

The BEGONIAN



MARCH, 1974

Devoted to the Sheltered Garden

VOL. 41, NO. 3



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GENERAL OFFICES: dues, address changes or magazines:

11506 McDonald, Culver City, Ca. 90230

Subscription: \$4.00 per year. Foreign (Mexico and Canada) \$4.50. U.S. (Mexico and Canada) 1st Class \$6.00. Foreign 1st Class \$8.00. U.S. Air Mail \$7.00. Pay in U.S. currency only.

Second Class Postage Paid at Culver City, California

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

THE COVER: *B. MARIAE* L. B. SMITH

By Mrs. Carrie Karegeannes, *Research Committee*

A beautiful new species of *Begonia* with strikingly large, pink flowers has been discovered in Venezuela and published by Dr. Lyman B. Smith, Senior Botanist of the Smithsonian Institution. *Begonia mariae* L. B. Smith was found in November 1972 in the State of Mérida by the Smithsonian botanists Dr. John J. Wurdack and his wife, Mrs. Marie L. Solt Wurdack — for whom the new species was named — and Dr. S. S. Tillett, Instituto Botánico, Caracas.

The plant was creeping in the watercourse at an elevation of 8500 feet, along the trail of the world's highest cable car (teleférico) near Pico Bolívar. The site is in the biggest patch of forest anywhere near Mérida; the rest of the area is 80 percent denuded. Many botanists have been along this trail, but this is the first report of this unusually showy *Begonia*, Dr. Smith said.

The tepals (petals), one inch long in the female flowers, hold their deep pink color even in the Wurdacks' beautiful dried specimens, and the seed capsules — three-horned as in all the members of the Section *Casparya* — also are deep pink. Our photos, provided by Dr. Smith, show the smallish, ovate, pointed, shiny green leaves as well as the flowers on

the stemmed plant in its native Venezuela habitat.

The creeping stem (not rhizomatous or tuberous) is straight, slender, and grooved. The green leaves are two to four inches long by about one to two inches wide and almost heart-shaped at the base, with the larger side running down further on the petiole than the smaller side. Leaf edges are doubly toothed, with bristle-tipped teeth. The flower clusters are made up of a few male flowers or a single female flower. The male flowers have four rose tepals, with two of them circular and a little more than one half inch in diameter, and the other two narrower and shorter. The female flowers have rose bracteoles and six almost equal tepals, each about one half inch wide and one inch long.

The Latin description legally christening *B. mariae* was published in *Phytologia*, Vol. 27, No. 4 (December, 1973) pp. 213, along with an English description and detailed drawings (Plate II). The species will be included in Dr. Smith's new study of the Venezuela species of *Begonia* now in preparation.

(Another Venezuela species in the Section *Casparya* — *B. formosissima* Sandwith, with intensely red "giant"

(Continued on Page 75)

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*.

MY YESTERDAY, TODAY AND TOMORROW WITH ANGEL WINGS

By Mildred P. Swyka

My early childhood memories include my grandmother's and mother's angel wing begonias, standing tall, tied to a broom stick for support, never moved from that corner, where once a year it would come alive with the huge cluster of pink blooms. I realize today it had to be one of the *Lucerna's*.

Since the time of those childhood memories the only time I was without an angel wing was during the World War II years. After we settled in a home of our own the number of plants kept growing, also the children. Four boys, four girls and begonia plants were in every room. A porch was closed in just for my plants. Hubby being a carpenter, built a small unheated greenhouse from scrap lumber. The plants were repotted each fall and taken inside; each suffered from the transplant. Today I have a new greenhouse with a green plexiglass roof, storm windows and heated with "bottle gas."

I have never left my begonias just sit in a corner. One of my first experiments with angel wings was using the taller angel wings in hanging baskets. Taking a 10" hanging basket, I filled it with an ordinary porous garden loam and laid the plants horizontal. I found they were worth all the effort of keeping them pinched at the tip. New shoots were allowed to grow about 12 to 15" then cut back. This keeps the pot full in the center. Some tall angel wings were used such as *B. 'Corallina*

de Lucerna', *B. 'Pink Spot Lucerna'*, and *B. 'Mrs. Shinkle'*. This has been very rewarding to me; *B. 'Mary Francis'* and *B. 'Rubyat'* are beautiful. My main purpose was to take begonias not classified "hanging basket" and work with them in hanging baskets. The baskets used are made of plastic or styrofoam. Hyponex or fish emulsion is used for the fertilizer. Rain water is used as we have a 50 gallon drum at one end of the green house and the water is piped into the greenhouse.

Another rewarding experiment was using different size pots for angel wings. Using again the tall angel wings, I was surprised to see *B. 'Pink Spot Lucerna'* become entirely different whereas the leaf coloring remained the same and the leaves remained small, *B. 'Corallina de Lucerna'* likewise. *B. 'Rubyat's'* leaves stayed the same size and blooms were as large, but the blooms of the other two were much smaller. *B. 'Rubyat'* is one begonia that has been very rewarding. You can experiment with it and it seems to stay as always. Some low growing angel wings that are beautiful in baskets are *B. 'Di-Erna'*, *B. 'Di-Anna'*, *B. 'Mary Frances'*, *B. 'Green Tree Beauty'*, *B. undulata* and *B. incarnata*.

