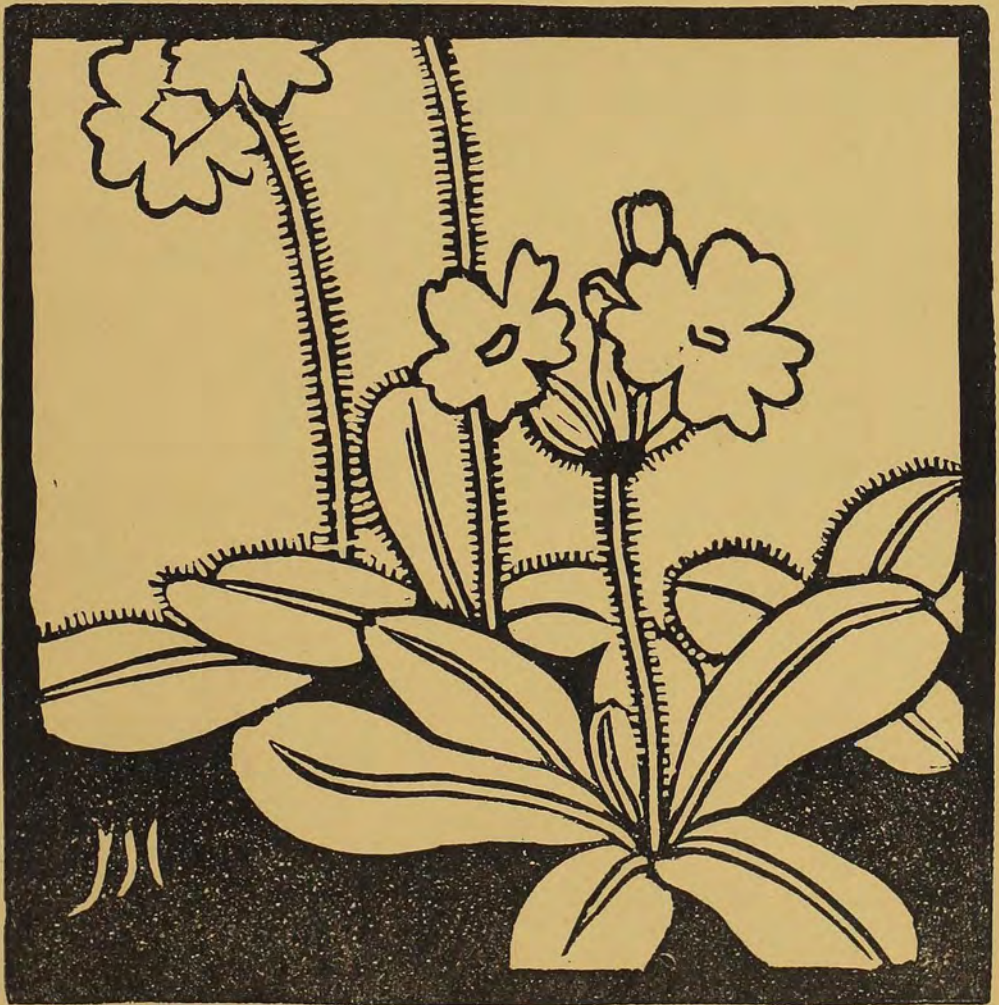


The NATIONAL
HORTICULTURAL
MAGAZINE



JOURNAL OF THE AMERICAN HORTICULTURAL SOCIETY

APRIL, 1950

The American Horticultural Society

PRESENT ROLL OF OFFICERS AND DIRECTORS

July, 1949

OFFICERS

President, Dr. Fred O. Coe, Bethesda, Md.
First Vice-President, Mr. Frederic P. Lee, Bethesda, Md.
Second Vice-President, Mrs. Robert Woods Bliss, Washington, D. C.
Secretary, Dr. Charlotte Elliott, Lanham, Md.
Treasurer, Mr. Carl O. Erlanson, Silver Spring, Md.
Editor, Mr. B. Y. Morrison, Takoma Park, Md.

DIRECTORS

Terms expiring 1950

Mrs. Walter Douglas, Chauncey, N. Y.
Mrs. J. Norman Henry, Gladwyne, Pa.
Mrs. Arthur Hoyt Scott, Media, Pa.
Dr. Freeman Weiss, Washington, D. C.

Terms expiring 1951

Mrs. Mortimer J. Fox, Mt. Kisco, N. Y.
Miss Alida Livingston, Oyster Bay, N. Y.
Dr. David V. Lumsden, Chevy Chase, Md.
Dr. V. T. Stoutemyer, Los Angeles, Calif.
Dr. Donald Wyman, Jamaica Plain, Mass.

HONORARY VICE-PRESIDENTS

Mr. W. E. Walton, Pres.,
American Begonia Society,
1415 Acacia Ave.,
Torrance, Calif.

Judge Arthur W. Solomon, Pres.,
American Camellia Society,
702 W. Anderson St.,
Savannah, Ga.

Mr. Carl Grant Wilson, Pres.,
American Delphinium Society,
22150 Euclid Ave.,
Cleveland, Ohio

Dr. Joseph Ewan, Pres.,
American Fern Society,
Tulane University,
New Orleans 18, La.

Mr. Frank E. Moots, Pres.,
American Peony Society,
Newton, Kans.

Mrs. Carroll S. Higgins, Pres.,
American Primrose Society,
2424 N. E. 32d Ave.,
Portland 12, Ore.

Mr. Harold Epstein, Pres.,
American Rock Garden Society,
5 Forest Court,
Larchmont, N. Y.

Dr. W. L. Ayres, Pres.,
American Rose Society,
Purdue University,
Lafayette, Ind.

Mr. Wm. T. Marshall, Pres. Emeritus,
Cactus & Succulent Society of America,
228 Security Bldg., Phoenix, Ariz.

Mrs. Hammond Crawford,
Herb Society of America,
Bunnydale Farms,
Mantua, Ohio

Mrs. Frances S. Belant, Pres.,
Midwest Horticultural Society,
101 N. Central Park Blvd.,
Chicago 24, Ill.

SOCIETIES AFFILIATED WITH THE AMERICAN HORTICULTURAL SOCIETY

1949

American Association of Nurserymen,
Dr. Richard P. White, Exec. Secy.,
636 Southern Building,
Washington 5, D. C.

American Begonia Society,
Mr. W. E. Walton, Pres.,
1415 Acacia Ave.
Torrance, Calif.

American Camellia Society,
Box 2398 University Station
Gainesville, Fla.

Arlington County Garden Club,
Mr. Wales C. Brewster, Pres.,
3015 Second St., N.,
Arlington, Va.

American Fuchsia Society,
Headquarters: Calif. Acad. of Sciences,
Golden Gate Park,
San Francisco, Calif.

American Iris Society,
Mr. Geddes Douglas, Secy.,
444 Chestnut St.,
Nashville 10, Tenn.

American Primrose Society,
Mr. Carl Maskey, Secy.,
2125 5th Ave.,
Milwaukie, Ore.

American Rose Society,
Dr. R. C. Allen, Secy.,
Box 687, Harrisburg, Pa.

Bel-Air Garden Club, Inc.,
Mrs. W. J. Schminke, Treas.,
315 N. Beverly Glen,
Bel-Air, Los Angeles 24, Calif.

Benson Garden Club
c/o Mrs. D. M. Bowen,
4244 Burdette St.,
Omaha, Nebr.

Cactus & Succulent Society of America,
Dr. Robert Craig, Pres.,
14326 E. Holt Ave.
Baldwin Park, Calif.

- California Garden Clubs, Inc.,
Mrs. Wm. D. Shearer, Pres.,
533 South Wilton Place,
Los Angeles 5, Calif.
- California Horticultural Society,
Miss Cora R. Brandt, Secretary,
300 Montgomery St.,
San Francisco 4, Calif.
- Chestnut Hill Garden Club,
Mrs. Bryan S. Permar, Treas.,
41 Crafts Rd.,
Chestnut Hill 67, Mass.
- Chevy Chase (D.C.) Garden Club,
Mrs. Lewis S. Pendleton, Pres.,
3418 Quesada St., N. W.,
Washington, D. C.
- Chevy Chase (Md.) Garden Club,
Mrs. Robert Ash, Pres.,
8921 Bradley Blvd.,
Bethesda 14, Md.
- Community Garden Club of Bethesda,
Mrs. L. W. Pogue, Pres.,
116 Chevy Chase Drive
Chevy Chase 15, Md.
- Fauquier & Loudoun Garden Club,
Mrs. Wm. F. Rust, Pres.,
Leesburg, Va.
- Federated G. C. of Cincinnati and Vicinity,
Mrs. W. R. Grace, Sr., Pres.,
7911 Hamilton Ave.,
Mt. Healthy 31, Ohio.
- Garden Center of Greater Cincinnati,
Walnut and Central Parkway,
Cincinnati 10, Ohio
- Garden Center of Greater Cleveland,
East Boulevard at Euclid Ave.,
Cleveland 6, Ohio
- Garden Center Institute of Buffalo,
1500 Elmwood Ave.,
Buffalo 7, N. Y.
- Garden Club of Alexandria,
Mrs. Charles F. Holden, Pres.,
100 Rosemont Ave.,
Alexandria, Va.
- Garden Club of Danville,
Danville, Va.
- Garden Club of Fairfax,
Mrs. Paul Peter, Pres.,
Fairfax, Va.
- Garden Club of Virginia,
Mrs. Frank A. Gilliam, Pres.,
Lexington, Va.
- Georgetown Garden Club,
Mrs. R. H. A. Carter,
3231 Reservoir Rd., N. W.,
Washington, D. C.
- Garden Library of Michigan,
Miss Margaret B. Baller, Librarian,
White House,
Belle Isle, Detroit 7, Mich.
- Holly Society of America,
Charles A. Young, Jr.,
Bergner Mansion,
Gwynn's Falls Park,
Baltimore 16, Md.
- Iowa Rose Society,
Wm. H. Collins, Sec.-Treas.,
Iowa State Hort. Soc.,
State House, Des Moines 19, Ia.
- Michigan Horticultural Society,
Mrs. R. W. Summers, Secy.,
The White House, Belle Isle,
Detroit 7, Mich.
- Midwest Horticultural Society,
100 North Central Park Blvd.,
Chicago 24, Ill.
- National Capital Dahlia Society,
Mr. Lee M. Clarke, Pres.,
2440 Monroe St., N. E.,
Washington 18, D. C.
- Northern Nut Growers' Assn., Inc.,
Mr. H. F. Stoke, Pres.,
1436 Watts Ave., N. W.,
Roanoke, Va.
- Pittsburgh Garden Center,
Mellon Park,
Miss Jane B. Demaree, Treas.
Pittsburgh 32, Pa.
- Plainfield Garden Club,
Mrs. Victor R. King,
826 Arlington Ave.
Plainfield, N. J.
- Potomac Rose Society,
Mr. R. E. Scammell, Treas.,
2810 Bladensburg Rd., N. E.,
Washington 18, D. C.
- San Francisco Branch,
American Begonia Society,
Mrs. Wm. Meyer,
1422 27th Ave.,
San Francisco, Calif.
- San Francisco Garden Club,
465 Post Street,
San Francisco 2, Calif.
- Takoma Horticultural Club,
Mrs. A. C. Barret, Pres.,
4719 Brandywine St., N. W.,
Washington, D. C.
- Welcome Garden Club of the Twin Cities,
Mrs. Norman A. Jardine, Pres.
Red Oaks Plantation, Route 4,
West Monroe, La.
- West Hills Horticulture Society,
5420 S. W. Alfred St.
Portland 19, Ore.
- Woodridge Garden Club,
Mrs. Alma C. Marshall,
1326 Allison St., N. E.,
Washington, D. C.
- Worcester County Horticultural Society,
30 Elm Street,
Worcester 2, Mass.

