, the West Indies, Central America to E. Brazil, and in SE. Asia. The family contains no austral elements, though in South America and the Malay Archipelago it extends via mountain-ranges and plateaux into the southern hemisphere. Its greatest concentration of species is in SE. Asia, in the region extending from the E. Himalaya eastwards to China and southwards to Java.

The genera *Magnolia, Talauma* and *Liriodendron* all have discontinuous distributions which more or less epitomize that of the family as a whole. *Magnolia,* the largest genus of the family, is both temperate and tropical. *Talauma,* another large genus, is essentally tropical and extends farther south than any of the others. *Liriodendron,* on the other hand, is an essentially temperate genus with only two species, one of which has a considerable range in SE. North America while the other has a more restricted range in S. China and adjacent Tonkin; the two are very closely related. *Manglietia* and *Michelia,* two of the larger genera, are distributed on the mainland and islands of SE. Asia but have not been found in America. *Elmerrillia* replaces the closely allied *Michelia* in the south-eastern islands of the Malay Archipelago. *Aromadendron,* a small genus, is entirely Malayan, while farther to the north in SE. Asa occur five other small genera, *Alcimandra, Pachylarnax, Kmeria, Paramichelia* and *Tsoongiodendron.* It is noteworthy that no genus is endemic to America.

KEY TO TRIBES AND GENERA

Anthers introrse or latrorse; fruiting carpels longitudinally dehiscent or circumscissile, or if indehiscent then forming a syncarp, never samaroid; testa free from the endocarp, externally arilloid; leaves entire or occasionally 2-lobed at the apex 1. MAGNOLIEAE

Anthers extrorse; fruiting carpels indehiscent, samaroid (produced at the apex into a long wing-like beak), deciduous; testa adherent to the endocarp; leaves 2–10-lobed, the apex truncate or widely emarginate; stipules free from the petiole 2. LIRIODENDREAE

Tribe 1. *Magnolieae*

Flowers terminal:
- Flowers bisexual (rarely unisexual); tepals 9 or more, the outer whorl sometimes much reduced in size or texture; fruiting carpels either dorsally dehiscent, circumscissile or indehiscent:
  - Fruit not capsular, the carpels usually numerous:
    - Fruiting carpels dehiscent, not fleshy:
      - Gynoecium sessile or shortly stipitate, more or less exserted from the androecium:
        - Carpels free, in fruit dehiscent along the dorsal suture:
          - Ovules 4 or more in each carpel 1. *Manglietia*
          - Ovules 2 in each carpel (rarely 3–4 in the lower carpels) 2. *Magnolia*
        - Carpels concrescent at least at the base, in fruit circumscissile and woody, the upper portions falling away either singly or in irregular masses, the lower portions persistent with the suspended seeds; stipules adnate to the petiole 3. *Talauma*
      - Gynoecium stipitate, not exserted from the androecium; tepals 9, subequal; carpels 2–5-ovulate, in fruit dehiscent along the dorsal suture; stipules free from the petiole 4. *Alcimandra*
    - Fruiting carpels indehiscent, concrescent to form a fleshy syncarp; tepals 12–18 or more, subequal; ovules 2 in each carpel; stipules free from the petiole 5. *Aromadendron*
  - Fruit a woody loculicidal capsule composed of few (2–8) concrescent carpels; tepals 9–15, subequal; ovules about 4–8 in each carpel; stipules free from the petiole 6. *Pachylarnax*
- Flowers unisexual; tepals 6–7, subequal; fruiting carpels woody, dehiscent completely along the ventral suture and partly along the dorsal suture, thus becoming bifid; ovules 2 in each carpel; stipules adnate to the petiole 7. *Kmeria*

Flowers axillary:
- Gynoecium sessile; anthers introrse; stipules free from the petiole 8. *Elmerrillia*
- Gynoecium stipitate; anthers latrorse or sublatrorse:
  - Carpels free, in fruit dehiscent along the dorsal suture 9. *Michelia*
  - Carpels concrescent; stipules adnate to the petiole:
    - Fruiting carpels indehiscent or tardily irregularly dehiscent, forming a fleshy syncarp; tepals 12–18 10. *Paramichelia*
    - Fruiting carpels circumscissile, woody, the upper portions falling away in irregular masses, the lower portions persistent with the suspended seeds; tepals 9 11. *Tsoongiodendron*

Tribe 2. *Liriodendreae*

Single genus 12. *Liriodendron*

Tribe 1. MAGNOLIEAE

1. **Manglietia** Blume, Verh. Bat. Genootsch. 9: 149 (1823). *Paramanglietia* Hu & Cheng (1951). 25 spp., tropical and subtropical Asia from E. Himalaya to S. China and Malay Archipelago; type *M. glauca* Blume, Malay Archipelago.

