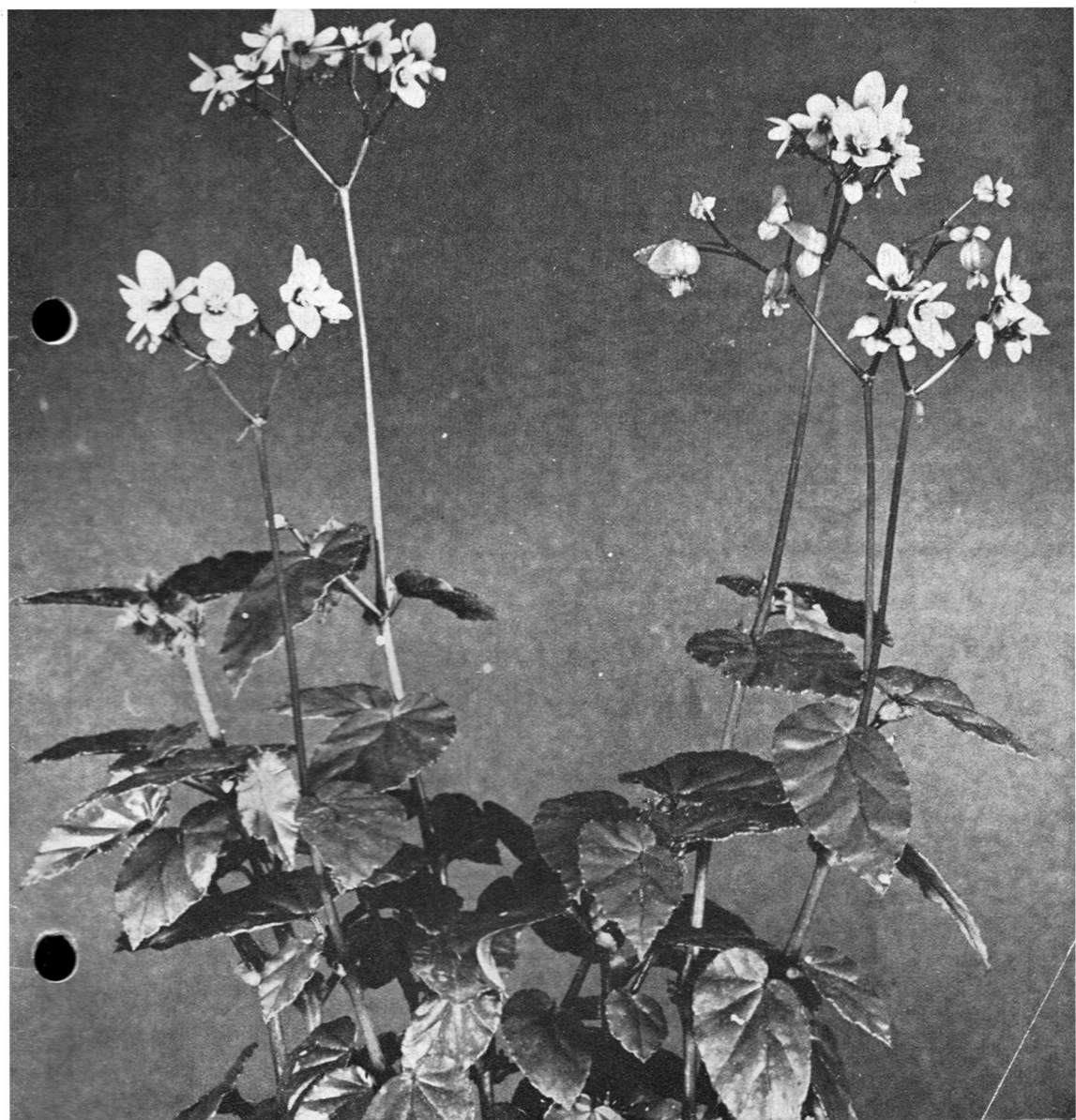


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Views expressed in this magazine are not necessarily those of the Editor, the Society, or its officers.

SPECIAL NOTE

To all the Branches in the Eastern Region: The Fifth Annual Eastern *Begonia* Convention and Show will be sponsored by the Knickerbocker Branch and will be held on September 18-20, 1970 at the Hotel McAlpin in New York City. Please keep these dates open so your members will be able to attend the convention.

FROM THE HISTORIAN

I would like to thank all the Branches and individuals who sent material to me for my History Book. I hope you will continue to send information about your special events and particularly Branch *Begonia* Shows. Pictures of your members and displays are an asset to our book. Your cooperation is the Historian's secret to success and it is sincerely appreciated.

Edna Burkett



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INVITATION

The city of San Diego is celebrating its 200th Birthday all during the year of 1969. You are all cordially invited to come down to San Diego and attend our meetings. We meet on the fourth Tuesday at 8 p.m. at the Asbury Methodist Church at Marlborough and Polk Streets.

If you are down for a day or two on vacation, telephone me and I will arrange to meet you and introduce you to our members on a tour of our *Begonia* gardens. My phone number is (714) 284-4449.

Mrs. Thomas Hofmann, Pres.
San Diego Branch, A.B.S.
2327 - 33rd Street
San Diego, Calif. 92104

NEW OFFICERS

The newly appointed officers of the A.B.S. will appear in *The Begonian* next month. Take time to become acquainted and active by helping in any way you can. If you can't meet the new officers in person, let your friendly postman help.

COVER PICTURE

Our Cover Picture pinup is the beautiful *B. plumieri*. It is a pretty little dwarf about ten inches high from the base to the tip of the inflorescence. The flowers are white with a crimson blotch in the center. The leaves are shiny dark green.

Seed of *B. plumieri* is offered in our Seed Fund this month on page 234.

Photo by J. Doorenbos

AIMS AND PURPOSES OF THE AMERICAN BEGONIA SOCIETY, INC.

The purpose of this Society shall be: To stimulate and promote interest in Begonias and other shade-loving plants; To encourage the introduction and development of new types of these plants; To standardize the nomenclature of Begonias; To gather and publish information in regard to kinds, propagation and culture of Begonias and companion plants; To issue a bulletin which will be mailed to all members of the Society; and To bring into friendly contact all who love and grow Begonias.

PRONUNCIATION OF *BEGONIA* NAMES

By JACK GOLDING, Kearny, New Jersey, President, Knickerbocker Branch

The form of many *Begonia* names is the adjective. As they modify the genus name *Begonia*, they are often descriptive indicating an important characteristic of a particular plant.

In Botanical Latin suffixes are added to a noun or verb to form adjectives. Since they must agree in gender with the nouns they modify and since the genus *Begonia* is considered feminine, only the feminine endings of the adjectives are used here. Normally, Latin words and Latin suffixes are used together and Greek words are combined with Greek suffixes, but occasionally they have been interchanged.

As an aid to remembering the names, the following Latin and Greek (marked *Gr.*) suffixes have been grouped in accordance with their meanings. This first group used with a noun base generally meaning-resemblance-are shown with examples as follows:

SUFFIX *..acea*, AY-se-uh, which indicates—resemblance to.

herbacea, her-BAY-se-uh, for its resemblance to herbs, which are annuals having green succulent stems. Hence, it has come to mean—with stems that are not woody.

convolvulacea, kon-vol-vyew-LAY-se-uh, for its resemblance to the twining and climbing habit of the *convolvulus* (Morning Glory).

SUFFIX *..ea*, e-uh, which indicates material, color or resemblance in quality. (Do not confuse with the Greek suffix *..ea*, EE-uh, meaning—belonging to.)

albo picta rosea, AL-boh PIK-tuh ROH-se-uh, for the *albo picta* with rose colored flowers.

daedalea, dee-DAL-e-uh, for the markings with sinuous intricate red-brown lines on its Nile green leaves.

laciniata lutea, las-in-i-AY-tuh LYEW-te-uh, the *laciniata* with golden yellow flowers.

metallica cuprea, me-TAL-li-kuh KYEW-pre-uh, the copper colored *metallica* for the color of its leaves.

nivea, NIV-e-uh, snow-white for its flowers.

pustulata argentea, pust-yew-LAY-tuh ar-JEN-te-uh, the *pustulata* with silver leaves.

SUFFIX *..ia*, i-uh, “characteristic of,” hence indicating—connection or resemblance.

..folia, FOH-li-uh, used in Latin compounds to indicate—resembling leaves of *..*—(See Part 2 in *The Begonian* of Sept. '69 for examples).

egregia, e-GREG-i-uh, means excellent, possibly for its discoverer's, N. E. Brown's opinion of its appearance in 1887.

rubro-venia, RYEW-broh VEE-ni-uh, red-veined, for its prominent red veins on the outer petals of its white flowers.