The National Horticultural Magazine

Vol. 29

Copyright, 1950, by THE AMERICAN HORTICULTURAL SOCIETY

No. 2

APRIL, 1950

CONTENTS

Shrubs from the Colorado Rockies II KATHLEEN MARRIAGE	51
Oriental Magnolias in the South K. SAWADA	54
Portfolio of Spring Bulbs: Crocus and Muscari	58
Rhododendron Notes: Observations on British Rhododendrons CLEMENT GRAY BOWERS	89
The Gardener's Pocketbook: Notes on Palms: The Saw Palmetto ALEX HAWKES	93
Notes on the Behavior of Lily Seeds ALIDA LIVINGSTON	95
Notes on Florida Plants H. F. LOOMIS	96
<i>Deutzia</i> "Magicien"	98
<i>Spiraea trichocarpa</i>	100
<i>Magnolia Wilsonii</i>	100

Published quarterly by The American Horticultural Society. Publication office, 32nd St. and Elm Ave., Baltimore, Md. Editorial office, Room 821, Washington Loan and Trust Building, Washington, D. C. Contributions from all members are cordially invited and should be sent to the Editorial office. A subscription to the magazine is included in the annual dues to all members; to non-members the price is five dollars a year.



Kathleen Marriage

Rubus deliciosus, "Thimbleberry"

Shrubs from the Colorado Rockies II

KATHLEEN MARRIAGE

Rubus deliciosus
Fallugia paradoxa

"Something old and something new."
Rubus (Bossekia) deliciosus "Thimbleberry" is not new but it deserves a revival. It has much to recommend it. Good form, decorative flowers, good foliage, hardiness, wide tolerance. It is probably seen at its very best on the lower slopes of Pike's Peak in porous gravel which is always moist below the surface from the melting snow above. It makes a big well-rounded shrub with graceful arching branches each bearing large single white rose-like flowers and still lovelier half-open buds.

This is one of the very best for shrub groupings especially for 'facers' in front of erect bare-legged varieties where there is room for natural mature development. It may grow to eight feet both high and wide. Leaves are simple resembling its raspberry cousins but smoother and a livelier green. Old stems are cinnamon brown, new stems are bright carmine in late summer and autumn. This Thimbleberry is willing to grow under all sorts of conditions. It hangs on to steep granite and gravel slopes in full sunshine in the wild. One garden where it looks serenely happy is in the deep shade of spruces in heavy clay. Some years ago on leaving the Director's Office in Kew Gardens by a side entrance what was my delight to land into a series of groups of Rocky Mountain shrubs with this *Rubus* in the lead in full bloom. It is a far cry in conditions as well as in geography from the dry gravel slopes of the Colorado Rockies to the soil and the climate of Southern England but *Rubus deliciosus* takes both with a smile. It grows

willingly from seed and transplants obediently.

Fallugia paradoxa

A native of northern New Mexico spilling over the border into Colorado, a decorative shrub of much individuality, it has slender wand-like branches of silvery white which make a good winter picture against a background of conifers. Slender leaves are sufficiently restrained to show this white bark even when in summer dress. White single open flowers—this too resembling a white wild rose—are borne on arching graceful branches and even in hot summer weather they have a long blooming season as if loth to stop. June is bloom time but occasional flowers appear at intervals until October. Seeds are tufts of silver plumes almost as decorative as its flowers giving its nickname "Apache Plume."

We find this *Fallugia* growing on and around rocky knolls where *Juniperus monosperma* and *Pinus edulis* (Piñon Pine) are its companions. One day in autumn we stopped on the highway near Taos and walked a half mile or so towards a nearby hill in quest of seed of it. There wasn't a sign of humans or of human habitation in sight; we spent perhaps an hour gathering seed and herbarium specimens of this and that when on returning towards our car we looked back to see about fifteen Indians. They were harvesting the toothsome Piñon nuts close by where we had been doing our prospecting with never a sound from them.

Mature plants reach a height and width of four or even five feet. Planted on a sunny bank and pinned down to



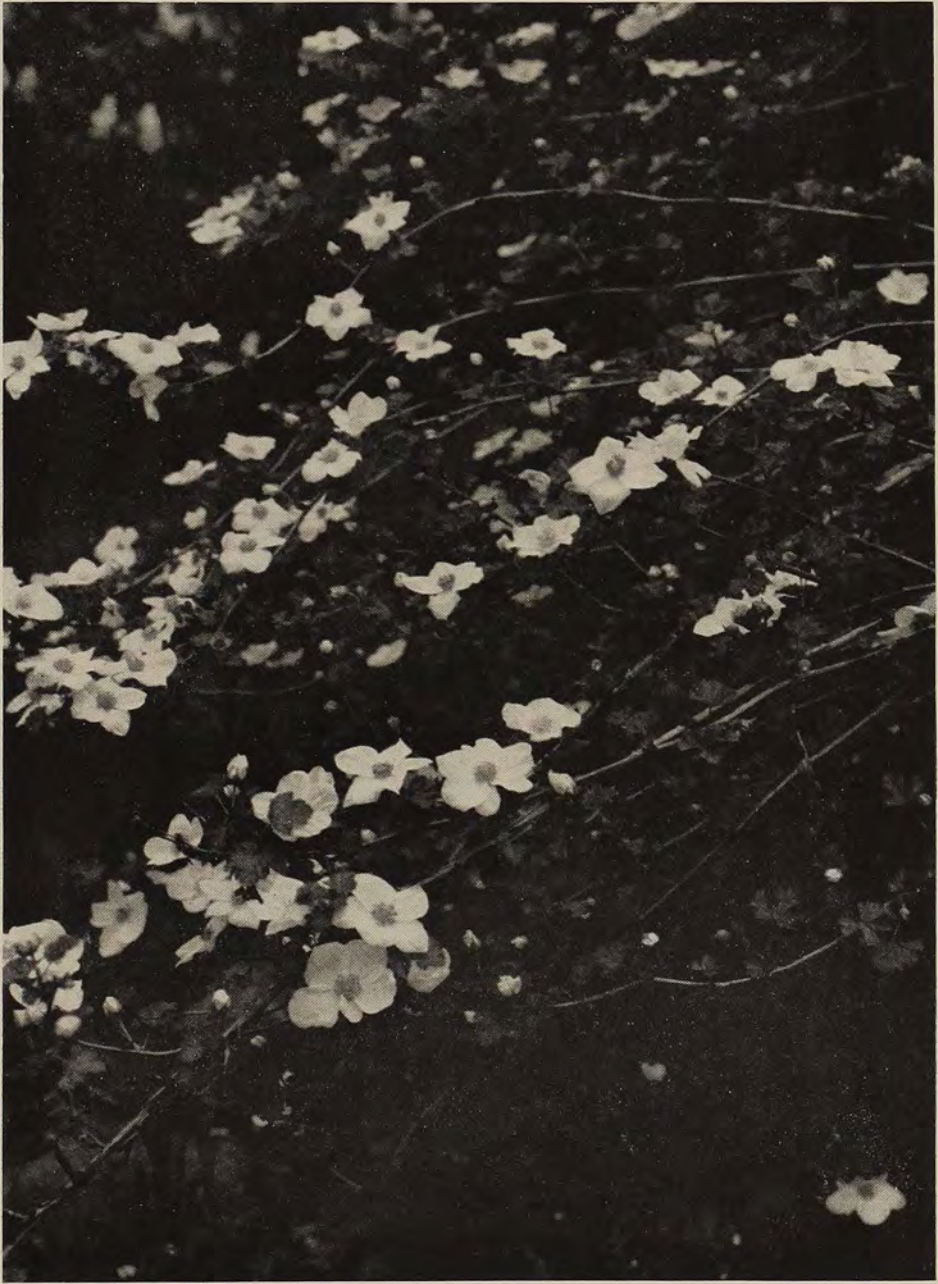
Kathleen Marriage

Rubus deliciosus, "Thimbleberry" growing on a sunny gravel slope of
Pike's Peak.



Kathleen Marriage

Fendlera rupicola



Kathleen Marriage

Rubus deliciosus, "Thimbleberry"

layer this *Fallugia* flattens into a trailer and does a decorative job of preventing erosion. Its eagerness to layer and to root seems to restrain ambition towards height.

For covering bare sunny banks where soil is poor these Rocky Mountain natives are the thing. They seem to be resistant to disease and unpalatable to insects. Removal of old wood

once in three or four years is all they ask in the way of maintenance. Promoted to the company and the good soil of the usual shrub plantings they require pruning more frequently to keep up a supply of vigorous young wood and to restrain ambitions towards too exuberant growth.

Colorado Springs, Colorado.