Trees; stipules adnate to or free from the petiole; flowers terminal, solitary, bisexual; tepals 9–13, 3-merous, subequal; anthers dehiscing introrsely, the connective produced into a short or

elongated appendage; gynoecium sessile; carpels numerous, free; ovules 4 or more; fruiting carpels dehiscing along the dorsal and sometimes also the ventral suture.

2. **Magnolia** Linnaeus, Sp. Pl. 535 (1753); Gen. Pl. ed. 5, 240 (1754). *Lassonia* Buc'hoz (1779). *Burtinia* Buc'hoz (1785), *nom. nud. Gwillimia* Rottler ex Sims (1806), *nom. synon. Sphenocarpus* Wallich (1832), *nom. nud. Yulania* Spach (1839). *Tulipastrum* Spach (1839). *Lirianthe* Spach (1839). *Buergeria* Siebold & Zuccarini (1846). *Kobus* Nieuwland (1914). *Parakmeria* Hu & Cheng (1951). *Micheliopsis* Keng (1955). 8 spp., temperate and tropical Asia from E. Himalaya to China, Japan, Taiwan and Malay Archipelago, also SE. North America, Central America, N. South America and Greater Antilles; type *M. virginiana* Linnaeus, E. United States.

Trees or shrubs; leaves often deciduous; stipules adnate to or free from the petiole; flowers terminal, solitary, bisexual or rarely unisexual, sometimes precocious and strikingly conspicuous; tepals 9–21, 3- 5-merous, subequal or more rarely the outer whorl much smaller and calyx-like; anthers dehiscing introrsely or laterally, the connective produced into an appendage or rarely unappendaged; gynoecium sessile or sometimes shortly stipitate; carpels numerous or few, free; ovules 2 (rarely 3–4 in the lower carpels); fruiting carpels dehiscing along the dorsal suture.

3. **Talauma** Jussieu, Gen. Pl. 281 (1789). *Blumia* Nees (1825) non *Blumea* DeCandolle. *Santanderia* Cespedes ex Triana & Planchon (1862), *nom. synon. Violaria* Post & Kuntze (1903). *Svenhedinia* Urban (1927). 50 spp., tropical and subtropical Asia from E. Himalaya to Indo-China and Malay Archipelago, also tropical America from S. Mexico and West Indies to E. Brazil; type *T. dodecapetala* (Lamarck) Urban, Lesser Antilles and Venezuela.

Trees or shrubs; stipules adnate to the petiole; flowers terminal, solitary, bisexual; tepals 9–15, 3–4-merous, subequal; anthers dehiscing introrsely, the connective produced into a short appendage; gynoecium sessile; carpels numerous or few, concrescent at least at the base; ovules 2; fruiting carpels woody, circumscissile, the upper portions falling away either singly or in irregular masses, the lower portions persistent with the suspended seeds.

4. **Alcimandra** Dandy, Kew Bull. 1927: 260 (1927). 1 sp., *A. Cathcartii* (Hooker & Thomson) Dandy, E. Himalaya to Tonkin.

Trees; stipules free from the petiole; flowers terminal, solitary, bisexual; tepals 9, 3-merous, subequal; anthers much elongated, dehiscing introrsely, the connective produced into a short linguiform appendage; gynoecium stipitate, not exserted from the androecium; carpels numerous, free; ovules 2–5; fruiting carpels dehiscing along the dorsal suture.

5. **Aromadendron** Blume, Bijdr. 10 (1825). 4 spp., Malay Peninsula and Archipelago; type *A. elegans* Blume, Java, Sumatra, Malay Peninsula.

Trees; stipules free from the petiole; flowers terminal, solitary, bisexual (sometimes abnormally female by tepalody of the stamens); tepals 12 or more, 3–5-merous, subequal; anthers dehiscing introrsely, the connective produced into an appendage often subequalling or longer than the loculi; gynoecium sessile or substipitate; carpels numerous, concrescent; ovules 2; fruiting carpels indehiscent, forming a fleshy syncarp.

6. **Pachylarnax** Dandy, Kew Bull. 1927: 260 (1927). 2 spp., Assam to Indo-China and Malay Peninsula, Sumatra; type *P. praecalva* Dandy, Penang and Annam, Sumatra; *P. pleiocarpa Dandy*, Assam.

Trees; stipules free from the petiole; flowers terminal, solitary, bisexual; tepals 9–15, 3–5-merous, subequal; anthers dehiscing introrsely, the connective produced into a short appendage; gynoecium sessile; carpels few (2–8), concrescent; ovules about 4–8; fruit a woody loculicidal capsule, the carpels dehiscing along the dorsal suture and sometimes separating towards the apex.

7. **Kmeria** (Pierre) Dandy, Kew Bull. 1927: 262 (1927). *Magnolia* subgen. *Kmeria* Pierre (1881). 2 spp., S. China to Indo-China; type *K. duperreana* (Pierre) Dandy, Cambodia and adjacent Thailand; *K. septentrionalis* Dandy, Kwangsi.