SUFFIX *..ina*, eye-nuh, in-uh, indicates—resemblance or possession.

andina, an-DEYE-nuh, belonging to the Andes Mountains of South America.

metallica velutina, me-TAL-li-kuh vel-YEW-tin-uh, *metallica* with its leaves that resemble velvet.

cinnabarina, sin-na-bar-EYE-nuh, for the cinnabar-red color of its flowers resembling mercury ore.

imperialis smaragdina, im-peer-i-AY-lis smar-AG-din-uh, the *imperialis* with leaves that resemble color of green grass.

xanthina, zan-THEYE-nuh, with yellow flowers.

‘Zebrina’, zee-BREYE-nuh, with leaves that have fairly regular white stripes, resembling the zebra.

SUFFIX *..inea*, IN-e-uh, indicates—material, color, close resemblance or possession.

baumannii carminea, BOW-man-i-eye kar-MIN-e-uh, Bauman's *Begonia* with carmine flowers.

albo coccinea, AL-boh kok-SIN-e-uh, for the white flowers that are coral red underneath.

coccinea, kok-SIN-e-uh, possessing coral red flowers.

sanguinea, san-GWIN-e-uh, for the blood red color of the underside of its leaves.

SUFFIX *..oides Gr.*, o-EYE-deez, indicates—resemblance.

abaculoides, uh-ba-kyewl-o-EYE-deez, its leaves resemble the color of the tiles used by the makers of stained glass.

fuchsoides, fyew-shi-o-EYE-deez, with *Fuchsia*-like flowers.

philodendroides, fil-oh-den-dro-EYE-deez, with leaves like *Philodendron* ‘lover of trees,’ which is derived from the Greek *philea*, to love, and *dendron*, tree.

SUFFIX ..*ota*, oh-tuh, indicates — resemblance or possession.

lepidota, lep-i-DOH-tuh, means covered with small scales, possibly named this by its discoverer in 1853 for the appearance of its rhizomes.

Another important group of suffixes used with a noun base are those that indicate possession or connection and are shown with examples as follows:

SUFFIX ..*aea*, Gr., EE-uh, indicates—belonging to.

'*Cypraea*', seve-PREE-uh, belonging to its Island of Cypress.

SUFFIX ..*alis*, AY-lis, indicates—belonging or pertaining to.

dominicalis, doh-min-i-KAY-lis, belonging to Dominica.

'*Hiemalis*', heye-em-MAY-lis, with flowers belonging to (or blooming in) the winter.

imperialis, im-peer-i-AY-lis, pertaining to its showy or regal leaves.

SUFFIX ..*aris*, AY-ris, belonging or pertaining to.

angularis, ang-yew-LAY-ris, pertaining to its angled stems.

palmaris, pal-MAY-ris, pertaining to its palmated leaves.

SUFFIX ..*ana*, AY-nuh, indicates—position, connection or possession by.

cathayana, cath-ay-AY-nuh, connected with or from Cathay (old name of China).

evansiana, e-VANS-i-ay-nuh, for T. Evans, the employer of Wm. Kerr, its collector.

haageana, HAH-ge-ay-na, for N. N. Haage, nurseryman of Germany.

hemsleyana, ems-LEE-ay-nuh, for W. B. Hemsley, keeper at Kew Gardens, England, and author.

kraussiana, KROWSS-i-ay-nuh, for Helen K. Krauss, author of Pennsylvania.

limingheiana, lim-MING-heye-ay-nuh, for Comte Alfred deLimminghe of Belgium in whose garden it was grown.

lindleyana, LIND-lee-ay-nuh, for John Lindley, English horticulturist and author.

montana, mon-TAY-nuh, from the mountains.

richardsiana, RICH-ard-si-ay-nuh, for James Richards, English horticulturist.

scharffiana, Sharff-i-AY-nuh, for Dr. Scharff of Germany, its co-discoverer.

socotrana, SOK-o-tray-nuh, from the Island of Socotra in the Indian Ocean.

SUFFIX ..*ata*, AY-tuh, indicates possession or likeness.

acuminata, uh-kyew-min-AY-tuh, having leaves tapering into a long narrow point.

annulata, ann-yew-LAY-tuh, being marked with rings, for the distinctive silver ring on the velvety green leaves.

auriculata, aw-rik-yew-LAY-tuh, with leaves having two small rounded lobes at base that stick out like ears.

circumlobata, sir-kum-loh-BAY-tuh, having lobes all around the leaves from *circum*, around and *lobatus*, lobed.

cristata, kris-TAY-tuh, having an outgrowth on the flowers like a crest.

cucullata, kyew-kul-LAY-tuh, for its hooded leaves.

'*Fuscomaculata*' fus-koh-mak-yew-LAY-tuh, having dark brown blotched leaves, from *fusco*, brown and *maculatus*, blotched.

guttata, gut-TAY-tuh, having spotted or speckled leaves.

involutrata, in-vol-yew-KRAY-tuh, having a ring of bracts around the base of the inflorescence.

laciniata, la-sin-i-AY-tuh, with leaves slashed into narrow divisions by taper pointed incisions.

lobulata, lob-yew-LAY-tuh, having lobed leaves.

maculata, mak-yew-LAY-tuh, leaves having spots or blotches.

manicata, man-i-KAY-tuh, having long hairy sleeves like a cuff around the stem under the leaves.

'*Marginata*', mar-jin-NAY-tuh, having a thin margin of a different color on the flower petals.

'*Marmorata*', mar-mor-AY-tuh, with marbled area of a different color in its flowers.

odorata, oh-do-RAY-tuh, having a fragrance.

peltata, pel-TAY-tuh, with stem attached to leaf in the center or well within the margins.

pustulata, pus-tyew-LAY-tuh, having low projections like blisters or pimples on its leaves.

quadrialata, kwad-ri-al-AY-tah, possessing a four winged seed pod, *quadri*, four, *ala*, wing.

'*Speculata*', spek-kyew-LAY-tuh, shining as if reflected from mirrors, for the surface of the leaves.

subpeltata, sub-pel-TAY-tuh, having somewhat peltated leaves.

undulata, un-dyew-LAY-tuh, wavy for the margins of its leaves.

SUFFIX ..*ea* Gr., ee-uh, indicates—possession or belonging to.

gigantea, jeye-gan-TEE-uh, belonging to the giant, from *gigas*, therefore gigantic or very large, probably for its size as compared to other *Begonias* when it was discovered in India, 1864.

SUFFIX ..*ica* Gr., indicates—belonging to. *malabarica*, MAL-a-bar-i-kuh, from Malabar, on the southwest coast of India.

metallica, me-TAL-li-kuh, because of the metal-like luster of its leaves it seems to be of metal.

(Continued on Page 242)

BEGONIA GOEGOENSIS

By ELDA HARING, Greenwich, Connecticut

A species, *Begonia goegoensis* was named for Goego, Sumatra where it was found. This is a handsome *Begonia* with lily-pad leaves of bronzy-green with lighter green veins on square stems with pink flowers produced in late winter. The leaves are puckered or blistered and present a most unusual appearance.

Although considered by many to be difficult to grow, I have found it to be most dependable. As do many other *Begonias*, it does have periods of active growth after which it will rest and lose some of its leaves and stems. It is said to need warmth but I find it grows well at 60° to 65° during the winter months. I have grown it in an East window in the house which is kept at 72° during winter with good results. Last year it was kept in the 60° greenhouse where it grew and thrived. By the end of February, the leaves showed yellowing from the bright winter sun when it was moved under a sheltering canopy of unbleached muslin after which it again assumed its bronzy-green dress.

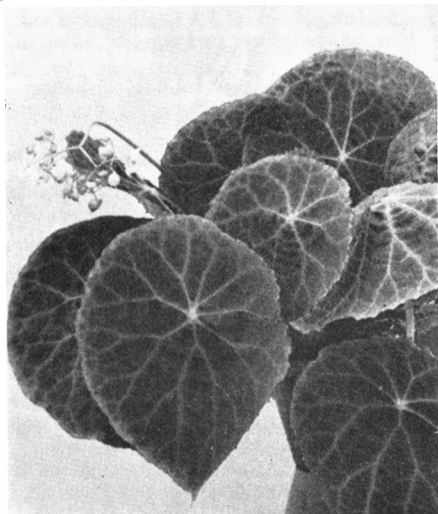


Photo by Walter J. Haring

B. goegoensis performs well under the warm white fluorescent lights in my cellar although in this location, there has been some burning of leaf edges for I do not provide additional humidity on my plant stands. In summer the cellar is inclined to be quite damp and all of my plants are happier then than during the winter months when the cellar is heated by forced hot-air heat. However, I must add that I have a large number of species and hybrid *Begonias* which grow and thrive under the lights at all seasons.

