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The BEGONIAN

The BEGONIAN

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EDITORS—Karen Bartholomew and Chuck Anderson, 826 Santa Rita Ave., Los Altos, CA 94022. 415 948-5345 (evenings).

AMERICAN BEGONIA SOCIETY

Founded January 1932 by Herbert P. Dyckman

Aims and purposes

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.

TO bring into friendly contact all who love and grow begonias.

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See inside back cover

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THE COVER: *B.* 'Lionel Richardson', a *Tuberhybrida* cultivar developed by Blackmore & Langdon Ltd. of Bristol, England, was photographed at White Flower Farm of Litchfield, Conn., the American source for B&L cultivars. Photo courtesy of White Flower Farm. See pages 218 and 221.

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NOTES / From the editors

Was your *Begonian* late again this month? If not, terrific. If so, we think we can assure you that this will be the last time—at least the last time we can attribute it to the computer that maintains our mailing list.

That's because we have changed to a new computer service that promises to be more reliable, more up-to-date, and more efficient for the membership secretary's purposes.

As we write this in mid-July, we are converting to a computerized list system maintained by the same firm that prints and mails *The Begonian*. What we can't tell is whether the conversion will be completed smoothly and on time to mail this issue on schedule. (These things always develop a hitch somewhere.)

If it all works—eventually—*The Begonian* will be mailed earlier and many delays and errors we have traced to the computer service over the past year will be eliminated.

The change was authorized by ABS directors after we presented a long report on *Begonian* mailing problems.

(If you are as tired of reading about

the *Begonian* computer as we are of writing about it, you'll be happy to know that this switch may make it unnecessary for us to mention it ever again.)



In an effort to project a progressive, contemporary, strong image, ABS directors have adopted a new society logo now used on letterheads, envelopes, and literature published by ABS.

The new logo looks like this:



Its adoption marks the start of a series of publications intended to increase membership ranks and revenue. A membership solicitation leaflet, *14 good reasons why you should join the American Begonia Society*, has been printed and is available from the membership secretary for use at society and branch functions and other events.

—C.A. & K.B.

Easy to grow: shrub-like B. 'Venepi'

Elda Haring

Photo/Walter Haring

One of my favorite easy-to-grow begonias is *B. 'Venepi'* given me years ago by its originator, F. O. "Mike" Michelson of Florida. It was obtained by crossing *B. venosa* with *B. epipsila*.

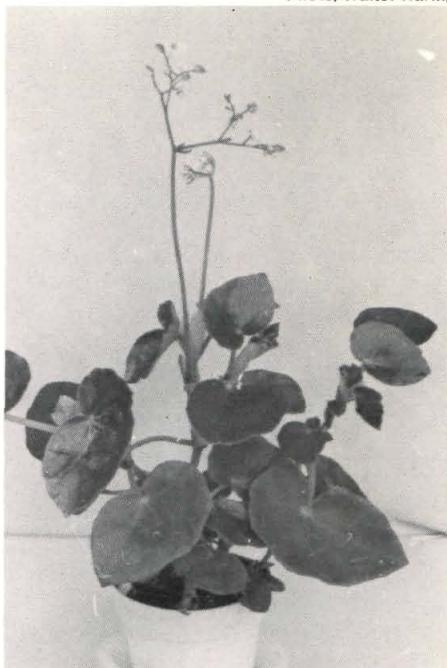
Classified as shrub-like, large leaved with smooth edge, it has leaves that are shiny green lightly covered with tiny reddish hairs and with a slight red-brown margin. The underside of the leaf is red and covered with brown wool.

Petioles are fairly short on a compact, nicely branched plant, the stems of which are wrapped in brown papery covering. The spice-scented white flowers on 10-inch stems appear at the end of the branches from April to July.

Although this begonia is often used as a basket plant, I grow mine in a pot fairly upright. As I do not have space for large-leaved plants, I keep it confined to a 4-inch and never larger than 5-inch pot, root pruning when necessary to give it fresh potting mix and to keep it in good condition. As a result of this treatment, the leaves do not attain maximum size.

B. 'Venepi' is very hardy. Temperatures in winter as low as 45 degrees do not damage it, nor does summer heat. High humidity is not at all essential for good growth. *B. 'Venepi'* can take considerable sun in winter, except in some southern states where sun shining directly on the plant for any length of time may result in leaf scorch.

This is a plant that can stand quite a bit of neglect but should never be



B. 'Venepi'

overwatered. Permitting the mix to dry out after a thorough watering seems best, for one of its parents, *B. venosa*, needs to be grown quite on the dry side and the other parent, *B. epipsila*, thrives when kept quite dry during winter.

To keep the plant compact, cuttings should be taken immediately after the flowering period. Taking cuttings in winter or early spring will result in loss of flowers on the parent plant, although the cuttings likely will flower.

Take short-stemmed cuttings and, if you wish to increase your stock, place each in a separate small pot. If you desire merely to have an attractive full-branched plant by the following summer, place several cuttings close together in a 4-inch pot and pinch off the topmost leaf on each to encourage branching.

This is another in Elda Haring's series on easy-to-grow begonias. Elda, who especially enjoys sharing with beginners, lives at P.O. Box 236, Flat Rock, NC 28731.

Two species from Java new to cultivation

J. Doorenbos

The begonias of Java are well known, wrote the great Irmischer 50 years ago. He meant, of course, that it is unlikely there remain many undiscovered species on the island; the known species are on the whole well represented in herbaria and have been described long ago. It cannot be said, however, that they are also well known in our living collections. Until recently, the only Javanese species grown were *Begonia isoptera* and *B. tenuifolia*, both already described by Dryander in 1791.

This modest number has been doubled in recent years. In 1974 Dr. E. F. de Vogel sent me a plant of *B. robusta* Blume, collected on the Gunung Gede (southeast of Bogor), and in 1977 Dr. Robert C. Dunnell sent me a cutting of a plant that I could identify as *B. multangula* Blume. Dr. Dunnell wrote me that it had been imported as a seed-

ling with some small terrestrial orchids from Java.