This past summer a lot of my begonias were planted directly into my four foot wide bench nearest the windows. Since the greenhouse is a lean-to from our storage building, this was disappointing. They grew beautifully and bloomed profusely

but they lean toward the windows because there is no way to rotate them. I did learn one thing from doing this, though. I found the begonias bloom very well proving mother was wrong in saying they must be pot bound. *B. 'Otto Hacker'* was the most rewarding. I also found that begonia cuttings placed directly into the soil in this bench during the summer months had no trouble rooting.

A couple of years ago I experimented with soil and a mixture of perlite, peat and vermiculite. I concluded that while the soil produced plants with more blooms, the other mixture produced plants with prettier foliage.

Another rewarding experiment was using two varieties of begonias in one hanging basket, a low growing bushy type, such as *B. 'Tom Mentor II'* or *B. 'Jeannie May'* with *B. 'Rubyat'*. This allows many variations and provides much fun and

pleasure to see what you can "mix and match."

We do not have an A.B.S. Chapter in Delaware. Since I do not drive it is doubtful I could attend if we did. However I met a friend this past summer, Mrs. Little from Newark, who grows beautiful begonias under lights in her basement. We have exchanged plants and hopefully we can grow begonias together. I also hybridize and have succeeded in a cross of *B. 'Laura Engelbert'* x *B. coccinea*. It looks good, hopefully I can have it registered.

I have written of my yesterday and today with angel wings in *The Begonian* where I can tell other people of my work with begonias. Hopefully my tomorrow will bring me new ideas and new friends to exchange plants with. Anyone interested in plant exchange please write.

Mildred P. Swyka

R.D. #1, Box 195

Middletown, DE 19709

CALENDAR

March 13 — San Miguel Branch
8:00 p.m. at Porter Hall, 8425 University Avenue, La Mesa, California. The speaker will be Mabel Corwin who will discuss "Rex Begonias."

March 22—Redondo Area Branch
— 7:30 p.m. at Dana School, 135th Street and Aviation Blvd. Walter Pease will discuss "Tuberous Begonias." Plant table and refreshments. Everyone welcome.

April 10 — Long Island Branch,
7:30 p.m. — at Planting Fields Arboretum in Oyster Bay, Long Island, New York. Plants, Supplies and

Literature sales, The Question Box, Plant Raffles, Name the Begonia contest, Slide and Book Libraries precede the meeting which begins at 8:00 p.m. The Begonia of the Month will be the beautiful Kusler hybrid, *B. 'Laura Englebert'*, presented by Anita Baldwin. The program will be a multifaceted one about our upcoming 2nd Annual Show to be held in May. Why Exhibit? will be discussed by Hank Euler, Grooming and Preparation will be presented by Ed Thompson, Wendy Stuart will explain the Show Procedures; How a Plant is Judged will be demonstrated by our Senior Judge Jim Wyrzten. Refreshments will be served.

ROUND ROBIN NOTES

"There's nothing like a visit with a begonia friend to perk up your spirits when you are discouraged with the way your plants are growing!" So said one of the robin members, adding that the packet of robin letters was like a visit with a number of friends. Robin members are pooling their experiences to come up with lists of miniatures, terrarium plants, rexes and other types of plants best suited for various situations plus ideas for growing in greenhouse, under lights, on the windowsill, novel ways of growing and displaying plants, better ways with seeds and cuttings . . . the list goes on. Join us and enjoy the FUN part of belonging to the American Begonia Society!!!

Grace Schillinger of Illinois has a log four feet long that her daughter found on the shore of the river near her house. It is about five inches in diameter with 8 holes bored in it by woodpeckers. Begonias, ferns, a small slip of lavender ivy geranium and baby tears went into the holes which were first filled with compost then with coarse sphagnum moss around the tiny plants after they were situated in the holes. She keeps the log standing up against an upper shelf in the greenhouse and it is one of the first things visitors notice.

Grace's daughter-in-law gave her a beautiful tuberous begonia last summer, though she was completely in the dark as to growing them. So she just went ahead and did it her own way. She had a tall, antique, moss-green, satin glass compote she wanted to give Grace. Putting about 40 soft-drink bottle caps in the bottom for drainage, she used commer-

cial soil, planting the bulb in the top, growing it outdoors on the north side of her house beneath a wide overhang. It grew fast and when its beautiful double salmon flowers opened, she gave it to Grace in July. Put on a low table inside near an east window, it flowered until late November.

Yvonne Wells, Texas, said she is amazed at how long her plantings in lava rock can go without watering, guessing that the humidity of the greenhouse helps keep them from drying out too much. She told of a friend who is making a beautiful picture done with living plants. It is a picture frame with wire mesh fastened to the frame, then filled with long sphagnum planted with small patches of soil for each plant. She calls them living pictures. They are hung on a redwood fence in summer and in the garage in winter.