The plant in the photograph was obtained from Paul Lowe of Goulds, Florida several years ago. It is growing in a five-inch azalea pot and is now ready for a seven-inch pot to become a truly good-sized specimen plant. Unfortunately, we really do not have the room for many specimen plants. Now that my husband has photographed it at its best, I will divide it and replant the sections in three-inch pots and hope to grow one in the east window and one under the lights so that at some future date I can report to the members of the A.B.S. on their performances in these locations. The growing medium I have been using for this *Begonia* is a mixture of two parts garden loam, one part peat moss, one part builders' sand with one four-inch pot of superphosphate and one four-inch pot of lime added to each bushel of the mix. This seems to be to its liking although I have no doubt that if other conditions suit it, it will do very well in any mix it is given. When it is in active growth it is fed with whatever water-soluble fertilizer I am using at the time and seems to be most amenable to this treatment.

BRING 'EM BACK ALIVE

How often have you received a plant or some cuttings from a friend or nursery and watched them die? Is it because they were not healthy to begin with or was it through carelessness on your part?

I remember several months ago we were planning to meet a friend at a meeting. We took a gift plant along for her but she was unable to attend. We stuck the plant under the seat of the truck for the drive home. A month later she was at our home for a visit and we rushed madly to the back yard to find her plant. We searched the back yard. No plant. We searched the Tubehouse. No plant. We searched the patio. No plant. We even searched the house and still NO PLANT.

We were frantic because it was a plant that she had particularly wanted. We had already told her we had one for her and there was not another sample on the place. Our most embarrassing moment came when we realized that the plant was still under the seat of the truck. It was still alive but was in pretty sad shape since it had not been watered for four weeks. I don't recommend this treatment for any plant and particularly not for *Begonias*.

At any rate, if you want such gifts to survive, it is necessary to take care of them from the moment they become yours. Proper transportation to your home is the first problem. If they are in pots large enough to stand by themselves, you will have little trouble. If they are in smaller pots—four inches and under—put them in boxes and pack them with newspaper so that they do not get jostled severely or knocked over. Any time you are transporting plants in any type of vehicle, be sure they are "seated" so that they remain upright during the trip and **DRIVE CAREFULLY**. Drag racing with a load of plants is sure to result in "scrambled greenery."

If you are transporting cuttings of

any kind, it is best to slip them into a plastic bag. The label can be slipped in also but be sure that it is written in some waterproof form. Mist the cuttings thoroughly, blow the bag full of air, and tighten with a twist 'em. Enclose bag and all in a closed box for added protection. The pop of the plastic bag as you sit on it is a sure indication that you've lost your best friend.

Once you've arrived home with your treasured gifts, the time to take care of them is NOW. Don't wait until tomorrow morning to put the cuttings in. If it takes til 4 a.m., your host has been overly generous and you may decide to be a little more cautious about visiting that particular friend until the wee hours of the morning. If you don't have time for anything else, put the cuttings in a glass of water or if it is leaves, we find a plastic shoe box handy. Add a little water in the bottom to keep the leaves turgid and cover to keep humid. Do not leave these cuttings in the water for more than two days. I know that there are members who root cuttings in water with tremendous success and if it works for you, fine. We use water only as a stop gap to save a little time. As soon as we can, we put the cuttings into our regular soil mix in the smallest pots we have (about one-and-a-quarter inches) and put them in the propagation bed which has a heating cable for warmth and plastic cover to keep the humidity up.

With small plants, we are not so careful or speedy as we are with cuttings. We choose a spot where they can be watched closely for several days and as soon as time allows, we bare-root them by soaking the root ball in water and washing as much soil off as possible. We then put them into our own soil mix. We find that they do much better under our conditions and with our treatment if we get

(Continued on Page 242)

INFORMATION PLEASE

I would like to start off this column with a plea. In order to give everyone the information that he needs, let's write a book. That's right, I said "us." I remember in a personal letter to a prominent member of the A.B.S., we discussed Bernice Brilmayer's book, *All About Begonias*. This party thought the book was wonderful, but most of the culture was not for her area. This lady wrote a book, too and she admits that all the cultural advice is for her area, which is southern California. Others, such as Helen Krauss and Bessie Buxton, wrote on the subject, but all they could advise was for the environmental cultures they were used to.

The book I intend for "us" to write, will not be for my own profit, but all net proceeds will be donated to the A.B.S. and all who contribute will be given the credit that you will have earned. This is my plan and with all your kindness and cooperation, many of you should have a hand in the writing and contents of the book. I would like all successful growers — North, South, East, and West — as well as in between, to send me material on how you grow your *Begonias*—on window sills, greenhouse, under lights, lath-houses, tubehouses, or just outside. Let me know your soil, rooting mix, pest control, and feeding, whether organic or chemical and analysis. If you put your *Begonias* outside in the summer—how early to how late in the north. Your successes with canes, tubers, and rhizomatous *Begonias*, and what you attribute your successes to.

And, lastly, if you can not write too much for lack of time, then just send notes. If they are explicit, I am sure I can understand what you mean and will expand your notes into book material whether just a paragraph or a full chapter. The book may take a couple of years but it will be done and will be the most complete book

on *Begonias* ever written. Also let me know if you approve putting in companion plants for your *Begonias*.

Now to my questions:

A. L. Conrad asks if there is a contemporary book on *Begonias*. He is interested in *Begonias* commercially from propagation and development until sale. He would like to know what extension bulletins are available and from whom.

In the A.B.S. Library Bookstore ad there are several books listed with titles referring to *Begonias*. Though the title does not indicate such, *So Say The Experts* by Ruth Pease also contains valuable information about *Begonias*. Your greatest source of information is of course, through *The Begonian*, itself. I have no idea where extension bulletins can be had but if anyone among our readers would know, please send the information to me and I will forward it.

Ethel Smith of Basting, Michigan would like some information about her silk oak, *Grevillea robusta*. The leaves and branches turn brown and drop off until there is a dead stem.

Since I could find nothing in my library regarding this plant, I know nothing of its culture nor could I find anything outside. Calling the botanic gardens, they gave me no clue that I could understand. If there is anyone among our readers who could help Mrs. Smith, please let me know as soon as you can, so I can convey the information to her. Just found something in *Exotica 3*: they make dainty little plants but eventually grow into 150 foot high trees. Are they choking to death in pots?

Mr. O. O. of Minneapolis, Minnesota asks three questions which I will try to answer. 1. From the Seed Fund,

he purchased seed of *B. palmaris*. Now that the plants are sixteen inches tall, they look like *B. heracleifolia* and he would like to know if there was a mixup of seeds or names. 2. In a hanging basket, he has *Columnea* 'Early Bird' which bloomed a few months before. Blooms didn't develop fully and fell off. Others which developed were hanging down instead of standing up. He would like to know if he watered too much or too little. 3. He would like to know why his *Hibiscus rosa sinensis*, double pink in ten-inch pots and five feet tall, bloom well but are losing all their large leaves which get yellow and fall off.

My answers: 1. If the seedlings are sixteen inches tall, it is most likely that it is *B. palmaris* because *B. heracleifolia* is rhizomatous and unless it is upright would not grow that high. *B. palmaris* does have palmate leaves but is tuberous and the tubers last just one year. The plant will send a stem into the ground and make a tuber for the next season while the old one dies and distintegrates. 2. Your *Columneas*, I believe, are overwatered. Mine get exceedingly dry and do not wilt. Do not keep them in strong sun but they still like a great deal of light. 3. Your *Hibiscus* likes a great deal of light and will thrive in sunlight. It is the lack of strong light that is making the leaves turn yellow. When you realize that the Rose of Sharon is an *Hibiscus* species, then you will know its culture. The *Hibiscus* is a member of the Mallow family and they grow out in the open sun.

If there is anything that is stumping you on the growth of your plants, I will do my best to help you. I don't know everything, nor can I find all the answers, but I will try.