These two species are alike in many respects. Both send up stems from a short rhizome. These stems are up to 2 meters (6 feet) in *B. robusta* and up to 1 meter (3 feet) in *B. multangula*. The leaves are asymmetrically ovate, up to 25 cm. (10 inches) long. They are angular or lobed, more so in *B. multangula* than in *B. robusta*. The inflorescences are short and borne under the leaves. The flowers are white or pinkish; the male flowers have four tepals, the female five. The fruits are triangular-globose with three fleshy wings, two very short, the third one larger. These fruits stay on the plant for a very long time, whether or not there are seeds in them. In our greenhouse they take as much as eight or nine months to ripen. They finally turn brown, but do not open; I assume that under natural conditions the fruit wall rots away to liberate the seed. The seeds are round and very small.

The greatest difference between the two species is the pubescence: in *B. robusta*, stem, petioles, leaves, and inflorescences including ovary and tepals are coarsely pilose. The upper side of the leaves is dull. *B. multangula* is glabrous or nearly so, and the upper side of the leaves is glossy.

The pubescence of *B. robusta* may be red (var. *rubra* Hasskarl). Such a form with bronze leaves and red hairs was imported in Europe about 1856 and described in 1857 by Karl Koch as *Begonia splendida*, an apt, be it superfluous name. This plant was soon lost but its red pubescence survives in its hybrid *B. x leopoldii* Verschaffelt (syns. *B.* 'Bettina Rothschild', *B.* 'Fire-flush').

Dr. Jan Doorenbos, world-famous authority on the genus Begonia, is professor of horticulture at Agricultural University, P.O. Box 30, 6700 AA, Wageningen, The Netherlands.



B. robusta Blume

Both species occur only in Java where they grow in the rain forest in the mountains. *B. robusta* is limited to West Java and occurs at an elevation of 3,600-7,000 feet, *B. multangula* occurs in West as well as Central Java at 4,800-7,200 feet. In West Java the two species often grow together. One would expect that under such conditions these closely related species would hybridize so that their distinctions would become blurred, but this does not seem to be the case. There must be a genetic barrier, perhaps a difference in chromosome number.

Within the genus *Begonia*, *B. robusta* and *B. multangula* belong to the section *Sphenanthera*. This was set up as a genus by Hasskarl in 1855, but reduced to the status of a section of *Begonia* by De Candolle in 1859. As Hasskarl originally had only one species in his genus, *B. robusta*, this is the type species of *Sphenanthera*, and this situation does not change when the genus is reduced to a section.

Until our two Javanese species were imported, *B. roxburghii* A.DC. from India was the only species of the section *Sphenanthera* which was actually cultivated. In growth habit it is very similar to the Javanese species, but the plants are dioecious (either wholly male or wholly female) and the fruits are four-celled rather than three-celled, with conical horns instead of wings. Until recently all plants grown were female. *B. roxburghii* has ($2n=2x=$) 22 chromosomes, which must be the basic number for this section.

B. robusta and *B. multangula* are fairly large, well-branched plants which are easy to grow. They are botanically interesting but not particularly beautiful, less so as their flowers are inconspicuous because they are covered by the leaves. For the moment,



B. multangula Blume

Begonia tenuifolia remains the most attractive of the cultivated Javanese species. A beautiful picture of this species by Alice M. Clark appeared in *The Begonian* of December 1947 and is reproduced on the next page.

What more could we hope to import from Java? As usual, taxonomists differ in their opinions on the delimitation of the species indigenous to this area. According to Koorders (*Exkursions-flora von Java*, 1912), there are 17 wild species on the island, but Backer and Bakhuizen van den Brink (*Flora of Java*, 1948) ignore two of these and regard five as synonymous with others, so that their total is only 10. If we take this number as definite, six species are still waiting to be introduced: *B. areolata* Miq., *B. coriacea* Hassk., *B. laciniata* Roxb., *B. lepida* Blume, *B. longifolia* Blume, and *B. muricata* Blume. One of these, *B. la-*



***Begonia tenuifolia*, a Java species already in cultivation, as depicted by Alice Clark in a 1947 watercolor. This reproduction is from the same printer's engraving used when it was printed in *The Begonian* in December 1947. The original was won by Jack Golding of Kearny, N.J., in a drawing in May (see ABS News).**

cininata, occurs over a wide area in Asia, but as it is a very variable species, the plants from Java might well be different from the Indian material we grow. *B. lepida* Blume is said to be synonymous with *B. bracteata* Jack

from Sumatra. Some years ago I received a begonia from Sumatra that may have been this species. It was quite distinct, but very difficult to grow, and we did not manage to keep it alive.

Newly collected begonias to be available

A number of begonias new to cultivation will be available at the ABS convention sale in Long Beach, Calif., Sept. 4-7. They include a large-leaved climber with orange flowers, one with silvery-green leaves, and another yellow-flowering species.

Martin Johnson of Redwood City, Calif.—a member of the Santa Clara Valley Branch—obtained the plants and has organized their propagation. He specified that proceeds from their sale be earmarked for *The Begonian*.

The plants and seeds were collected in The Philippines, on Taiwan, and on an island in the South Pacific. Martin obtained at least 11 species, but some proved to be difficult to grow.

If not all are large enough for sale at the convention, they will be available from Martin later for sale at branch meetings and shows and ABS regional shows. Martin may be contacted at 959 Glennan Dr., Redwood City, CA 94061.

Here are descriptions of some of the plants, which have not yet been identified and named:

□ A shrub-type begonia with white flowers and large leaves marked by prominent veins. It was found at kilometer 173 on Baler Highway on the Philippine island of Luzon. (See photo on opposite page, upper left.)

□ A tall-growing cane-type begonia with silvery-green leaves 5 inches long and orange flowers. Veins on the underside of leaves are red. It was collected on Mt. Banahao in The Philippines. (See photos on this page.)

□ Perhaps the most interesting find, a climbing begonia with foot-long leaves and clusters of orange flowers. It was found climbing a tree on the





Shrub-type begonia found on Baler Highway on Luzon

Tall-growing cane-type begonia (below) has silvery green leaves, orange flowers. Even when young (left), leaves have prominent red veins



Climbing species found on Mt. Banahao towers over explorer lying on ground

Majahjay side of Mt. Banahao. But in a container it may not reach such proportions. (See photo above.)

