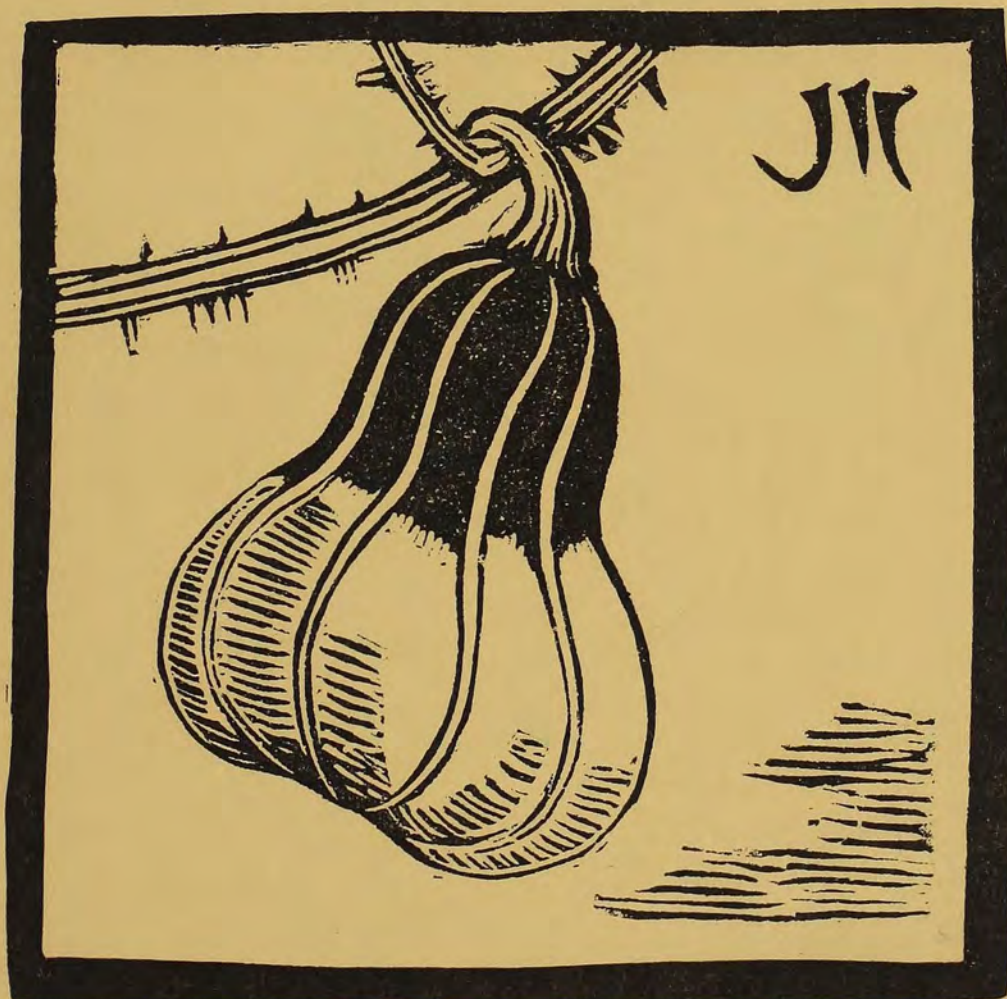


# *The* NATIONAL HORTICULTURAL MAGAZINE



JOURNAL OF THE AMERICAN HORTICULTURAL SOCIETY

OCTOBER, 1951

# The American Horticultural Society

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*Robert L. Taylor*

*Caladium, Scarlet Pimpernelle*

# Concerning Caladiums

B. Y. MORRISON

In presenting the following pages on caladiums of the group that is commonly known as "fancy-leaved" there is no thought that it represents a botanical treatment nor even a complete story from the horticultural view. Engler's monograph (1879) appears to be the only large treatment of the genus, but there are so many gaps in the historical recordings that one hesitates to follow too closely the named varieties of *Caladium marmoratum* Mathieu or of *C. picturatum* C. Koch which are the species looked upon as the main sources of the modern horticultural named clones.

Except for a few plants raised from roots collected in Brazil by Dr. John T. Baldwin, now of the College of William and Mary, but then traveling for the U. S. Department of Agriculture, all of the material observed has been from commercial sources, the major portion being selected for the editor by Mrs. Edith M. Ivie of Tampa, Florida from her large nursery collection with the thought that they would give an index to all the typical patterns to be found among the plants commonly cultivated, except those already grown and photographed from other sources.

Knowing of the project, Mrs. Porter Baldwin of West Palm Beach loaned the editor her copy of "Caladiums" compiled by W. A. Geiger and A. C. Splinter, a mimeographed paper "Approved by the Dade County Gardeners and Florists Association on January 31, 1929, after discussion with the Evening Class work in charge of Prof. Butts and issued as Bulletin 3." After reading this, permission was sought and granted to reprint portions of this paper. A very few editorial changes

have been made and the list of named clones appended to it has been omitted.

The editor is grateful to all who have assisted in these several ways and admits only to having grown the plants, except the two potted specimens, carried them to Mr. Taylor to be photographed and made the color readings. His personal opinions and/or prejudices have been clearly marked, it is hoped. His original interest and pleasure centered only in the clone sold as "Candidum" but after growing the collection, various other favorites have been discovered.

The really traditional advice on starting the dormant roots was followed with only the variations inevitable in home cultivation. As there was no heated greenhouse available, the dormant roots, many showing a growing point on arrival, were placed in mid-April in a pan of moist, not wet, peat moss and set on a sunny bench in the unheated pit greenhouse. Under these conditions the development of the annual feeding roots from the region just below the growing point was doubtless slower than it would have been in a good greenhouse. It was a simple matter to discover when these roots had pushed out and as they were ready the plants were potted singly in three inch pots, using a soil mixture of porous loam, sand and humus. Watering from then on became regular and abundant and as the plants grew they were repotted in larger-sized pots.

In most works, warning is given to cut the flower that usually develops with the first growths. Few in this present group flowered. On older established plants one may leave the





Robert L. Taylor

*Caladium, candidum*





Robert L. Taylor

*Caladium, candidum*



flower to satisfy his curiosity or to raise seed.

Warning is also given that the first leaves rarely show the final pattern or coloring of the variety. This is only too true and is particularly important to remember when one first sees the abnormally colored leaves from varieties that have adult leaves of white or some light color, since all of them usually start with a plain green leaf.

Warmth, moisture and food are the primary requisites of these tropical plants, with study in each garden as to how much light is permissible to bring out the best coloration without burning the varieties with thin transparent leaves. These last lose all their beauty if burned. Wind also will work serious damage, but all gardeners know how swiftly wind will sap moisture from succulent leaf tissues.

As autumn advances the plants usually show a tendency to become flaccid and lose their leaves. This can be hastened then by reducing the water supply until the plant is dormant. For over-winter storage the roots can be taken out of the soil for storage in sand or left in the pots, but only in places where the temperatures never fall below 60° F. Up to the present time the writer has made no effort to practice storage.

In the South, where these plants need not be grown in pots their value is more apparent; in the North, they have not been fully appreciated. As pot plants, they are ideal since they do not require full sunlight and one may overwater with perfect safety, even using forbidden jardinières or other decorative containers. In the Mississippi garden Mr. Anderson has used them, after starting the roots under glass in an unheated house, as plantings in an open border, that gets in-

termittent shade from pecans. From June on they make as gay and fine a border as one could wish.

For those purists who refuse to consider any colored or variegated foliage with favor, one can only retort that the edict of "poor taste" leveled against lovers of these plants was an arbitrary pronouncement of the special Victorian era and that one need not be governed by that any more than by other Victorian dicta that are now openly, sometimes brazenly scorned! On the other hand, if one uses them poorly within the proper limits, he must then suffer for his sins.

To quote then from the cited paper:

"The caladiums belong to the class of plants commonly called Elephant Ears which includes the types botanically known as *Alocasias*, *Colocasias* and *Xanthosomas*. Botanically the fancy-leaved caladiums while sometimes classed separately are very closely allied to the *Colocasias*, from which they can be distinguished only by certain floral characteristics . . . and by the fact that the stem joins the leaf blade about an inch in front of the base of the leaf instead of at the base as in the other types.

"Although *Caladium bicolor* has been known since 1769, the growing of the so-called fancy-leaved caladiums did not get started before 1857-1858. About that time two Frenchmen by name Petit and Baraquin collected along the Amazon River in Brazil a number of then entirely new varieties that they shipped to Europe. These varieties became listed as *Caladium Baraquinii*, *C. Verschaffeltii*, *C. Chantini*, *C. Humboldtii*, etc., and were the foundation of the work of Louis Van Houtte who is claimed to be the first to hybridize caladiums. He and Alfred Bleu, another well-known grower in



Europe were so successful that they could exhibit in 1867, during the World's Fair in Paris, France, a very nice collection of new hybrids of which one was named "Triomphe de l'Exposition," a variety to be found even today in every better collection.

"Bleu brought his collection of new hybrids up to about 250 varieties, all of a very fine type ranging from very robust growing varieties to real dwarfs. Unfortunately when he died in 1903, this collection was sold to parties who did not handle it to the best advantage so that most of the varieties were lost and the rest so mixed up or put out under different names that it is now impossible to identify any correctly.

"Another of the early workers was C. J. Bause, in London, England, who started to hybridize caladiums in 1875 and who was the first breeder of real yellow varieties. Some of these varieties are still on the market as Prince of Wales, Princess Royal, Golden Queen, etc., but can be bought at present only in Europe as American firms list none of these older types.