Oriental Magnolias in The South

K. SAWADA

The popularity of the Oriental Magnolia has grown slowly but steadily in the United States. The nurseries around Mobile, Alabama, are growing nearly a quarter million young magnolias annually, yet this does not meet half of the demand. These young plants are wanted mostly by northern or eastern gardeners and very few stay in the South. We southern gardeners have been busy with camellias and azaleas during the last decade; therefore, we have paid little attention to other things. However, once we realize the beauty of the magnolia, especially intermixed with camellias and azaleas, we shall see a big movement in the planting of this plant throughout our southern gardens.

Oriental Magnolias grow in a wide range of climate, some varieties grow as far north as Massachusetts and Wisconsin, but as a rule, magnolias grow best in mild climate, rather humid atmosphere, and acid soil. From these requirements, our southern garden is the true host of this plant.

There is no record when these magnolias came to this country. Judging from some of the large plants seen, the introduction must have been a century

ago. Without a doubt the magnolia was imported from Europe, mainly England and France where the flower is most highly esteemed. We have seen occasionally some large plants in the gardens of the old French settlements in southern Louisiana. The owners of these plants claim that these magnolias were imported from France by their ancestors. The writer imported a few magnolia plants from France in 1914. These plants are now 30 feet high with a 30 feet spread, and trunks 24 inches in diameter.

There are some deciduous magnolias native to this country, such as *M. macrophylla*, *M. pyramidata*, *M. Fraseri*, *M. tripetala*, and *M. acuminata*. But the oriental varieties are much superior for garden planting. The superiority is because of the following facts:

1. Oriental varieties grow much smaller in size than American varieties.
2. Oriental magnolias are more profuse bloomers.
3. Oriental magnolias bloom before the leaves appear in most species.

There are several varieties of oriental magnolias in southern gardens. We see most frequently *M. liliflora*, *M.*

Soulangeana and *M. Soulangeana* var. *nigra* follow in popularity. It is seldom that one sees *M. denudata* or *M. stellata*.

The writer classifies the oriental magnolias as follows:

1. *Magnolia liliflora* and its group.

Magnolia liliflora is a very common variety. It grows bush type and has many stems coming from the ground. The flower is lily-shaped with six tepals colored with deep purple on the outside and white on the inside. The leaves are rather small and of a thin texture compared to other varieties.

2. *Magnolia Soulangeana* and its group.

a. *M. Soulangeana* is very popular because of its hardiness and profusion of bloom. It has been said that this variety is a hybrid of *M. denudata* and *M. liliflora*. It was originated by Chevalier Soulange Bodin of Fromont near Paris. He used the seed of *M. denudata* and the pollen of *M. liliflora*. It was said that the first bloom of this hybrid appeared in 1826. Many horticulturists and plant breeders in Europe used this same method, thus many hybrids were originated such as *M. Alexandrina*, *M. Lennei*, *M. amabilis*, *M. Soulangeana*, *alba superba*, and others. Also many seedlings of these hybrids brought a great range of colors and growth habits that we see today.

Due to hybridization of *M. denudata* and *M. liliflora*, the *M. Soulangeana* owns intermediate characteristics of both parents. It grows in a tree shape but it is not so broad as *M. denudata*. The leaves are intermediate and the flower has nine

tepals. The flower is somewhat lily-type and then it opens into a saucer form. The color of the flowers range from dark purplish pink to nearly white. It blooms in February and March in southern gardens.

b. *Magnolia Alexandrina* has caused much confusion. The writer obtained this variety from several nurseries and every one of the flowers differed. What the writer now calls *M. Alexandrina* was recommended by the late Mrs. Dan DeBaillon of Lafayette, La. She was well versed on oriental magnolias. She found this variety in central Louisiana and it came from France many years ago under the name *M. Alexandrina*. This variety is more vigorous in growth and attains a larger size than *M. Soulangeana*. The large flower has nine tepals. Most of the blooms are dark purplish rose outside and white on the inside of the petals. These bloom at our nursery two to three weeks later than *M. Soulangeana* and usually escapes the danger of late freeze. The foliage is also slightly larger than *M. Soulangeana*. The variety with more white in the blooms is called *M. Alexandrina alba*.

c. *Magnolia nigra* is sometimes classified as *M. liliflora nigra*. This is because it has six tepals. Most in this group has nine petals. This hybrid is dominated by characteristics of *M. liliflora*.

The exact origin of this magnolia is unknown. It is supposed that one parent of this variety is *M. denudata* var. *purpurascens*, the purple variety of *M. denudata*. It was said that it

was originated by a Japanese nurseryman and introduced to Europe by John Gould Veitch in 1861. This is an excellent variety for garden planting. It has a lily-shaped flower and blooms a week to ten days later than *M. Soulangeana*.

- d. *M. Lennei*, although a hybrid of *M. denudata* and *M. liliflora*, shows the *denudata* characteristics. The flower is very large with nine tepals which are roundish and broad. The color is dark vermilion red to purple. This is the latest of all magnolias to bloom. The leaves are large and roundish—somewhat crinkled.
- e. *M. rustica rubra* is a chance seedling of *M. Lennei* and is said to have originated in Belgium. Originally this variety was described as a rich rosy red flower but today what we call *rustica rubra* has flowers of a much darker purple. *Rustica rubra* seems to grow to a larger size than the *lennei*.
3. *M. denudata* and its group.

The writer believes that this group is the best of the magnolias. Its origin is central China where these plants grow up to fifty feet high with spreading branches.

- a. *M. denudata* has been known as *M. conspicua* and Yulan Magnolia. Its flower is very large usually measuring 6-8" across. The flower opens flat like a large saucer. It is composed of nine broad petals. The color of this variety is supposed to be pure white. The leaves are large and broad. Some measure 7-8" long and 4-5" wide with very thick texture. *M. denudata* produces more seeds than any other of

the Oriental varieties. There are many fine seedlings.

- b. *M. denudata* var. *elongata* is one of the best seedlings of *M. denudata*. The flower is slightly larger than the pure *denudata*. The color of most of these flowers is pure white but a few flowers occasionally show a faint tinge of pink at the base of the petals of the flower.
- c. *M. denudata purpurascens* has a flower described as bluish rosy purple with yellowish green anthers. The writer secured from South Louisiana a *denudata* which has an attractive flower. It has nine tepals of bright clear reddish purple. The color is much prettier than that of *M. Lennei* or *M. rustica rubra*. It is said the original plant of this variety was imported from France. However, it is not certain if it is the same as the *denudata purpurascens* in Europe. So the writer calls it temporarily *M. denudata purpliana*. It blooms rather early in the season. The writer has raised many thousands of *denudata* seedlings. The flowers range from almost white to nearly dark purple. Several years ago he sent some of his *denudata* seedlings to Georgia. A report on these was recently received that one of them bloomed almost salmon pink flowers.
4. *Magnolia stellata* and its group.
- This group is also known as the star magnolias. It is much smaller in every respect—the flower and the foliage. Therefore, it fits in yard plantings—and even in small gardens.

The flowers have 12-15 tepals which are about 2-2½" long.

They are very narrow. In the early spring this white star-shaped flower blooms abundantly among the azaleas, camellias, and other flowers bushes. There isn't a more charming floral display than this. The flower color of this *M. stellata* is usually pure white. There are some with pinkish tinges on the outside of the petals and this variety is called *stellata rosea*. Also one variety in this group has its petals arranged like a water lily. The writer has a seedling which produces flowers which are purplish rose on the outside of the petals and white on the inside. The petals seem to be much narrower than others. He thinks that this *stellata* seedling is the darkest colored flower of this variety.

5. *M. Campbellii* and its hybrids

- a. *M. campbellii* is called the king of the magnolias due to its magnificent blossoms. Unfortunately this variety does not seem hardy. It also requires a very long time to produce flowers. It is said that there is only one plant of this variety in bloom in this country. It is growing in the Golden Gate Park in San Francisco. The spring of 1949, the writer visited there and saw the flowers. There were two plants in bloom--one is the orig-

inal and the other was grafted 16 years ago. The flowers were truly gorgeous. They were very large cup shaped. The color was crimson red on the outside and rosy white inside. The writer has several plants of this variety, but they have been injured by the cold every winter and have never produced flowers.

- b. *M. Veitchi* is one of the hybrid of *M. Campbellii* and *M. denudata*. It was originated by Peter Veitch at Exeter in 1909. A three year old grafted plant which the writer owns bloomed last spring. The flowers are large 6-7" in diameter with nine tepals. The color is a faint pinkish white with darker lavender pink at the base and at the mid-ribs of the petals. The leaves are very large. This variety seems very vigorous as a grower.

Beside the varieties above mentioned there are *M. Wilsonii*, *soulangeana albo superba*, *M. Brozzoni*, *M. gracilis*, *M. salicifolia*, *soulangeana speciosa*, *M. spectabilis*, *M. Van Houttei*, *M. Norbertiana*, *M. amabilis* and others. However, those varieties are not yet very popular in this country. The writer is now collecting possibly those varieties so he may report about those varieties in the future.

Crichton Station, Mobile, Ala.

Portfolio of Spring Bulbs: Crocus and Muscari

There are two schools of thought as to when one should talk about bulbs, at the time when they are flowering or at the time when one should be thinking about his order. To a degree the present-day dealer is solving the problem, for the catalogues offering bulbs come earlier each season, so that in a short time it will be possible to take one's autumn catalogue in hand and look through the plants in bloom in another's garden.

Since it is not possible to include in any one issue pictures of all the species and forms of spring bulbs, so-called, we are reviewing here, only the pictures that have been printed in the magazine many years ago, of the spring flowering species of crocus and some of the grape hyacinths. More and more gardeners are planting these species rather than the horticultural forms that have been developed and the influence that has moved them to this decision, is perhaps more that of the advocates of the rock garden than any other. To be sure, most of these plants are not from rocky spots in Nature, only from regions where they must have a summer rest and drying and the rock garden here, that starts so bravely in the Spring, sometimes provides the ideal spot for this summer resting whether the gardener wills it or not.

The species crocus are more available each year and the illustrations that follow are worth looking at again, since they show to a lively degree the differences in form and pattern that are to be had. Only in such species as *Crocus vernus picturatus* is the fat form of the garden crocuses shown in any degree of fullness and that is not strange since *C. vernus* is one of the putative ancestors of the race.

As is the case with all plants that flower at the oncoming of Spring, these flowers run the annual risk of being frozen or beaten down by cold rains. In most cases they survive reasonably well, although sometimes with broken necks. No matter what the temperatures here, there are always some seed pods that appear later on, to show that these are hardy creatures and as the self-sown corms grow swiftly enough to come to flowering, it is a pleasure to plant the original stocks at the top of one's hill, if he has a hill, so that each year the parade of seedlings finds a lower and lower level.