□ A rhizomatous or “creeping” begonia from Antimonan with reddish ovate leaves and which roots at its nodes. It grows best with warm nights (at least 60 degrees F.).

□ A shrubby begonia with spotted leaves collected at Lucban. It requires sheltered conditions in not-too-bright light for best coloring.

□ A large shrub-like begonia with yellow flowers collected on Mt. Makiling.

Martin obtained the species on an expedition to the islands and from private sources.

Also available at the convention will be new species collected by Scott Hoover in South America.

The huge begonia world of Brown Bulb Ranch

Leslie Hatfield

In the late 1960s, as my husband and I spent hours visiting the retail begonia and orchid nurseries in the Capitola-Santa Cruz, California, area, we often would pass a simple but beautiful sign mounted on a huge section of redwood log. It read: "Brown Bulb Ranch—Wholesale Only." Close by was a quaint little house, always immaculate with a cloth-covered round table in the window and, if my memory doesn't deceive me, a vase with a few flowers on the table.

Beyond this house was a smaller one and a large field with black-and-white cows and a horse or two grazing. Nestled far back on the land were a number of red barns. All this intrigued me.

I began to put 2 and 2 together: The acres and acres of tuberous begonias in all their brilliance growing 30 miles south in Marina where we had just moved and the book *Tuberous Begonias* by Worth Brown, which I had found in a bookstore in Oakland, also were part of Brown Bulb Ranch. How I wanted to see what was hidden among all those red barns.

Now, 13 years later, *The Begonian* provided the key and a fine, soft-spoken, friendly, generous man, Worth Brown, turned the key in the lock, allowing me a rare visit into the world of Brown Bulb Ranch—Wholesale Only.

Gone are the beautiful redwood log, the fascinating little house that always

Leslie Hatfield, long active in the Monterey Bay Area Branch, lives at 3025 Kennedy Court, Marina, CA 93933, with husband Arlie and a commercial-size greenhouse. The Hatfields are locally famous for their entries in the floral division of the Monterey County Fair. This is Leslie's first published magazine article.



Hanging basket Tuberhybrida

caught my eye, the cows and horses and pasture lands. In their place stands Sears, a bank, Burger King. . . . But if you know where to look—yes, the red barns are still there on 32 acres, completely surrounded by civilization. As I had thought, there *was* a fascinating story hidden among the barns.

Brown Bulb Ranch was started in 1911 by James A. Brown (1890-1931), who came to California from Indiana for his health and eventually settled near Capitola with his wife and two sons. Originally he raised strawberries but strawberry wilt forced a move to new land where he began raising free-sias, calla lilies and gladiolus in large quantities.

By 1920 he was raising tuberous begonias in some quantity. The U.S. Plant Quarantine Act of 1919, which prohibited the importation of certain plants to prevent entry of insects and diseases, caused American growers to become interested in tuberous begonia production because they had lost their foreign supply. Because of the plant

embargo, James Brown went to Europe in 1921 and 1922 to secure planting stock of various bulbs and to learn their culture.

Many of the bulbs proved to be not suitable to grow in this California coastal climate, but the tuberous begonias and gloxinias thrived. It was at this time that Brown Bulb Ranch entered the tuberous begonia business.

James Brown was the first commercial grower to produce the tuberous in large quantities. Germination rates and quality of European begonia seed were unpredictable so by 1928 Brown Bulb Ranch was hybridizing its own seed,

striving for improvement each year.

James's son Allan took over growing and hybridizing after graduation from college in veterinary medicine. (His father had bought a dairy herd earlier, planning to use the manure to benefit his bulbs. Milk from the herd was shipped to Oakland for Southern Pacific railroad to use on its dining cars.) In 1931, after graduation from Stanford University, James's second son, Worth, took over the business end of the ranch.

Today finds Worth's son Todd carrying on Allan Brown's job in production and supervision of the growing

Photos/Brown Bulb Ranch



Ruffled form of *Tuberhybrida* in various colors

operations and Barclay handling the business end since his father's retirement. This truly is a family business—Allan's son Joel handles investments for the firm.

Brown Bulb Ranch is the largest handler of bulbs in the West and possibly in the United States. It is the largest individual grower of tuberous begonias in the world. (Belgium, as a country, grows the most tuberous begonias.) Brown's also handles perennials, fruits, vegetables, specialty seeds, novelty plants and dried flowers. Its catalog lists nearly 40 types of bulbs, many of which are grown under contract in their proper environments around the world and sent here and to their Seattle warehouse and office for distribution.

Numerous catalog houses in the United States carry Brown tuberous begonia bulbs. It also sells to small nurseries in the West and to distributors everywhere.

Brown, having produced its own tuberous seed since the late '20s, continually makes improvements through the years. Hybridizers perform line breeding by making specific crosses and keeping records of those crosses. The seed is then planted and the small seedlings at proper maturity are set out in the fields in Marina.

During the flowering season a few percent of the top seedlings are selected and staked for seed stock. These are then dug from the ground and taken to the greenhouse in Capitola where cuttings are made from chosen parents. Cuttings may be made from these plants for as long as 10 years.

A perfect strain of tuberous begonias must be fully double-flowered most of the flowering period. If they could not or would not produce pollen, there would be no next genera-

tion. Work continues on improving the hanging basket, picotee, roseform, and ruffled varieties, and new and unusual forms of tuberous begonias are being worked on for the future.

Worth Brown explains that unusual tuberous begonias such as narcissiflora and crispa types are difficult to obtain because wholesalers have little demand for them, so cannot produce them profitably.

More than 50 years of breeding finds a distinct strain of American hybrid begonias that European begonia growers cannot match. This is because the European hybridizers do not grow hundreds of thousands of plants from which to select the best type, colors, and resistance to disease for breeding stock. Brown Bulb Ranch has more than 40 acres planted with 5.5 million tuberous seedlings in Marina.