"After Bause died, his son-in-law, J. Luther, took over the business and he developed a great number of very fine varieties of exquisite appearance. He was the first breeder of a real white variety still on the market under the name of Silver Queen and still without a better competitor.

"There is one more of the European breeders whose name is perhaps little known because none of his hybrids ever reached the big markets although they were excellent types and pretty well known in England about 1879. He was Jacob Weiss, a German by nationality.

"The first breeder of new varieties in the United States was Adolphe Jaenicke, from the Missouri Botanical

Gardens in Saint Louis. He brought out a number of very fine varieties of which some are still very well known, such as Torchlight, White Flag, Ivory, Lydie Oakley, etc.

"But Theodore Mead, living on the west coast of southern Florida, more commonly known for his work in growing and hybridizing orchids, was even more successful. His hybrids are all strong growers and very beautiful. Of his varieties, every grower of caladiums should have at least: Mrs. Theodore L. Mead, P. W. Reasoner, Hildegard Nehrling, Chas. T. Simpson, Osceola and Berthold Nehrling.

"Another very well known grower of fancy-leaved caladiums in south Florida is the late Dr. H. Nehrling of Naples, a town on the western end of the Tamiami Trail. His enthusiasm for and his great love of this class of plants had no limits with the result that his collection was once the most complete in the United States, containing hundreds of thousands of different varieties and almost every known type. He also brought out a number of hybrids of which one is especially beautiful and known everywhere under the name of Mrs. W. B. Haldeman. He sold the larger part of his collection some time ago to the Royal Palm Nurseries (Reasoner Brothers) in Oneco, Florida who are at present the most successful growers of fancy-leaved caladiums in the United States.

"Finally we must remember a man whose name was once known all over the world and whom every one then called the "Caladium King." This title still sounds too humble after considering the enormous amount of scientific work necessary to accomplish as much as he did in the line of breeding new types and varieties of caladiums. Nobody before him, or who has followed



These have been grouped four to the page, with an attempt to put together on one sheet, forms that are related. One notices that there is almost always a pattern that is based on the marginal color and the main network of veins. The changes come in the areas that lie between the veins, the color of the veins themselves and that the breaking of color may follow no set pattern within the areas or the color may follow the network of veins. The tissue of the leaves varies in thickness from very opaque to almost translucent, or even transparent.

Page 177. Maurice de Nassau, Starting at the upper left we have the first leaf, pale green with little other color; upper right, second leaf, showing the breaking up of green and first hint of pink; lower left, third leaf, very largely pink colored with the major veins clear of color; lower right, the fourth and typical leaf, clear pale rose, the veins creamy and no green save as a line on the margins.

Page 178. Upper left, Hortulania, dull rose center with nearly white netting and moss green edges; upper right, Marie Mohr, dull cream white with network of green veins and few irregular dots of old rose; lower left, Triomphe de l'Exposition, very large green leaves with center flushed with crimson; lower right, Ace of Hearts, about same colors, but leaf shape distinct.

Page 179. Upper left, Eos, very pale flesh color with hint of pale green toward margins; upper right, Tabatingo, very pale greenish white with delicate network of pale green; lower left, Sea Gull, deep moss green, pattern in white; lower right, Baldwin No. 3, medium green, dots of dull rose outlined in white.

Page 180. Upper left, Florentine, pale moss green, central zone almost transparent, flushed with pink, that passes into the mottled areas of white; upper right, Mrs. F. Sander, deep green, with broken all-over pattern of silvery white, main veins crimson, pink tones over surfaces; lower left, Caroline Wharton, dark green margins, but sometimes broken with lighter green, main veins dull rose red, center mottled white, pink, dull rose; lower right, Spangled Banner, moss green with central pattern of dull rose, many white blotches irregularly placed in green area.

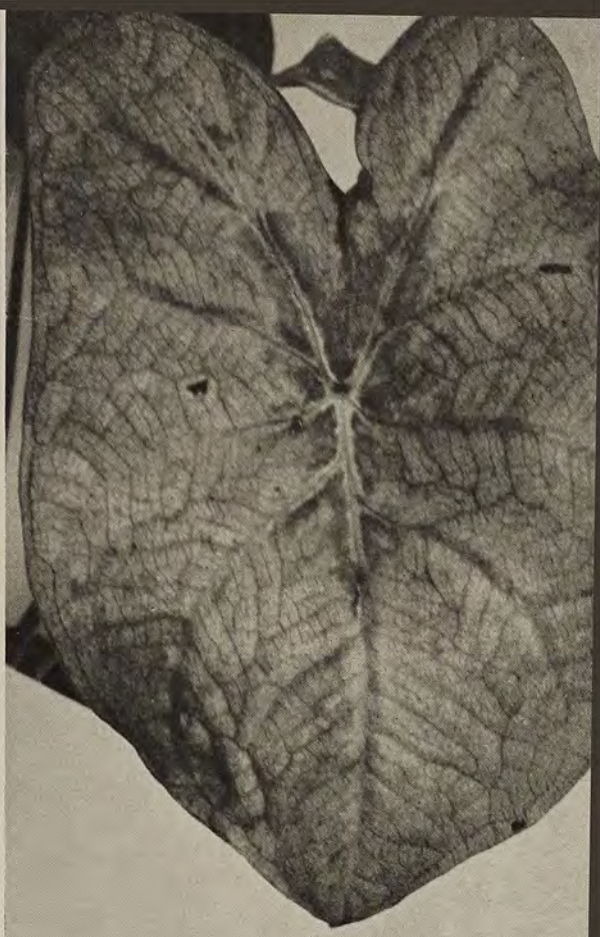
Page 181. Upper left, Fire Nymph, margins moss green, often mottled lighter green, main veins rose red, central zone transparent, flushed pink and rose flecked; upper right, Mi Fauste, moss green, main veins rose pink, central zone rose fading to white, irregular white blotches in the green; lower left, Scarlet Pimpernelle, moss green, irregular at margins, passing into mottled zone of green and white, central area rose to scarlet, veins slightly deeper; lower right, Marguerita, deep green edge, paler green zone mottled into white and rose to center that is partly transparent, main veins crimson.

Page 182. Upper left, Fascination, moss green fading into white, main veins deep rose; upper right, Orchid Beauty, moss green edges, broken into a pattern of green veins over the white center, that is almost transparent and flushed with pale rose, main veins deep rose; lower left, Alba, natural size, my plant never achieved the final pure white stage; lower right, Tom Thumb, natural size, pale bronzy green broken into white center with paler green.

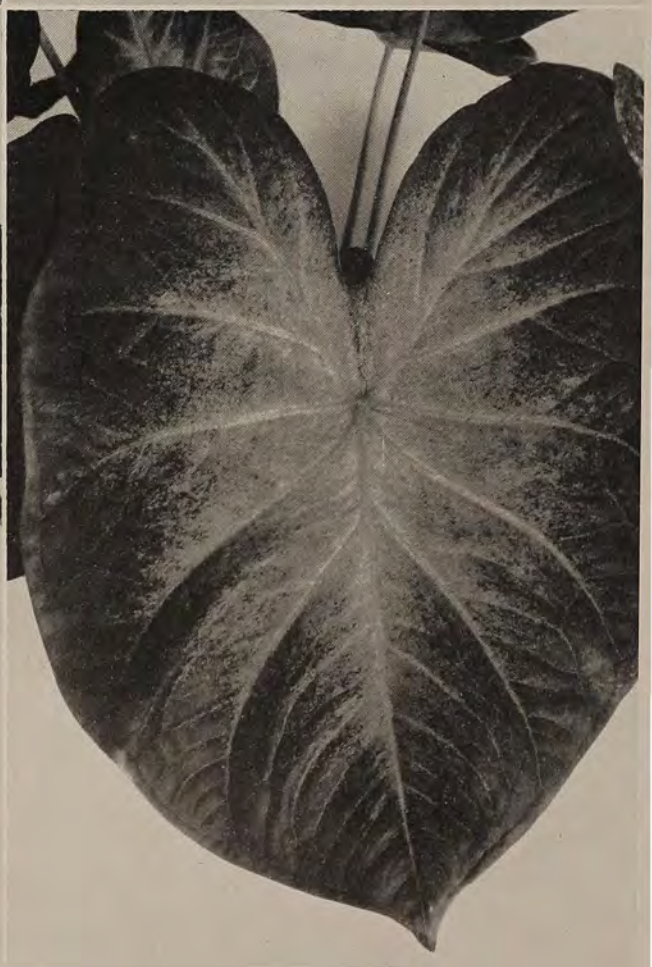
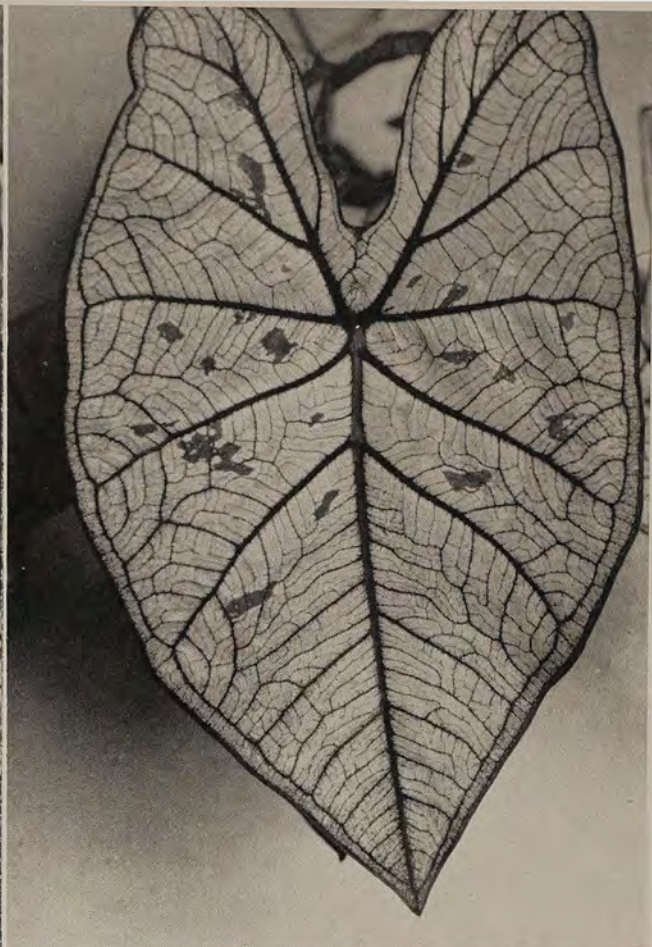
Page 183. Upper left, Helen McGee, pale green margins, central veins rose with some green patches alongside, white areas semi-transparent, flushed rose; upper right, Delilah, the green base pattern more or less flushed over with rose, main veins rose red, central zone white, mottled and flushed with rose; lower left, Betty, much like last but leaf shape distinct, margins darker and main veins deeper rose; lower right, Avalon Rose, probably not mature pattern, pure pale pink, semi-transparent, with rose veins outlined in green and mossy green edges.