It has been found here that the corms of such species as *Crocus Sieberi*, *C. Tomasianus* and *C. Imperati* continue a happy and fruitful life even in locations that are tree shaded during the summer. The same cannot be said for any of the others shown, as even where they have persisted, they have not flowered with any profusion indeed come nearer giving sample blooms. It has been found also, that invasive ground covers are practically sure doom to flowering strength. The attacks of rabbits that crop off the leaves in the winter for those that make winter foliage and in the earliest Spring for the others, is by no means fatal. If anything it would appear to make the plant consider a more rapid production of cormlets, all with leaves and none with blooms. No particular effort has been made to maintain the soil depth over the corms, which may also have contributed to the difficulty of producing flowering sized corms.

If one plants the species crocus in the open, the essential problem is to determine what if any cover shall be

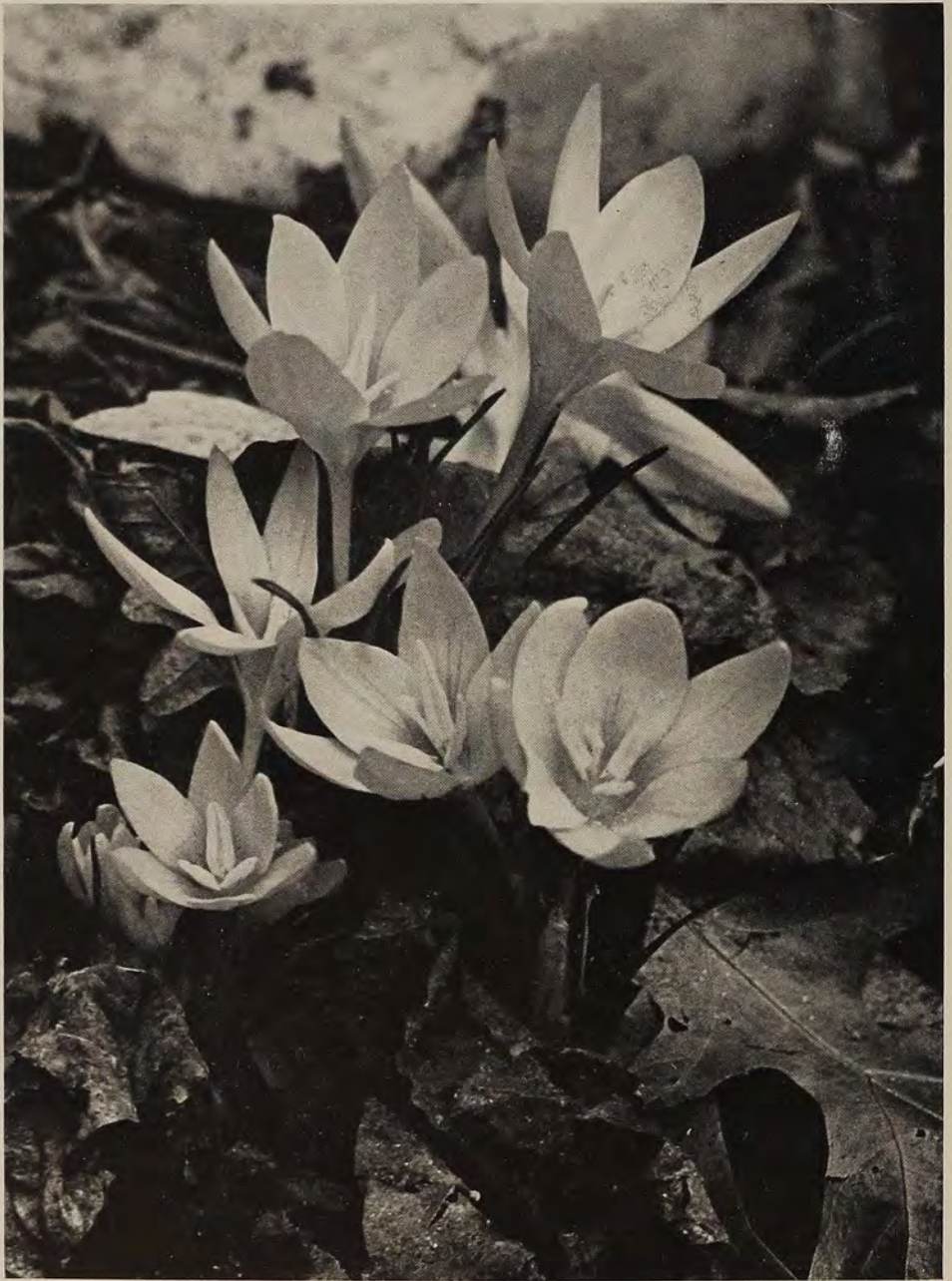
(Continued on page 81)



Claude Hope

Crocus alata

The outer segments are a faint Cartridge Buff almost completely covered with a fine sanding of Cinnamon Drab that passes to Dark Purple at the base of the tube; the inner surfaces are a grayish white warmed by the color of the outer surfaces.



Claude Hope

Crocus aureus

The flowers are about four inches tall, and almost bowl-shaped when open in the sun. In effect they are golden yellow; by Ridgway, they are Cadmium Orange fading to Orange with lighter stamens, and no markings of any sort.



Claude Hope

Crocus aureus sulphureus concolor

The name gives the clue to the color in this case for the plant is merely a paler version of the type. In our case a much less vigorous plant as well.



Claude Hope

Crocus balansae

"From western Asia Minor" this very small flowered species has proven quite transitory. The color is orange in effect, by Ridgway between Cadmium Yellow and Light Cadmium, with the backs of the outer segments darkened by warm red browns, Vandyke Brown to Burnt Umber, all of which recalls water color days.



Claude Hope

Crocus balansae Zwannenberg

*The Zwannenberg form differs only in the deeper color which is
Cadmium Orange.*



Claude Hope

Crocus biflorus.

One never feels sure whether this pale lilac crocus with featherings of lilac purple on the outer backs, is more lovely when open to the sun or closed to show the markings. The stamens and pistil are highly colored and there is a yellow marking at the base of the tube.



Claude Hope

Crocus biflorus argenteus

This differs chiefly in the more starry form of the open flower.



Claude Hope

Crocus biflorus pusillus

C. biflorus pusillus, as this shows is largely hidden in the welter of leaves, the kind of minor beauty for which the clever writer invents a winning phrase to the later disappointment of the gardener.



Claude Hope

Crocus biflorus Weldenii

This variety of biflorus is long-flowering and its flowers have a slightly more brilliant, warmer hue of lilac washed over the white.



Claude Hope

Crocus biflorus Weldenii albus

The favorite white in the garden here.



Kathleen Marriage

Crocus chrysanthus, Canary Bird.

One finds difficulties in going into details about the many forms of *Crocus chrysanthus*. All are good things with fine constitutions, but they are 'en masse' collector's flowers to be cherished for the beauties of the minutiae.



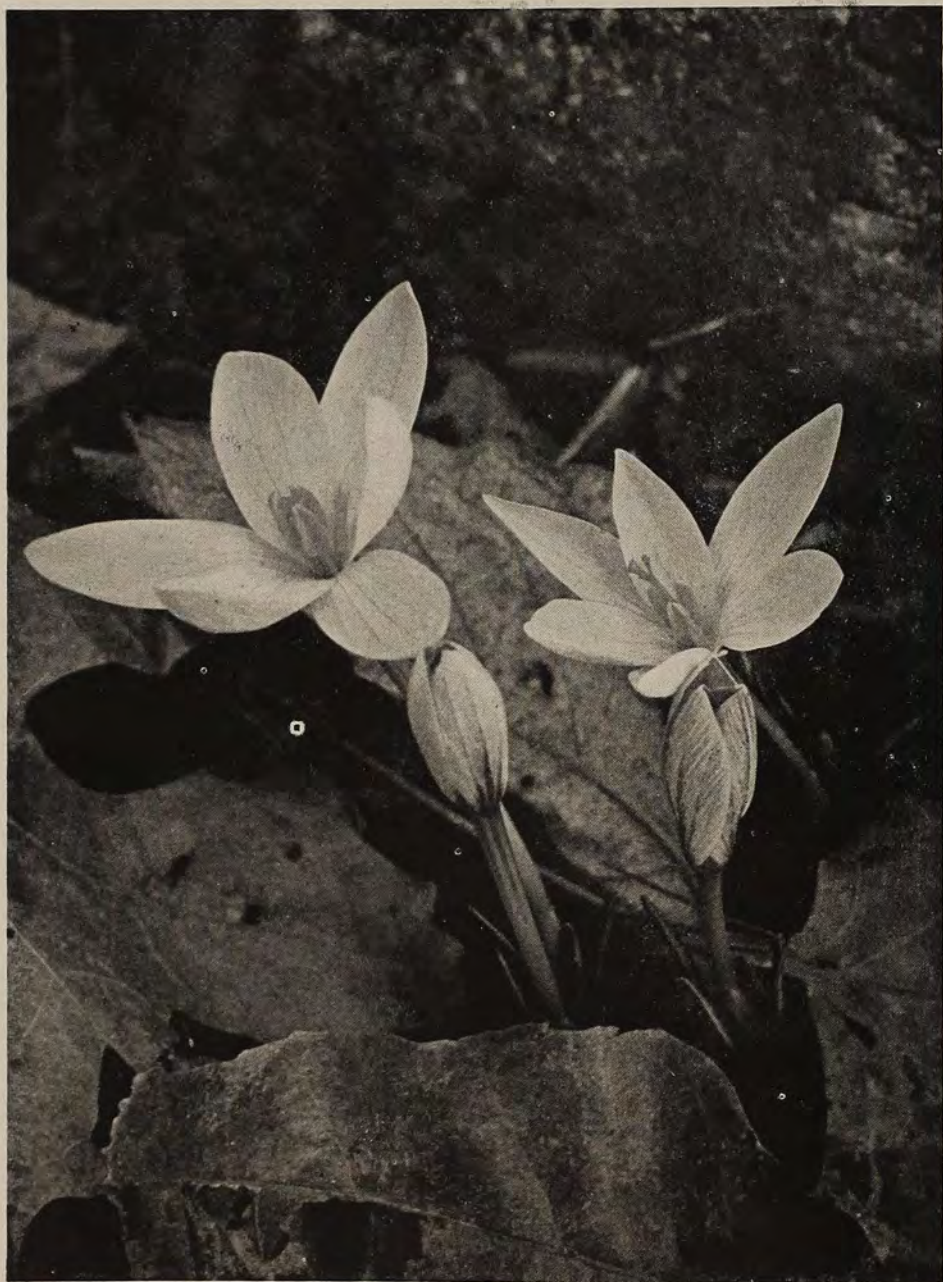
Claude Hope

Crocus chrysanthus, E. P. Bowles



Claude Hope

Crocus chrysanthus, Snow Bird.