Capitola has become known as the begonia capital of the world. In years gone by Brown, Vetterle & Reinelt, Antonelli Bros. in nearby Santa Cruz,



Roseform Tuberhybrida

Tuberous begonias: where to find them

It's easy to find tuberous begonias—the hard part is deciding which to buy. Here is a rundown of some kinds and sources:

Brown Bulb Ranch's "American strain" described on these pages is sold widely at general retail nurseries. You can buy seedlings in 2-inch bands in spring or larger plants in pots. If you plant a multi-colored bed, seedlings are economical. But if you want specimen plants, study individual plants for bloom form, color, foliage appearance, and to see on uprights whether the flower head nods.

Other wholesale producers in California and Europe supply tubers to numerous American mail-order houses and some retail nurseries. Many are of high-quality, but if you order by mail, you sometimes risk getting plants of less than best quality.

Another California producer is Antonelli Bros. of Santa Cruz, which provides seedlings and large plants to retail nurseries as well as selling tubers mail-order and in person at its begonia gardens. In person, you can inspect individual plants and obtain those you like. By mail, you can order regular tubers or "choice select" tubers for slightly more. The Antonellis also sell "special select crosses," which are plants resulting from specific crosses (they're named) and grown for a year to prove themselves. Write to 2545 Capitola Rd., Santa Cruz, CA 95060.

The vaunted "Pacific strain" developed by the late Frank Reinelt is still sold in person and by mail by Noel Hanssens at

Carmel Valley Begonia Gardens in Carmel Valley, Calif. You can buy regular tubers or "select" tubers by mail or dig your own at the nursery, inspecting mass-grown plants individually. For a catalog, write to 9220 Carmel Valley Road, Carmel, CA 93921.

Another of the few remaining dig-your-own establishments is Weidners Begonia Gardens in Leucadia, Calif. Here, you can pick and dig up your choices and even pot them on the spot if you bring your containers with you. Weidners is north of San Diego, at Piraeus Street and Normandy Avenue a few blocks from Interstate 5 and Leucadia Boulevard.

Eastern aficionados may want to order from White Flower Farm, the long-established mail-order nursery in Connecticut. WFF carries Brown Bulb Ranch tubers, but its claim to fame is that it is the only U.S. source for Blackmore & Langdon tubers originated in Bristol, England. Enthusiasts say B&L tubers are unmatched in quality and, some say, in price (certain cutting-grown varieties are \$20 per tuber). There are these named varieties, plus B&L unnamed "exhibition seedling" tubers. For a WFF catalog, send \$5 (it's worth it) to White Flower Farm, Litchfield, CT 06759.

Tuberous begonias in bloom can be found in person from July until first frost. Dormant tubers are ordered in winter for spring shipment and planting.

—Chuck Anderson

and Rene Rochex all grew tuberous begonias within blocks of each other. Of the four firms, only Brown and Antonelli Bros. remain in business today.

James Brown and the Vetterle Bros. were the earliest commercial growers of tuberous begonias on the central California coast. Frank Reinelt joined the Vetterle firm in 1934 and in 1937 Antonelli Bros. was formed by two of the brothers who formerly worked for Vetterle's. They welcome visitors at their beautiful gardens near Capitola.

Brown Bulb Ranch, being a wholesale business, does not usually allow visitors but does welcome ABS branches and other gardening groups to its growing grounds in Marina. Monterey Bay Area Branch has visited the ranch several times for a breathtaking tour of fields of brightly colored begonias in bloom. Arrangements for group visitation may be made by calling Todd Brown in Capitola at (408) 475-1313 or writing P.O. Box 67, Capitola, CA 95010.

Yes, there is a national begonia festival

Take the Tournament of Roses parade. Give it a shot of homespun simplicity, then replace all the roses with tuberous begonia blossoms.

There you have the annual waterborne parade that climaxes the National Begonia Festival, a delightfully down-home event staged in late summer in the seaside Santa Cruz County village of Capitola, Calif.

Thousands arrive for this week-long festival. They always love the Sunday afternoon parade on shallow Soquel River best.

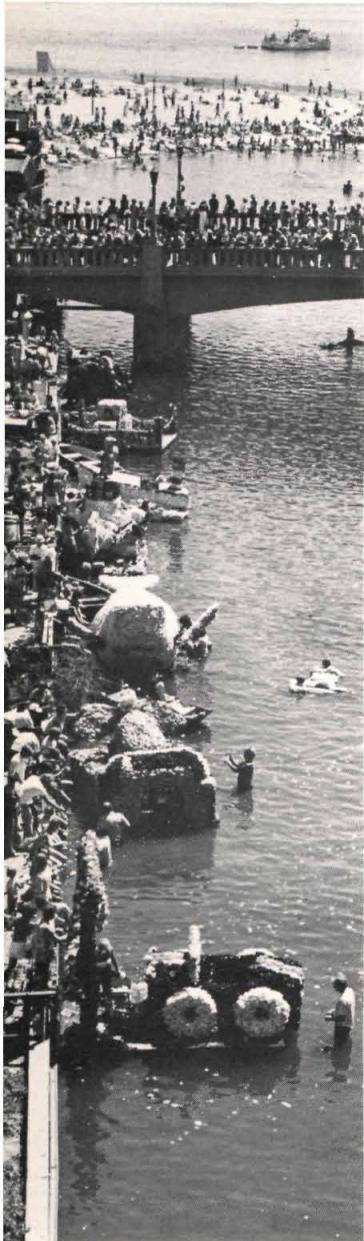
The festival this year is Sept. 1-7, with the parade on the final day. (You could make it if you aren't able to be at the ABS convention Sept. 4-7.)

These photos show last year's parade. The 1980 version will be similar—somebody's outboard motor always breaks down, a couple of floats are completed 15 minutes late, and there is generally a mood of creative disorganization.

All Sunday morning, the floats are tied up where visitors can get a close look at them being built (left). The work consists of wiring blossoms from nearby growing fields onto wire frames (they're building a "Yellow Submarine" below). The grand finale comes when they all go upstream and parade down one-by-one to Capitola Lagoon (right).

The parade in the pictures was themed "Capitola Goes to the Movies." You can see floats depicting "A Streetcar Named Desire," "Moby Dick," "Bonnie and Clyde," and "Dumbo," among others. In past years, floats have included a giant taco, an old-time fire-fighter complete with hand-crank siren and live Dalmatian, and a Dixieland band from a local pizza parlor.