Trees; stipules adnate to the petiole; flowers terminal, solitary, unisexual; tepals 6–7, 3-meous, subequal; anthers dehiscing introrsely, the connective produced into a short or moderately elongated appendage; gynoecium sessile; carpels comparatively few, concrescent; ovules 2; fruiting carpels woody, separating on dehiscence, dehiscing completely along the ventral suture and partly along the dorsal suture, thus finally becoming bifid.

8. **Elmerrillia** Dandy, Kew Bull. 1927: 261 (1927). 1 spp., Malay Archipelago eastwards to New Guinea and New Britain; type *E. papuana* (Schlechter) Dandy, New Guinea and New Britain.

Trees; stipules free from the petiole; flowers axillary, solitary or sometimes 2–3-nate, bisexual; tepals 9–15, 3–5-merous, subequal; anthers dehiscing introrsely, the connective produced into a short appendage; gynoecium sessile; carpels numerous, free or concrescent; ovules 2 or more; fruiting carpels either free and dehiscing along the dorsal suture, or concrescent to form a fleshy syncarp.

9. **Michelia** Linnaeus, Sp. Pl. 536 (1753); Gen. Pl. ed. 5, 240 (1754). *Champaca* Adansno (1736). *Liriopsis* Spach (1839) non Reichenbach. *Sampacca* Kuntze (1891). 40 spp., tropical and subtropical Asia from India to China, S. Japan, Taiwan and Malay Archipelago; type *M. Champaca* Linnaeus, India to Indo-China, widely cultivated in the tropics (especially SE. Asia) for its wood and highly fragrant flowers.

Trees or shrubs; stipules adnate to or free from the petiole; flowers axillary, solitary, bisexual; tepals 6–21, 3–6-merous, subequal or rarely the outer whorl much smaller; anthers dehiscing laterally or sublaterally, the connective produced into an appendage or more rarely unappendaged; gynoecium stipitate; carpels numerous or few (occasionally only 1), free; ovules 2 or more; fruiting carpels laxly spaced, dehiscing along the dorsal suture.

10. **Paramichelia** Hu, Sunyatsenia 4: 142 (1940). 3 spp., Assam to SW. China, Malay Peninsula and Sumatra; type *P. Baillonii* (Pierre) Hu, Assam to SW. China and Indo-China.

Trees; stipules adnate to the petiole; flowers axillary, solitary, bisexual; tepals 12–18, 4–6-merous, subequal; anthers dehiscing laterally or sublaterally, the connective produced into a short or elongated appendage; gynoecium stipitate; carpels numerous or fairly numerous, concrescent; ovules 2–6; fruiting carpels indehiscent or tardily irregularly dehiscent, forming a fleshy syncarp, the midribs often woody, hooked and persistent.

11. **Tsoongiodendron** Chun, Act. Phytotax. Sin. 8: 281 (1963). 1 sp., *T. odorum* Chun, S. China and N. Indo-China.

Trees; stipules adnate to the petiole; flowers axillary, solitary, bisexual; tepals 9, 3-merous, subequal; anthers dehiscing laterally or sublaterally, the connective produced into a short appendage; gynoecium stipitate; carpels fairly numerous, concrescent; ovules numerous; fruiting carpels large, woody, circumscissile, the upper portions falling away in irregular masses, the lower portions persistent with the suspended seeds.

Tribe 2. LIRIODENDREAE

12. **Liriodendron** Linnaeus, Sp. Pl. 535 (1753); Gen. Pl. ed. 5, 239 (1754). *Tulipifera* Miller (1754). 2 spp., SE. Asia and S.E. North America; type *L. Tulipifera* Linnaeus, S. Ontario and E. United States; *L. chinense* (Hemsley) Sargent, S. China and Tonkin.

Trees; leaves deciduous; stipules free from the petiole; leaf-lamina 2-10- (usually 4-6-) lobed, the apex truncate or widely emarginate; flowers terminal, solitary, bisexual; tepals 9–17, 3-merous, subequal; anthers dehiscing extrorsely, the connective produced into a short appendage; gynoecium sessile; carpels very numerous, free, the lowermost sterile; ovules 2; fruiting carpels woody, samaroid (produced at the apex into a long wing-like beak), indehiscent, deciduous.

Two New Hybrid Magnolia Cultivars

FREDERICK G. MEYER[1]

The artificial hybrid of sweetbay (*Magnolia virginiana* L.) and bullbay (*M. grandiflora* L.) was produced by Oliver M. Freeman, formerly an associate botanist at the U. S. National Arboretum, Washington, D. C. Pollinations were made in 1930 and again in 1931 from plants growing in Washington, D. C. of unknown origin.

The female parent was a specimen, now dead, of *M. virginiana* on the grounds of the Department of Agriculture on the Mall. Pollen was obtained from a specimen of *M. grandiflora* in Lafayette Park across from the White House (1).