Claude Hope

Crocus etruscus.

To the visitors here, this looked very much like a large version of C. Sieberi which is no disparagement since the latter is one of the loveliest of crocuses. Essentially pale violet in effect.



Claude Hope

Crocus etruscus Zwannenberg

The Zwannenberg form is said to differ chiefly in its darker color, but the perianth segments are of a different form and give the flower a different carriage and character.



Claude Hope

Crocus Fleischeri 1934

C. Fleischeri probably should be considered a winter-blooming species, for it tried to flower in January and had to be rescued and put into a cold house, which accounts for the very unnatural background of bare earth. Transitory.



Claude Hope

Crocus imperati

A not too flattering picture of the editor's favorite crocus, cafe au lait color without, lined with purple so dark that it is almost inky, and a delightful warm pinkish violet within.



Claude Hope

Crocus Sieberi

The most prolific of all the species here, seeding almost as abundantly as chickweed. The flowers look incredibly fragile but are quite tough and enduring. The color is a pure pale lavender on the blue side.



Claude Hope

Crocus stellaris

In general effect this might pass for a pale C. Susianus, with a paler yellow for the ground color but much the same outer markings.



Claude Hope

Crocus Tomasinianus

After C. Sieberi, the next most prolific in seedlings and like that species tougher and more enduring than it might look. Warmer in color.



Claude Hope

Crocus Tomasinianus, Barr's Purple

Barr's Purple is much like the type but a deeper color, of a fine red purple hue.



Claude Hope

Crocus Tomasinianus, Whitewell Purple

Whitewell Purple is like the last but deeper still in color and almost as red a purple as one finds in the so-called 'Dutch crocus'; the form, however, is starry.

PORTFOLIO OF SPRING BULBS

(Continued from page 58)

theirs during the summer. In general it would seem here that those that had the least in the way of ground covers have done better than those that have been slowly invaded. What the gentle balance must be here or elsewhere, is an individual problem.

Within the span of their flowering here, the other spring bulbs such as scillas, chionodoxas, the little *Hyacinthus azureus*, *puschkinias*, even some of Mr. Bate's *Ipheion*, and other odds and ends make an appearance as well, but one has little chance of worry for the crocus open to the sun and show the best effects on sunny days while the others must show as best they may, no matter the weather.

There is no problem as to soil. It should be good, well drained, erring to over drainage and poverty if there must be an error. Sunny sites insure the best opening of the flowers. The chief enemies are the rabbits that crop the leaves.

How far north the crocus can be used is not on record here, though it has been reported that Mr. Skinner has *C. alatavicus* at Dropmore in Canada. How far south they can go is quite another matter for they are the sort of thing that must have a winter chill for flowering.

If zephyranthes did not flower on taller stems and come later, there would be a chance to repeat the pattern of the flower faces, but not the color range, but since the South may grow with pleasure so many things that flower with a degree of safety during the winter, it should not begrudge the North, that one aspect of Spring that is peculiar to the scene.

The same problem is true for the *Muscari*, for there seem to be no avail-

able reports as to how far south they have been planted. Virginia, North Carolina, further south in the higher Piedmont, but are there any coming down to the sea level of the Gulf? One would doubt that they would relish the frequent rains of that area, or the often more meager soil.

The section of the genus that is typified in the illustration of the first shown, is the more commonly known and one that is worthy of considerably more attention, especially in the species that are listed as almost black, as for example *M. latifolium* with its delightful Concord grape colored basal flowers and the few of almost azure color at the top.

The problems facing the cultivation of grape hyacinths are problems for the gardener to make. Once in the garden they are usually there forever. In this region they are not quite as bad as the prolific Star-of-Bethlehem, *Ornithogalum umbellatum*, but nearly. The only enemy is shade, for here they will not persist long in summer shade, even if Spring is bright. Definitely they are not plants for the rock garden.

One has to learn whether or not he cares about the species that make mops of leaves in the autumn, that look untidy before Spring, though they quickly freshen and are soon hidden by bloom. (Possibly these species with autumn leaf growth are those for the South to try first, as many bulbs for that area are those with leaves through the winter.)

For the gardener who cares about the minor beauties, the forms of *M. moschatus* are delightful not so much for color as for scent. The colors are drab enough in effect though interesting for close examination, but the fragrance that is exhaled is quite unique and will make the addition of one stalk to a small nosegay of other scentless



Claude Hope

Grape hyacinths, Muscari armenaicum

Among the grape hyacinths that are not as much grown as they well might be, this species gradually has taken the place of the better forms of M. botryoides and now according to some will appear only in its own selected forms.



Lilian A. Guernsey

Muscari plumosum

The freakish forms of the Plume hyacinth are frequently sneered at by the knowing, but are usually enjoyed by those who garden for the pleasure they find in a great variety of plant forms.



Lilian A. Guernsey

Muscari plumosum monstrosum

Possibly now in the time of Dali and such, these forms will appear floating in the mid-heavens, along with the assorted bits of unthought thoughts.



Lilian A. Guernsey

Muscari Pinardi

This species is the grape hyacinth that occasionally comes to the import market in the form of bulbs for eating, an Italian taste. Its pale buff colors with a small bright violet plume of sterile flowers is an interesting bit in the early border.



Lilian A. Guernsey

Muscari Massayanum

Pushed aside in Hortus as merely a form, it remains when one can get it a rather nice thing with more of clear pink in the general coloring than the usual dull hues of these bulbs.



Lilian A. Guernsey

Muscari sp.

A doubtful plant, never identified by the taxonomists, and included here only to remind us all that all has not yet been said for the grape hyacinths.

spring flowers, a master stroke of composition.

It is only fair to confess, however, that in so far as I am aware, not one of the many persons who have been given sprigs of the Musk Hyacinth as it is called, in my garden, and who have made the apparently proper sounds of praise, — not one, has ever been found who bought bulbs later for their own gardening.

Under adversity, meaning in general lack of annual tending, the Musk hyacinth is the first to disappear here, followed by the Plume hyacinths and their allies, with the least lovely of the grape hyacinths the most persistent. These last in this garden are poor, small forms of *M. botryoides*, raised from seed from many places in the as yet vain search for seed or bulbs of any species of *Bellevalia*, the closely allied genus; perhaps as uninteresting as some of the species of Hyacinths that have been had!

For the two genera that give us the greatest amount of 'blue' colors, namely *Scilla* and *Chionodoxa* one cannot say as much in detail, but it would be a poor garden of small bulbs that did not boast a place where these had taken over as natives might do, seeding and making colonies at will. In my own garden this is done far more freely by *Scilla sibirica* than by any other, and seedlings of every age gather and spread about the now old bulbs first planted, if indeed any of them still survive. This means, of course, that that portion of the garden is far from weeded in the earliest spring but it does not tell that it sinks into a sort of woodland weediness as summer advances, with no large weeds but a small litter of grass and other not strongly competitive things. It would be impossible to suggest how long it may take from seed to flowering under these condi-

tions, but it does not matter greatly once the procession is started. The seedlings will vary slightly in hues but none so far has been as deep in color as the line introduced and sold under the name of 'Sibirica Spring Beauty.' This is indeed the old delphinium blue of the delphiniums that we once knew before they became sprinkled over with mauve and lavender and prune and purple, forgetting their unique heritage of blueness in the green-blue categories. This line is to be commended. The white form is lovely enough, but one does not yearn for white as much as later in the season.

Earlier than any is *Scilla Tubergeni* in fact so early here that it is sometimes caught by frosts that ruin not only the rising flower stalks but the leaf tips. The blooms which are large are of that aquamarine character that one finds only in the later flowering ally, *Puschkinia scillioides* or *libanotica* as you will. How far south one might have to go to avoid this, or how far north, is your own guess.

Here *Scilla bifolia* usually considered as autumn flowering blooms with the main group, a very small thing of deep and slightly purplish blue, that is effective only in masses or else sprigged over a larger area, one by one. Like *S. sibirica* it seeds freely.

The chionodoxas, here have never seeded quite as freely as the scillas, but seed they do and their progenies spread out over the area in ever increasing circles. Here one has the porcelain blues as compared to the scilla blues set off in all cases save in *S. Sardensis* by a white eye. The careful nurserymen have isolated and increased a few in which the blue has given place to 'pink' but you may have them as you may have the pink forms of the later *Scilla campanulata*.

Rhododendron Notes

CLEMENT GRAY BOWERS, *Editor*

Observations on British Rhododendrons

In the spring of 1949 an important conference on rhododendrons was held in England. This meeting was sponsored by the Rhododendron Group of the Royal Horticultural Society—successor to the old Rhododendron Association of England. It had previously been scheduled for 1940, but was deferred for nine years because of war and war's aftermath. This report is written by one of the very few Americans who attended.

Rhododendrons and azaleas are very important in the minds of British amateurs, and many of the bigwigs of horticulture are specialists with these plants. The English climate permits them to go in for Himalayan and Chinese species in a large way. Nowhere in North America can similar conditions be found except on our West Coast. This reporter comes from a cold region in the East, comparable to New England, where subzero temperatures prevail in winter and only the "ironclads" survive. This circumstance probably colors his judgment.

