



the Beautiful Ivory Nude

by P.J.S.

M. denudata.

Grown and photographed by Mr. Brian F. Savage. Rushwick, Worcester, England.

Should anyone with a horticultural hobby address their attention to one certain family or genus of plants, becoming thereby a specialist, and sooner or later they will be asked: "If you could have just one, which would it be?" "If the Flood came again, which would you carry into the Ark?" I consider myself a magnolia specialist, and can answer that question without soul-searching. Up the gangplank of Ark II I would carry *Magnolia denudata*, the Yu-lan. This species being bi-sexual, I would no doubt be allowed only one specimen by Noah II, instead of a pair.

The Chinese words for "Lily Tree" sound in English like Yu-lan, providing us with an excellent common-use name for this species, described by P.M. Cibot in 1778 as "resembling a naked walnut tree with a lily at the tip of every branch."

There is a sumptuous oriental elegance about *M. denudata*, which is evident even to people who never think of vegetation beyond a tossed salad. The graceful blossoms of our cultivated clones are not a dead white, but the new-ivory color of rich Jersey cream. The purple-pink stamens give the center just a warming hint of pink, and the open flower is redolent of lemon, a universal favorite among scents. How lucky so many of us are, to be able to grow this treasure.

For all its delicate charms, there is nothing frail about the Yu-lan. If

necessary it can take midwinter cold of twenty degrees below zero, Fahrenheit, with little or no damage. Gales seldom split or uproot it, and although spring frosts can destroy the flower crop, recovery is prompt. Established trees in a suitable soil are as drought-resisting as maples. I find the pretty black seeds, with their characteristically sharp, thornlike cusp, actually tougher than those of *M. acuminata*, and I have planted them so late in the fall that they carried nothing but the two cotyledons, with a tiny bud between, all winter in my cool-house and with one hundred percent survival. Where some magnolia seedlings seem to labor mightily before their poor little bent necks can wrench the cotyledons from the soil, Yu-lan seedlings flip themselves erect on schedule, three weeks after planting.

In my affection for *M. denudata*, I have a lot of company. It has been so widely planted in temple groves all over China, that its original range is not easy to outline. Ernest Wilson found it so "common" in the Kiuling hills west of the Poyang lake that he reckoned this area as its center of distribution. Robert Fortune felt the low ranges of Chekiang province were the species' heartland, and Prof. R. C. Ching found it "common" in the Hwang Shan of south Anhwei province.

If we wish to roughly outline the area of China in which *M. denudata* is now, or was formerly native, a good place to start would be the mouth of the Yellow river (Hwang Ho) north of the Shan-Tung peninsula. Ascending the Yellow river into Honan, our line would leave it near the large city of Cheng-Chou and turn due south, following the main railroad to the large industrial city of Wu-Han, on the Yangtse. Crossing this mighty river, the rail line runs along the right bank of the Yangtse past the Tung-Ting lake and thence south-westerly through the province of Hunan to the border of Kwangsi and on to its southern terminal in Hanoi, North Vietnam.

I don't mean to say that *M. denudata* was ever native throughout this huge area. The flat flood plain of the Yellow river, and the sub-tropical broadleaf forests south of latitude 23 degrees in Kwangsi and Kwangtung provinces would not seem to provide its ecological requirements. The Yellow river, the large cities and the Peking-Hanoi railway line, I used because they are shown on nearly every map of China, while small mountain ranges like the Mo-Kan and Ta-Pieh are not. Why should a railroad line mark the ranges of magnolia species? Only because railroad lines follow the valleys and serve level farmlands, and wild magnolias, or at least those in China for the last thousand years, are upland and mountain trees.