The hybrid combination was conceived in the hope of obtaining a new race of evergreen large-flowered Magnolia hybrids with increased hardiness beyond the normal range of *Magnolia grandiflora*. From the original 126 F_1 seedlings, 51 specimen plants are still growing at the National Arboretum. Many of the hybrid plants are now fine foliage specimens, 35 to 40 feet tall after 40 years of growth, and all have flowered for a number of years.

Two elite selections in the series have received cultivar names. 'Maryland' (P. I. 358717) * is described here for the first time. 'Freeman' (P. I. 277263) was published earlier (4). Although the brief description of 'Freeman' in the *Plant Inventory* is valid, many details about the plant are missing, and the inventory is not readily available to many for reference. For this reason, a fuller description of 'Freeman' is provided here.

The hybrid plants resemble *M. grandiflora* more than the *M. virginiana* parent. But as might be expected in first generation hybrids, there is a rather wide range of variability between plants in size of flowers and leaves. Plants are predominantly wide-spreading in habit, but the cultivar 'Freeman' is a plant of columnar habit. Leaves in all of the hybrid plants have the texture of *M. grandiflora,* but are narrower and exhibit in varying degrees the glaucous lower leaf surface of the *M. virginiana* parent. Flowers in a few of the hybrid plants are nearly as large as in *M. grandiflora,* with a diameter of about 10 inches, but flowers in most of the hybrids average about 5 to 6 inches in diameter. In *M. virginiana* flowers average about 1¾ to 3½ inches in diameter. Flowering in all of the hybrid plants is remontant, that is, occurs intermittently during the growing season, which is one of the outstanding traits of the hybrid. Intermittent flowering is a tendency found in both parents, but the trait is far more evident in the hybrids.

Flowering in a few of the hybrids begins in May, with the first major flush about mid-June to early July in Washington, D. C. Flowering usually ceases in July. About the first week in August, plants again start to flower profusely, and taper off in early September. A few plants produce scattered flowers until October.

Cytology

The female parent, *M. virginiana,* of the section Magnoliastrum, is a diploid with $2n = 38$ chromosomes. The male parent, *M. grandiflora,* of the section Theorhodon, is a hexaploid with $2n = 114$ chromosomes. All of the hybrid plants are tetraploids with $2n = 76$ chromosomes, according to Santamour (3). The hexaploid *M. grandiflora* male parent contributed three times as many chromosomes and at the same time three times as many characters to the hybrid progeny as the diploid female parent, *M. virginiana.* This resulted in a swamping of *virginiana* characteristics and a preponderance of *grandiflora* characteristics in the hybrid progeny. The hybrids strongly resemble *M. grandiflora.*

Although both parent species normally are self-fertile, the hybrids are highly sterile, because of chromosome abnormalities. However, a few "cones" with fertile seeds are produced on most plants each season.

On several occasions, Mr. Wm. F. Kosar, long associated with the Magnolia breeding project at the National Arboretum, grew F_2 open-pollinated seedlings from the F_1 *M. virginiana* × *M. grandiflora* parents. On each occasion second generation hybrids exhibited extreme morphological abnormalities in flower structure. For this reason, F_2 hybrid plants were considered to be worthless as ornamentals.

Propagation

In spite of the potential value of this hybrid as an ornamental, the group as a whole has been difficult to propagate from material taken from the original mother plants. The only exceptions have been the clones 'Freeman' and 'Maryland' which root fairly easily from half-ripened wood. Consequently the latter selections have been distributed to a limited extent. Further work in using one of the newer propagating techniques might well overcome some of the difficulties in rooting other clones in the series. Of course, the various clones may be grafted on either *M. virginiana* or *M. grandiflora* understock. It does appear that juvenility may be a factor that favors rooting. One alternative we might suggest is an old propagating method known as stooling. By this latter technique, specimen plants are established and maintained expressly for the production of juvenile shoots which root more easily than shoots taken from mature specimen plants.

Description

Magnolia × 'Freeman' (Hyland)

(in U. S. Department of Agri. 1967, *Plant Inventory No. 169.* P. I. 277263)

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*P. I. (Plant Introduction) of the U. S. Department of Agriculture.

Fig. 1. *Magnolia* × 'Freeman' (Specimen on right). Selection with a columnar habit. Plant in 1971 was 40 feet tall with a branch spread of about 8 feet.

Photos U.S. National Arboretum

A single-trunked, evergreen tree, densely and profusely branched, of relatively narrow columnar growth habit; branches at right angles to the trunk; twigs densely leafy especially toward the tip; terminal vegetative buds slender, silvery puberulent (resembling *M. virginiana*); leaves thick, leathery (resembling *M. grandiflora*), narrowly to broadly elliptic, to occasionally somewhat oblanceolate, 4⅛ to 6½ in. long (average 5 1/16 in.), 1¼ to 2⅜ in. wide (average 2 in.), the petioles ⅜ to ¾ in. long (average ⅝ in.), somewhat glaucous and uniformly tannish puberulent beneath, lustrous deep green above, somewhat rounded and blunt or slightly tapering at the tip, rarely emarginate, margins smooth or sometimes slightly undulate; flowers cream-white with a strong lemony fragrance, cup-shaped, 5 to 5⅝ in. in diameter, the outermost 3 tepals opening flat, narrowly obovate, ca. 2¼ in. long and 1 to 1¼ in. wide, the inner two rows of tepals usually 6 to 7, the inner 3 obovate, the outer 4 elliptic, much smaller; staminal column rose-purple; stamens 130 to 170; 2n = 76 chromosomes.