Beth Sackman of California recommends buying seedlings of tuberous begonias since the growers usually keep the best of their tubers for seed production. If you get the seedlings when they are small (from tuberous growers advertising in *The Begonian*), it will help your collection because you stand a chance of getting some that are very special. We can't account for the reason some grow so great, others good, then others poor — all given the same treatment. When she takes the tubers out of the flats, she marks the ones that had good roots and were quite quick to start as they seem to do better than the others — one reason to be sure you buy tubers that have sprouts. When starting your

tubers out, don't use fish emulsion at first — use an all soluble plant food that has everything the plant needs and will give it a good start. She recommends the multifloras as they seem to do good for everyone. They take more sun and make nice pot plants. Beth found a new soluble plant food called Romeo, which comes in two strengths: 24-14-14 and 18-18-18. It is dissolved in HOT water, with cold water added until warm. The first is used to make a large, strong plant. Tubers need to have more leaves and sprouts and she finds this mixture helps give this. The second formulation helps give the flowers and buds what they need. Don't use an acid plant food in the early stages of the plant. It needs nitrogen to grow large.

Bob Hamm, New Jersey, grows tuberous from seed. He recommends it only if you grow them under lights until March. Otherwise, they stall due to the short days and weak light. He tends to rotate the tuberous, growing a crop under natural light, then a crop under lighting. It's easy for him with seed as he can reverse the seasons very simply, he said.

Priscilla Beck of Connecticut finds shorter hours under lights (9-10 hours) and lower house temperatures haven't hurt her plants. She's amazed at how well they are doing with no yellowing of leaves. She said many of the local greenhouses have tented their houses with plastic, blowing air into the layer between with a small house fan. This saves up to 50% on fuel.

Joseph Bond, Canal Zone, became interested in begonias after finding a number of different kinds growing around his new home. He had some

of them growing in two parts soil and one part river sand in a planter in a protected area. They grew beautifully for a while then started dropping leaves for no apparent reason. Roots and soil inspected by the Agriculture Department of the University of Panama showed nematodes. He tried submersing the plant in hot water at 119°F. for one minute and then repotting in sterile mix of two parts sand to one part soil. Two of the five lost all leaves but had a great number of new healthy roots and a new leaf was coming up. The other three lost only 10-15% of their leaves and were looking great. He then started treating all of his 600 plants, which took five days working 14 hours a day! What he

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Mr 2 — *B. caffra*:

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Mr 3 — *B. cathayana*: China.

Silky velvet leaves zoned ruby-red and emerald-green; reversed underneath. One of the most beautiful begonias grown. Requires warmth, protection from drafts, high humidity. Avoid sunlight and shocking with warm water. per pkt. \$1.00

Mr 4 — *B. domingensis*:

Shrub-like, small leafed. Numerous small flowers, white with crimson centers, with a curious spicy smell. Also called *B. 'Peanut Brittle'*. per pkt. \$.50

Mr 5 — *B. J-11*:

Brazil species. A beautiful rhizomatous brought back by Sylvia Leatherman. It belongs to the section *Pritzelia* and appears closely related to *B. friburgensis*, which however, is smaller. Picture in Jan. 1973 Begonian. Per pkt. \$1.00

Mr 6 — *B. paulensis*

Brazil. Leaves medium green,

shiny and peltate; distinctly striking with its ivory-colored sinus or eye, from which radiate the main veins. Leaves have short white hairs on the top, and red hairs underneath, with an apple green background.

Per pkt. \$1.00

Mr 7 — *B. olsoniae* syn.

B. vellozoana, Brade.

Brazil species. Herbaceous. Eight to 12 inches tall, stems short. Leaves oblique, broadly ovate, palmately eight-veined, 4 to 5 inches long, green above with a whitish zone on the veins, paler below and occasionally reddish. This is one of our most beautiful begonias. Per pkt. \$1.00

Mr 8 — Mixed tuberous seeds

Just arrived from Canada. Some beauties in this. Per pkt. \$.50

Mr 9 — *B. venosa*:

Brazil species. Growth shrubby, erect, medium height. Stems succulent, round, green with small white hairs. Leaves auricular, margins entire, and green background is covered with soft hairs. Flowers abundant, medium large, white, spicy fragrant. It thrives best in warm location. Per pkt. \$1.00

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(Continued on Page 75)

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THE MAPLE-LEAVED SOUTH AFRICAN BEGONIAS

By Carrie Karegeannes
Research Committee

Many of the "maple-leaved" begonias from South Africa, often called the semi-tuberous group, have charmed house plant growers for years. Questions arising on both sides of the Atlantic, however, have reflected some confusion in identification during their long history—a confusion stimulated by their similarities and variability and by their ease in cross-hybridizing. As with many begonias, the names have sometimes been confused in the literature also.

In 1961, the German authority Dr. Edgar Imscher published a re-examination of the African Begonia species in *Botanische Jahrbücher*, Vol. 81, pointing out the differences in our South African group on pages 130-146. He studied original herbarium specimens, more recently collected plants from Africa, and some garden plants, and he included photos to illustrate the many variations of the maple shapes. His work was reviewed by Rudolf Ziesenhenné in *The Begonian*, June 1965, but because the study was published in German and Latin it has not been readily available to American growers. It is still perhaps the latest study of the group, which includes *B. dregei*, *B. caffra*, *B. natalensis*, *B. suffruticosa* (syn. *richardsiana* and *richardsoniana*), and Dr. Imscher's new species *B. partita* (all from the Section Augustia), with their varieties and synonyms and a few hybrids.