Photos/Karen Bartholomew and Chuck Anderson





The acid test that may solve your woes

Oldrich Otypka

About a year ago the orange trees in our garden room started to drop leaves. It had happened before—the cure for yellowing and leaf drop was a dose of chelated iron dissolved in water, since citrus trees need a good supply of iron.

However, this time it was different: not even a repeated dose of chelated iron helped. On the contrary, more leaves turned yellow and dropped off. It was serious. Obviously the problem was not in the lack of iron. My wife suggested a soil test. I was very surprised when the test revealed pH 4.0—a very acid soil.

Immediately I started testing the soil of other plants I had not repotted for many years. My suspicion was correct: the soil was acid. *Ixora* had a reading of pH 5.5; *Begonia listida* pH 5.8; *B. 'Thor'* and *B. 'Chancee'* pH 5.0. Such readings indicate quite acid soil for plants that normally have a neutral soil—a reading of around 7.0 on the pH scale. (Each point decreasing from 7.0 indicates twice the acidity of the previous point; conversely, each number larger than 7.0 indicates alkalinity double that of the previous lower point.)

For a number of years I tested the soil periodically. The readings always indicated neutral soil. Several years ago I stopped the testing. But I had begun wondering about some plants; despite a good environment and satis-

factory care they did not grow well. Now I understand why *B. listida* did not increase in size, *B. 'Chancee'* had fewer and fewer flowers, and *B. 'Zee Bowman'* and *B. 'Cleopatra'* grew and blossomed little. All those plants were in the same pots for 8-10 years; the orange trees were in the ground beds for 13 years. The soil was never changed but the plants often were fertilized.

Increased acidity of soil in the culture of house plants is a new occurrence. It was seldom experienced before the advent of chemical fertilizers. Until the massive use of fertilizers, plants were refreshed and the nutrients replenished by annual repotting and addition of fresh soil. This was done also with long-lived plants like begonias. The easy use of fertilizers induces us to bypass the tedious task of repotting.

It is evident that steps must be taken to prevent the acidity and salinity build-up in long-lived plants. The easiest remedy is the return to the old practice of repotting every year. The second option is treatment of acid soil since any soil high in acidity can be neutralized by addition of lime. Adding pulverized lime to the topsoil or mixing it into the soil will restore the pH balance and make the soil neutral—suitable to the great majority of plants.

The most important factor about the soil is not the kind of mixture but its pH reading. Any plant can grow and prosper, even in pure sand, if proper nutrients are provided by fertilizing. But no plant can grow in any medium if the acidity, alkalinity or salinity of soil exceeds the tolerance limits of the particular plant. No

Oldrich Otypka, born and reared in Czechoslovakia, lives at 7400 Half Moon Dr., Minneapolis, MN 55427. He is author of a book about indoor gardens, The Room of Delight, published in 1976 by A. S. Barnes Co. This article is adapted from one he wrote for Begonia Review, newsletter of the Minnesota Branch.

amount of fertilizing can increase the tolerance of a plant to the unfavorable pH reading. In fact, fertilizing increases the soil's acidity.

When I discovered the severe acidity of soil I neutralized it with pulverized lime. The results?

I found no change can be observed immediately. It takes at least two or three weeks before soil neutralizing starts to affect the plants.

In some cases the results were astonishing. The large orange trees in ground beds stopped shedding the leaves and new leaf growth appeared; the leaves regained their luster and the blossoming commenced. Such profusion of blossoms and the subsequent fruit growth had not been seen for several years.

Among the begonias, the greatest change was observed on *B. listida*. For years it simply would not grow no matter what I tried. Yet adding lime to the top of the soil in the pot had the desired effect: the plant started to grow and bloom. The most interesting change occurred in the leaves—they greatly increased in size.

B. serratifoliosa showed similar improvement. Although the leaf size did not increase as much as in *B. listida*, the plant grew rather rapidly and displayed thick, bushy growth. It was a contrast with the slow and sparse growth of previous years.

All these improvements were astonishing because they occurred within two or three months. Other begonias also responded to the application of lime; however, each reacted to a different degree. Although I tested and observed a limited number of plants a trend was detected.

First, the tolerance to the acidity varies greatly, even in cultivars of the same species. I had two rose trees,

Rosa 'Redgold' and *R.* 'Merci', kept in large tubs for four years, both purchased and planted at the same time. Last spring *R.* 'Redgold' started to die and could not be saved by putting it outside. This happened before the application of lime. A subsequent soil test confirmed a severe acidity of pH 5.0. The *R.* 'Merci', not greatly affected by the increased soil acidity, continues growing and blooming all year, benefiting from the soil neutralizing.

A second conclusion can be drawn from the observation of begonias. Some were stunned by growing in the acid soil, like *B. listida* and *B. serratifoliosa*. Others only slowed down like *B.* 'Thor', *B.* 'Cleopatra', *B.* 'Chancee', *B.* 'Fuscomaculata', and *B.* 'Zee Bowman'. Poorest growth was registered on *B.* 'Lucerna', *B.* 'Sophie Cecile', and *B.* 'Murray Morrison'.

Of this group, the most affected by acid soil was *B.* 'Lucerna'. Several years ago I had one potted in a fresh soil. It grew rapidly in pots; after a year it had to be transplanted into a bed. There it developed a clump of 20 canes blooming continually with 20-30 large clusters. That particular begonia maintained such growth for almost three years. Then came a decline evident in poor growth and sparse blossoms, despite good care and fertilizing. It was an effect of the acid soil.

From this experience can be drawn a conclusion that begonias without rhizomes are most affected by the increased soil acidity. The least influenced were the rhizomatous begonias. Among these the greatest tolerance to the increased acidity was displayed by plants with large rhizomes. In fact, there was observed an almost linear

Please turn to page 229

ROUND ROBINS/ *Two ways to grow under lights*

Jan Clark

Two experienced light gardeners describe two very different setups. Douglas Hahn (Ohio) suggests an easy and economical light stand: "Watch the newspaper ads for sales of 'shop lights' with bulbs. These can be mounted in place on the metal shelves that are sold for basement or garage storage." Nancy England (Michigan) visited a lovely decorative light garden. Clear heavy glass was used for the shelves, and plants were elevated on clear plastic risers. Hollow wood strips hid the cords.