Page 185. Upper left, Oneco, almost transparent white, veins flushed rose, margins moss green; upper right, Lavender Queen, almost wholly transparent, white flushed with lavender pink, some green on margin; lower left, Mrs. Edith Meade, almost wholly transparent, crimson veins, faint green edges; lower right, Collier, almost pure white, semi-transparent areas, veins pink, margins moss green with some netting of green into the white area.

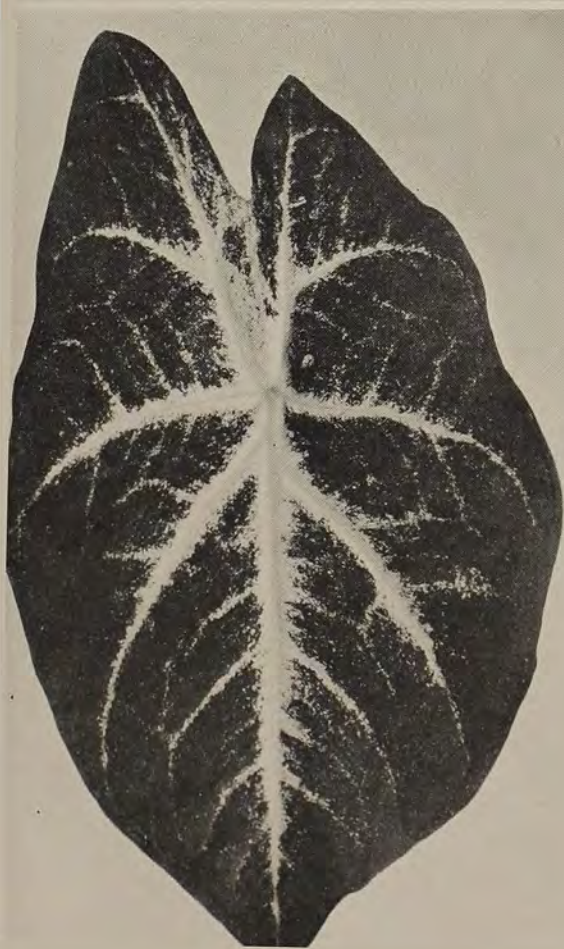
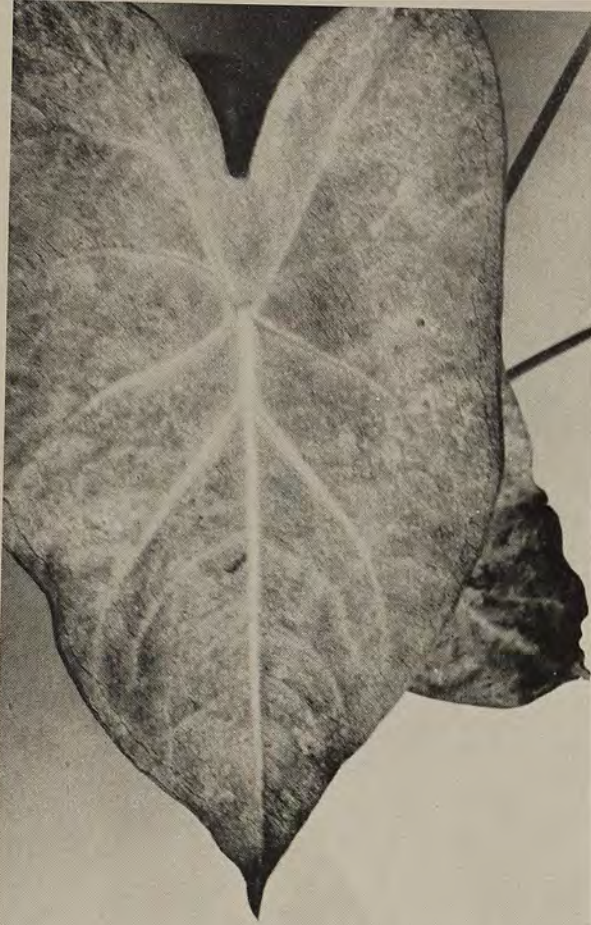












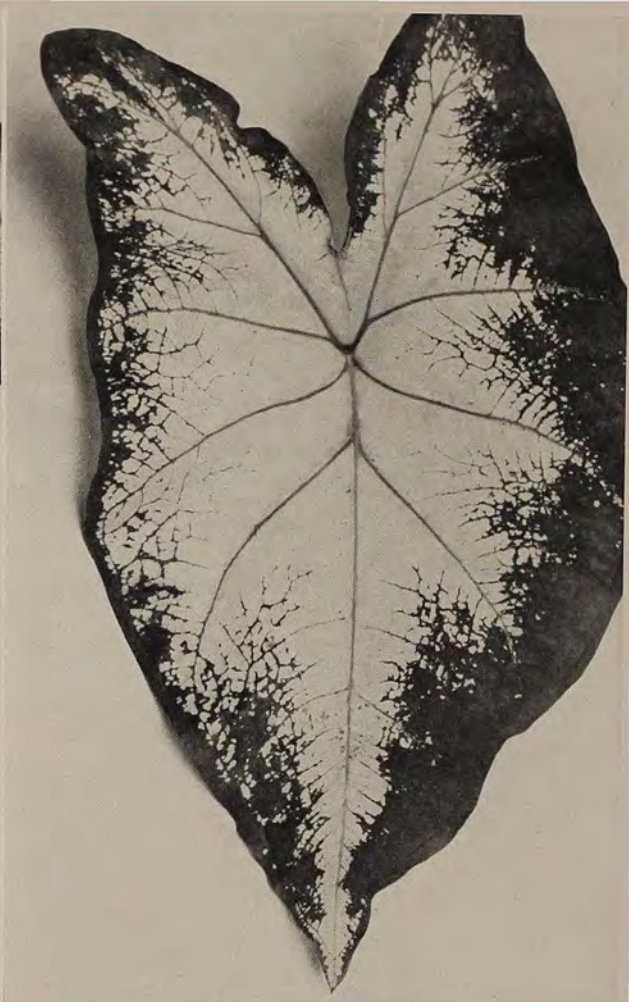




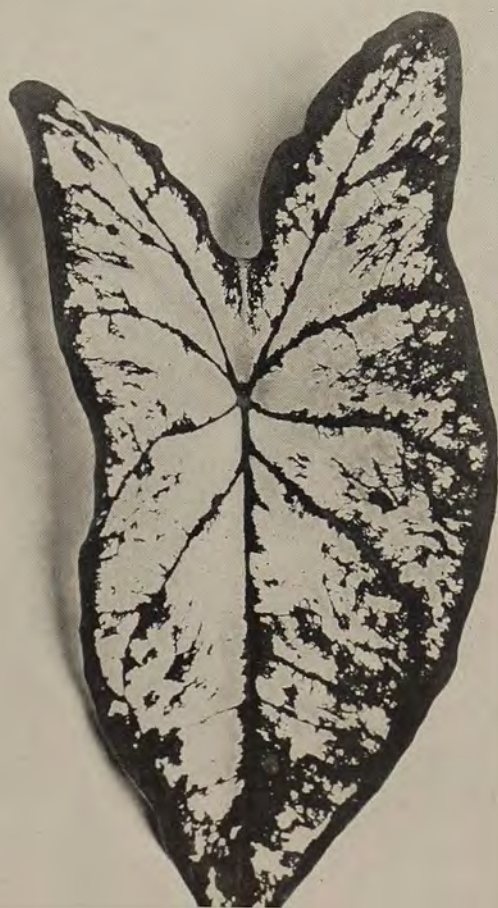
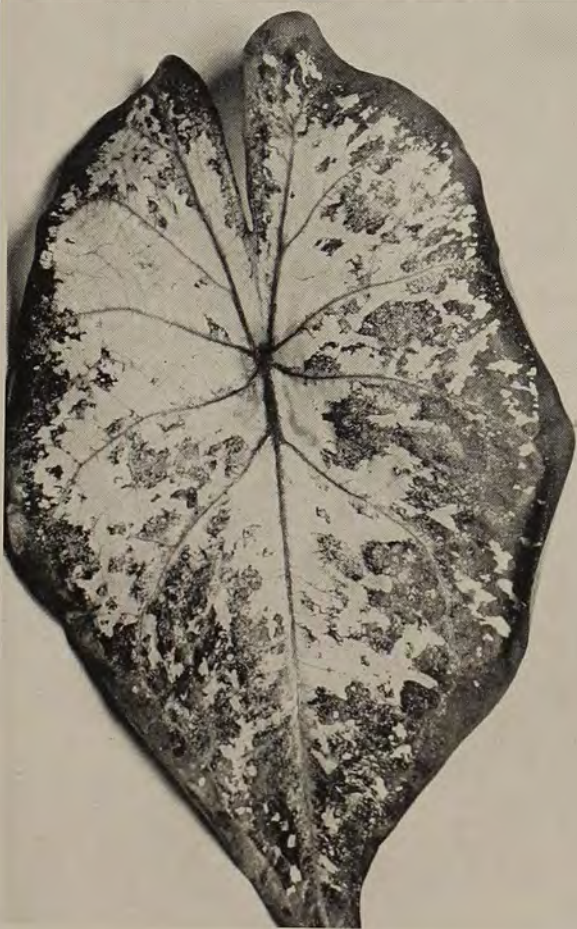