Ben Marcus
1547 West Eighth St.
Brooklyn, New York 11204

TO READ OR NOT TO READ

I'm sure there are many readers who will read the title "Chromosomes in *Begonia*" (see page 230) and stop there. They not only don't know what chromosomes are but they are actually afraid to find out for fear they will have to stumble over a few words they've never seen before. How unfortunate! These people are missing some fascinating information which is interesting to many people who have no intention of becoming research scientists any more than they do.

Why are chromosome studies so fascinating? First of all because they are not limited to *Begonias* or even to plants. The November 1968 issue of *Today's Health* reported an incidence of chromosomal abnormality which has been associated with criminal behavior and/or low intelligence in adult males. "Men with the abnormality have been found to have subnormal intelligence, and many are in prison."

In that same issue, an article "Understanding the Mongoloid Child" explains that one characteristic of a mongoloid child is that his cells have 47 chromosomes instead of 46.

A more recent article, "Will Our Baby Be Normal?", appeared in the August 1969 issue of *Woman's Day*. This absolutely fascinating article on genetic counseling discusses how, through microscopic study of chromosomes, doctors can predict the birth of a defective child.

Why chromosome studies of *Begonias*? Read Grant's introduction and think on these things.

Mae Tagg, *Editor*

CHROMOSOMES IN *BEGONIA*

By GRANT MCGREGOR, *Ottawa, Canada*

Chromosomes are defined as rod-like bodies in the plant cell which are passed from parent to offspring during sexual reproduction. Genes, molecular units within the chromosome, determine the entire physical development of new individuals. In the formation of sex cells, pollen and egg, each is haploid. That is, each contains half the number of chromosomes of the original cell. In fertilization when the pollen tube enters the egg, the original (diploid) number of chromosomes is restored by combination of the pollen and egg cells.

Irregularities in the behaviour of chromosomes during the formation of pollen and egg cells may be such that certain sex cells contain fewer or more chromosomes than the number typical of the species. Some may be only a single chromosome more or less than the parent while a few are known in which the original number is doubled. These are called tetraploid and usually the plants are much larger in size. Matsuura and Okuno (6) (see references) found the chromosome numbers in the *Begoniaceae* to be multiples of six, seven, or thirteen, the latter probably a combination of the first two.

In some species, particularly *B. rex* cultorum, the numbers vary widely. Sharma et al. (3) suggests that due to continual propagation by leaf and stem cuttings some of the shoots given out by the mother plant contain cells with altered chromosome complements. These are, therefore, responsible for the origin of new individuals with altered genetic constitution and this process is perpetuated through generations. Vegetative propagation can be responsible for new groups within the species with varying chromosome numbers and possibly variation (mutation) in the character of the plant.

Amateurs sometimes ask if they need to know the chromosome number to do hybridization. This knowledge does not appear to be essential. Crosses between species of similar chromosome numbers are usually successful while those between groups of dissimilar numbers if successful are usually sterile. In *Begonia* these may be propagated by cuttings. As more crosses continued to be attempted, hybridists are having greater success. Today genetic crosses have proved possible as indicated by recent reports of the results of crossing wheat with rye by Canadian scientists (*Reader's Digest*, October 1967). These advances spur us on to continue attempting projects that may from past experiences seem impossible.

The table which follows includes the chromosome numbers which have been previously published in the references given. Since the chromosomes are particularly difficult to count in *Begonias*, various counts have been obtained on separate occasions, even when counted by the same authority.

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(*) The originals of these papers were not available to the reviewer.

CHROMOSOME NUMBERS IN BEGONIA

Species	Diploid No.	Authority
<i>acerifolia</i>	32-36	Heitz (6)
<i>albo-picta</i>	54	M & O (6)
<i>angularis</i>	54	Hamel (6)
<i>argenteo-guttata</i>	52	M & O (6)
<i>argyrostigma</i>	40	Heitz (6)
<i>assamica</i>	24, 26, (28)	Heitz (6)
<i>acutifolia</i> Jacquin	100	Piton (5)
<i>barbata</i> Wall	26, 13, 19	Sharma (3)
	24, 36, 40	
<i>baumannii</i>	24-28	Heitz (6)
<i>boisana</i> Gagnepin	30	Piton (5)
<i>carminata</i>	42	M & O (6)
<i>cathayana</i>	20-24	Heitz (6)
<i>coccinea</i>	42	M & O (6)
<i>conchaefolia</i>	24-28	Heitz (6)
<i>carolineaefolia</i>	28	Heitz (6)
<i>convolvulaceae</i> A.D.C.	24	Piton (5)
<i>crassicaulis</i>	ca 28	Heitz (6)
<i>cucullata</i>	56	Bowden (1)
<i>cubicola</i> A.D.C.	36	Piton (5)
<i>dichotoma</i>	34-36	Heitz (6)
	36	Hamel (6)
<i>dipetala</i>	ca 28	Heitz (6)
<i>dregei</i>	28 (30)	Heitz (6)
	26	M & O (6)
<i>echinosepala</i>	30	Heitz (6)
<i>engleri</i>	20-24	Heitz (6)
<i>evansiana</i>	26	White et al. (2)
	26	M & O (6)
<i>floccifera</i> Bedel	26, 28, 30	Sharma (3)
<i>foliosa</i> Kunth	50-60	Heitz (6)
	60	Piton (5)
<i>fuchsiodes</i>	60	M & O (6)
	40	Heitz (6)
<i>gracilis</i>	84	Bowden (1)
	84	M & O (6)
<i>gigantea</i> Wall	28-32-34	
	40-42	Sharma (4)
<i>haageana</i>	48	M & O (6)
<i>hederaefolia</i>	28	Heitz (6)
<i>hemsleyana</i>	20-34	Heitz (6)
<i>heracleifolia longipes</i>	24	Hamel (6)
<i>hirsuta</i>	24	M & O (6)
<i>hirtella</i> Link	36	Piton (5)
<i>incarnata</i> I. & O.	60-70	Heitz (6)
<i>incana</i>	24	Hamel (6)
	28	Mereminskii (1)
	30-40	Heitz (6)
<i>involutrata</i>	20	Heitz (6)
<i>imperialis</i>	28 (30)	Heitz (6)

Species	Diploid No.	Authority
<i>isoptera</i> Dryander	28	Piton (5)
	24-28	Heitz (6)
<i>jamesoniana</i>	34-42	Heitz (6)
<i>kotoensis</i>	60	M & O (6)
<i>lacinata</i> Roxb.	20-22	Sharma (4)
<i>longipes</i>	36	Hamel (6)
<i>luxurians</i>	20	Heitz (6)
<i>maculata</i>	30-40	Heitz (6)
	56	Bowden (1)
	56	M & O (6)
<i>manicata</i>	24-30	Heitz (6)
<i>malabarica</i> Linn.	28	Sharma (4)
<i>margaritae</i>	52	M & O (6)
<i>megapteroidae</i> King	26, 28, 32	Sharma (4)
<i>metallica</i>	ca 28-30	Heitz (6)
	70	Hamel (6)
	70	Bowden (1)
<i>mexicana</i>	27-28	Heitz (6)
<i>Natalensis</i> Hooker	24	Piton (5)
<i>nelumbiifolia</i>	24	Hamel (6)
<i>paupercula</i> King	22	Sharma (4)
<i>picta</i>	22	White et al. (2)
'President Carnot'	56	M & O (6)
<i>princeps</i> Hort. Berol.	48	
<i>pseudophyllomanca</i> Lange	26	Piton (5)
<i>pubescens</i> Ridley	36	Piton (5)
<i>rex</i> Ritz	32-33-34	
	42-43-44	M & O (6)
	26-28-30	Sharma (3)
<i>rigida</i>	22-32-34	Sharma (4)
	26-28	Heitz (6)
<i>sanguinea</i>	30-40	Heitz (6)
<i>scandens</i>	(36) 40	Heitz (6)
<i>schmidtiana</i>	29-32	Heitz (6)
	26	Pastrana (1)
	32	M & O (6)
<i>semperflorens</i>	33-36, 60-63	M & O (6)
<i>socotrana</i>	40-46	Sharma (4)
	28	Mereminskii (1)
	28	M & O (6)
<i>sulcata</i> Scheidu.	30	M & O (6)
	42	Piton (5)
<i>ulmifolia</i>	24-28	Heitz (6)
	30	Hamel (6)
<i>undulata</i>	40	Heitz (6)
<i>valida</i>	36-38	Heitz (6)
<i>venosa</i>	ca 28	Heitz (6)
	30	Hamel (6)
<i>villosa</i> Hook.	30	Piton (6)
<i>vitifolia</i>	33-36	Heitz (6)
	36	Hamel (6)
<i>witsonii</i>	54	M & O (6)

WINTER TIME, STUDY TIME

By DAVIDA ARNOLD

Jeff and I took an evening off from the baby the other day and went to the library. When we went in, Miss Hadley gave us a suspicious look and seemed to be ever-present for the remainder of our stay. I guess we gave her quite a shock on our first visit last fall. We had just bought the house and were eager to learn as much about gardening as possible before the work season arrived.