It is fascinating to take a deeper look at some of our favorites and to

straighten out a few names.

One often called *B. machethii*, for instance, is a horticultural variety of *B. dregei* (*B. dregei* O&D var. *macbethii* hort.), as we may know from *The Begonian* references. It was first published in an 1892 catalog in America and has not been found outside of cultivation. Dr. Imscher listed it as a variety of *B. dregei*, but he also suggested the possibility of its being a hybrid between *B. dregei* and *B. suffruticosa* because its leaf shape is midway between the two. He left this as a suggestion, however, because we cannot know for certain.

Another old friend, *B. richardsiana* T. Moore, actually has been grown under a synonym for years. This dainty, lacy-leaved, white-flowered plant should correctly be called by the first name given to it, *B. suffruticosa* Meissn. Dr. Imscher said that this first name had not been widely known and the author of *B. richardsiana* had not compared these plants—which had been collected at different times by different persons—to see that they were actually the same. *B. suffruticosa* was the first name used and therefore is the rightful one. Another author had used a third name, *B. richardsoniana* Houlet, but this is also *B. suffruticosa*.

Another surprise to me was that the popular hybrid so often spelled with an "i"—*B. 'Weltoniensis'*—was originally spelled without the "i": *'Weltonensis'* (for Major Clark's Welton Park in England,

where it was developed from a cross of *B. dregei* x *B. sutherlandii*). The original spelling should be used today.

B. dregei O&D and *B. Caffra* Meissn.

B. dregei Otto & Dietrich is one of the oldest cultivated begonias and is a parent of *B. 'Gloire de Lorraine'* and other hybrids. Close relatives are *B. caffra* Meissner and *B. natalensis* Hooker, also first known more than 150 years ago but not often written about. Dr. Irmscher looked at specimens collected by I. F. Drége and others, as well as specimens of plants grown in the Berlin Botanical Garden in 1835 and 1842, which at different times had been called different names by different authors. The name *B. parvifolia* was first used for *B. dregei*, but this name had been used still earlier for another species and so could not legally be used again for this one. *B. sinuata*, called a variety of *B. dregei* by some and a separate species by others, also was a name already used before, and therefore C. F. Meissner renamed it *B. caffra*. Color plates of both plants were published under the earlier names in the *Botanical Magazine* in 1839 (Tabs. 3720 and 3731).

Dr. Irmscher found that *B. dregei* (from Cape Province of South Africa) and *B. caffra* (Natal and Cape Province) were much alike but had slight differences that kept them as two separate species for him. Both have tubers at the base of erect, branched stems, but *B. caffra* is often larger than *B. dregei* in all its parts. The triangularly lobed leaves, although much alike, show the chief difference that Dr. Irmscher used to

distinguish the two species: in *B. dregei* the triangular lobes (or sometimes merely large teeth) are separated by angular indentations (that is, angular sinuses between the lobes on the margin), while in *B. caffra* the lobes are wider and usually separated by rounded indentations, or sinuses. In *B. dregei* the leaf edge toward the tip is distinctly and doubly saw-toothed (serrate) to scalloped-saw-toothed (crenate-serrate). In *B. caffra* the smaller teeth beyond the larger lobes are sparse and indistinct, turning backward, or the edge may be almost untoothed.

Flowers of *B. dregei* and *B. caffra* are so similar that close examination is required to see the very slight differences. In *B. caffra* the flowers are usually a little larger, but the male flowers of both have two petals (tepals, botanically) and the female flowers of both have five petals. *B. dregei* is listed as having white flowers and *B. caffra* as having white or dilute pink flowers. Stamens are the same except that the length of the connective may vary. The only noteworthy difference is that in *B. dregei* the styles of the female flowers are more or less united at the base (to 0.06 inch), while in *B. caffra* they

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are mostly free. In both species the size and shape of the seed capsule and its wings are variable, the seed-pod varying from oval to oblong and the wings varying their mostly triangular shapes. Both have undivided placentas, like all the group.

The plant pictured as *B. dregei* in *Addisonia*, Vol. 10 (1925), Plate 327, seems to have leaves shaped like those of the variety *macbethii*, I note, but the description of four tepals on male and female flowers does not fit the usual two and five tepals of the *B. dregei* group.

B. dregei var. *macbethii* hort.

Dr. Imscher did not describe colors of leaf blades, petioles, or stalks of the wild species because he based descriptions on dried herbarium material, in which color is often faded or lost. He did not think it correct to give colors seen in cultivated plants, because they might be different from the wild ones. But for the horticultural variety *macbethii* he said the leaves were not at all red-veined — a contrast with early descriptions and color plates of *B. dregei* itself, which show red veins. This was one of his distinguishing traits for the variety, which has leaves lobed on the outer edge to one half to three fifths their width and margins also coarsely and sparingly sawtoothed. Flowers are pink or white.