The same barrier of level, and perhaps at one time swampy or even inundated land that generally serves to divide the native range of *M. denudata* from that of *M. sprengeri* is equally efficient in dividing the native ranges of *M. cylindrica* and *M. biondii*. *M. cylindrica* ranges certain areas in company with *M. denudata* while *M. biondii* has been collected in western Honan, southern Shensi, western Hupeh and eastern Szechwan in the same areas as *M. sprengeri*. Although *M. biondii* has been reported "in cultivation" and even offered for sale in England and the United States, this does not appear to be factual and probably resulted from confusion with *M. cylindrica*. *M. aulacosperma* Rehder and Wilson is a synonym for *M. biondii*, and is interesting in that it means "grooved seed". Anyone who has noticed the deeply grooved seeds of *M. kobus*, sometimes shaped almost like (full) saddlebags, can see

further evidence of the presumed relationship between these two species of section BUERGERIA.

Spurs of the Ta Pieh Shan range closely approach the Yangtse on its left bank, thirty or forty miles north of the Kiuling hills where Ernest Wilson found *M. denudata* so "common", and proceeding northwest this range forms the northeastern boundary of Hupeh province, first with Anhwei, and then, after a hundred and fifty miles or so, with Honan province. The only real break in the range is the valley of the Tang river, a large left bank confluent of the Han. North of the Tang Valley the land rises into the Fu Niu Shan and its northward companion the Sung-erh Shan, which make up a large highland area south of the ancient and very interesting city of Lo-yang. At some point along the Ta Pieh Shan *M. denudata* stops and *M. sprengeri* begins. It will be interesting to learn in the opinions and collections of Chinese botanists, how closely *M. denudata* and *M. sprengeri* approach each other in this area.

In an article in Newsletter Vol. 6, No. 2 with the title "The Goddess of Changyang Hsien", I brashly stated that I thought the precocious flowering magnolias in the highlands of north-western Honan would be found, upon further study, to be forms of *M. denudata* rather than *M. sprengeri*. Mr. J. E. Dandy was kind enough to write and inform me that he had examined specimens collected by Joseph Hers in that area, and determined them *M. sprengeri*. The following year I had the opportunity to visit the Harvard Herbarium, and fellow Magnolia Society member, Dr. Richard A. Howard, allowed me to look through Hers' specimens. Unfortunately, none of the *M. sprengeri* were collected in flower, but as Dandy stated, they are that species and not *M. denudata*.

It is always puzzling the way closely related but distinct species can thus closely approach each other, geographically, yet not intergrade. This happens even in such mobile creatures as birds. For example, east and north of the Red Basin of Szechwan ranges the well known Golden Pheasant, *Chrysolophus pictus*. West and south of this ancient lake bed, only one hundred and fifty miles across, is the range of Lady Amherst's Pheasant, *Chrysolophus amherstiae*. At the top and bottom of the "Red Basin" these very different appearing species must meet, yet no wild hybrids or intergrades have ever been collected, in spite of the fact that they are almost identical in habits and habitat, and in captivity hybridize to an extent that is an absolute nuisance to aviculturists and has resulted in a large captive population of magnificent mongrels.

The following magnolia specimens at the Harvard Herbarium, determined as *M. denudata* by Rehder and Wilson are valuable in showing the species natural range, although some, of course, may have been cultivated "temple trees".

Number 2617, collected by Prof. R. C. Ching 4-29-25 in Chin Hsa Shan, S. Anhwei, Ching describes as "A big tree of a clean trunk, sixty feet tall. Flower white, tinged at base purplish, and a very common tree throughout this locality." This specimen has typical though rather small flowers, with nine tepals. It is interesting that April 29 is the exact date *M. denudata* blooms here in Michigan.

Number 453 and 454, collected by Keng, 8-31-26, in the Tsing yun district of Chekiang. These appear typical *M. denudata*, one described as forty-five feet tall, the other seventy feet tall and twenty inches in trunk diameter.

Number 622 and 623, collected by Joseph Hers at Hsukow, near Haichow, N. Kiangsu province, not far from the coast and near the border with Shantung province, appear typical.

Several specimens collected by Cheo and Wilson in the Mo-Kan Shan, Chekiang province include one dated July 15, 1926 bearing a large fruit aggregate with every carpel filling. It would seem the Yu-lan in its native land has the proper pollen carrier, and does not practice birth-control, as do our cultivated Yu-lans here in America.