We went directly to the gardening section and started choosing books. When we came out we both had our arms loaded. We had taken everything except the gardening encyclopedia.

"I'm sorry," Miss Hadley said, "I can't let you take that many books on one card."

"Oh, that's okay," I announced, "I have a card too."

The look of utter defeat on her face prompted me to ask Clay for his card too just in case that many books required that many cards. She looked at me with an odd expression and two cards seemed to be enough for the two grocery bags full we lugged out.

The list of books we read in that first month was amazing. There was a basic elementary botany book, *Botany For Gardeners* by Harold W. Rickett; a layman's book on genetics, *Blue Print for Life* by Julius Fast; *Gardening in the Shade* by Harriet K. Morse; the Rockwell's *Complete Book of Roses* and *Complete Guide to Successful Gardening*; *The Complete Book of Growing Plants From Seed* by Elda Haring (our Contributing Editor); books on greenhouse gardening, fluorescent light gardening, landscaping, lawns, vegetable gardens, trees, plant diseases, flower arranging, bugs, and many, many more.

After studying all the books in the library on all phases of gardening, we began to specialize in a search for information about *Begonias* and ferns.

We checked the Library Bookstore ad in *The Begonian* and bought every book listed that had anything to do with *Begonias* or ferns. We also ordered books from the A.B.S. library and from the fern society library. By borrowing these books and studying them in advance, we were able to decide which would be worthwhile for us to purchase for our own small library.

We subscribed to both *Home Garden* and *Flower and Garden* magazines and have found both to be full of worthwhile information. Their book reviews are a good source of information about new books on gardening.

We also joined the American Garden Guild Book Club and have received valuable information on more books about gardening. We try to check these out at the library in order to be sure they suit our purpose before we spend the money to buy them.

The Government Printing Office is another source of good gardening information. We sent to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 and asked to receive lists of whatever publications they have available. It's amazing how much good information their pamphlets and booklets provide for such a small cost.

Our county agriculture department is also very free with information both oral and written. They are invaluable for diagnosing plant diseases and pests and giving explicit information about what to do.

Books and pamphlets are not the only source of information we have. We read ads like most people read mystery books. Someone is always providing a list of available plants for ten cents or free brochures about fertilizers, soil mixes, and all kinds of gardening equipment.

We spent the whole winter pouring
(Continued on Page 242)

CLAYTON M. KELLY SEED FUND

Instructions—

"*Begonias* From Seed—Sowing and Growing" gives step by step easy-to-follow instructions and encouragement for beginning seed growers. Price 25 cents.

No. 1—*B. plumieri* A. DC.—

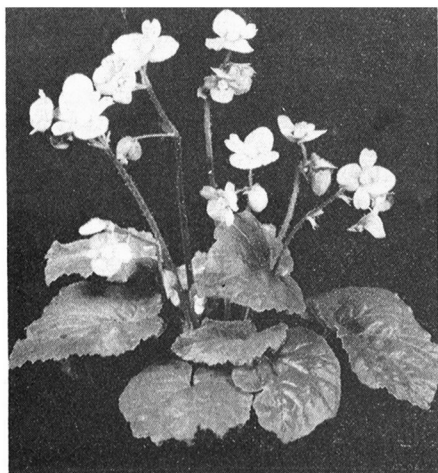
Pretty little dwarf. The plant is ten inches high from the base to the tip of the inflorescence with shiny dark green leaves. The flowers are white with a crimson blotch in the center. Very fine *Begonia* for terrarium or under lights where space is limited. (See Cover Picture.) Price \$1.00 per pkt.

No. 2—*B. acaulis* Merrill and Perry—

A very beautiful small tuberous species from New Guinea which flowers continuously and profusely with bright pink flowers. Seed comes directly from New Guinea; until recently, this species was not in cultivation. (See photo.) Price \$1.00 per pkt.

No. 3—*B. froebeli*—

Tuberous species discovered in the Andes of Ecuador, near Guaranda on the eastern slope of the Chimborazo. Growth shrubby, ten to twelve inches



B. acaulis

Photo by J. Doorenbos

high. Tubers medium large, hemispherical, chestnut brown. Petioles sessile, two to three inches long, red-fleshy, succulent, almost bare at the base, covered with wooly hairs toward the leaf blade. Leaves asymmetric, elliptic, wavy, and crenate on top with seven to nine veins, dark green, hairy in some areas, beneath reddish, densely covered with wooly hairs. Flowers are fairly large, brilliant red, orange-red at the periphery two to three inches in diameter. Blooms in winter and grows cool. Tubers should be kept in soil in the pot while resting. Rare and beautiful species not often seen. Price \$1.00 per pkt.

No. 4—*B. herbacea* Vell.—

Brazil. Epiphytic plant found growing from face of boulder in dense shade from near Ubatuba twenty km northeast of Caraguatatuba. One peculiarity of this *Begonia* is the epiphytic habit, there are many climbing *Begonias* and even creeping ones that go up on the trees without any contact with earth and can grow on living or dead trunks. They can be grown admirably on giant tree fern fiber. Another interesting fact about this *Begonia* is the symmetrical and lance-shaped leaves and it is evident that we have an uncommon species. A very interesting one of easy culture however. If it has a support of fern wood or a pot containing segments of the same material, maintaining constantly damp conditions, the results of this care will be the growth of many ramifications of the rhizome. Leaves are green but silver spots have been known to appear when the plant is grown in the shade. Seed should have perfect drainage and water should not be allowed to remain on the sowing medium but should run through. Price \$1.00 per pkt.

No. 5—*B. macdougallii*—

Discovered in Mexico by MacDougall and introduced by Rudy Ziesenhenné. Creeping rhizomatous stem

The Begonian

with long, reddish petioles; palmately compound, waxy leaves of seven to ten stalked segments, the outer side sickle-shaped, bronzy-green, red beneath, and with toothed margins. Large, unusual, stately plant that can be grown outdoors in mild climates or in tubs in greenhouse. Price \$1.00 per pkt.

No. 6—*B. kenworthyi*—

Mexico. Leaves textured, shaped and veined like the ivy but more gray or powder-blue than green. Gnarled erect rhizome. Prefers sun, less water than most *Begonias*. When it is resting, keep it warm and dry, as it comes from the dry country south of Chiapas, Mexico. Price \$1.00 per pkt.

No. 7—*B. subvillosa*—

Information from the collector as follows: "This is the true species and not the *Begonia* usually grown under this name, which should be *B. mollicaulis*. The seed is from a plant imported from Argentina and is reminiscent of *B. leptotricha*. Price 35 cents per pkt.

No. 8—*B. picta*—

Pebbly green leaf mottled with bronze and brighter green. Pink flowers. Price 50 cents per pkt.

No. 9—*B. limminghei* x *B. 'Orange Rubra'*—

This is a cross and plants may be many and varied. Price 35 cents per pkt.

OTHER GENERA

***Manettia bi-color*—**

A small climbing plant, good for pot growing with numerous tubular red flowers, tipped yellow. This is a rare plant and you will never find this seed offered anywhere—only in *The Begonian*. Price 50 cents per pkt.

***Lepismium cruziforme*—**

Spineless type cactus with quadrangular winged stems, blooming mid-winter with numerous white flowers. Price 50 cents per pkt.

***Epiphyllum hybrid*—**

From a cross of red flowered *Acker-*

mannii and white flowered *cooperi*. Some very good seedlings may be expected. Price 50 cents per pkt.

***Alsophila australis*—**

Handsome tree fern with heavy trunk; well proportioned spreading crown even when small but requiring plenty of water; the arching fronds finely divided, metallic green on rough stalks covered with small, pale brown hair-like scales. Can be grown outdoors in mild climates and will remain smallish in pots for a long time. Price 35 cents per pkt.

Coming Soon—

Complete description and authentic identification with picture of the beautiful *B. paranaensis*. Previous information has been incorrect. Watch *The Begonian* and have a happy surprise.

Report on Germination—

B. xanthina, *B. lutea*, *B. wallichiana*, *B. engleri*, *B. cucullata*, *B. incarnata*, and *B. olsoniae* have all germinated well.