B. caffra var.
favargeri (Rechinger) Imsch.

For *B. caffra* Dr. Imscher separated two varieties: *B. caffra* itself as variety *caffra*, with almost equal, triangular wings on the capsule and ovate or almost tongue-shaped con-

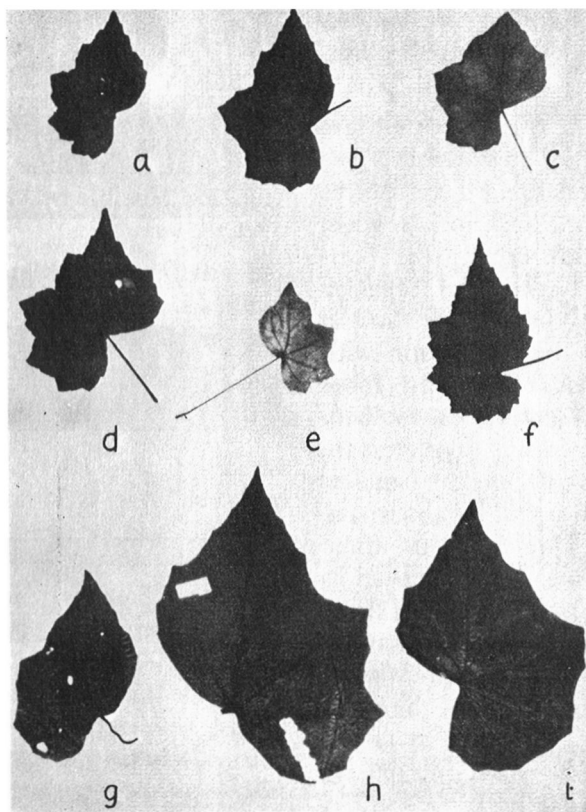
nective on the anthers; and variety *favargeri*, which originally had been named as a separate species by Rechinger in 1905. Dr. Imscher said *B. favargeri*'s shallowly and coarsely sawtoothed, or mostly merely angled, leaves placed it closest to *B. caffra*, differing from it by having smaller capsule wings, short connective on the anthers, and styles strongly united at the base. Also, sometimes the wings of the capsules curved downward until they became semi-oval instead of triangular.

B. dregei, *B. caffra*, and *B. natalensis* are found in the wild in a small area, sometimes in the same localities, and so some specimens which have characteristics of more than one of these species may be wild hybrids.

B. natalensis Hook.

B. natalensis Hooker, from Natal, was grown in the Royal Botanic Garden at Kew in England as early as 1855 and was pictured that year in the *Botanical Magazine* (Tab. 4841). It has an oblong or round, often depressed tuber, roughly about one inch in diameter ($\frac{3}{4}$ " x $\frac{1}{2}$ " to $1\frac{1}{3}$ " x 1"). The branched eight- to eleven-inch-long stems are often woody below. Internodes of the branches are very short, often hidden between close-set clusters of stipules, which remain on the plant. The stipules often bear a bristle at the tip.

The angularly lobed leaves of the main stem of *B. natalensis* are larger and more lobed than the leaves of the side shoots, and Dr. Imscher found that in wild plants the larger leaves often dropped off while the side branches went on producing only the smaller leaves. In cultivation



a-e: *Begonia dregei* Otto & Dietr.

a. Moss No. 4621 (1919).

b,c. as *B. parvifolia*, Berlin Botanical Garden (1835).

d. Flanagan No. 419 (1889).

e. Berlin Botanical Garden (1836)

f: *Begonia* 'Weltonensis' hort., private garden, Hamburg Herbarium (1935).

g-i: *Begonia caffra* Meissn.

g. Drege without number, Vienna Natural History Museum (1826-1834).

h. as *B. sinuata* Bot Mag., Munich Botanical Garden (1848), Munich Herbarium No. 226.

i. Acocks No. 12237 (1945).

From Irmscher, *Bot. Jahrb.*, 81 (1961) Tafel 4, Fig. 1.
(Two-fifths life size.)

the plants continued to carry both forms of leaves at the same time. He thought perhaps climate changes caused the leaf drop, which left some plants carrying only the smaller leaves and thus looking like a different variety.

Leaf blades of the main stem are one and one third to two and three fourths inches long and three fourths to one and one third inches wide, with a more or less heartshaped (cordate) base and triangular lobes, a large lobe on the outside and a smaller one on the inside, and with the leaf margins beyond the lobes coarsely and lightly few-toothed, running into an acute or acuminate tip. On the branches, the smaller leaves (three fourths to about one inch long by one fifth to three fourths inch wide) often appear as if cut off on a slant at the base (obliquely truncate). They may be less lobed and almost entire (without lobes or teeth) beyond the main lobes.

The pale pink or white flower clusters of *B. natalensis* are either two-flowered or made up of one dichasia followed by two-flowered branches. The bracts drop off early and there are no bracteoles on the female flowers. Male flowers have two, usually almost round tepals and the female flowers have five broadly oval to oblong-ovate tepals. The capsule wings vary in size and shape. Wings on the same plant may be more or less triangular, coming to a sharp point, or almost square to semi-oval with a roundish outer edge. Sometimes the three wings are almost equal in size and sometimes one or two are larger.