Prof. Ren-Chang Ching, discoverer of *M. cylindrica*, worked energetically with the Yu-lan also. Ching seems to have had an eye for big timber as well as squirrel-like climbing ability, since specimens he collected in 1924 and '25 in Chekiang and Anhwei were from trees described as sixty five and seventy feet tall, and one and one-half feet in diameter breast high.

Number 191, collected by C. S. Fan and Y. Y. Li on July 8, 1935. This is a fruiting specimen with typical leaves and buds described as a tree 80 feet high, growing in mixed forest at an altitude of 680 M. Although this specimen, in the absence of flower, appears typical *M. denudata*, it was collected an astonishing three hundred miles south of Changyang Hsien, the area in which Ernest Wilson found the fruiting tree whose seed produced the lovely *M. sprengeri* 'Diva' of Caerhays. Specimen number 191 was collected in the Yang Shan, near Changning, in Hunan province!

Although there is always the chance that such a tree was planted, a mere century or two ago, as an ornament to temple grounds, and Heng-Shan, the sacred "Southern Mountain" of the Taoists is not far away, the fact that cold hardy *M. denudata* grows so splendidly in sub-tropical Hunan province is itself remarkable. Hunan, birthplace of Mao Tse-Tung, is double crop rice country and should not be confused with Honan, far to the north, in the land of corn and wheat.

Another interesting puzzle takes us eight hundred miles westward from the above Hunan collection, almost to the border of Yunnan and Burma. Here, on the narrow divide between the Salween and Mekong rivers lies the ancient (now renamed) city of Yungchang. Of a visit to this city about 1914, the famous Scottish plant hunter, Mr. George Forrest, wrote: "In Yunnan quite a few species of *Magnolia* are cultivated, and are seen most often as ornamental plants in the grounds surrounding many of the larger temples and guild-houses. All are decorative, and one of the most charming effects I can remember is of an avenue of exceedingly well grown trees of *M. conspicua* in full bloom, in the grounds of one of the larger guild-houses in the city of Yungchang-fu. In Yunnan this species flowers very early in the spring. In late January or February, before even the winter frosts are gone, I have seen plants smothered in bloom. The flowers appear much before the foliage, are 6-7 inches in diameter, fragrant, and of a clear ivory-white in fine contrast to the drab grey of the bark. It is the 'Yulan Hua' of the Yunnanese and Szechuanese, though generally, in these provinces, that name is applied to all *Magnolias* and *Manglietias*."

Why were growing plants, scions or seeds of *Magnolia denudata* transported over mountain trails to Yungchang-fu, when all around that city grow trees and clumps and thickets of *M. campbellii* ssp *mollicomata*, whose precocious flowers were described in the same account by Forrest as "fragrant,

rather fleshy, pure white or ivory white, occasionally stained deep purple on the exterior, less often flushed pink, 5-8 inches across?" In the same area, Mr. Reginald Farrer also collected *M. campbellii* subsp. *mollicomata* and wrote that: "No two trees seem to bear flowers of the same shade, and the pure whites are even more beautiful than the rest." We might think that the guild-house magnolias were actually selected *M. campbellii* subsp. *mollicomata* forms with flowers of a fine ivory white (knowing that Forrest, in a celebrated blooper, had once confused *M. rostrata* and *M. campbellii* subsp. *mollicomata*) except for the fact that he collected flowering specimens of the "town" magnolias and sent them to Kew and Edinburgh and the Arnold Arboretum where they have been determined as authentic *M. denudata*.

With trees of *M. denudata* and *M. cylindrica* growing on the same mountain, at the same level, and blooming at the same time, as, according to Prof. R. C. Ching's notes, they do on Hwang Shan, hybrids would seem inevitable. The fact that these two species, over the millennia, have not melted together and lost their separate identity would indicate the existence of a fertility barrier at some level. Flowers of *M. denudata* that I hand pollinated with *M. cylindrica* produced a huge crop of viable seed (see cover picture Vol. IX No. 4) from which vigorous and intermediate appearing seedlings are thriving here and in Urbana, Illinois. If these F-1 seedlings later prove to be sterile "mules", as some inter-sectional magnolia hybrids seem to be, our question of how the species have retained their identity will be solved.