When requesting seed, it is essential to include name, address and zip code. Please send requests to:

Mrs. Florence Gee
Seed Fund Administrator
234 Birch Street
Roseville, California 95678

OAKS AND ACORNS

"Great oaks from little acorns grow." The American Begonia Society began with only seven members! Why be discouraged if your branch is down to six? Go ahead with the good work and demonstrate your enthusiasm. Enthusiasm is contagious and is an essential "vitamin" for growing Branches.

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IN QUEST OF THE UNUSUAL

By C. M. KELLY

This article is reprinted from the Bulletin of the American Begonia Society, June 1937. Mr. Kelly was at that time Administrator of the Seed Fund which today bears his name. Complete reprints of these oldest Begonians may be purchased through the A.B.S. Library Bookstore (see ad page 238).

Editor

In reading of the travels of adventurers into those countries of the tropics where *Begonias* grow as wild plants, one seldom sees any reference made to the observation of these plants in their forest homes—even though the traveler be a naturalist or plant explorer. They have eyes for obscure fungi and ancient dinosaurs, but only occasionally report a *Begonia*. The species of this family of plants which is so widely distributed throughout the warmer sections of the world must often be encountered; but probably are so inconspicuous among the riot of exotic flora as to escape attention.

It is difficult for the common garden variety of *Begonia* fan, unfamiliar with botanical phraseology, to get a thrill from a scientific description of the rarest of *Begonias*; while a passing allusion in a travelogue of a foreign country to the commonest sort, if it be one unknown to him, arouses a desire to go to similar places and bring 'em back alive.

We recall reading, in a National Geographic Magazine, of a horseback traveler in Northern India on his way to Kashmere remarking on the mammoth *Begonia* plants overhanging the trail, which must be the species listed in Hooker's *Flora of British India* as *B. gigantea*. Guenther in *A Naturalist in Brazil*, a very remarkable book, reports seeing there a climbing *Begonia* with scarlet flowers. Dr. Merrill, head of the Arnold Arboretum, told Mrs. Buxton an intriguing tale of a similar

one he observed in the Philippines, a climber with great clusters of scarlet flowers, *B. oxycantha*. Also Mr. Lancaster, an orchid collector of Costa Rica, in response to our letter of inquiry, writes of finding *B. imperialis* in that country near the Panama boundary, though in isolated specimens. Bailey's *Cyclopedia* in its botanical description of *B. baumannii* adds this much of human interest concerning it: "It grows in the high, moist valleys of the Andes of Bolivia, forming large tubers eight or nine inches in diameter which are eaten by grazing stock."

All of this, together with the colored illustrations in Curtis' Botanical Magazine, of many *Begonias* unknown to today's *Begonia* culturalist, piqued our curiosity and kindled an urge to become a plant and seed collector. With a fund of \$33.00 contributed by several inquisitive arm-chair explorers, all members of the society, we started on a world tour—conducted to our destinations by the United States and International postal systems at from three to five cents per trip—seeking seeds of any of the species of *Begonias* that are not in cultivation in this country.

We soon find the undertaking filled with delays and disappointments. Many letters of appeal for assistance are sent to many places and the results of two years of endeavor are here summarized:

First were purchased from a commercial seed-house in India, three packets of seed. These were *B. josephii*, *B. jalapaher* and *B. rubrovenia*, all Himalayan species unknown here. The *B. josephii* seed germinated well; the others indifferently or not at all, and the seedlings for the most part promptly died. Mrs. Buxton has succeeded in growing a few *B. josephii* plant and carrying them through the first winter. These are a

tuberous sort that become dormant during the cold months.

In exchange for seeds of some of the native plants of California and those of some of our cultivated varieties of *Begonias*, we received from the Botanical Gardens of Buitenzorg, Java, packets of seed of the following *Begonias*: *B. glabra*, *B. isoptera*, *B. robusta*, *B. heracleifolia* and a very few seeds of *B. goegoensis*. Most of the seeds of this lot were well filled and fertile; and several persons have sturdy seedlings growing from them. They are not Java species.

Then there came from Nepal, India, seven packets replacing a larger order lost in transit. These included: *B. xanthina*, *B. picta*, *B. cathcartii*, *B. sikkimensis*, *B. laciniata*, a tuberous kind unnamed and a packet marked, "double flowered species." It was a severe disappointment that these seeds failed to germinate, for in the lot were species of especial interest. *B. xanthina*, *B. laciniata* and *B. picta*—if it is the one referred to in old records as *B. pictifolia*—are all progenitors of our modern *rex* varieties. *B. sikkimensis* grew well enough, but it was so like "a common bedder" that it seemed worthless. Descriptions of it differs from the *semperflorens* in that it has a thickened rootstalk.

A member who lived in Mexico City had offered to collect for us the seeds of the native species of *Begonias* that he came across while on frequent journeys through the mountain districts; and in April 1936 forwarded several pods gathered in Northern Puebla. These seeds were infertile, possibly gathered too green, and did not germinate.

From Dr. T. H. Goodspeed of the University of California, who in 1936 headed a botanical expedition to the West Coast countries of South America, we received seed of five species of fibrous types collected in Peru and Argentina. The plants from which some of this seed was taken were found growing among the rocks and debris of the ruins of ancient Inca

city of Macchu Picchu high in the Andes. None of these packets were marked with the names of the species, only with the collectors numbers which were: 1456, 1653, 1456, 1773, and 1794. All proved to be fertile except the last; and seedlings from them are now growing lustily. Later in May 1937, two more packets, each containing very few seeds were received from him. They were planted immediately and five or six seedlings of each are being carefully nursed.

Early in January 1937 there arrived from Burma, India, two packets of *B. roxburghii* and a larger one marked "mixed Hamalayan species." *B. roxburghii*, a fibrous type said to have white flowers, germinated splendidly, the seedlings being quite vigorous. But the mixed sorts, while sprouting readily, seem possessed of temperament and need a bit of coaxing.

There soon followed another lot from Nepal—*B. josephii*, *B. satrapin*, *B. megaptera*, *B. rubro-venia*, *B. picta*, *B. laciniata* and a packet marked "*Begonia* species." Some of these were duplicates of those in the first consignment but germinated no better.

B. baumannii, the Bolivian of the large tubers and fragrant flowers, was finally obtained—from Germany and not from its native land. These young ones are coming along after a late start.

Rex seed from the crosses of Mr. Berry were the last to be distributed and with that the season's work will cease.

Many of the packets received contained such small amounts of seed that it was not always possible to give a portion of each kind to all the contributors to the fund. However, we have made as equitable a division as we could. In all, above 30 kinds were obtained. A record has been kept of those sent each person, and we request each recipient to make a complete report of his experience with the seed. This should be done near the end of the present growing season.

(Continued on Page 243)

WHEN PLANTS TURN YELLOW

If the leaves of your indoor or outdoor plants are turning pale or yellowing, it's a good chance that the plant is deficient in iron, according to the Research Department of Green Garde Products. When the amount of iron available to plants does not meet their minimum needs, the plants fall into a diseased condition called iron chlorosis. It is due to the failure of chlorophyll (green coloring matter) to develop normally so that leaves cannot manufacture food needed for plant growth.

In deciduous or leaf-shedding plants, areas between the leaf veins become light green, yellow or white. The greater the iron deficiency, the paler the areas. The leaf veins ordinarily remain green but in very severe case the edges of leaves—or entire leaves—turn brown and the plants often die. In conifers, needles turn yellow first, then brown if the deficiency is severe.

Iron chlorosis most often occurs in soils that are high in lime. Thus it is more prevalent in the arid West than in the humid East since high-lime soils are found naturally in arid areas.

But iron chlorosis is not limited to naturally occurring high-lime soils. It may be caused by actual deficiency of iron or by application of excessive amounts of lime or phosphate to certain soils. It can be caused by over-irrigation, poor drainage, bicarbonate in the soil or in irrigation water and high levels of heavy metals in the soil such as manganese, copper and zinc. House plants are particularly susceptible to iron chlorosis.

In studies conducted by the Soil and Water Conservation Research Division of the Oklahoma Agricultural Experiment Station, iron chlorosis was found in more than 250 species and varieties of plants in western and southwestern states.

If over-irrigation or poor drainage is the possible cause of iron chlorosis,

it should be corrected. Otherwise the easiest way is to supply the plant with horticultural iron concentrates such as Green Garde non-toxic micronized iron that is found wherever garden supplies are sold. This is a low-cost iron supplement that is merely added to the soil right out of the bag. The plant takes only as much iron as it needs and can use, so there's no danger of overfeeding or burning. A plant usually responds to this treatment in about seven days.