The details of the conference can be briefly told. The events began on April 26th, with a great rhododendron show in the Royal Horticultural Society's Hall on Vincent Square in London, a series of lectures by notable speakers and a banquet. The show was pre-viewed by Queen Elizabeth, and is reputed to have been the best rhododendron show ever held. It was most impressive, with hundreds of different species and varieties filling the large exhibition hall and anterooms to capacity. These London meetings lasted

for two days. After this, there were three one-day excursions out of London by coach to visit neighboring estates and collections in Surrey and Sussex. This was followed by a specially arranged tour of British collections, which consumed ten days more and covered over a thousand miles in the South and West Country by motor coach. For the Americans, this was an unexampled treat, not only because of the wealth of plant materials and gardens encountered, but because of the associations made and the warm and gracious hospitality of our British hosts upon every occasion. Some 72 persons took the tour and there were three motor coaches. Aboard each coach was a plant expert from the R.H.S. and a trained courier-guide from Thomas Cook & Son. These specialists were able to point out all features of interest along our way. We were usually fortunate in having perfect weather throughout. A considerable time was spent in Cornwall, and we crossed North Wales in order to reach Bodnant, Lord Aberconway's estate.

I shall not catalogue the places visited or the plants seen. A full record appears in the R.H.S. Rhododendron Year Book for 1949. Rather, I wish to appraise the values, actual and potential, of the British Rhododendron effort over the last Century as it relates to the present and future rhododendron cult of Eastern North America.

British gardeners started with American rhododendrons and azaleas for the most part. About one hundred years ago they began to draw away from us as exotic species, growable in England but unhardy in the eastern United

States, began filtering in from the Orient. Hybrids were produced, and some of the bright color of our present hardy Catawba hybrids came from such English sources as the Waterer crosses. But many more were produced which were definitely tender in America. Gradually their numbers increased, and the prestige of the hardier forms deteriorated in England to such an extent that those sorts which are considered best in New England today are considered obsolete in Old England and unworthy of being grown in British gardens. As additional new species have been introduced into England, most of them have also been tried in America, but with few exceptions have proved inherently unsuited for Eastern America conditions. On our West Coast, they do well.

Literally hundreds of Asiatic rhododendron species grow in Britain. Many of these are gorgeous. Some of the hybrids are still more beautiful. On the other hand, among the botanical species, there are perhaps a dozen mediocre kinds to every one of outstanding beauty. Gradually, I believe, the less attractive sorts are being pushed into the discard, while the best species, and particularly the superior individuals within those species, are gaining the ascendancy. Variation within species is considerable, and it is to be noted that certain species contain fine, rare forms that may be quite distinct from the rather mediocre run-of-the-mill examples that arise from mixed seed. This is particularly true of such species as *R. Augustinii*—the "blue" rhododendron—where only certain individuals are truly notable and the rest are poor. The increasing significance of the clone, rather than of the species as a whole, is the most outstanding fact about them.

At the rhododendron show, most of

the botanical species were grouped into their proper "series," so one could survey each series and get an idea of its whole range. Some later-blooming forms were evidently forced under glass to make them bloom in time for exhibition. The hybrids covered a tremendous range and many were quite spectacular, such as the large yellow *Falconeri* hybrid called Fortune, which rated as the best rhododendron in the show in the judges' opinion.

This brings up another point of importance as regards the complete horticultural merit of some of the "best" hybrids in Britain—those having Awards of Merit and multi-star ratings in the handbooks. Some of these, like Fortune, are fanciers' productions, growing in mild climates, such as in Cornwall, where palms and auracarias thrive outdoors. These are not commercial varieties at all, for they will not grow in average gardens, even in England. I am not adverse to giving awards to superior varieties, wherever they may occur, but in making comparisons we must always take account of their limitations, too. In American contests I have known good varieties, well adapted to the local conditions, to be discredited by the judges because they did not possess so many merit stars in the English handbook as an inferior competitor. Knowledge of where they grow best, and for what purposes, should be coupled with their merit ratings if we are to make a perfectly fair evaluation.

In comparing the value of species in Britain and America, or as between the West Coast and the East Coast of this continent, it should be noted that the behavior of any given kind may vary markedly with the ecological conditions—climate, soil, etc. For example, in England all the plants I saw of our *Rhododendron carolinianum* were miserable things and utterly unrepresenta-

tive of the rather beautiful display that that species can make in our East. On the other hand, *R. Davidsonianum*, which makes a very poor showing on Long Island, was truly lovely in England. Obviously, the merits of *R. carolinianum* cannot be correctly evaluated in England.

Hardiness is another term that is evaluated differently in Britain than in the Eastern United States. Winter temperatures in Britain are not low as compared with those of New England, but spring frosts persist equally late. There was a killing frost in London last May 12th—while I was there—after many flowers had bloomed and the Rhododendron Show was past. This did not kill the plants, but it ruined all flower buds that were not frost-resistant. Hence, frost-resistant of flower-buds is a criterion of hardiness in England, instead of minimum winter temperatures which, in New England, constitute our means of measuring hardiness.

Cultural conditions for rhododendrons are excellent in the South of England and all along the West Country to Scotland. I am told that the West Coast of Scotland is very mild indeed and tender varieties will grow there beautifully. The East side of England is a different story. There the people have difficulties with the climate, even when they fix the soil. The whole country is only about as large in area as New York State. The commercial growers are seeking varieties which will grow over a wide range of conditions, hence they lean toward the old Waterer types, but the kinds they have produced, like the beautiful red *Britannia*, are still not reliably hardy in our Northeast.

Of the collections which are on public view, I would place in the forefront those at the Royal Horticultural So-

ciety's Wisley Gardens and those at the Edinburgh Botanical Garden. These are much more up-to-date and considerably more interesting than the rhododendron dell at Kew Gardens which carry a preponderance of the varieties of fifty years ago.

On private estates, such as Exbury, the de Rothschild place in Hampshire, or at Lord Aberconway's in Wales, good natural conditions enhance the value of the rhododendrons. The oak woodlands—sort of an open oak grove—at Exbury are nearly perfect, as, indeed, they are also at Bodnant, Tower Court, Leonardslea, Caerhays, Penjerrick and many other places we visited. This makes for good backgrounds as well as superb growing conditions. It is noteworthy, however, that even in these seemingly perfect natural settings where native rhododendron soil prevails, the best gardeners bring in still more peat and add it to the soil. Furthermore, they replenish it periodically. I found evidence of this same thing—almost pure peat soil enriched with fertile humus—in the Dutch nursery beds at Boskoop, Holland, where the rhododendrons and azaleas were growing lustily. In the light of this evidence, plus prior observations of pure peat in the rhododendron beds at Rochester, N. Y., I am led to believe that one cannot use too much peat (or similar material) in the growing of these plants.

In the eyes of a hybridist, the good new species of rhododendron in Britain offer great possibilities for the improvement of American races. This does not imply that we shall have rhododendrons like those of England except on our West Coast. But it does mean that certain good, new "blood" is available for the improvement of our "ironclad" Eastern species, such as *R. maximum*, *R. Catawbiense* and *R. carolinianum*, a long time but feasible work.

It was in Cornwall that we saw old plants of *Rhododendron arboreum*, about sixty feet tall and as much in diameter, covered with trusses of bright red flowers from top to bottom—an impressive sight. There we saw also certain tree rhododendrons, such as *R. Falconeri*, with single stems or trunks a foot or more across. I am told that when these trees are cut down the plants do not “break” again at the base from adventitious buds as do the shrubby sorts. There is only one stem, and when that is removed the plant is finished.

The alpine and rock-garden rhododendrons are seen at their best in the Royal Botanical Garden at Edinburgh, Scotland, where the world's largest collection of these plants reside. There are literally hundreds of different species, beautifully planted and maintained, their colors covering the whole range of rhododendron hues, from almost blue through lilac, purple, pink, red and yellow to white. Several are most attractive. Some are truly unique. The colors of many of them are very repetitive, however, especially the great preponderance which are lilac-colored and otherwise somewhat unattractive. Many of these, in my opinion, will never get far in the horticultural trade.

Deciduous azaleas in Britain are excellent. Kurumes seem to do well in some places, and there are some others of that sub-series. But I saw nothing abroad to compare with the famous azalea gardens of our Lower South, or our *Kaempferi* azaleas or our Glenn Dale hybrids. In England the big show is produced by the Ghent and Mollis hybrids, and these were truly wonderful, particularly Slocock's new improved forms of Knap Hill deciduous azaleas. These were better than anything I saw in Holland. This is very heartening to us who live in cold re-

gions, for the Ghent azaleas are fundamentally American in “blood” and, when grown on their own roots, our deciduous azaleas can endure a lot of cold. At Edinburgh, large beds of varicolored Ghent hybrids were interplanted with the English wild squill or bluebell (*Scilla nutans*), as is sometimes done in tulip beds, which gave a delightful complementary undertone of blue to the color effect of the planting. I am convinced that we in New England and the North can do almost as well as the English with deciduous azaleas if we will only learn the right kinds to use and propagate them by layerage, as in England, or by seeds.

A final impression that I derived from the newer species of rhododendron in Britain is that, judging by the great amount of variation among individual seedlings, some forms will eventually be sorted out which, without hybridization, will themselves be much hardier than the “run of the mill” which we have been trying. This gives me hope that forms will arise among some groups which can safely endure Eastern American conditions. We can find these, not by following British examples, but by making our own, and this is already being done in certain quarters with signs of success. A fine demonstration is the work of the late Mr. C. O. Dexter on Cape Cod with forms of the *Fortunei* Series.

The British are magnificent gardeners and are aided by a congenial climate and a garden-minded public. Without one single native British species, the rhododendrons of the world have gone to Britain and flourished like the proverbial rabbits of Australia. If another rhododendron tour, like that of 1949, is ever offered, I can recommend it heartily to my rhododendron-minded countrymen.

CLEMENT GRAY BOWERS.

The Gardener's Pocketbook

Notes on the Palms

2. Saw Palmetto *Serenoa repens*

Small

Perhaps the commonest of all native palms in Florida is the handsome and interesting Saw Palmetto, a plant whose distribution ranges from the lower part of South Carolina and southeastern Mississippi to the Florida Keys, and whose variances often cause both the casual plantsman and taxonomist serious difficulties. Due to the noble efforts of Dr. L. H. Bailey, dean of contemporary palm students, the nomenclatorial problem of this palm has at last been straightened out, and a few notes concerning it, with the accompanying illustration, may be of interest to readers of this serial.