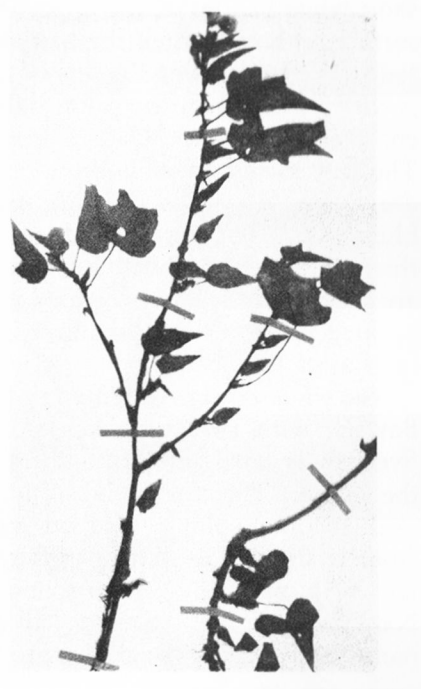
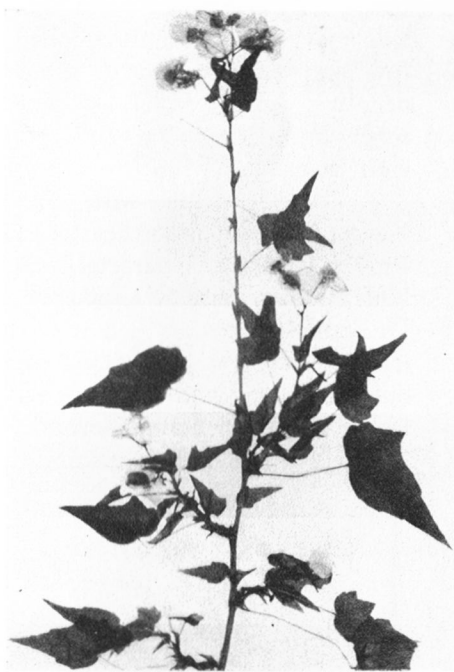
B. suffruticosa Meissn.

Elegant *B. suffruticosa* from Natal and Cape Province has often been grown in cultivation, usually under the name of *B. richardsiana*. Some plants grown under the *B. richardsiana* name, however, are actually closer to *B. dregei* var. *macbethii* than to *B. suffruticosa*, Dr. Irmscher said, and possibly hybrids have arisen over the years.

B. suffruticosa Meissn. (syn. *B. richardsiana* T. Moore and *B. richardsoniana* Houll.) has two male and five female flower tepals (white) in few-flowered clusters, like the others in this group, but its little leaves are deeply and finely cut. Its erect, branched stem is almost woody below, with a tuber at the base. Stipules remain on the plant. The plant is glabrous (hairless), in contrast to the very similar *B. partita* Irmsch. The leaf blades are thin, very unequal-sided, and — like *B. partita* — almost pinnately divided, with the outside margin cut by a deep cleft reaching almost to the petiole, almost dividing the leaf into two. The lobes formed by the cleft are again lobed, so that the leaf looks almost feather-cut. The margins of the main cleft are concave (curving inward) for the most part.

The bracts fall early from the inflorescences. The capsule wings are almost equal and vary from narrowly to broadly triangular, with the upper edges either concave or turned slightly downward and the free tip sharply pointed, taperingly pointed, or more rarely blunt.

Dr. Irmscher named three forms (not different enough to be named



Begonia natalensis Hook.

Left, Kew Botanical Garden (1860)—type specimen.

Right, Schweickerdt No. 1424 (1940), with leaves on only the side branches.

From Irmscher, *Bot. Jahrb.*, 81 (1961), Tafel 5, Fig. 1 and 2.
(About two-thirds life size.)

varieties) to denote the three versions of leaves shown by different plants of *B. suffruticosa*—from the most finely cut to the most broadly cut. He took the middle form as the typical one, which most of Drège's plants matched, and called it *B. suffruticosa* form *suffruticosa* (with one- to two-tenths-inch wide leaf divisions and with the deep cleft stopping one to two tenths of an inch from the petiole). *B. suffruticosa* form *bolusii* has the narrowest leaf divisions (one tenth of an inch or less wide, with the cleft reaching nearly to the petiole) and form *vorsdellii* has the widest (two tenths

to almost three tenths of an inch wide, with clefts less deep than in the other two forms).

B. partita Irmscher, new species

B. partita, which Dr. Irmscher named in the 1961 study, is similar to *B. suffruticosa*, with leaves also almost divided into two, but often the lobes are again divided to the middle and are spread wide apart, with the margins of the clefts convex (curving outward), rather than concave as in *B. suffruticosa*. The main cleft may reach almost to the petiole or stop a little short of it, varying as in *B. suffruticosa*. *B. partita* espe-

cially differs also in having hairs or short white bristles on the upper leaf surface, although often the hairs are sparse. Also, lower leaves of *B. partita*'s main stem are quite different from its higher (later) leaves. The first leaves resemble those of *B. dregei* var. *macbethii* in being more bluntly two- or three-lobed rather than deeply cut, while later leaves are deeply and finely divided. In isolated cases, several bristles are at the top of the petiole.