For further information read "Iron Deficiency in Plants" U.S. Department of Agriculture Home and Garden Bulletin No. 102.



A.B.S. LIBRARY BOOKSTORE

The following selection of books are FOR SALE

- *Gesneriads And How To Grow Them...\$7.95
by Peggy Shultz
- *Rex Begonias As House Plants.....\$1.00
by Virginia Withee
- *All About Begonias\$5.95
by Bernice Brilmayer
- *Begonias Slanted Toward The\$3.00
Beginner by Dorothy Behrends
- *So Say The Experts by Ruth Pease\$2.00
Classification Guide—Compiled by\$1.25
the Westchester Branch, A.B.S.
- *Ferns We Grow by Sylvia Leatherman \$3.85
and Dorothy Behrends
- The Begonian—Complete reprints\$6.00
of the four years 1934 to 1937
- The Begonian— 1968-1960 25c per issue
1959-1950 40c per issue
1949-1939 50c per issue
- *Begonian Binders\$1.50
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Send your orders to:

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EXHIBITING AND JUDGING TUBEROUS

Although it is the end of our show season, a question recently was asked in the Bulletin of the East Bay Branch. The question was: "I have always heard that you should limit the stems on a bulb to one only, to get the largest growth and best flowers, but in the latest *Begonian* (March issue) it says that a prize plant should have more than one stem, so that it has flowers on all sides. What is your opinion on this?"

The answer was: "It is well to sav tuberous *Begonias* should be judged on symmetry. But it is not right to say a one-stemmed plant cannot be well grown. Usually a multiple-stemmed plant is no more symmetrical than a plant with one stem. The flowers all grow from one side of the stem and no one has any control over the way each stem faces on a particular plant, usually all will face the same direction.—C. F. Jensen."

I feel that Mr. Jensen has missed a very important point and I would like to answer this question in my own way.

First of all I feel that the grower wishing to exhibit tuberous *Begonias* MUST decide his own purpose for raising tuberous *Begonias*. If your purpose is to grow the largest possible FLOWER, limit the tuber to a single stem. Remove female flowers early and enter that one FLOWER as a cut bloom entry.

On the other hand, if your purpose is to raise a beautiful PLANT, study the point scoring system for judging tuberous *Begonia* PLANTS which is:

7. Tuberous <i>Begonias</i>	
A. Cultural Perfection	25
B. Foliage	25
C. Quantity of Flowers.....	30
D. Quality of Flowers.....	15
J. Erect Flowering Stems.....	5
	<hr/> 100

This is a direct quotation from *The Point Scoring System for Judging Begonias* compiled by Rudolf Ziesenhenné and reviewed by the A.B.S. Classification Committee. It was approved and accepted by the Board of Directors on April 28, 1969. This booklet which contains the complete system for point scoring all types of *Begonias* and *Begonia* entries can be purchased for \$1.25 from the Judges Course Director. It is well worth the money for both judges and exhibitors.

Now if you will study the point scoring system for tuberous *Begonias* given above, you will notice that the majority of points (55) are NOT for the flower but are specifically for the PLANT. Only 15 points are allowed for the QUALITY of the FLOWER. Of these 15 points, only three are for flower SIZE. The other twelve are for color, blemishes, substance and grooming of old blooms. Notice that 30 points are for QUANTITY of flowers. A single bloom provides little QUANTITY.

We have little control over how many stems a tuber will produce but in most cases a strong healthy tuber WILL produce multiple stems and multiple flowers. In the plant's normal search for light, the multiple-stemmed plant will grow more symmetrically than a plant with a single stem.

Therefore, when your purpose is to grow a beautiful tuberous *Begonia* PLANT, you should allow it to have "multiple stems with the flowers visible on all sides. For the full beauty and color, the female blossom should remain on the plant."

And once again, "A well-grown, well-groomed tuberous *Begonia* (PLANT) is truly a thing of beauty."

Mae Tagg, Editor

BEGONIAS HOUSE and GARDEN PLANTS

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ROUND ROBIN NOTES

Tuberous Begonias:

Nancy Shaffer of Philmoth, Oregon reports that she starts her tuberous *Begonias* directly in her potting mix in pots that she wants them to grow in. Her potting mix consists of two parts oak leaf mold (at least two or three years old) and one part river sand. She feels to use soil in the potting mix keeps the air from getting to the roots. She fertilizes every ten days after the third leaf appears, with liquid Atlas Fish fertilizer, also puts a handful of fish meal in the bottom of each pot. She thinks the domestic tubers give much larger blooms than the imported. Her plants have blooms that measure nine to ten-and-a-half inches in diameter. David Allen of San Francisco, California reported he had seeds of tuberous *Begonias*, both upright and hanging basket, to germinate and ten plants of each kind, very shortly after planting.

Growing from Seed:

Helen Mahoney of North Bernards-ton, Massachusetts reported good germination on *B. cathayana* seed in January and transplanted them the middle of March. Meta Little of Speedway, Indiana reported in April that she plants all her *Begonia* seeds in scrubbed plastic shoe boxes on one inch of pure sphagnum moss that she has scalded with boiling water and wrung out well. Then she sprinkled a Captan solution over the moss, covered it and let it rest for a couple of days. She plants the seed very carefully in rows. She keeps a garden record book which she finds invaluable in following years.

John Yochum, Princeton, Indiana reports in August he is enjoying seedlings of *B. 'Othello'*, x-rayed *semps*, *B. ulmifolia*, *B. venosa*, *B. convolvulacea*, *B. 'Carollina de Lucerna'*, *B. dregei*, and *B. 'Adeline'*. John likes *B. dregei* very much but he has over a dozen of these seedlings and they are not exactly alike.

Ruth Stanley, Bellefontaine, Ohio believes *Begonia* seed is damaged in

mailing as she enclosed seed in a flight. She has already had good germination from this seed but other members reported no germination. One member examined her remaining seed with magnifying glass and it was just broken pieces.

Transporting Begonias:

Bill Yingling of Dowell, Maryland uses flats of uniform size and inverts an empty flat over the top of the loaded flat and stacks them in his station wagon. Where the plants are too tall he places a bottomless flat between the loaded flat and the empty flat. All stand the trip very well except the breaking of a few leaves on the rhizomatous *Begonias* and some rot on the *semps*.

Fragrance:

Mae Blanton, Mesquite, Texas reported her giant sized version of *B. rotundifolia* bloomed and it had a peculiar odor that definitely was not fragrant. It might have smelled like the Carrion flower (*stapelia*) but more like axle grease. The summer heat seemed to dry the pollen very fast.

Propagation:

Yvonne Wells, Mesquite, Texas wrote in April that she had rooted a leaf cutting of *B. cathayana*. Before starting it, she scratched the sinus with her fingernail. She placed it in a jar of sphagnum moss and enclosed it in a plastic bag. She finds that *B. listida* will propagate in the same way.

Controlling scale:

Winifred Smith of Hillsboro, Oregon controls scale with Axion (two plastic spoonsful in pint of water) in a sprayer and sprays thoroughly.

Unusual:

Elizabeth Powers, Albuquerque, New Mexico reported quite an accelerated growth on three of her *Begonias* after she had given them their first drink of beer. She enjoyed the yeasty smell in the house almost like bread baking.

Rex Begonias:

Dora Lee Dorsey of Tampa, Florida grows her *rex Begonias* in whatever

size pot will accommodate the root system. She finds many of the *rexes* adjust to varying growing methods but few do require that just right condition. When she fails to root a *rex* leaf in rooting medium, she tries water in a colored glass if clear glass fails. She is careful not to put the stem too deep into the water.

Delores Willems of Bozeman, Montana grows her *rex Begonias* at a temperature of 40° and says they do beautifully. When she puts a leaf to root and she is sure it is rooted, she starts spraying the leaf with Gibberellic and the little plantlets soon start to grow. She continues spraying with Gibberellic at certain intervals.

Virginia Withee of Coventry, Rhode Island puts her rooted *rex* leaves in a two or three-inch pot depending on the root system, in a mixture of rich compost (made of various vegetation), rotted cow manure and sand. She puts her plants in a good sized pot when repotting is required as she says the *rex* roots appreciate a chance to grow and the leaves are more lush. She waters her *rexes* deeply every day and feeds once a week. She has them in southeast sun and bright light. She believes in keeping her *rexes* damp at all times. She never uses plastic pots, prefers clay pots instead because the roots get better aeration and have a better root system. When she sees a plantlet appearing from a rooted leaf, she feeds it weekly with a mild solution of Rapid-Gro.