'Freeman' is a selection of *M. virginiana* (female) × *M. grandiflora* (male). Named in recognition of O. M. Freeman who made the original cross in 1930 and 1931. The cultivar name was first used by Kosar (2) in 1962. The 40-year old parent (clonotype) plant at the National Arboretum in Washington, D. C., is now 40 feet in height, with a D. B. H. of 12 inches and a branch spread of ca. 8 feet. The selection was made primarily for the columnar growth habit of the plant.

Flowering occurs with a major flush during May and June, followed by a second but lesser flush of flowers during August.

The first distribution of 'Freeman' was made to arboreta and botanic gardens in the United States in February, 1962.

'Freeman' has been fairly easy to propagate from vegetative cuttings taken from half-ripened wood.

Magnolia × 'Maryland' n. cv.

A single-trunked, evergreen tree, densely and profusely branched, of spreading growth habit; branches more or less at right angles to the trunk; twigs densely leafy; terminal vegetative buds broadly elliptic, taper-pointed ca. 1¼ in. long, silvery puberulent (resembling *M. virginiana*); leaves thick, leathery (resembling *M. grandiflora*), elliptic to broadly so, 5½ to 7⅜ in. long (average 6¾ in.), 2¼ to 3⅛ in. wide (average 2½ in.), the petioles ⅝ to ⅞ in. long (average 7/16 in.), light green to somewhat rusty puberulent beneath, lustrous deep green above, blunt-tipped, margins smooth; flowers cream-white with a strong lemony fragrance, 5 to 5⅝ in. in diameter, cup-shaped, the outer row of 3 tepals opening flat, elliptic, 2 in. long, ⅝ in. to 1¼ in. wide, the inner two rows each with 3 tepals, the innermost 3 broadly obovate, the outer 3 smaller; staminal column rose-purple; 2n = 76 chromosomes. The cultivar name was proposed by Dr. Henry T. Skinner, to designate clonal material sent to Sir Eric Savill at Windsor Great Park in England in 1959.

Flowering occurs with a major flush during May and June, followed by a second but lesser flush of flowers during August.

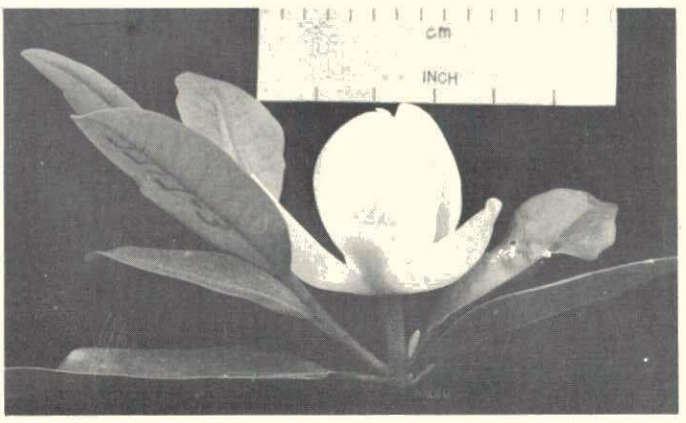

Fig. 2. Partially opened flower of *Magnolia* × 'Freeman', when open 5 to 5⅝ inches across.

Fig. 3. *Magnolia* × 'Maryland'. Selection with a spreading habit. Original plant died back to the ground, but a new plant, now about 15 feet high has grown from the original stump.

The original parent plant (P. I. 358717) at the National Arboretum died to the ground several years ago from an unknown cause. Fortunately, the plant has since recovered, and a new plant now about 15 feet high, has developed from the original stump. A number of young specimens (10–15 feet high) of 'Maryland', growing at the National Arboretum and propagated from the original mother plant, all exhibit a fairly wide-spreading growth habit.

'Maryland' was selected for naming primarily because it is fairly easy to propagate from vegetative cuttings.

Plants of 'Maryland' were distributed by the National Arboretum in 1959, as number 7717-6, to nine gardens in England and to one in Italy. Plants at Windsor Great Park in England are reported to be growing well. In the United States 'Maryland' has been distributed only to a limited extent, although further distribution is planned.

Voucher clonotype specimens of 'Freeman' (P. I. 277263) and 'Maryland' (P. I. 358717) are on deposit in the herbarium of the U. S. National Arboretum, Washington, D. C.