The white flower clusters have few flowers, with two male tepals and five female tepals, like the others of the group. The three wings on the oval to long-oblong seedpod vary from triangular to almost rectangular. Wild plants have been found in Natal and Cape Province, liking moist shady places like all this group.

Hybrid Forms

1. *B. 'Weltonensis'* (*B. dregei* x *B. sutherlandii*), first published in 1868 and still popular as a free-blooming basket plant, has obliquely acute-ovate leaves with the larger ones less deeply lobed than in *B. dregei*, but distinctly doubly serrate. Both pink and white flowering forms are known. The male flowers mostly have the four tepals of the parent *B. sutherlandii* (in another section), rather than *B. dregei*'s two tepals.

2. Plants which Dr. Irmscher decided must be natural hybrids of *B. natalensis* x *B. partita* were collected in at least two places in Natal at different times separated by many years. They show a combination of characteristics of the two species, with wide variability of leaf shape on the same plant, as could be expected in a hybrid. Some of the leaf blades are

narrow above and somewhat narrowly long-acuminate, with the outside margin one- to three-lobed below and toothed above; some are deeply divided into two widespread lobes like *B. partita*, with convex cleft margins.

3. Three plants with variable leaves, collected in northeastern Cape Province, show characteristics of both *B. dregei* and *B. natalensis*, and Dr. Irmscher thought it best to classify them separately as belonging to a outside margin and barely or irregularly crenate-dentate beyond the

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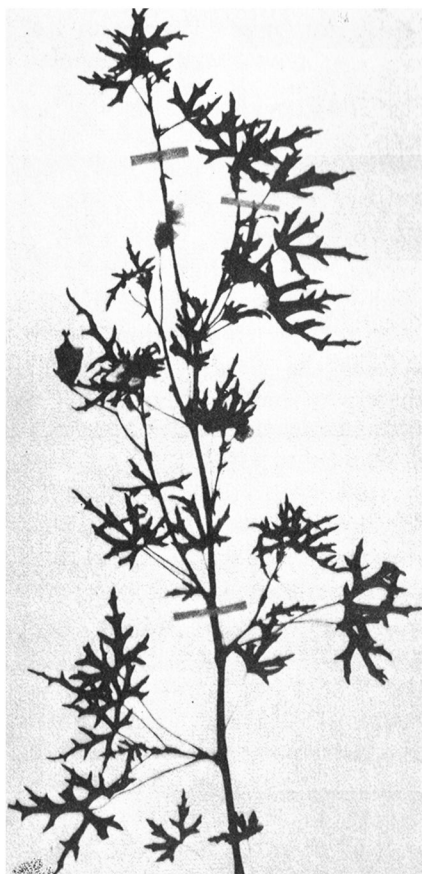
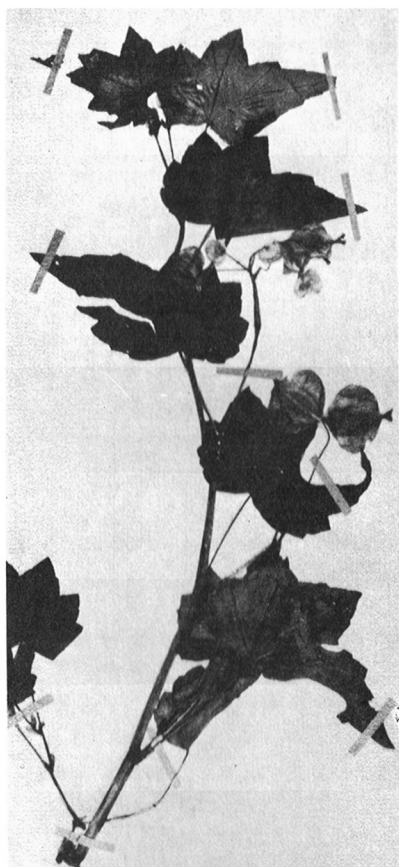
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Top left, *Begonia sonderiana* variety *transgrediens*, type.

Top right, *Begonia suffruticosa* form *bolusii*.

Bottom, *Begonia suffruticosa* form. *suffruticosa*, isotype.

From Irmscher, *Bot. Jahrb.*, 81 (1961),
Tafel 6, Fig. 1-3.

(Top two about two-thirds life size;
bottom almost one half.)

lobes — or, rarely, almost symmetrical and equally two- or three-lobed or toothed.

B. sonderana Irmscher,
new species

Dr. Irmscher found among herbarium specimens a rather large, pretty plant from East Africa that had been confused with *B. caffra*, *B. natalensis*, *B. dregei*, and even *B. sutherlandii* — but that actually did not belong to the *B. dregei* complex or even to the same section. It differs from the *B. dregei* group immediately in having four tepals on

male flowers, instead of two, and smaller, almost globular anthers. The lobes on the outer leaf margins are mostly on the lower halves of the leaf blades, while the upper part is elongatedly triangular. Lengths of the lobes and leaf tips and sharpness of the double serration vary, as do the shapes of the capsule and the three wings — sometimes all three wings equal, sometimes one narrower, or sometimes one much larger; with shapes almost rectangular, half-obovate, or triangular. The probable hybrid between the two. The leaf blades are variable, above

MAPLE-LEAVED BEGONIAS SUMMARIZED

In Section *Augustia*

B. dregei O&D (syn. *B. parvifolia* Graham in *Bot. Mag.*)
variety *macbethii* hort.

B. caffra Meissn. (syn. *B. sinuata* Meyer ex O&D and *B. sinuata* Graham in *Bot. Mag.*, which Alph. de Candolle gave us a variety of *B. dregei*)
variety *caffra*

variety *favargerii* (Rech.) Irmsch. (syn. *farvargerii* Rech.)