after, has been able to create such wonders in color and variety as he did, giving to the world something that should never be forgotten.

"This man was Adolph Leitze, of Rio de Janeiro, Brazil, in his younger days a collector of orchids and other rare plants until 1880 when he began to breed and hybridize caladiums. He was successful from the very beginning although he had nothing else on hand to start with but about a hundred different varieties of Alfred Bleu's hybrids which at that time were the best on the market.

"How he did it and what other types and varieties he perhaps used with which to begin his hybridizing work is still a secret. Only about nine years later he was on the market with nearly four hundred different new hybrids which were so new, so different and beautiful that he took everybody by storm when he came to the World's Fair in Chicago in 1893 and exhibited a collection of his hybrids. Many people could not believe that it was possible to grow plants with such wonderfully colored leaves; they had rather the impression that all the different colors and tints were worked in by some artificial method. In fact, to this day, it very often happens that people seeing caladiums for the first time, express the same belief.

"He took a large number of orders with him from Chicago all of which he filled and this was the real start of the cultivation of caladiums in the United States. We can safely say that today more than ninety per cent of all the caladiums grown in this country are of Brazilian origin even if many of the varieties are now known under new names.

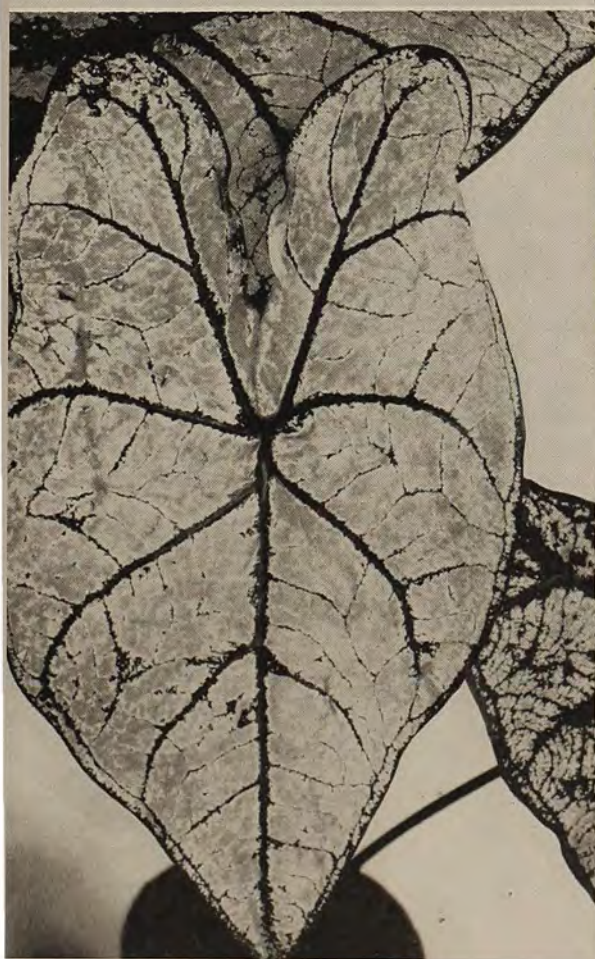
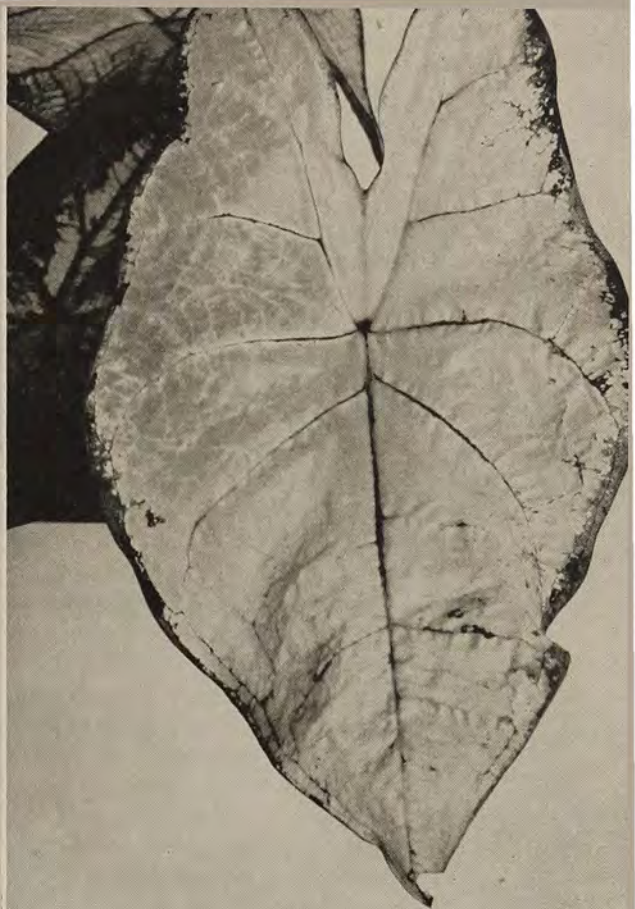
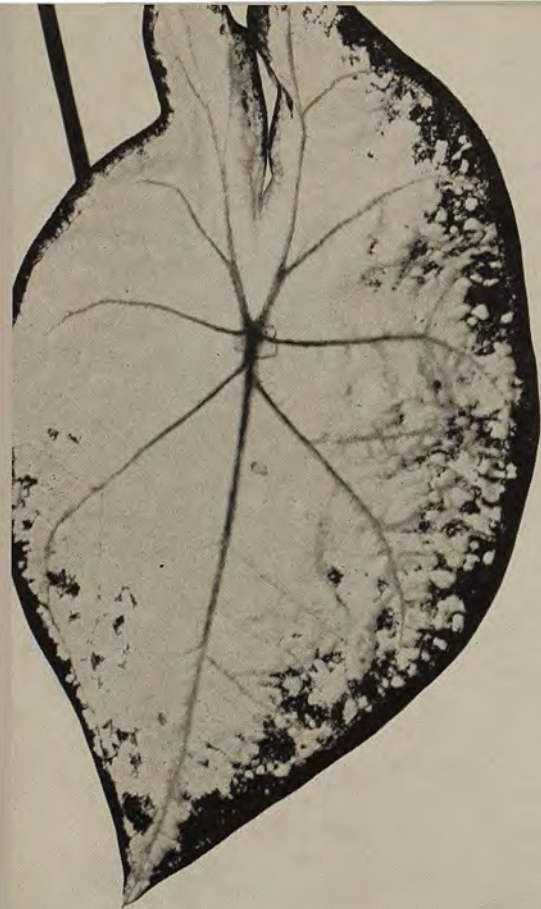
"This changing of names had already begun while Leitze still lived and it spoiled his business to some extent. As

a Brazilian, he gave his hybrids names which were especially difficult for English-speaking people to pronounce. Names like Guaratingueta or Memorio de Vigario Joa Procopio seemed impossible to his customers in England who soon started to rename them causing much confusion on the continent among others who had bought from Leitze and from England and who then discovered that they had duplicates. Leitze, however, managed to get along very well although perhaps he did not advertise enough which in some cases gave others the chance to reap the profits. Since he turned out something new almost every year, the demand for his productions kept his business on a satisfactory basis.

"Leitze died in 1907. He left to his sons a collection of hybrid caladiums that contained over one thousand different varieties, each propagated in thousands so they could be had in great quantities. They were all his own and the result of many years of hard work and endless patience. Each variety was named and classified, the colors of the leaves described in every detail, the parents of each named, and date of first introduction given. In addition to these named varieties he also left several thousand seedlings and full-grown plants which he had under observation but had not yet named or classified. He was very strict and would never list a variety until it had proved absolutely constant in color, habit, growth, etc. It happened very often that he destroyed several thousand young plants just because he could not find among them the type he wanted. This, of course, is the method of every good breeder.

"Leitze never did any hybridizing work with any other type of plants but kept strictly to caladiums. This is perhaps the reason he was so successful with them. Altogether it must be said







again, he was a great man and that it will take many generations to duplicate what he accomplished in a few decades.

"He was not very generally known in this country while he still lived and today his name is almost forgotten. Many growers of caladiums have never heard of him even though their collections may contain nothing but varieties of Brazilian origin.