Light gardeners take as much care in the placement of plants as do their greenhouse-grower friends. Nancy England puts canes and variegated-leaved begonias at the center of the fixture and plain-leaved ones at the ends. Bill Reed (Washington) reminds us that insufficient light causes loss of variegation altogether.

Charlotte Kuhnle (Oregon) found that rexes too near the lights bleach out badly. She moved her rexes to the ends of the tubes. Douglas Hahn switched to wide spectrum bulbs and had better growth quickly, especially in his rexes. Ruth Wills (Oklahoma) uses lights in a novel way—she puts them *under* her shelves to provide bottom heat for seed pans! She keeps her seed pans lighted 24 hours a day.

Lena Bussard (Kansas) raises canes in natural light at her windows, but uses artificial lights to get them off to

a good start. She finds that *B. 'Tom Ment'*, however, stays compact and beautiful when kept under lights.

□

Muriel Bail (Australia) describes a good mix for sowing seeds: 2 parts coarse river sand, 1 part peat—and, for each gallon, 1 level teaspoon garden lime and ½ teaspoon complete fertilizer.

Doreen Van Der Tuin (California) has developed a simple seed sowing method. She fills a 3-inch pot with vermiculite, waters it with ⅛ tsp. per gallon of Miracle-Gro, sprinkles the seeds on top, covers with a baggie, and places it on capillary matting. Under lights in her warm den, the seeds sprout quickly.

□

In the face of the energy crunch and the state of the economy, begonia growers are making clever use of locally available, inexpensive materials. Ruth Silverman (New York) is using kitty litter in her humidity trays. She reports that it is comparatively light weight and looks and smells pleasantly earthy when wet. The added advantage is that it changes color as it dries, warning you to dampen it again.

Zelda Isaacs (Florida) warns, however, that since kitty litter has not been fired, it will break down in a potting mix.

Sonsie Conroy (California) waters her begonias with water drained from her aquarium. It works like fish emulsion without the awful smell, and the plants seem to love it. Nancy Dunn (Michigan) uses fresh live sphagnum in her terrariums. She finds begonias really take off in it.

Jan Clark is round robin reporter. Information about joining a robin—a packet of letters circulated among begonia lovers—is available from Mary Harbaugh, round robin director. Write to her at Rt. 4, Box 343, Shawano, WI 54166.

Carrie Karegeannes and Thelma O'Reilly, nomenclature co-directors

In the citations of cultivar parents, the female (seed) parent is listed first.

Begonia 'Winkey's Vivid'

No. 761—*Begonia* (chance seedling) 'Winkey's Vivid'

Rex Cultorum group; rhizomatous. Distinctive, lobed, spiraled, 8" x 10" leaves have a black center, red zone, silver zone, and black edge, with a vivid red overlay, smooth surface, 8 veins, and light-red petioles and stipules. Flowers are bluish pink, 1" across, with 4 male and 5 female tepals, and are arranged 3 to 4 to a cluster on a 6" peduncle, blooming in spring and summer. The striking color contrasts of the foliage make a distinctive *B. rex* cultivar. Originated in 1978 by Leslie Wood-

Photo/Woodriffs Fairyland Begonia Garden



B. 'Winkey's Vivid'

Applications to register *Begonia* cultivars may be obtained from Thelma O'Reilly, 10942 Sunray Place, La Mesa, CA 92041. Each must be typed or printed in ink. A \$2 check or money order payable to the American Begonia Society must accompany each completed application. Photos, drawings, and/or dried specimens to accompany applications are encouraged. ABS is the International Registration Authority for *Begonia* cultivar names.

riff, 1100 Griffith Road, McKinleyville, CA 95521; first bloomed in 1978; first distributed in 1979. Registered Sept. 8, 1979. Second place in new begonia introductions from a commercial nursery, ABS National Show, September 1979, *Begonian* 46: 271, November 1979.

Begonia 'Helen Michelson'

No. 762—*Begonia listida* hort. x unknown 'Helen Michelson'

Shrublike with hairy leaves and 24" stems. Obovulate (angular-ovate) 3¼" x 8¼" leaves with acute tip are dark green and finely pubescent on upper surface, with 7 pale-green raised veins, and are plum red and pubescent underneath. The margin is denticulate with fine hairs. Petioles are 6" long, light green with white woolly hairs. Stipules are light green turning brown with age. Flowers, pale pink with hairs on backs of outer tepals, have 4 male and 5 female tepals and bloom on 6" peduncles April-July. Many stems from the base produce a full plant. Originated in 1976 by Francis Michelson, 1820 W. 112 Terrace, Miami, FL 33167; first bloomed in 1978. Registered Oct. 15, 1979.

Begonia 'Ocala'

No. 763—*Begonia listida* hort. x unknown 'Ocala'

Shrublike with semihairy leaves and light-green, hairy, 12" stems. The upper surface of the dark-green leaves is bare except for short hairs on the light-green veins; the under surface is plum red and pubescent. Measuring 4" x 6½", the leaves are ovate with overlapping basal lobes, acute tip, denticulate and finely hairy margin, 8 veins, and light-green, hairy petioles and brown stipules. Flowers, borne on 8" peduncle, are pale pink with hairs on backs of outer tepals and have 4 male and 5 female tepals, blooming August-December. *B. 'Ocala'* produces many stems from the base. Originated in 1976 by Francis Michelson (address above); first bloomed in 1978. Registered Oct. 15, 1979.

***Begonia* 'Osceola'**

No. 764—*Begonia listida* hort. x unknown 'Osceola'

Shrublike with finely hairy leaves and 12" stems. Ovate, 4" x 7¼", finely pubescent leaves are dark green with light-green veins on upper surface and plum red below. They have overlapping basal lobes and acute tip, denticulate margin with short hairs, 7 veins, light-green petioles with white hairs, and light-brown stipules. Flowers, light pink with hairs on backs of outer tepals, have 4 male and 5 female tepals and bloom on 8" peduncles July-February. *B.* 'Osceola' has many reddish stems with stiff, white hairs and is distinguished by occasional pink variegation on some leaves as the plant ages. Originated in 1976 by Francis Michelson (address above); first bloomed in 1978. Registered Oct. 15, 1979.