References

1. Freeman, O. M. 1937. A new hybrid *Magnolia*. *Nat. Hort. Mag.* 16 (3) : 161-162.
2. Kosar, William F. 1962. Magnolias native to North America. *Jour. Cal. Hort. Soc.* 23 (1) : 11.
3. Santamour, Frank S. Jr. 1969. Cytology of Magnolia Hybrids. I. *Morris Arb. Bull.* 20 (4) : 63-65.
4. United States Department of Agriculture. 1967. *Plant Inventory No. 169*, P. I. 277263.

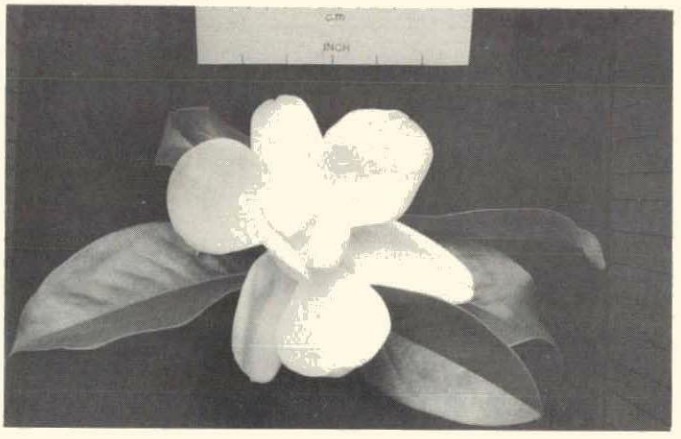

Fig. 4. Nearly opened flower of *Magnolia* × 'Maryland', about 6 inches across.

Magnolia Notes from Eastern Long Island

Walter Maynard
Water Mill, N.Y. 11976

No part of the easternmost forty miles of Long Island is far from salt water, and, as a consequence, the climate is relatively mild—one or two 90° days in summer, and a night or two of 0° in winter. This seemed a good environment in which to experiment with some of the tenderer Magnolias.

The project seemed all the more feasible because of the well known large *M. grandiflora* in Brooklyn and Mr.

Wallace Chauncey's tree in East Hampton. The latter was brought as a seedling, from Richmond, about 14 years ago. It is given protection in winter via a construction of a burlap covered three-sided frame, open to the west. Each year it is pruned back to a height of about fifteen feet. It flowers abundantly, beginning in mid-July, until frost. The blossoms are about 10" in diameter when fully open. The leaves are long, narrow, wavy-edged, with a light brownish coloration beneath.

The writer's first *grandiflora* experiment began with a gift from his wife in the spring of 1966 of a seedling in a gallon can bought from the Myers Nursery in Owings Mills, Maryland. Mrs. Myers obtained the seed from a tree on her sister's property in Westminster, reputed to be one of the coldest areas in the state.

The little tree was planted where it would get shelter from the prevailing northwest winds of winter and, in addition, for three years, a burlapped frame was built around it. When it reached a height and diameter of about five feet, it was left to look after itself. In the summer of 1970, it produced a succession of handsome fragrant flowers, the first on the 15th of July, about 10" with broad spoon-shaped thick petals. The leaves of this tree are thin-textured, about 8½" long, 4" wide, blunt-tipped, and green below, very different in appearance from the leaves of the East Hampton tree.

Encouraged by the happiness of the first *grandiflora,* in the spring of 1969, a graft of *M. g.* 'Samuel Sommer' was obtained from James Gossler's nursery in Oregon. It was given a three-sided, open-top shelter for its first winter, and it responded with two splendid 11" blossoms in early August 1970. The leaves of this plant are very thick and stiff, boat-shaped, with a heavy brown felting beneath. The bud before opening fully looks like a large pale green cup, deliciously scented. When the flower is fully opened, the stamens soon begin to fall.

Other Magnolias attempted include *Campbelli,* which died back during the first winter, but is recovering strongly, *Watsonii,* which produced one blossom in early June, and *Veitchii.* Two plants of the latter are growing vigorously and the white form produced two handsome 10" flowers in early May.

A casualty was a 5-foot plant of *Sprengeri* 'Diva' which, after leafing out nicely in the spring, suddenly collapsed and died within a few days. Some other attempted plants were severely damaged in their first winter, but appear to be recovering. These include *Sargentiana robusta* and *Thompsoniana.*

In addition to the foregoing, *cordata, denudata, Soulangiana,* in several cultivars, *Loebneri* 'Merrill' and several forms of *M. virginiana* are thriving. This season has been a perfect one for gardeners—rains when needed and no high winds.

In summary, eastern Long Island seems to be an area in which a wide variety of Magnolias can be successfully grown, including the showiest of all—*M. grandiflora.* It is hoped that more gardening enthusiasts will become interested in these fascinating and relatively little-known trees.