"It is unfortunate that at the present time many plant growers know nothing concerning the origin of the plants that they have under cultivation, a condition for which there is little excuse. If the grower will not familiarize himself with his plants how can he expect the general public to do so, or impress on them how much work and patience are needed for the creation of new plants and flowers, reasons enough to justify the prices that appear high but actually are low enough when measured in time and labor?

"The cultivation of caladiums in southern Florida is still only slightly developed, although the climate is almost perfect for the cultivation of this wonderful class of plants, especially the varieties of Brazilian origin. These were originated in a country with a climate very similar to that of southern Florida and grow much better than plants of European origin that are strictly hot-house plants and much more difficult to grow out of doors. While the Brazilian varieties like hot weather and show the finest colors when the temperatures are above 80 degrees, the European varieties will fade slowly away under such conditions unless they are kept in a well-shaded and well-ventilated place, though even then they may turn out failures. The one outstanding exception is *Triomphe de l'Exposition* which does exceptionally well here.

"If any one wants to grow caladiums

and will start with the following varieties that are the best of all the Leitz varieties, they will have the most beautiful caladiums it is possible to secure. They are: Rio de Janeiro, Hortulania, Blumenau, Anajatuba, Aguape Puto-mayo, Bahia, Tiberica, Adamastor, Mrs. John Laing, Teyu Pire, Benjamin Constant, Mucuripe, Itapocu, Areca Branca, Caninde and Dom Pedro de Alcantara. To this collection should be added Mrs. W. B. Haldeman and *Triomphe de l'Exposition*.

"The fancy-leaved caladium is essentially a summer growing plant. Regardless of climatic conditions it gradually stops growing and making new leaves, about October and November the roots have generally become dormant, although occasionally a plant will do quite well until January after which time they naturally remain dormant until February or March when a new shoot starts out from the bulb. It should then be planted as soon as possible. The roots can be started earlier, often necessary here in Florida in order to make a show for winter residents before they leave in spring.

"If the bulb is not planted after it starts into growth it deteriorates quickly.

"While the fancy-leaved caladiums can probably be grown here with less trouble than in any other place in the country, they nevertheless require a reasonable amount of care and there are certain requirements that must be followed to grow them successfully.

"In the first place they should be given protection from direct sunlight and strong winds. They do best as potted plants in shade houses and in greenhouses where the glass has been whitewashed. Excellent results, however, have been obtained where they have been used as foundation plant-



ings, on the north and east sides of buildings, especially if protected from winds or in shady locations as in a patio. While they object to much direct sunlight they must be given a reasonable amount to bring out the full colors in the leaves.

"In the matter of soil the two main requirements are that it be rich and well-drained as the plants require an abundance of water but must not be drowned. They also flourish with plenty of manure about the roots which would be ruinous to such plants as gladiolus or dahlias. The manure should not be fresh nor from poultry. They suffer from too great amounts of nitrogen easily obtained from the manures, yet they are gross feeders and one must learn the balance between good feeding and excess. Old rotted cow manure or sheep manure if not pulverized too finely is the best. If possible avoid the use of the commercial fertilizers but a mixture of raw ground bone will provide a long lasting source of food through the season. When the plants have reached the peak of growth an application, twice a week, of liquid manure (cow) is desirable.

"None of our natural soils is ideal for these plants and all soil should be prepared for them.

"The mixture should be light, rich, easily drained, so that when watered freely it will not become soggy or caked. The same soil can be used from year to year by simply adding more fertilizer and any elements signalized by lack of the former year, unless the soil has become infested with nematodes in which case there must be new soil. Remember that they are surface rooting and that the soil must therefore be easily aerated.

"For best results: a mixture of 25 per cent thoroughly rotted cow manure or horse manure, 20 per cent peat

moss, 20 per cent pulverized muck, 25 per cent black sandy topsoil and 10 per cent of good topsoil marl with a liberal sprinkling of ground bone per bushel. In the bottom of the pots place about one half inch of clean sharp sand or some other means of obtaining quick drainage. Where it can be obtained, good leaf mold is excellent to add to the above mixture or to replace the peat moss.

"As soon as the dormant roots start to sprout they should be potted up until the early part of March when all should be potted. Bulbs planted early one year will start earlier the next year than those planted later. To make a showing before the end of our tourist season, the bulbs should be potted before February first. Bulbs planted late will serve for summer or autumn effects. Water rather sparingly at first, increasing the amount of water as the plants grow, and after they have made several leaves water copiously, always enough to penetrate the soil to its entire depth. It is important never to allow the plants to dry out so that the leaves wilt.

"Shortly after the first leaves appear the plant will send up a flower stalk. The flower is not ornamental, will not make seed unless hand pollinated, so it is best to cut it off, even before the flower develops.

"Put one bulb to a pot, if they are large. If medium-sized or small, from two to three bulbs can be planted in a six inch pot. For all except very large bulbs of the largest leaved varieties like *Triomphe de l'Exposition* an eight inch pot is excellent. Some of the more delicate and semi-transparent leaved varieties are at their best only when grown under glass or in a lath-house.

"About October the leaves become smaller and the stems incline to droop indicating that the plants are preparing



to rest. When this happens, it is best to lay the pot on its side in a dry place and withhold water. After the leaves have dried up the bulbs should be removed and placed in boxes or tins in a dry place where they are safe from insects and rodents until they show signs of sprouting the following spring. By no means allow the tubers to dry up for if this happens they will frequently rot away inside. In our climate, however, there is not so much danger of this as in the North. Caladiums will not endure a very low temperature and are very subject to frost."

There followed in the original as published sources for roots and a considerable list of the better varieties current in 1929.

The pictures tell their own story. It is not intended that there could not be other chapters and verses nor that all the possible suggestions have been made as to what one can see if he looks. The main purpose is to bring to the gardeners' attention the fact that it is folly to be content with "mixed-varieties" when one can get special beauty by name if he will only ask.

## Welwitschia mirabilis

H. TEUSCHER, *Curator of the Montreal Botanical Garden*

The culture of this highly interesting plant—a relic of bygone ages without living near relatives—is frequently attempted by Botanical Gardens but successes have been few and far between. In most instances the young plants, which are very readily raised from fresh seeds, have perished after two or three years. The Montreal Botanical Garden, therefore, is very happy to be able to announce that one of its 13-year old plants of *Welwitschia mirabilis* has produced flowers this year. As far as the writer is aware, this has never before been achieved in cultivation.

The plant—shown in the accompanying illustration—is a male, and, since so far none of our other plants of equal age has produced flowers, we do not know as yet whether we have a female among them. However, all of them are in excellent health and are growing freely and we do not mind to wait until they are ready to reveal their sex. It certainly would give us a great deal of pleasure to be able to observe

sometime in the near future also the seed development of this curious plant, which still is in need of further intimate study.

*Welwitschia mirabilis* was discovered in 1860 near Cape Negro, Damara Land, Southwest Africa, by Dr. Welwitsch after whom it was named. Its distribution is very limited, and it is known to occur only in a few other spots. Besides the two cotyledons, which shrivel and die when the plant is about one year old, it produces only two hard leathery leaves, which continue to elongate, growing from the base, throughout the plant's life and which may attain a length of several yards and a width of over one foot. On very old plants (it has been estimated that they may reach an age of several hundred years) these leaves split lengthwise to the base into numerous thongs which lie curling around on the surface of the ground. The center of the plant becomes woody, and from it eventually are produced the cone-like



flowers and fruits and naked seeds which have caused botanists to place this genus into the Gymnospermae, to which our conifers as well as the Gnetaceae belong to which latter family *Welwitschia* is generally believed to be allied.

In the native habitat of *Welwitschia*—usually arid stony plateaus—rainfall is rare and scanty. The plant sends down a long tap root to a considerable depth, which makes it a gruelling work of several hours to excavate a plant for museum purposes. Way down below, the roots strike water carrying layers, and that is important though rarely mentioned by those who have seen the *Welwitschia* in Africa.

The Montreal Botanical Garden obtained in the spring of 1938 (and several times since then) fresh wild collected seeds of *Welwitschia* from the Botanical Garden of Coimbra, Portugal. These seeds were sown in a pan containing a very lean mixture of granitic sand and crushed brick with a trace of very old leafmold. Ample drainage consisting of broken pots was placed at the bottom. The pan was watered thoroughly immediately after sowing, but thereafter water was applied only from the bottom and only very sparingly, since the seedlings, which develop within a few weeks, are very subject to damping off. After approximately 5 months the whole seed pan was emptied on the planting table and the seedlings, which by then had developed 5 to 6 inch long unbranched tap roots, were carefully picked out. The young roots are extremely brittle, and a seedling with an injured or broken root is in most cases unable to recover. The following procedure, therefore, is rather delicate. The bottom of a 12 inch pot was covered with a 1½ inch layer of broken pieces of pots which were thoroughly moistened,

on this a 3 inch diam. draitile was stood upright. A *Welwitschia* seedling with the long root carefully straightened out was inserted in the center of the draitile and by means of a long-handled spoon soil of the same mixture as that used in the seedpan was slowly filled in around it to a height of approximately 3 inches. The rest of the draitile then was carefully filled with a mixture of about equal parts of granitic sand and crushed limestone (¼ inch size), for the last 2 inches only crushed limestone was used. The cotyledons of the seedling then rested almost flat on the stones. Around the draitile a 2 to 3 inch layer of soil was placed, consisting of sod soil and sand with a trace of leafmold to which a pinch of bonemeal and dehydrated sheep manure was added. The rest of the space between draitile and pot was filled with sand and crushed limestone and for the last two inches again only with crushed limestone.