***Begonia* 'Withlacoohoe'**

No. 765—*Begonia* unidentified scandent Brazilian species x unidentified species 'Withlacoohoe'

Trailing-scandent. Ovate, angular leaves are dark green and pubescent on upper surface and plum red with white woolly hairs underneath. Measuring 1¾" x 4", the leaves are cordate at the base and have crenulate margins with short hairs; the 9 veins are raised. Petioles and stems are covered with brown wool, and stipules quickly turn brown. White flowers on 6" peduncles have 4 male and 5 female tepals, with white hairs on the backs of outer tepals, and bloom April-September. *B.* 'Withlacoohoe' makes a good basket plant. The pollen parent of this cultivar was grown from Seed Fund seed identified as being of a Brazilian species, but has since been observed to look like a Peruvian species. Originated in 1977 by Francis Michelson (address above); first bloomed in 1979. Registered Oct. 15, 1979.

***Begonia* 'Tequesta' (synonym 'Acicon')**

No. 766—*Begonia acida* x unknown 'Tequesta'

Shrublike with hairy leaves and 18", light-tan stems with small white streaks. Orbicular leaves are dark green and pubescent on the upper surface, with depressed veins, and are light green under-

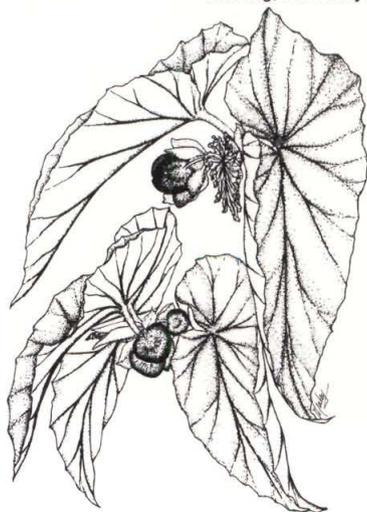
neath with short hairs on the veins. Measuring 4" x 4", the leaves are crenulate with hairs on the margin, cordate at the base, and 5-veined, with light-tan, hairy, 3" petioles and light-brown stipules. White flowers on 7" peduncle have 4 male and 5 female tepals and bloom February-April. A semiscandent cultivar, it grows equally well in a basket or a pot. Originated in 1970 by Francis Michelson (address above); first bloomed and distributed in 1972. Registered Oct. 15, 1979.

***Begonia* 'Carolyn Collman'**

No. 767—*Begonia* 'Martha Floro' x 'Rubaiyat' 'Carolyn Collman'

Canelike with 2½'-3' stems. Dark-green, lanceolate leaves with red veins are 3" x 8", with entire margin, medium-firm texture, smooth surface, and 7 veins. Petioles are 1½" long, smooth, light green, and stipules are 1" x ¾", smooth, light green. Flowers are coral pink, 1" in diameter, with 2 male and 3-5 female tepals; large clusters on 5" peduncles bloom continuously and profusely. 'Carolyn Collman' is distinguished by strong red veining on the light-green under surface of the leaf, glowing through to the upper surface, and showing on both surfaces of light-green new leaves. Originated in 1972 by Hazel Harmon, 610 Elm Street, Ottawa, KS 66044; first bloomed in 1973; first distributed in 1976. Tested by Vera

Drawing/Pat Maley



***B.* 'Carolyn Collman'**

Dilliard, Tropical Paradise Greenhouse, Kansas City, and Carolyn Collman (in whose honor it was named), 1501 Angelus Avenue, Lemon Grove, CA 92045. Registered Oct. 15, 1979.

Begonia 'Spindrift'

No. 768—*Begonia* 'Lospe-tu' x *wollnyi* 'Spindrift'

Thick-stemmed; thickset. Shallowly lobed leaves are silver-white evenly marked with red veins, double-spiraled and acuminate, 5" x 7½", with a serrate margin, a sparsely hairy and bullate surface, and 14 veins. Petioles are 3¼" and sparsely hairy; stipules are ¾", white, papery, and persistent. Heavy-textured flowers are pink with round tepals, ⅝" in diameter, with 2 male and 5 female tepals; the loose clusters are borne on 4" peduncles in winter. The double-spiraled leaf with its unusual pattern of white between red main veins and green secondary veins distinguishes this full, upright cultivar. Originated in 1978 by Patrick J. Worley, 1408 Sunset Drive, Vista, CA 92083; first bloomed in 1979; to be distributed in 1980. Registered Oct. 16, 1979.

Name Revision

Begonia 'La Verne Hanell' is the revised spelling of the cultivar registered as No. 743, described in the February 1980 *Begonian*.

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More soil acidity

Continued from page 225

relationship: the greater rhizome a plant has, the greater acidity of soil it can tolerate. The reason is obvious: the rhizomatous plant does not depend directly on the roots, it can live from the rhizome. Apparently the acids are either deposited in the rhizome or modified there. Possibly both. (This might be an interesting plant research subject.)

The lesson from the increased soil acidity and its neutralizing is simple yet profound: the soil condition can not be taken for granted.

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- AG 3 — *B. ebolowensis*: Cameroon. Pictured on page 124, May 1979 *Begonian*. Mabel Corwin collected these seeds from plants she grew from seed. If you had problems earlier, she advises: "Keep in a closed container until well established in small pots, then gradually harden off." per pkt. 1.00
- AG 4 — *B. richii*: Rhizomatous with giant compound leaves. Resembles *B. macdougallii*. Specimen pictured on cover of July 1969 *Begonian*. per pkt. 1.00
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QUESTION BOX / *Mushy rhizomes—what does it mean?*

Elda Haring

Question: My rhizomatous begonias are not growing well. Large areas are turning brown, and finally become black and mushy. I use a soilless mix containing no lime and use Peters 20-20-20 for constant feeding to which I add ammonium sulphate.