An interesting notation, without specimen in the Harvard Herbarium describes a magnolia collected in flower by Prof. W. C. Cheng of the University of Nanking, and described by him as: "Number 4233, March 31, 1933. Collected at Pao-hua Shan, in woods, altitude 250-300 M. W. C. Cheng."

"Related to *M. denudata*, differs in smaller flowers with subspatulate sepals and petals which are purple on the lower half of outer surface. It is also related to *M. cylindrica* Wilson, which has oblanceolate-oblong or rarely oblong-ovovate leaves with obtuse or acute apex, and with short and straight hairs throughout the whole surface beneath, and has cylindrical fruits with elliptical carpels, and longer (5-10 MM) pedicels. In the shape of its leaves this new species somewhat resembles *M. kobus* of Japan, but differs in the similar sepals and petals of the flower."

"Dedicated to Director H. C. Zen of the China Foundation for the Promotion of Education and Culture; *M. Zenii* Cheng." Above also collected (in flower) by C. P'ei, No. 3123, March 23, 1931, and again without flowers on June 9, 1932, possibly from the same tree as Cheng's No. 4233.

It is noteworthy that Prof. Cheng observed a relationship to both *M. denudata* and *M. cylindrica* in this specimen and I feel it most probable that *M. Zenii*, Cheng is in fact a hybrid of those species. No fruit or fruiting specimens were collected.

A specimen in leaf only, collected in northern Fukien by Prof. Ren-Chang Ching under his number 2501 on August 28, 1924 is described only as "*M. denudata*, 60 feet high, in a dense wood." This specimen is certainly not typical *denudata*, and its leaves and twigs closely resemble those of Krossa's *M. cylindrica*. On the card attached to the type specimen of *M. cylindrica*, collected by R. C. Ching in 1925, in the Hwang Shan of southern Anhwei, Mr. J. E. Dandy has noted: "Ching's No. 2501, from northern Fukien near the

Chekiang border is also this species." (signed "Dandy '27)."

In the *M. denudata* folder at Harvard Herbarium, there is a photo-copy of a page from Sims Botanical Magazine No. 39, 1814. In this the tree and its flowers are described with great accuracy, and mention is made of: "Two other varieties are said to be known in China, one with pale rose colored, the other with double blossoms, but neither has found its way into our gardens, and indeed are extremely rare even in China."

It is interesting to speculate what these two described varieties may have been, or, hopefully, still are. Would they have been forms of *M. sprengeri* brought down the Yangtse from Ichang? To be less romantic and more practical, we must admit that the rose-colored flower could have been a cultivated form of the Mu-lan, or *M. liliflora*, and the double white the Japanese in *M. stellata*, carried to China by monks along with many other flowering plants. It is difficult to see how the lovely flower of *M. denudata* would be improved by doubling the number of its tepals, in any case.

A gently disturbing mystery, which may have some connection with the rose colored *M. denudata* mentioned in Sims, is a magnolia collected at Yutsien, almost exactly halfway between the big city of Hangchow, and the central peak of Hwang Shan, or about fifty miles from each. The type specimen, collected by W. C. Cheng, July 6, 1933, as his number 4444-A is in fruit, but a flowering specimen was collected in April, 1934 by S. Chen as No. 2692. These specimens were sent to the herbarium at the University of Nanking, and hopefully were not destroyed by fire when the city was taken by the Japanese army three years later. In his listing of Chekiang plants, Dr. Cheng felt these collections were from a nondescript, which he named *M. amoena*, Cheng. He described it as typically, a deciduous tree of 8-12 M. (27-40 ft.) with oblanceolate leaves. Flowers precocious, fragrant, cup shaped, having nine tepals and no sepals, rose pink in color and 6 cm. in diameter, tepals 5 to 5.6 cm. long. These measurements would indicate a small flower, only about three inches across. Its habitat he noted "in forests" at 3500 ft. in Tien-mu Shan, whose highest peak reaches 5174 ft. according to a 1964 National Geographic map.