The plants were watered sparingly at first but, after they had become stronger, quite freely once a week, the water being applied close to the outer rim of the pot, not to the draitile or to the plant itself. During winter, watering was reduced to once or twice a month. The plants are being kept in a sunny cactus house with a winter temperature of 50° F. In summer the day temperature rises to 90° F. and more, since this house is never shaded. Every three years the stone and sand mixture as well as the soil between pot and draitile is removed until roots are encountered, and fresh soil, again enriched with a small dose of fertilizer, is filled in. The roots remain confined to the lowermost layer where they also cling tightly to the bottom of the pot. This latter habit renders transplanting and repotting quite impossible, since it would unavoidably result in the loss of





*Welwitschia mirabilis*





*Close view of flowers of Welwitschia*



a large part of the root system. It is for this reason that the above described procedure was adopted. Growth usually commences in April and becomes noticeable through the appearance nearest the crown of a thin pale green line on each leaf. Gradually this strip widens and a growth of 5 to 6 inches per year is not uncommon. During the growing period, from April to September, some highly diluted complete liquid fertilizer is applied with each weekly watering. To this treatment the plants have responded splendidly and their leaves now are over 30 inches long and 3 inches wide. The only reason why the leaves are not much longer is that overzealous gardeners cannot be restrained from cutting off the drying tips which are perfectly normal for this plant. Only somewhat over 2 feet of the length of the leaves remains green which means that the leaf tissue remains active for from 5 to 6 years. The fact that the leaves hang down over the edge of the pot instead of

spreading out flat as they would in nature, does not seem to make any difference to the plants, and we are now hopeful that we shall be able to maintain them in good health for a very long time.

There is no doubt that the trickiest part of this cultural procedure is the transplanting of the 5-month old seedlings, but in spite of numerous experiments we have been unable to find any other method which works equally well. It seems tempting, for instance, to sow the seeds right away in a draintile placed within a pot as described above, but, though we have tried this a number of times, we have never managed to keep seedlings raised in this manner alive for more than a year.

Because of our success in raising this rare plant, we are quite frequently asked for advice on how one should proceed with its culture. It is for this reason that the above information has been furnished in such detail.

## Additional Notes on the History of the Persian Cyclamen

WALTER C. BLASDALE

Since the publication of my paper on this subject in this Journal (October 1949) Miss Marjorie F. Warner has called my attention to certain facts found in rare publications of which I had no knowledge. Miss Warner has been interested for many years in the history of plant introduction, especially in France in the seventeenth century, and has been kind enough to supply me with many data concerning the Persian Cyclamen. I am here presenting a brief summary of the most important items and showing how they affect

the conclusions of my former paper.

1. The most important document referred to in that paper, namely Parkinson's drawing of *Cyclamen antiochenum*, bears the caption *C. antiochenum, with a large, double, purple flower, Autumnal*. This caption is identical with that used by Jean and Vespasian Robin in their *Handbook of Plants* growing in their Paris garden, published in 1624, which also lists a white-flowered, spring flowering form. Since Parkinson is known to have imported plants from France it is prob-



able that he got the name *antiochenum* from plants that had come from Jean Robin.

2. Equally important are two plates which have been reproduced in this paper. The quotation from Miss Warner, at the end of this article, gives an interesting bibliographical account of these plates. One is from the 1614 *Argumentatio* or supplement to the *New Flower Book* by J. T. de Bry, published in 1612; the other is from the *Garden of the Most Christian King Louis XIII*, by Pierre Vallet, published in 1624. Both plates portray a cyclamen with two leaves, a flower, and a bud, apparently all on separate stalks, also a very stout stalk bearing two leaves, a flower, and two buds. That of de Bry is labeled "Cyclamen with an ivy leaf, (and) a stem bearing leaves and flowers"; that of Vallet, the "Polyanthus cyclamen of Antioch with a large flower." There are minor differences in them but the leaves and flowers show decided resemblances to those of the Persian Cyclamen. The Vallet plate also shows another cyclamen consisting of a bud and two flowers whose petals display hornlike appendages on both edges near the point at which they unite to form the corolla tube. Such appendages have not been found on the Persian Cyclamen and the only other species on which they are usually present, which was known at that time, is *C. neapolitanum*. It is probable that the artist of the de Bry plate tried to enhance the beauty of his picture by adding the horns of *C. neapolitanum* to the flowers of *C. antiochenum*. This and other features of these plates show that one should not place too much reliance on their accuracy. Since *C. persicum* is the only species of *Cyclamen* known to produce polyanthus flowers this character serves to link both drawings to

that species, but under Vallet's name of *antiochenum*. It seems obvious therefore that this name must have been used for the Persian Cyclamen certainly by 1624 and probably by 1614. Another document which is of importance in the same connection is the *Catalogue of Plants of the Garden of René Morin*, published in 1621, which lists three cyclamens including "*Cictamen Anthiochenum*."

3. The Robin *Handbook* of 1624 also lists "*C. persicum vernale* with a dark red flower, white at base." This seems to be the first recorded use of the term *C. persicum*. It appeared later (1659) in Joncquet's *Catalogue of plants grown in Paris gardens* as "*C. persicum* of Morin, autumn and spring flowering with an angular leaf, large white flower purple at base."

4. Pierre Morin published in 1658 *Notes concerning the conditions necessary for the cultivation of flowers*. In an appendix he prints an advertisement of certain rare sorts of cyclamens from Verona, Mount Lebanon, Scio (probably the Island of Chios), Persia, and Antioch, with single and double flowers, which had come to him from the estate of his deceased brother, René Morin.

5. The Joncquet *Catalogue* referred to above includes eight cyclamens all of them associated with the name of Morin and each connected with certain of the localities cited in the preceding paragraph. This suggests that René Morin was a well known collector of cyclamens.

#### CONCLUSIONS

The term kind, as used at this time, had quite a different significance from the word species as used today. Those who compiled lists of kinds did not have a terminology adequate to describe plants scientifically and did not





From the "Florilegium novum" of Johann Theodor de Bry, second supplement, for the year 1614. The cyclamen and lily, although evidently drawn from the same plants represented in the later plate of Vallet, must have been copied from another plate or drawing that existed as early as 1614.





From Vallet's "Jardin du roy tres chrestien Loys XIII" (1624). The lily and the one cyclamen in this plate were evidently drawn from the same plants figured in that of de Bry (1614?), but the plates were not copied from one another, but probably from a drawing or plate made before 1614.





Enlarged detail of Vallet's plate (See page 195)

realize the need of collecting and comparing large numbers of each before attempting to describe them. Further-

more, the appearance of very rare individuals of certain kinds, showing cataclysmic changes in certain of their



characters, which we now call teratological, had not been recognized.

The desire to make such lists longer than those of their contemporaries led to the recognition of new kinds based on trivial differences and the inclusion of many which the compiler had never seen but copied from other lists. These compilers gave the "polyanthus" form of Persian Cyclamen a distinct name even though those who possessed plants of it must have learned that it could not be reproduced from seed, except very rarely; no asexual method of reproduction of it is known even to this day.

The Ottoman Empire is known to have placed restrictions on trade between the Levant and Europe during the seventeenth century but in spite of these many plants reached Europe by way of Constantinople and Vienna and some Parisian merchants were able to make contacts with certain Mediterranean ports. Pierre Morin's advertisement of 1658 shows that specimens of cyclamens were obtained from both Antioch and Persia. The only species of *Cyclamen* found growing spontaneously in Persia in modern times is the one long known as *C. ibericum*, renamed *C. vernum* by Schwarz in 1938. It is probable that some plants of *C. persicum*, obtained from Antioch or its immediate neighborhood, yielded a few specimens of the polyanthus form as the result of cultivation; possibly plants from that region possess greater capacity to produce such forms than those of the many other regions in which this species grows.

Parkinson probably acquired one or more of these plants. It is not surprising that this form disappeared after a few years in both France and England. In time it became apparent that, disregarding the teratological features,

there were no reliable characters by which *C. antiochenum* could be distinguished from *C. persicum* and the older name was replaced by the later one.

Quotation from Miss Warner. "The status of these plates is a bibliographical puzzle for which I have never found an explanation. Two out of three figures in each, the 'polyanthus' cyclamen and a central lily, obviously represent the same plants, albeit with minor differences that may be due to the engraver. The figures are differently spaced in the two plates and are not in reverse, so that it is impossible that either plate could have been indirectly copied from the other. A plausible theory is that both were made from a previous drawing or plate about which we have no information. Vallet, whose pictures of plants are supposed to have been drawn from life in the King's garden under Jean Robin, had published 70 of his plates in 1608, in different order, as the *Garden of Henry IV*, and it has been suggested that he made the 20 new plates added in the *Garden of Louis XIII* long before 1624. There is no proof of this, but as most of his plates comprise several figures which must have been drawn at different times, it is rather probable that the lily, which happens to be *Lilium canadense* and is probably the earliest representation of that plant, was drawn as soon as it bloomed in Robin's garden, and together with the cyclamen of the unusual 'polyanthus' form, in some way got into the hands of de Bry. The latter's *New Flower Book*, while chiefly consisting of plates copied from earlier and sometimes finer works, presents a good many plants from private gardens of that period, and includes one flowering in the garden of Jean Robin in 1612; so de Bry may naturally have learned of other striking new plants in the same place."