Answer: It would appear that you are experiencing a build-up of fertilizer salts in your mix, and keeping the plants too moist. I would not add another chemical to Peters.

Ammonium sulphate is high in nitrogen and tends to acidify the soil. If you use it each time you water, you are making the pH so low that nutrients are not available to the roots of the plant.

Begonias grow best at a pH of 6.2 to 7. When using constant feeding, it is important to flush out pots with clear water once a month to prevent build-up of fertilizer salts.

In a mix containing peat moss, it is important to add lime to counteract the acidity of peat. Rhizomatous types should be kept on the dry side during dark winter months and not fertilized until new growth begins in spring.

Question: Do epsom salts, borax, and ammonia add trace elements to potting mixes? Do you use them?

Answer: Epsom salts is hydrated magnesium sulfate. Ammonia contains nitrogen. Borax is hydrated sodium boron.

I would not use any of these materials in my potting mix. If you are

using "1-1-1 mix" plus dolomitic limestone and giving constant feeding, it should not be necessary to use additives.

Question: What is gypsum and of what use is it in a potting mix?

Answer: Gypsum is the mineral calcium sulfate. Its chief horticultural use is to break up heavy clay soils. In potting mixes it adds calcium but no trace elements and does not alter the pH of the mix as does agricultural or dolomitic limestone. It is not usually included in potting mixes, however.

Question: Does kitty litter (calcined clay) need to be sterilized before it is added to a potting mix?

Answer: I would not think it necessary to sterilize kitty litter but I am told some kinds contain harmful elements. Read the contents statement before adding it to your potting mix.

Question: In my terrariums there are very minute white threadlike worms crawling up the glass at daytime. I have been told these are the larvae of the fungus gnat. What would you do in a case like this?

Answer: In many years of growing, I have never seen the larvae of the fungus gnat. You could use a dilute solution of an all-purpose insecticide to pour very, very lightly over the top of your mix.

For my plants, I add one-half teaspoon of rose dust dissolved in water and wet the top of the mix with this. It has resulted in clean plants with no fungus gnats. You have to be very careful using these insecticides this way, for too strong a solution will damage your plants.

Send questions about begonia growing to Elda Haring, P.O. Box 236, Flat Rock, NC 28731. She'll mail you her reply promptly.

Seminars are a main attraction at ABS conventions, and the Sept. 4-7 Long Beach, Calif., schedule is filled with "stars" who will educate and entertain all who grow and enjoy begonias.

Mabel Corwin, California's top trophy winner, opens the program at 9 a.m. Friday by sharing her secrets about how to "Grow Trophy Winners." Rudolf Ziesenhenné, longtime begonia researcher and popular lecturer, will share his personal knowledge about the "Mexican Begonia Heritage" at 10 a.m.

The afternoon curtain opens with "By-line Fever," a seminar on writing and photographing for *The Begonian*, by co-editors Chuck Anderson and Karen Bartholomew. Patrick Worley of Kartuz Greenhouses takes the stage at 3 p.m. to discuss a new subject, "Boxed Begonias."

Joy Logee Martin of Danielson, Conn., a beloved begonia personality, appears at 9 a.m. Saturday to share information on treasured "Begonias of Yesteryear." Talented Kit Jeans will discuss her Tennessee efforts at creating cultivars in a 10 a.m. talk, "Hybridizing Highlights."

When the program closes at 11 a.m. Saturday, convention participants will have seen and heard an all-star cast.

—Thelma O'Reilly

Exhibition manual revisions ready

Revised pages and additional sheets for the exhibition manual of *The Thompson Begonia Guide* have just been published by Mildred and Edward Thompson, co-authors.

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The manual is the official ABS show classification guide and Millie is ABS classification committee chairman. The new material is \$2.50 postpaid from the Thompsons, P.O. Drawer PP, Southampton, NY 11968.

Two honored with luncheon, cake

Alice Clark, longtime ABS member and begonia artist, and R. H. Terrell, national director of Roubidoux Branch, were honored recently with a La Jolla, Calif., luncheon and a cake marking his 90th birthday, respectively.

The La Jolla Garden Club May 16 organized a large luncheon for Alice that included numerous tributes from friends, ABS members, and fellow gardeners. Included was begonia grower-researcher Rudolf Ziesenhenné, who presented Alice with a plant of *B. alice-clarkae*.

Alice had donated her 1947 painting of *B. tenuifolia* (see page 215) for the luncheon, and the club held a drawing with it as the prize. It was won in absentia by ABS' Jack Golding of Kearny, N.J.



Rudolf Ziesenhenné presents *B. alice-clarkae* to Alice Clark

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Mr. Terrell, who at 90 still works as a gardener near Riverside, Calif., shared a birthday cake at the ABS board meeting May 19. It was brought by Muriel Perz, national director of Long Beach Parent Branch, who presented a brief tribute.

Mr. Terrell, formerly a physician in Yorba Linda, Calif., speaks six languages and has lived in Cuba, Muriel related.

A show here, one there . . .

Numerous branches are staging or participating in shows this summer.

Seattle Branch will build an exhibit at Eastside Begonia Branch's Aug. 8-10 show at Crossroads Mall. Two weeks later, on Aug. 22-24, the Seattle Branch will join the Greater Seattle Fuchsia Society show at Northgate.

"Begonias and All That Jazz!" is the theme of the Aug. 23-24 show of the Sacramento Branch, which will be held at the Iva Gard Shepard Garden and Arts Center in Sacramento, Calif.

Edna Stewart Pittsburgh Branch's show will be at Pittsburgh Civic Garden Center Sept. 20-21.

Buxton Branch will conduct its show Oct. 11-12 at Suburban Experiment Station, 240 Beaver St., Waltham, Mass.

The 1981 Get-Together of Southwest Begonia Growers Association will be May 14-17 at Holiday Inn West, Oklahoma City, Okla. You can put your name on the mailing list for later information by writing to Bob Hamm, 2951 Elliott, Wichita Falls, TX 76308.

In Memoriam

Jay Neal

Jay Neal, longtime ABS member from Devon, England, died May 6 after a stroke.

Her large greenhouse of begonias is being tended by her husband, Maurice.

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Index in English

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