Ruth Wille of Jackson, Mississippi puts her *rex* leaves to root in broken down (used) sand and vermiculite. She cuts the stem two inches long and slides it into the rooting medium at an angle so the end of the stem is about an inch under the medium. The leaf is broken at several of the veins. As a rule, she gets her first plant from the point where the sinus of the leaf joins the stem. Next there will be one come from the stem end and sometimes she cuts these plants away with a sharp knife, leaving a part of the leaf on the plantlet and pots it up.

(Continued on Page 243)

BEGONIA EVANSIANA

By Paul Lawrence, Columbus, Indiana. Reprinted from *The Begonian*, April, 1939.

Editor

The *Begonias* as a class are tender plants adapted to florist shop or house cultivation. A series of studies on these decoratives has been made by the writer in various parts of the country.

One species, *Begonia evansiana*, is the hardiest of the group and is to be seen as an outdoor bedding plant in southern Indiana and Ohio. A planting of these interesting *Begonias* has been observed in Indiana in full bloom and in fine, thrifty condition early in October.

The flowers of *B. evansiana* are of a very light pink color, verging toward white. When viewed closely the florets are conspicuous with flaring rounded petals and golden stamens, the flowers having a waxy appearance.

The leaves are of a medium size, dark green above, shiny, having a reddish undersurface. In shape, the leaves are quite typical of many *Begonia* species — that is, sharply pointed and somewhat heart shaped, being produced in abundance. The stems show dark red markings and the erect, clustered stems give the plant habit an open and very pleasing appearance.

An especially good situation for these *Begonias* is a bed placed close to the house with a surrounding lower border of some close growing ornamental. This serves to set them off at better advantage as well as to cover up the basal portions of *B. evansiana*.

Differing from other *Begonias* in the North, this species can be left in the ground over winter and is hardy in southern Indiana and Ohio. While rarely to be seen, they make a good development here, their unusual character making them attractive as garden or yard decoratives, offering Fall bloom. A straw or leaf protecting cover should be applied over the winter.

PRONUNCIATION

(Continued from Page 225)

The following are the balance of the suffixes used with a noun base:

SUFFIX . .ensis, EN-sis, indicates—country, place of growth or origin, or habitat.

'Ascotiensis', as-KOT-i-en-sis, from Ascot, England.

caraguatatubensis, kar-a-gwa-ta-tyew-BEN-sis, from Caraguatatuba, Brazil.

cubensis, kyew-BEN-sis, from Cuba.

domingensis, do-min-JEN-sis, from Santa Domingo.

goegoensis, GOH-goh-en-sis, from Goego, Sumatra.

'Kewensis', KEW-en-sis, from Kew Gardens, England.

natalensis, na-TAL-en-sis, from Natal, South Africa.

'Richmondensis', RICH-mond-en-sis, from Richmond, Va.

'Weltoniensis', wel-TON-i-en-sis, from Welton, England.

SUFFIX . .fera, F-er-uh, in Latin compound means—carrying.

pilifera, peye-LIF-er-uh, with leaves carrying soft short hairs.

SUFFIX . .ida, id-uh, indicates—the state or condition.

acida, ass-id-uh, with acid or bitter leaves.

hispida cucullifera, HISS-pid-uh kyew-kul-LIF-er-uh, for its leaves that are covered with coarse rigid erect hairs, or bristles, and carrying hoods (actually adventitious leaves) on the top surface.

lucida, LYEW-sid-uh, with bright shining leaves.

nitida, NIT-id-uh, with shiny or polished leaves.

rigida, RIJ-id-uh, stiff or rigid for its stout upright stems.

scabrida, skab-RID-uh, for the rough surface of its leaves.

viscida, vis-KID-uh, for the viscous character of its leaves when touched.

SUFFIX . .osa, OH-suh, used to indicate—an abundance, full or marked development.

acetosa, aye-se-TOH-suh, with an abundance of acid or vinegar.

caespitosa, see-spit-TOH-suh, growing in dense clumps.

deliciosa, del-i-si-OH-suh, full of pleasure or delight for its appearance.

foliosa, fo-li-OH-suh, full of leaves.

squamosa, skam-OH-suh, full of scales.

squarrosa, skay-ROH-suh, with the tips of bracts projecting outward at a right angle.

stigmata, stig-MOH-suh, with well developed stigma.

subvillosa, sub-vil-LOH-suh, with somewhat shaggy hairs on the leaves.

suffruticosa, suf-fryew-ti-KOH-suh, somewhat shrubby.

tomentosa, to-men-TOH-suh, with densely woolly hair on the surface of its leaves.

venosa, vee-NOH-suh, with leaves full of veins.

ADDITIONAL BIBLIOGRAPHY

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Pease, Ruth, *So Say the Experts, The Begonian*, July 1966.

BRING 'EM BACK

(Continued from Page 227)

them into our soil mix before they decide they don't like us. Many people feel this is a lot of trouble for us and a big shock for the plants but we find that many soil mixes are not compatible with ours and that plants not bare-rooted do not do as well for us. We always give the bare-rooted newcomers protection from wind and dry air for four days to a week after the shock of bare-rooting. They need more humidity while growing new roots into the new soil.

With this kind of consideration and care, we have had wonderful success with the new additions to our collection. You might like to try it to see if it works for you.

WINTER TIME

(Continued from Page 233)

over gardening books, research books, seed catalogues, and anything else about gardening we could find. We sent for all the "how-to," "when-to," "where-to," and "why-to" information we read about. It was a very informative winter and really a lot of fun.

I think the most fun we had came from an ad about beneficial bugs. We ordered about eight egg cases of praying mantids last spring and this whole place was crawling with bugs—beneficial though they were—for the rest of the summer.

Come to think of it, we gave Clay one to take to the children's librarian. I wonder if that's what prompted the suspicious look and ever-presence of Miss Hadley the other day? I must admit she did look a little on the itchy side.

ROUND ROBIN

(Continued from Page 241)

She puts a bit of the rooting medium on top of the portion of the leaf that is left and leaves it there for more plantlets to come up from the leaf. When she pots her plants up, she puts them directly into four inch pots. She uses a loose soil so as not to pack the roots too much. Her potting mix consists of leaf mold, sand, and backyard fertilizer. Her nicest plants are in eight-inch pots. She keeps her cutting bed quite moist.

Do you want to join a *rex* flight? Maybe a greenhouse flight? Or a miniature *Begonia* flight? How about a flight on growing under lights? Just write to:

Mrs. Anita Sickmon
Round Robin Director
Route 2, Box 99
Cheney, Kansas 67025

IN QUEST

(Continued from Page 237)

Although we have several letters of inquiry yet to hear from, we are not very hopeful of securing much more seed. Commercial seed firms do not stock them, and seed collectors have not been located outside of India. To succeed in getting any others of the 400 species, it seems that it will be necessary to abandon the easy-chair method and really send someone on field trips for them—an undertaking of too great expense, of course.

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CALENDAR

Oct. 2—Westchester Branch: There will be a panel discussion of the plants we have been growing from seed, leaf and stem cuttings. 7:30 p.m.

Oct. 2—Whittier Branch: Speaker will be Chuck Tagg, "Train 'em While They're Young." 7:30 p.m.

Oct. 2 to 7—Bryant Park Flower Show, Knickerbocker Branch exhibit, Ave. of the Americas and 42nd St., New York City. "Begonias are for everyone."

Oct. 14—Glendale Branch: Speaker will be Earl Hough, President of the Whittier Branch. 8 p.m.

Oct. 21—Knickerbocker Branch: "Indoor *Begonia* Gardens Under Lights" presented by Jack Golding with slides and demonstration. Bring your *rex Begonias* for exhibit at this month's Mini-show. As usual, plant table and information for all at Hotel McAlpin, 34th St. and Broadway, New York City. 7:30 p.m.

Oct. 21—Seattle Branch: Fall care and propagation. 7:00 p.m.

Oct. 22—Eastside Branch: "Culture of Orchids" by Floyd Shirley. 7:30 p.m.

Oct. 24—Redondo Area Branch: Our Birthday and Past-Presidents pot-luck dinner at 6:30 p.m. The Branch will furnish the meat. Speaker will be Jean Kerlin.

Oct. 27—A.B.S. BOARD: South Gate City Auditorium, 4900 Southern Ave., South Gate, Calif. Meetings are always open to members. 7:30 p.m.

Nov. 1—DEADLINE for all material for the December *Begonian*.

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