## Two Hollies

With the ever-growing interest in hollies, particularly those with evergreen leaves, one begins to look at many of the old familiar sorts with a more observing eye. Bits of information that had been forming in one's mind, take on more concrete form. It was probably the fact that in 1950, some of the plants of Chinese Holly, *Ilex cornuta*, that were heavily berried were so slow in coloring that our first frosts overtook them and a good color was not achieved, that made us look more closely at the times of coloring.

### *Ilex Perneyi*

This species will be discussed at some length in a later issue of the magazine, but it is worth a note now that among the evergreen hollies it and its form *Veitchii* are among the earliest to color well. It will probably be pointed out by some more careful observer that this could have been told if one had paid attention to the descriptions in the ever-useful Manual of Cultivated Trees and Shrubs by the late Dr. Rehder where the fruiting time is clearly set down as September. If one should split a hair, one could argue that that is not necessarily an indication that the fruit is fully colored.

Here in Washington the fruit is well colored even earlier than that and the color is brilliant enough to satisfy the most captious of Christmas decorators.

Since the species makes a tree of lesser dimensions than some of its kin, small gardens should use it.

*Ilex serrata* Thunb. (See page 199)

In Rehder's Manual of Cultivated Trees and Shrubs, nine species of deciduous holly are listed, of which two have only brief descriptions. The series is divided into two sections, separated by characters that do not specially concern the gardener.

The Japanese species named here has been in cultivation in this country since about the middle of the 19th Century but never has become a common garden plant in any region known to the writer. In this, however, it does not differ much from our excellent native "Black-alder," *Ilex verticillata* (L.) Gray, which is rather the better of the two in fruiting size.

Rehder's comment (l.c., p. 551) "Similar to *I. verticillata* but smaller in every part; fruit less persistent," does not quite suggest the basic visual difference although it does the cause. Smallness of parts is true, but in the branchlets the wood is so slender, the internodes so close, that one gets a denser whole, I should say, more twiggy, had I not been taken to task for that term.

The photographs show the general style and carriage and the natural size of fruit and leaf. For convenience in photographing, the same branch is shown as it appeared in September when the leaves had not fallen and then with the leaves stripped by hand. Coloring here comes early in August at least and there seems to be no special damage to the fruits by winter frost or freezing until the middle or end of February by which time many holly berries are the worse for wear.





Robert L. Taylor

*Ilex serrata* in August





Robert L. Taylor

*Ilex serrata* as it appears in October.



# Rhododendron Notes

CLEMENT G. BOWERS, *Editor*

## *The Vuykiana Azaleas*

The following notes were prepared by Mr. Adrian Vuyk for The Azalea Committee's use in the forthcoming Handbook, where they will be reduced in length. Since the varieties are becoming well known here, these records are gratefully included.

The first group of hardy Azalea Vuykiana which is now listed in our catalogue and quite widely distributed in Europe and the United States, is the result of crosses made by Mr. Aart Vuyk proprietor of Vuyk Van Nes, Boskoop, Holland in 1921. These crosses were made in an effort to obtain winter-hardy azaleas that would be evergreen like the Japanese type of azalea but large flowering like Azalea mollis. The mother plants were all of the Japanese type and in most cases another hybrid, the result of a cross between malvatica and Kaempferi. The male parents were Azalea mollis, J. C. van Tol and Azalea mollis-sinensis, Anthony Koster. Only J. C. van Tol produced seed.

The result of all the seedlings from these crosses showed a growth somewhat sturdier than the ordinary Japanese azaleas but otherwise more resembling the habit of the mother plants. Later crossings between mollis as the male plant and Japanese azaleas as female parents showed that in this type of cross the female parent's type of growth predominates.

Notice that some varieties have two names. The reason for this is that in 1926 an assortment of these Azaleas was imported into the United States by myself and three varieties were named. As there were no importations regularly from Holland and the con-

tact with my brother was not too close as far as business was concerned, this was completely overlooked until in 1945 importations started. As American names were given before Dutch names, the American catalogue carries the American names for these varieties.

The following are the groups of hardy hybrids with complete descriptions.

Joseph Haydn, (ledifolia alba  $\times$  mollis) flower, 2 $\frac{3}{4}$ ", rose purple with brownish rose blotch 533.

Helena Vuyk, (ledifolia alba  $\times$  mollis) syn. P. W. Hardijzer, flower 2 $\frac{1}{2}$ ", fuchsia pink with deep red blotch. 627/2

Beethoven, (Maxwellii  $\times$  mollis), orchid purple with deeper blotch, 31/1

Sibelius, (Maxwellii  $\times$  mollis), jasper with chocolate purple blotch, 018/1

Johann Sebastian Bach, (Maxwellii  $\times$  mollis) flower 2 $\frac{1}{2}$ ", cyclamen purple, 30/1

Mozart, (malvatica  $\times$  Kaempferi)  $\times$  mollis, flower  $\frac{1}{2}$ ", Fuchsia pink, 627/2

Wilhelmina Vuyk, (malvatica  $\times$  Kaempferi)  $\times$  mollis, syn. Palestina, flower 2 $\frac{1}{4}$ ", pure white with yellowish-green blotch.

Schubert, (malvatica  $\times$  Kaempferi)  $\times$  mollis, flower 2", phlox rose, 6-25/2

Johann Strauss, (malvatica  $\times$  Kaempferi)  $\times$  mollis, flower  $\frac{1}{2}$ ", rose bengal with deeper blotch, 25/2.

Gerardine Vuyk, (malvatica  $\times$  Kaempferi)  $\times$  mollis, flower 2", tyrian rose with deeper blotch, 42/2.

There are other varieties of later hybridization of which we will write you later.

Adrian Vuyk, New York.



*Autumn Color in Azalea Foliage*

Although some references have recorded the appearance of color in the autumn foliage of some azaleas, it is our editorial feeling that these data are by no means complete. It will be helpful therefore if our readers will send in their observations.

In the large plantings known to the editor, where most of the plants are evergreen or semi-evergreen, there is a wide range of colors from ruddy

bronzes to almost deep purples that begin to show on the evergreen leaves with the coming of cold weather. As actual frost arrives, this increases. The greatest degree of coloring seems to come in the clones that have deeply pigmented flowers and the derivatives of species like *mucronatum* that have "silky-hairy" leaves show the least attractive color changes, usually turning rather dull yellows that are no great addition to the scene. White-flowered clones show least leaf change.

## A Book or Two

**NATIVE ORCHIDS OF NORTH AMERICA.**

Donovan S. Correll. The Chronica Botanica Company, Waltham, Mass., 1950. 400 pages, illustrated. \$7.50

This is an encyclopedic book that does not lend itself easily to review. Dr. Correll is a botanist and brings to his work not only the intensive study and training that mark a good botanist but something of the naturalist's feeling for plants in nature that lifts his texts above the inevitable dead levels of taxonomic texts. Especially interesting to the non-taxonomic reader are his paragraphs that give something of the history of each species as it moved in the botanical world and his notes on its distribution in nature with a comment on the locale. He has supported his text with "Cultural Notes" by Dr. Edgar T. Wherry and Mr. John V. Watkins, the former contenting himself with remarks on soil reactions and plant associations in nature and the latter giving sage advice as to what one must do to cultivate the plant.

The book is also to be prized for the illustrations, by Blanche Ames (Mrs. Oakes Ames) and Mr. Gordon Dillon,

with a few plates by Prof. Oakes Ames and Mr. E. W. Smith. There is a wide range of techniques displayed in the illustrative work that is worth study from an entirely different point of view from that of the technical reader.

Whether one reads any of the remainder of the volume or not, all gardeners should read the Introduction not only for Dr. Correll's longer text but for Dr. Wherry's discussion which has most of what he does not give under each species. Having read the Introduction, it is more than probable that even the less-persuaded reader will read on, learning to enjoy the obvious beauties of some genera and the incredible minutiae of the others.

**FUNDAMENTALS OF SOIL SCIENCE.**

C. E. Miller and L. M. Turk. John Wiley & Sons, Inc., New York, 1951. Second Edition.

To quote from the Preface, "Fundamentals of Soil Science" was written primarily as a college textbook for use in the introductory or general course in soils. Also, it may be studied profitably by soil conservation technicians,



agricultural agents, farmers or anyone seeking a knowledge of the soil and of the principles underlying successful soil management."

The Preface continues to outline the purposes of the book, and in the body of the work these are fulfilled.

The plants considered in the text are essentially farm crops so that the home gardener who is concerned with ornamentals of any kind will not find an immediate answer to questions that may have come up in his mind. This, however, is a small matter as compared to what he may find out that will be immediately applicable to his land and operations, including the use of fertilizers.

**ALKALI SOILS, THEIR FORMATION, PROPERTIES AND RECLAMATION.** W. P. Kelly. Reinhold Publishing Corporation, New York, 1951. 176 pages, illustrated.

As compared to the greater number of books that come to our magazine for review, this is a highly technical volume. It is written, however, with admirable clarity as one would expect after having read the succinct Introduction with its careful outlining of the field to be treated and an equally careful definition of terms.

It is to be commended particularly to all our members on the Pacific Coast, especially in the southwestern areas and in all those newer portions where irrigation is coming into general use.

**HEMEROCALLIS.** Philip G. Corliss. Available from the author, Box 68, Somerton, Ariz. 172 pages, illustrated. Autographed First Edition, \$7.50.

This is an enthusiastic up-to-the-minute report on the daylily that is making so happy a name and fame for

itself in perennial borders and gardens in more parts of these United States than any other perennial. Dr. Corliss has the happy fortune of a brief Foreword by Sydney B. Mitchell and has had the splendid cooperation of hemerocallis growers and breeders in all parts of the country.