Magnolia Coco

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Magnolia Coco DeCandolle, Syst. I: 459 (1818); Prodr. I: 81 (1824)—G. Don, Gen. Syst. I: 84 (1831)—Dandy in Millais, Magnolias 95 (1927)
Liriodendron Coco Loureiro, Fl. Cochin. 347 (1790)
Magnolia pumila Andr., Bot. Rep. 4: t. 226 (1802-1803).—Ventenat, Jard. Malm. t. 37 (1803).—Sims in Bot. Mag. 25: t. 977 (1807).—De Candolle, Syst. I: 453 (1818); Prodr. I: 81 (1824). Roxburgh Fl. Ind. II: 655 (1832).—Hance in Ann. Sci. Nat. ser. 5, V. 205 (Advers. Stirp. Crit. 6) (1866).

An erect shrub 2–4 m. high, or sometimes a small tree; branchlets shining, slightly angular, glabrous. Leaves evergreen coriaceous, elliptic to oblong, very acute at the base, long-acuminate at the apex, 9–15 cm. long and 3–5.5 cm. broad, shining and glabrous above, paler and glabrous beneath; lateral nerves prominent on both surfaces, 10–12 pairs, venation laxly and prominently reticulate; petioles stout, transversely plicate, about 0.5–0.8 cm. long. Peduncles recurved, 1–1.5 cm. long, glabrous. Flowers nodding, globular, very fragrant at night, about 3 cm. in diameter. Sepals 3, greenish, very concave, lanceolate-oblong or obovate, obtuse at the tip, about 2 cm. long. Petals 6, fleshy, pure white, concave, obovate, narrowed at the base, obtuse at the tip, about 3 cm. long. Stamens numerous, white, slightly concave within; filaments broad, short; anthers sunk in the thick connective; connective fleshy, thick, exceeding the anther, somewhat acute at the tip. Gynoecium of few carpels; carpels slightly compressed, ovoid, glabrous, 1–2 ovulate; style obtuse, short. Fruit about 3 cm. long; ripe carpels hard, almost woody, shortly apiculate, dehiscing by 2 valves. Seeds 1–2, scarlet, oblong.

Magnolia Coco is one of only two members of the Gwillimia section of the genus in cultivation, the other being *Magnolia Delavayi*. Gwillimia is an Asiatic section, mostly tropical, comprised of evergreen species having the foliar stipules adnate to the petioles of the leaves, and is distinguished from section Lirianthe, which has only a single species, the Indian *Magnolia pterocarpa,* by the short-beaked fruiting carpels. The other members of section Gwillimia are very poorly known, some of them from only a single collection, and are likely to remain so until southeast Asia, where most of them are found, is once again safe for botanical exploration.

There exists a difference of taxonomic opinion as to whether *Magnolia Championii* should be reduced to synonymy with *M. Coco* or not. This reduction was made by Forbes and Hemsley in 1886 (Jour. Linn. Soc. 23: 24 (1886), and has been followed by most authors since that time. However, J. E. Dandy continues to regard *M. Championii* as a valid species, which is a powerful argument for regarding the matter as still unresolved. The separation is maintained on the basis of *M. Coco* being entirely glabrous in all its parts, while the young branchlets, flower buds, peduncles, and carpels of *M. Championii* are covered by a yellowish indumentum, and also because the peduncle of the flower in *M. Coco* is markedly recurved, while that of *M. Championii* is nearly straight. *Magnolia championii* is confined in its native habitat entirely to the island of Hong-Kong, while *M. Coco* is said to exist only in cultivation and remains undiscovered in its undisturbed natural habitat. Whatever their real taxonomic status, whether separate species or simply cultivated and wild forms of the same plant, it is certain the two are very closely related. I do not know of *M. Championii* in cultivation.

Magnolia Coco has always been a very elusive plant in this country for the gardener. It has been around a long time; Henry Nehrling had it at Gotha in central Florida in the last century, but it has never been popularized in the subtropical parts of the United States where it will grow outdoors, and consequently has remained exceedingly rare. My own plant came from the U. S. National Arboretum in Washington, D. C. in 1967. It remained in my lath house for a year and a half and was then planted out in a protected nook on a south facing wall of my house, where it grew very well without further protection through the winter of 1969. It is now a dense foliaged shrub about 3 feet tall, and I suspect would do quite as well in a less protected spot. Like many tropical plants, it has no well defined dormant period, and follows a regular cycle of growth and flowering which is slowed but not halted during the winter. The flowers are not spectacular although very fragrant, and are quite fugitive, scarcely lasting a day on the plant. I have never seen the inner triad of tepals on any flower open enough to reveal the stamens and pistils, and I am not even sure that pollen is released from the stamens before they are shed. I have not heard of seed being set on any plant of *M. Coco* in this country but it must happen somewhere, as fruit and seeds are described. One of our scientific horticulturists should take up this matter of fertility and seed set as hybrids between this plant and others in the subgenus, particularly in sections of Rytidospermum, Magnolia, Oyama, and Theorhodon would be fascinating.