The palm which we know as *Serenoa repens* Small (in JOURN. N. Y. BOT. GARD. 27 (1926) 197) was originally described by William Bartram in 1791 (TRAVELS, 61) under the names *Corypha repens* and *C. obliqua*. In 1803 Michaux (FL. BOR--AMER. 1:239) called it *Chamaerops serrulata*, and in 1830 Schultes and Schultes (SYST. VEG. 7:1486) gave the name *Sabal serrulata* to our plant. Further synonyms which have accrued are *Brahea serrulata* Wendland (in Kerchove, PALMIERS (1878) 235), and *Serenoa serrulata* Nicholson (ILL. DICT. GARD. 3 (1887) 423); the last-named being the nomen by which this palm is often and erroneously called even today. The original generic name (dedicated to Sereno Watson) was given by Dr. J. D. Hooker (in Benth. & Hook., GEN: PL. 3 (1883) 926) as *Serenaea*, but later in the same volume of that epic work on the kinds of plants (p. 1228), the name's orthography was corrected.

Serenoa is a monotypic genus, the single species, now known as *S. repens*, being a highly variable palm of gregarious habit, which forms very large and thick colonies. Typically the plants are virtually without trunks, though in certain phases the caudex may reach a height of as much as 7 meters, and the plant superficially resembles a slender species of *Sabal*. In the acaulescent form the caudices are frequently branching as they creep along the ground, so that they form a tangled mass, with the leaf-crowns rising above them to form an almost impenetrable thicket. These palm colonies are a favorite haunt of snakes, particularly the highly venomous rattlesnake, and should always be entered with extreme caution during hot weather, when the reptiles are prone to take cover in the copious shade.

The palmate attractive leaves are of three color variants, so that a large colony will seem to be composed of three different palms; bright glossy green is the most frequent hue, with a pretty yellowish-green and handsome bluish-glaucous color the less common ones. The leaves are more or less orbicular in general outline, and usually slightly less than a meter across. The slender generally spiny-margined petioles are connected at the greatly enlarged base with a complex brown or reddish-brown web of fibers which completely cloaks the upper portion of the rough trunk. Usually the leaf-segments are stiffly spreading, though certain forms are encountered in which they are somewhat drooping; they number from nine to a dozen on each side of the leaf, and measure about 3 cm across basally.

The inflorescences of *Serenoa repens* usually do not exceed the foliage, and



Hank Young

The writer examining a flowering clump of the Saw Palmetto (*Serenoa repens* Small), at the Fairchild Tropical Garden, Coconut Grove, Florida.

consist of a single reddish-brown main axis about a meter in length which gives rise to numerous lateral clusters, all of which parts are covered by loose sheathing bracts. These side clusters in turn are composed of numerous fuzzy rachillae which bear a large number of fragrant, singularly attractive flowers, and are generally sharply drooping in nature. The blossoms are almost always sessile, about 6 mm in length, and pale yellowish-white in color. The petals, which reflex upon opening, exceed the tubular toothed calyx slightly, and are in turn exceeded by the stamens and pistil. These flowers are followed by highly variable

black or bluish fruits about 2.5 cm long and 1.5 cm in diameter which are edible, and are greatly relished by birds and small animals. Each fruit contains a single light brown seed about 1.8 cm long which is smooth and rather dull in appearance.

The genus *Serenoa* is easily distinguished from the allied *Sabal* Adanson (FAM. PLANT. 2 (1763) 495) by several characters: the leaf-petioles are typically armed with spines in *Serenoa*, and unarmed in *Sabal*; the leaf-blades possess a midrib in the latter genus; and the fruits of *Serenoa* are oblong, not globular or pyriform as in *Sabal*, and are distinctly pulpy, whereas the

other genus bears only scant pulp, enclosed within a papery shell.

The Saw Palmetto, *Serenoa repens*, is among the most typical plants of many regions in the Southeastern United States, where its immense colonial aggregations frequently cover acres, with many thousands of individual specimens living in close proximity. It is a handsome small palm, and is readily transplanted into cultivation, where it thrives under almost all cultural conditions.

Alex D. Hawkes

Coconut Grove, Florida.

Notes on the Behavior of Lily Seeds

In a world daily growing more complicated and where few things are really what they seem, an apology is due for departing from the comfortable, familiar listing of lily seeds as "quick" and "slow" germinators, never-the-less here are the observations of one amateur over a period of more than ten years. The scientific definitions are borrowed from Mr. Comber's article in the Lily Year Book of The Royal Horticultural Society for 1949 (page 86 *et seq.*), the list of lilies observed is my own.

First of the definitions: "*Epigeal Germination*" corresponds more or less to "quick" in our seed catalogues. "Here the cotyledon absorbs food from the endosperm of the seed, elongates rapidly, appears above ground, becoming green and leaf like, frees itself from the remains of the seed and takes on the functions of a leaf."

"*Hypogeal Germination.*" "The cotyledon remains in the seed, underground, transfers the food from the endosperm to the hypocotyl, and there forms a tiny bulb from the center of which emerges the first true leaf."

These two main categories have two modifications. Immediate germination,

that is "germinations at any time of the year within a period of four to six weeks when sown under normal conditions." (In my experience it often takes much less than four weeks.)

Delayed germination. "Germination delayed for several months to a definite period of the year when sowed under standard conditions."

These are the lilies whose germination I have found to be epigeal and immediate. All the trumpets (*regale*, *Sargentiae*, *centifolium*, *Formosanum*, *Wallichianum*, *longiflorum* and their hybrids), T. H. Havemeyer seedlings and Aurelian seedlings, all the Asiatic Martagons I have tried (*pumilum* and its varieties, *Duchartrei*, *cernuum*, *callosum*, *ambabile*, *Maximowiczii*, \times Maxwell, *Davidii-Willmottiae*, *Henryi*, *tigrinum* when fertilized with *Maximowiczii* or *umbellatum*. The upright *concolor* and *Dauricum* from Asia, but not their neighbor of like form *Tsingtauense*, surprisingly the American upright *Philadelphicum* though that is not its reputation and the other Americans are hypogeal. The strange exotic *Nepalense*.

The germination of *Lilium candidum* is always epigeal and usually delayed, but a lily domesticated for so many thousand years has lost its stable habit. *Pyrenaicum* and *pomponium* are truly epigeal and delayed. I have never been able to procure seeds of *chalcedonicum* true to name. The *Cardiocrinums* are epigeal and delayed but will not be reckoned among lilies much longer.

Subject to hypogeal and probably immediate germination, since they require no cooling-off period before showing top-growth, are all varieties of *speciosum* except *punctatum*, *monadelphum* and its ally *Szovitsianum*, the Martagons proper (the type, *album*, *cataniae*, and *Dalmaticum*; *album* is noticeably quicker), some at least of the

California mountain lilies such as *Kelloggii*, *Parryi*, *Washingtonianum*; from experience I cannot speak of *pardalinum* but its offspring the Bellingham hybrids make their leaves quickly.

Hypogeal and normally much delayed are all varieties of *auratum*, *rubellum*, *japonicum* though once I heard *japonicum* described as both quick and easy, a statement in complete contradiction to my experience and all that I ever read on the subject but made by a voice not easily disregarded; one of the speciosums, variety *punctatum*; *canadense*, *Grayi*, *superbum*, *Humboldtii*, *michiganense*; *tsingtauense*.

There are many lilies of which I cannot speak usually because I have not found seeds, sometimes because I have not gotten round to trying them. Soon I hope to know about *medeoloides*, *bulbiferum*, more of the Californians, *Bakerianum*. A highly appreciated gift of some of Dr. Rock's recent seed collection in China consists entirely of epigeal and immediate kinds but their identity is concealed under numbers. Some Balkan species are hidden behind the iron curtain. Had any one ever had viable seeds of *Lilium Hansonii*?

The hybrids usually conform to the seed parent but come to life more reluctantly: *umbellatum* is thought to be a hybrid and is poor and erratic in germination with me, seeds from the Fiesta hybrids behave even worse, but *tigrinum-auricum* crosses are full of vitality; at the moment a pan of seeds from a *monadelphum-candidum* cross shows characteristics intermediate to both parents.

The standard classification of lilies is based on the shape of the flowers their most conspicuous but may be their least significant feature. It is likely that soon there will be a new classification taking account of more revealing family characteristics, such as the shape of

bulb scales; the arrangement of leaves; variation in the weight of seeds and the way they germinate.

What will this revolution accomplish? For one thing, it should give hybridizers an indication of which crosses are more likely to succeed, the progeny of two closely related species is usually graceful, vigorous and fertile; still, Lysenko is not the only advocate of wide crossing and the perennial optimist will always try improbable combinations, sometimes with spectacular results. It is interesting that Dr. F. L. Skinner's series of *Philadelphicum-auricum* hybrids represent the only thoroughly authenticated cross between an American lily and a species from Asia. So remote geographically both these lilies germinate epigeally and immediately; *philadelphicum* with the possible exception of its obscure ally, *Catesbeii* is the only American species to do so. *Hansonii* is indifferent to the pollen of its neighbor *tsingtauense* but has distinguished descendants by the far-away European Martagons.

Types of germination are not related to present-day climates, all can be found in the native lilies of a little country like Japan, but what of the mystical subject, the origin and distribution of species? Do we catch a glimpse of remote ages when Asia and America were one, and the same alpine flora flourished on the Pyrenees and the Himalayas?

ALIDA LIVINGSTON

Oyster Bay, N. Y.

Notes of Florida Plants

In the last issue of the magazine, pages 41-46 for which there were no more than captions, Mr. Loomis who took the excellent pictures, sends the following notes in reply to the editor's plea.

Tetrazygia bicolor is one of the few



R. L. Taylor

Deutzia "Magicien"

(See page 98)

Melastems native in the U. S. It grows in profusion in the rocky pineland south of this Garden where it makes a shrub or small tree, and has been used locally as an ornamental shrub, the panicles of flowers showing all the year with the main flowering in early summer. The flowers are followed by black fruits much sought after by birds. I notice that in the DeCandolle reference, the underside of the leaves is spoken of as golden; in ours it is silver rather than gold. It is an excellent grower for us.

Our two specimens of *Combretum Smeathmannii* were killed by the hurricane of 1945 when inundated by sea water. The plants seemed well adapted to this region but apparently could not stand that rough treatment. The flowers are not so striking as in other members of the genus such as *C. grandiflora*, *coccinea*, *farinosa*, etc., being, as I recall them, small and yellowish-green but followed by rather striking seed pods. It bloomed in March and April.

Guaiacum officinale while native throughout the West Indies grows well here flowering annually in May when the bushes or small trees that represent it here are completely covered with light blue flowers, followed by orange-yellow fruits produced in showy abundance. The foliage appears not to be attacked by any disease or insects and the plants are used both for flowering and foliage effects. The exceedingly hard wood contains a natural oil that makes it particularly useful for ships' bearings being better than any metal or other wood since it is self-lubricating and not affected by sea water.