The outlines of the historical backgrounds here and abroad are comprehensive enough though one wonders a little at some of the points of emphasis, the report on present day activities, breeding and so on in this country are almost staccato in treatment, the outline of cultural directions exceedingly clear and complete, the suggestions for use in landscape design stimulating though not always persuasive to this reviewer. The Section on Flower Arrangement will make some drool with pleasure and others snort. The section on Breeding is clear and fine, but one wonders if there is any need for it, since the record of seedling production on new sorts is vast enough to think that the doctor-author of this book might have had a footnote at least on birth control. The section on Photographing of Daylilies should be of the greatest use to all future proud parents of the armies of daylilies about to be born.

There is only one thing to do; buy the book, choose a stud of varieties that appeal to you after reading the text, and then set to work to add your thousand to the thousands already born. It is a good book, no mistake.

**CAMELLIAS AND COMMON SENSE.** Claude Chidamian. Richards Publishing Co., Los Angeles, Calif. 124 pages, illustrated. \$3.50.

This is precisely what one would imagine from the title, a straight-forward, simply told handbook written for



the beginner rather than the advanced grower. The color plates are reasonably inviting though all show single blossoms laid out flat and not in positions of growth. The line drawings by Shirlea Hatcher are practically a repetition of the text in simple visual telling.

The important chapter perhaps is the second, "Camellias and Common Sense" in which the writer brings out several points that are not commonly stressed if mentioned at all. But as one reads page 90 to be exact one wonders precisely how people living in southern California can possibly approximate the weather picture that the author gives as that from which the camellia comes. Certainly there could hardly be two climates more poles apart within the general range of temperate climates, Japan with its rains all through the

year and southern California with seasonal rain and that if one believes the papers in diminishing amounts.

One doubts a little the complete validity of the argument for planting them well in conditions that approximate their natural preferences and then leaving them alone. All of horticultural skill is based primarily on the idea that man helps in so far as he can to produce an optimum condition based on the conceived norm as found in nature. There must be some middle ground between the overly fussy routines at which the author properly cavils and the complete state of nature. One finds it outlined in the later pages beginning perhaps with Chapter 6.

If you are a beginner at Camellia growing, get this book. If you are an old hand, get it anyway, and see if your own fixed ideas need a shake-up.

## The Gardener's Pocketbook

### *Camellia and Rhododendron Pictures*

The varieties of *Camellia sasanqua* shown on the following pages are among those that produced most of their flowers in perfection during October and November 1951 in the National Arboretum, Washington, D. C. Many other varieties are budded this year and reports will follow on their timing.

Mr. Mulligan, director of the University of Washington Arboretum sent the excellent picture of *Rhododendron albiflorum* as a postscript to his article in an earlier issue of the magazine. It is clear and his field notes are in the legend.

### *Prunus incisa* Thunb. var. *Yamadei*, Makino

Mr. Ernest H. Wilson states (The Cherries of Japan) that one of the objects of the Arnold Arboretum expedition to Japan in 1914 was an investigation of the Japanese Cherries. Living material as well was subsequently introduced to this country and in 1917 some 74 names in Japanese Cherries were received at Rochester of plants for trial. Lack of vigor early reduced this number and in the years since many more have been lost due to their characteristic short life in this northern edge of their useful range. The collection is now being renewed from plants available in U. S. nurseries.





*Robert L. Taylor*

*Sasanqua Camellias, Usu-bene, Velvety and Dainty Bess.*





Robert L. Taylor

*Sasanqua Camellias, Orchid and White Butterfly*





*Robert L. Taylor*

*Sasanqua Camellia, Papaver*





B. O. Mulligan ©

*Rhododendron albiflorum*, near Low Divide in Olympic Mountains, Washington. Alt. about 4500 ft. Flowers 1 inch in diameter, white; leaves 3 inches long, 1 inch wide. Aug. 6, 1951.





*Prunus incisa* var. *Yamadei*

At Durand-Eastman Park are two plants obtained in the Arnold Arboretum distribution under the name Zansetsu. A recent study of their flowers indicates them to be referable to the variety *Yamadei* of *Prunus incisa*. This variety does not exhibit any purplish tints in the unfolding leaves or in the flower calyx. In addition, the Durand-Eastman plants are distinctly dwarf in habit of growth, having reached no greater height than seven feet with an equal breadth. So far as I can find, the name Zansetsu which was attached to the Wilson introduction is a horticultural "nomen nudum" and unless our plants prove to be a dwarf clone of the variety *Yamadei*, the name Zansetsu should be dropped. Neither Wilson's

above-mentioned monograph nor Collingwood Ingram's recent book, *Ornamental Cherries*, mentions Zansetsu, and Paul Russell's *The Oriental Flowering Cherries* has the only record I have seen; it is there placed in an undifferentiated list.

The original description of the variety *Yamadei* (Makino in Jour. Jap. Bot. 1: 9, 1916) indicates the essential differences of the variety from the species to be as summarized by Rehder in the second edition of his Manual. Its habitat is cited as Suruga Province, Mt. Fujiyama; the collector as Hanjiro Yamadê; the date as April, 1916. Mr. Yamadê is further identified as the head of a commercial school at Gotemba. These place names are both men-





Robert L. Taylor

*The Rex Begonias of page 199—six months later.*

tioned in Wilson's collection notes for *Prunus incisa* in 1914. Again there is no mention of Zansetsu as Makino proposes two vernacular names: Ryokugaku-zakura meaning green calyx cherry or Midori-zakura meaning green cherry. For these references to the Japanese literature I am indebted to Dr. Yoshiharu Matsumura of the Nikko Botanical Garden who supplied me with the translations.

It was two years later, 1919, before we received at Highland Park the species of Fuji Cherry, which is the accepted common name here and in England for *Prunus incisa*, again from the Arnold Arboretum. The date of Mr. Horsey's picture of our plants published in the April, 1948 issue of this magazine was not given but it was taken April 23, 1927. In the near quarter-century since the picture was taken

they have flourished and reached a height of 14 feet with a spread of horizontal branches clear to the ground of 20 feet. Three plants have grown together and the resulting group is considered to give one of the choicest flower displays of the early spring in Highland Park.

BERNARD HARKNESS  
Superintendent of Parks,  
Retired, Rochester, New York

#### *Drainage . . . Rex Begonias*

I get more pleasure from growing plants from seed than from pride in the upkeep of mature plants. Perhaps the fascination comes from the anticipation and nursing. So when our editor writes about his brood of Rex Begonia seedlings, such finds me with a little brood, likewise; 65 to be exact. No two are identical and range in size from tiny,



intermediate, to large. Hence I find myself coveting every plant, because seedlings do not foretell what their maturity may be like. Their ancestry has become so confused by crossing and recrossing, that there is a fair chance for a sport or something good to turn up. Also, these diversities in form and color hold your interest while the eye surveys them in contrast; just as a bed of mixed pansies conjures the sense of relative beauty.

If you could single out but one need for plant welfare, you probably would say: DRAINAGE. Particularly for fibrous, hair-like roots. A mountain spring is an example of perfect drainage. Recollections of my boyhood on grandfather's ranch recall a spring on the hillside. The water flowed into a wooden trough where the cattle leisurely drank and birds came with their song. The overflow was from the lower end and a little meadow below was lush with dwarf grasses, buttercups and yellow mimulus. The water slowly seeped its invisible movement down the slope. There was no rest for stagnation, nor soil to get sour; gravity there, was without hindrance. That little patch of verdure left imprints which had much to do with my afteryears of gardening.

To get similar effect in pots, broken crock is generally used. But better still, are bits of charcoal which is lighter in weight and does not clog nor cohere. Charcoal may be obtained by burning prunings from the garden. Before the fire consumes the woody pieces, extinguish the flames with a hose spray; experience will guide you. Sift out the ashes. But don't conclude that the charcoal has any sweetening or purifying properties. Such is a fallacy which has been well discounted by our esteemed fellow member, Mr. W. C. Blasdale (Prof. of Chemistry, Emeritus, Univ.

of Cal.—Jn. of Cal. Hort. Soc. Apr. 1944).

I grow Rexes in a lathhouse but seedlings require more warmth. And the greenhouse is too hot and dry during the afternoons. The problem was met by placing orange-boxes on the greenhouse bench. The center partition and bottom were knocked out. Clear window glass was placed across the top; either in one pane or several butted together, but free to be lifted off or on so as to handle the seed pans and pots. The usual open spaces or slot in the sides of the box, serve as ventilators. Humidity may be provided for by wetted spagnum moss spread over the floor of the box. This keeps moist by drainage from the pots. Growth is not tender and frail as in a Wardian Case but instead it becomes vigorous and husky.

Fibrous rooted plants such as Rex Begonias do better in a coarse, open, porous soil that holds moisture and sheds surplus water. I use a sandy loam and coarse oak leafmold but decomposed vegetation from the compost pile will answer. And for DRAINAGE: the customary crock over the drainage hole and then bits of charcoal overlaying that so as to take up about  $\frac{1}{4}$  of the pot's depth.

The baffling problem is the resting period. The length of time is uncertain and erratic. However, winter months is the normal time for dormancy so the need then is slight moisture and a cool temperature (about 55°F.). This will aid in overcoming possible shrinkage and rot of the rhizome.

The Rex Begonia is well named. Exalted and distinctive and gives accent to a collection of plants . . . a photograph will show its eminence.

GEORGE B. FURNISS

Oakland, Calif.



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# The American Horticultural Society

**I**NVITES 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.