Last summer (1970) the plant in my garden being finally big enough to yield a twig or two, two air layers were made and two cuttings set. This was done near the first of June, and by the first of August all four had struck with no apparent difficulty. Over the past four or five years I have had letters from time to time from other Magnolia enthusiasts asking after *Magnolia Coco,* and I have not been able to accommodate them. Now, as a service of the Society's plant distribution committee, I would like to offer propagations from my plant to other members of the Society. It should be understood that depending on the volume of requests several years may be required in the filling of them, and priorities of some kind may be established, but I will keep at it as long as need be. There will also be a charge of some amount made, enough to pay for postage and a little extra to be donated to the Society's treasury. If you would like to have *Magnolia Coco* a card or letter to me with your name and address will be sufficient. DO NOT SEND ANY MONEY NOW; you will be asked for it when your plant is ready to be shipped. If there are other members of the Society with rare or unusual Magnolias they would be willing to propagate for the Society on this same basis I would be very grateful to hear from them.

Notes from Gossler Farms

James Gossler
Springfield, Oregon

With a constant roving eye for exciting and improved Magnolia varieties and cultivars, may I share the following experience. We know *Magnolia grandiflora* to be an extremely variable and extraordinary horticultural plant. The outstanding efforts of selection, propagation and dissemination of *Magnolia grandiflora* by the Saratoga Horticultural Foundation should be noted here. The cultivars 'Samuel Sommer', 'Russet', and 'San Marino' are excellent horticultural plants. The old reliable 'St. Mary' and 'Victoria' are also praiseworthy contributions. On the other side of the coin, we see nameless, nondescript seedlings grown and sold for no apparent redeeming virtues other than they are green, alive and cheap.

I was called recently by friend, Magnoliaphile Wallace Ruff, landscape architect, to see a *M. grandiflora* growing and flowering in his yard. His tree is 15' tall, somewhat similar in habit to 'St. Mary', bearing large attractive flowers. The tree flowers a long season ending usually in November. The immediate thing that struck me about this plant was a large shiny leaf with the brightest brick red indumentum imaginable. The source and name of the tree was clouded, running through two rhododendron nurserymen. We see three of these trees thriving in Eugene, Oregon, and enduring an occasional zero temperature with no apparent damage.

In an attempt to secure identification and attach a name to this clone, I sent a specimen to Magnolia Society President Joe Mc Daniel. To my delight, Prof. Mc Daniel sent me a duplicate leaf from a tree he grows in Urbana, along with the following information.

Prof. Mc Daniel states: "Your specimen agrees with my samples of *Magnolia grandiflora* 'Satin Leaf' in color, leaf shape and is almost certainly that clone.

" 'Satin Leaf' is a so-far unregistered cultivar of Florida origin. The original tree stood near a highway in the vicinity of Tallahassee and probably was a native seedling there. Before it was cut down for highway improvement, Mr. Fraser of Southern States Nursery Co., had taken scions and propagated it, some 20 years ago.

"Some years ago, Jack Holmes and/or Cowgill Nurseries sent cuttings of this to Olle Oleson Nurseries in California."

" 'Satin Leaf' has, under good growing conditions, a redder indumentum than 'Russet', and is otherwise quite a different tree. Its brick red thick indumentum is unsurpassed by any other I have been. It certainly should be registered, and propagated widely. In most respects, it looks better than 'St. Mary'."

With such encouraging and kind words from such a noted authority, I felt rewarded in the effort to secure a name and propagate this fine cultivar. Pending formal registration, it will be hoped that more specific information on its hardiness will be obtained. It is thought to be successful in Memphis, Tenn., Eugene, Oregon, and Camas, Washington.

Indeed the Society should commend our super-sleuth President Mc Daniel for making such information available and for his work in furthering the cause of the Genus Magnolia.

Retirement of Mr. William F. Kosar

Mr. Bill Kosar, Horticulturist at the U.S. National Arboretum, retired on January 15, 1971, after 35 years of Federal service—30 of them with the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture.

In earlier years, Mr. Kosar did physiology and genetic research with lettuce at Beltsville, Maryland, and some of his introductions are still among leading loose-leaf varieties grown today. At the National Arboretum during the last 15 years, Mr. Kosar did salient breeding research with magnolias and hollies and has organized and named many beautiful hybrid magnolias and attractive hybrid hollies. Mr. Kosar's present mailing address is Box 985, Corvallis, Oregon 37330.

Registration of Cultivar Names

At the meetings of the International Horticultural Congress held in Tel Aviv in March, 1970, the authority for the registration of new cultivar names in *Magnolia* was transferred from the Morris Arboretum of the University of Pennsylvania to the American Magnolia Society. When the Society met at Mobile, Alabama in May it appointed as its registrar Dr. John M. Fogg, Jr. Anyone wishing to register a new cultivar name in *Magnolia* should request the appropriate registration blanks from Dr. Fogg, Box 128, Merion, Pa. 19066.