Dr. S. D. Richardson in his fine book "Forestry in Communist China" (The Johns Hopkins Press, Baltimore) writes with enthusiasm about the Hangchow Botanic Gardens, which he feels illustrates the scope of China's new provincial gardens, and the speed with which new developments are taking place. "The presence of magnolias 10 M. in height (and transplanted at this stage!) gives a semblance of maturity that belies the short time the project has been under way." We can hope that little known and local species like *M. amoena* (if species it is) will be preserved in this impressive new garden.

Ernest Wilson collected specimens of typical *M. denudata* growing in Japan, which might possibly have been feral trees since the species is not native to Japan and he would be unlikely to collect specimens from obviously cultivated plants of such a well known species. He also collected flowering specimens of what he called "*M. denudata* var. *purpurascens*." He described these flowers as "rose purple without, white within," and they look exactly like the plants formerly sold under that name by Overlook Nurseries at Semmes, Alabama. A more recently collected specimen is in the Harvard Herbarium with the label "*M. purpurascens*, Makino, Japanese Sarasa-Mokuren. Cultivated.

Kurashiki-Shi Okayamaken, Honshu April 2, 1952. Collected by K. Uno." This is obviously not *M. liliflora*, and in fact, looks exactly like *M. denudata* in shape of tepals, buds and wood.

Such "pre-Soulange" *soulangianas* in Japan were the cause of Wilson's confusion and hesitation in determining *M. sprengeri* as a new species, even after he had seen it flowering in Hupeh.

The western limits of *M. denudata*'s native range was beclouded for a time by a flowering specimen collected by Father Farges in Shensi which became the type of *M. conspicua* var. *Fargesii*. This was later transferred to Wilson's *M. aulacosperma* and then to *M. biondii*, these last two epithets being synonyms, with *M. biondii* having precedence.

It is incredible that such a fine, hardy and beautiful tree as *M. biondii*, with such an extensive range in China, has never been introduced to western horticulture. Wilson describes *M. biondii* as "a shapely tree with many rather slender and spreading branches and a wealth of leaves." There are photographs by Wilson and by Joseph Hers in the photograph collection at the Arnold Arboretum. There were many trees of this species, and of its constant companion *M. sprengeri*, in the mountains of northwest Honan at the time Hers collected there in the early 1920's. Leaves are rather lanceolate, up to 7 inches long by 3 inches wide, thus similar to, but considerably larger than those of *M. salicifolia*, with a pleasing, glossy surface. Flowers are apparently held more vertically than those of *salicifolia* and *kobus* and appear larger and possessed of greater substance, although the six large tepals and three outer tiny tepals mark it as a member of section BUERGERIA. Flower buds are very furry and generally larger than buds of *kobus*, and according to Joseph Hers, the local name in Honan and Shensi is Wan Chuen hua, or "10000 Spring Flower." Hupeh specimens collected by Chun, Henry, and Wilson show more broadly elliptical leaves than those of Honan and Shensi.

It is very likely that the trees described to me in a letter from Arthur Sowerby as *M. conspicua*, in north-western Honan, were probably *M. biondii*. If they could fool Father Farges, they could probably fool Sowerby, who was primarily a Zoologist!

There are a few well-matured Yu-lans in the Detroit area where I live. Three specimens, over fifty years old, are growing next to our family cemetery lot. They are seedlings, and differ in flower shape, but bloom every year despite their roots being torn now and then in the unfortunate primary purpose of cemeteries.

While the southern gardener is accustomed to beautiful flowering trees, the cold hardness of the Yu-lan is one of the real blessings of northern horticulture. ***

Erratum:

On Page 10 of Spring-Summer issue, I left three cultivars of *M. stellata* out of the fine list of magnolias grown by Mr. & Mrs. R. E. Hartz. They are: *M. stellata*, and its vars. 'Waterlily' and 'Rubra'.