Tournefortia scabra. Our single plant of this species was also a victim of the 1945 hurricane. It had grown as a dense gray-green vine on one of the supports on the 'Fill' and seemed

well adapted to the site. The leathery foliage is described in the specific name. The flowering season was from December through January with clusters of ripe fruit remaining on the vine from March through June.

Nauclea esculenta, a large-leaved vine-like shrub or small tree required considerable room for full development *Deutzia* "Magicien." (See page 97.)

During the period when Lemoine was working with the deutzias, a time after the then newly introduced West Chinese species came into cultivation, many named clones were selected and some came into commercial channels.

Among the species themselves, very few introduced by the Division of Plant Exploration and Introduction proved to be cold hardy enough to warrant general propagation, with serious dying back to the ground each winter. Since even the most hardy deutzias are likely to lose the tips of all new growths in winter and present a shabby aspect in Spring, these more tender plants were not worked over.

After the very mild winter of 1949-50, a number are flowering very well on such branches as survived and among them the hybrids of *D. longifolia* Franch. of which we figure here "Magicien." No printed record has been found of the other parent.

D. longifolia itself is described as a shrub up to 7 feet with the usual ex-foliating bark and roughish leaves; the rather large flowers are described as "tinted light purple."

"Magicien" here grows only moderately well under the nursery conditions, with definitely unright growth to 5 feet and with corymbs as shown in the natural sized photograph. The flowers that open widely, show as a tinted white, the warmth coming from the under color of dull pinkish purple on the reverse of the petals. The color



R. L. Taylor

Spiraea trichocarpa

(See page 100)

Copyright © 1950 by The American Horticultural Society

Published by The American Horticultural Society, Washington, D. C.

Printed in the United States of America

Volume 22, Number 4

April 1950

Price 50¢

effect on the shrub is greater since the color of the unopened buds is the same but appears deeper in tone.

If this plant and its sister seedling *Contraste* would grow more happily further south and not display too many of the less happy characteristics of many *deutzias*, the general shabbiness except at flowering time, they would make a great contribution with more color than in any *deutzia* commonly cultivated.

Spiraea trichocarpa Nakai. (See page 99.)

Although in texts at least, this Korean species does not stand close to the familiar Van Houtte spirea, the gardener can easily visualize the bush habit if he recalls the fine fountain-like carriage of the latter. Like it, the bush grows to about 6 feet with an even greater spread.

The leaves that are longer and more suggestive of those of *S. cantoniensis* in style if not in color, do not suggest those of Van Houtte's plant. The flowers are borne along the overarching stems in much the same fashion and are freely produced after the second year on each new shoot. The petals are not quite pure white and this with the green that shows through the inflorescence, gives a slightly less snowy look to the bush.

Here the advantage of the Korean plant over the others is its somewhat later flowering, so that it is rarely caught even by a very late frost.

This plant was given great advertising about twenty-five years ago and one wonders what has befallen the plants then sold. That shown in the picture, in a flowering branch at about

one-third natural size, was raised from seed bought from the late T. D. Hatfield of Wellesley, Mass.

Magnolia Wilsonii (Fin. & Gagnep.)
Rehd. (See page 101.)

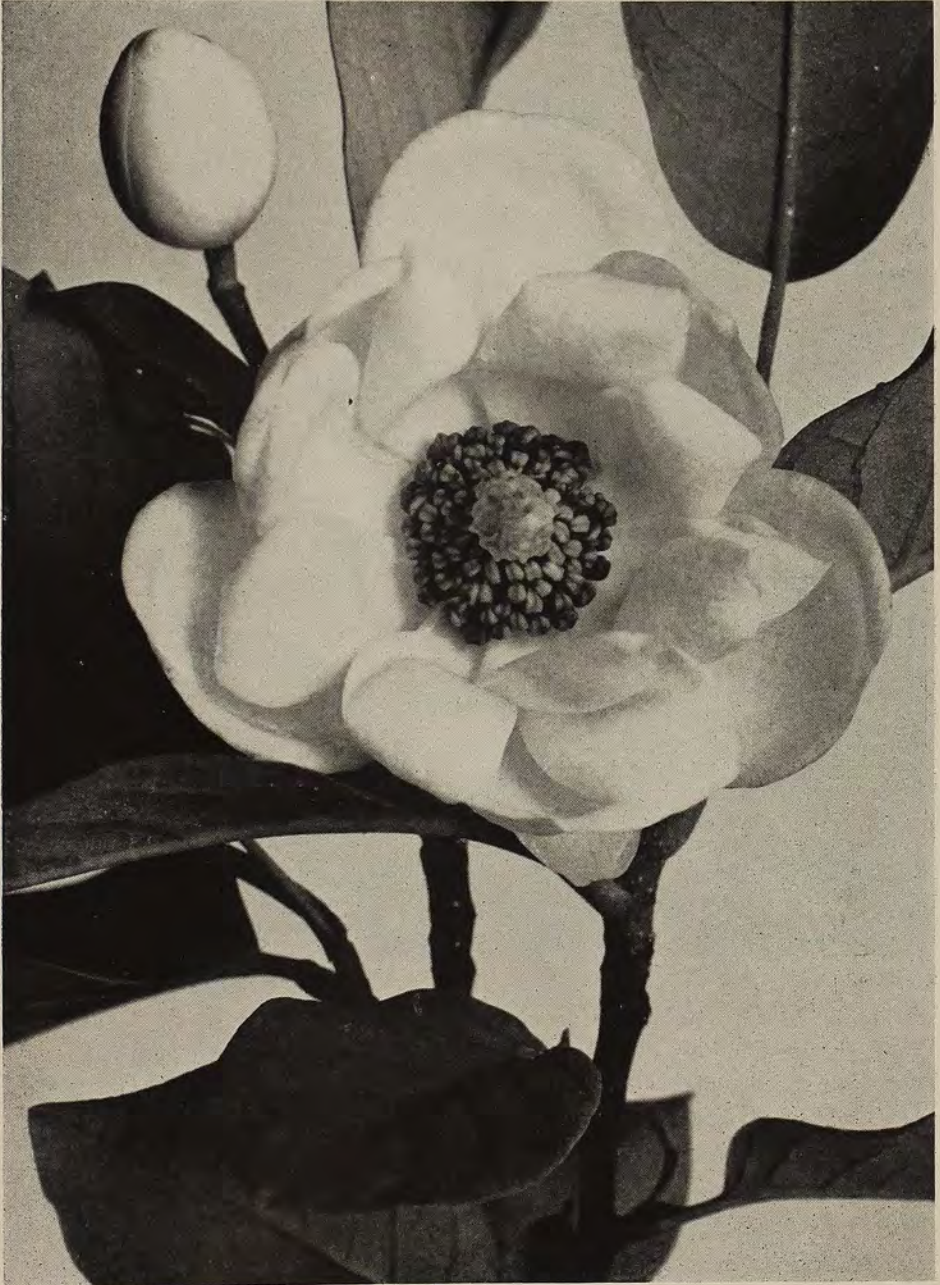
This fine plant that Mr. Sawada mentions on page 57 was purchased several years ago from Mr. Carl English, Jr., and planted in Mississippi where it promptly died and here outside of Washington, D. C., where it is now flowering. According to Rehder it was introduced into cultivation in 1908. He cites Plate 9004 in Curtis Botanical Magazine and a 1923 note in *Revue Horticole*.

Since it belongs to the group with *M. Sieboldii* K. Koch, *M. obovata* Thun., *M. globosa* Hook. & Thoms. it would be interesting to see the entire group.

The photograph was taken on June first but the plant had been in flower for several weeks and there are flowers still to come. This late flowering presents a great advantage over the most welcome but hazardous early blooming of the *liliflora* and *denudata* groups.

The photograph gives a good presentation of the flower in natural size. The color is white, set off by the central mass of stamens and pistils. The latter, the mass of carpels are Pale Yellow Green; the stamen circle is more showy as the anthers (unopened) are Rose Pink.

The flower is scented, with a fragrance that is undefinable but distinctive among that of the magnolias known to the writer.



R. L. Taylor

Magnolia Wilsonii

(See page 100)



Kathleen Marriage

Fendlera rupicola

For no reason that the editor now knows the cut above was mislaid when the magazine was being made up and while it should be in the January pages with Mrs. Marriage's article, rather than omit it entirely, it is here as a lively postscript for the whole, a reminder that we perhaps forget the native beauties at hand in our search for the exotic and the unknown. Apologies are due to Mrs. Marriage and to the *Fendlera* itself, that are gladly written.

Coming.

The report is that the work on and for the long expected "azalea" issue is beginning to take shape. The editor was able to get this year a photograph of *R. Mariesii*, one more member of the series to which *R. reticulatum* belongs.

There seems to be a sure promise that January 1951 will bring a wonderful issue devoted to penstemons under the leadership of the American Penstemon Society. Mrs. Edward Babb is the energetic and gifted Secretary.

The American Horticultural Society

INVITES to membership all persons who are interested in the development of a great national society that shall serve as an ever growing center for the dissemination of the common knowledge of the members. There is no requirement for membership other than this and no reward beyond a share in the development of the organization.

For its members the society publishes *THE NATIONAL HORTICULTURAL MAGAZINE*, at the present time a quarterly of increasing importance among the horticultural publications of the day and destined to fill an even larger role as the society grows. It is published during the months of January, April, July and October and is written by and for members. Under the present organization of the society with special committees appointed for the furthering of special plant projects the members will receive advance material on narcissus, tulips, lilies, rock garden plants, conifers, nuts, and rhododendrons. Membership in the society, therefore, brings one the advantages of membership in many societies. In addition to these special projects, the usual garden subjects are covered and particular attention is paid to new or little known plants that are not commonly described elsewhere.

The American Horticultural Society invites not only personal memberships but affiliations with horticultural societies and clubs. To such it offers some special inducements in memberships. Memberships are by the calendar year.

The Annual Meeting of the Society is held in Washington, D. C., and members are invited to attend the special lectures that are given at that time. These are announced to the membership at the time of balloting.

The annual dues are five dollars the year, payable in advance; life membership is one hundred dollars; inquiry as to affiliation should be addressed to the Secretary, 821 Washington Loan and Trust Building.