B. natalensis Hooker

B. suffruticosa Meissn. (syn. *B. richardsiana* T. Moore and
B. richardsoniana Houlllet)

form *suffruticosa* (with medium leaf divisions)

form *bolusii* (with the narrowest leaf divisions)

form *worsdellii* (with the widest leaf divisions)

B. partita Irmsch., new sp.

Hybrid forms:

B. 'Weltonensis' (*B. dregei* x *B. sutherlandii*, developed in cultivation by Clarke)

B. natalensis x *B. partita* (collected in Natal, South Africa)

B. dregei x *B. natalensis* (collected in Cape Province, South Africa)

In Section *Rostrobegonia*

B. sonderana Irmsch., new sp. (actually not a member of the *dregei* group)

half as short as below. They are narrowly acuminate (taper-pointed), with two to three triangular or acuminate lobes or large teeth on the placentas are divided, while in the *B. dregei* group they are not. A number of specimens had a few short brown bristles at the top of the petioles.

Dr. Irmscher placed this plant in the Section *Rostrobegonia* because of its different traits, naming it (on pp. 156-160) a new species, not recognized before although first collected as early as 1890: *B. sonderiana* Irmscher (which should be corrected according to the International Code of Botanical Nomenclatures to *B. sonderana*).

He described one variety: *B. sonderana* variety *transgrediens* Irmsch., collected in 1936, with more slender leaves and with leaf margins next to the lobes sparsely and remotely shallow-toothed. About half the male flowers had only two tepals and the other half a third, inner tepal. The anthers had a distinctly developed connective. These traits pointed to the variety's being a connecting link between *B. sonderana* and the *B. dregei* group, although the placentas remained divided.

ROUND ROBIN

(Continued from Page 59)

saw in some of the root systems was painful, he said.

Jeannine Whatley, Texas, was putting wedges of rex begonias to root several months ago. When it became too dark to see, she wrapped the remaining wedges in pieces of Saran Wrap, intending to finish the next day but forgot them. About a month later she found them and was surprised that some of the wedges had roots!

Since Gordon Lepisto of Minnesota has found that (in his man-made climate) his rexes grow best when tightly rootbound in unmilled sphagnum moss, growing in styrofoam pots, he slits the sides of the container up the sides in the manner of orchid pots to give the roots as much air as possible. He has devised a method for keeping the lighter pots from falling over, especially when planted with a large rex plant, by cutting a larger pot in half, inverting it and placing the smaller pot inside. He finds it very secure this way.

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WHAT IS BEGONIA 'TINGLEY MALLET'?

By J. Doorenbos, *The Netherlands*

The Begonia known in the U.S. as 'Tingley Mallet', regularly mentioned in this magazine and discussed in some detail in articles in *The Begonian* of July 1966 and October 1968, is a perennial favorite, notwithstanding its rather poor growth and the fact that it always drops its flower buds.

'Tingley Mallet' is of course not its true name. There is a beautiful picture of this plant in the *Revue Horticole* of 1886 with a description by E. A. Carrière. There it is called *B. 'Arthur Mallet'*, and it is stated that it was produced by Lionnet, gardener of Arthur Mallet, at Jouy-en-Josas, France. This same Lionnet produced a few other hybrids of the same par-

entage: *B. 'Noémi Mallet'*, *B. 'Madame Lionnet'* and *B. 'Gloire de Jouy'*. I have been unable to find descriptions of these varieties which would permit to distinguish between these and *B. 'Arthur Mallet'*. Therefore, I am unable to decide if the Buxton Check List is right when it states that *B. 'Tingley Mallet'* = *B. 'Mme Lionnet'*, rather than *B. 'Arthur Mallet'*. (I would prefer the latter name, because it is well documented by the coloured picture in the *Revue Horticole*, and because I don't see any differences with *B. 'Tingley Mallet'*).

As is the case with many old hybrids, the origin is rather obscure.

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According to the original description, the female parent was *Begonia subpeltata*. This is impossible, because *B. subpeltata*, a rhizomatous species from India described by Robert Wight in 1840, has never been in cultivation. The plant in question must have been *B. "subpeltata rubra"*, which was first mentioned by Regel in 1866. All authorities, even E. Irmscher, state that Regel was responsible for the erroneous name of this plant, but this is not true. In a short article in *Gartenflora* 15, 1866 (pages 358-359) he states that it was exhibited for the first time as *B. subpeltata rubra* at the 'Universal Horticultural Exhibition' at Amsterdam in 1865 by C. Glijm, at the time a well known commercial grower of rare plants at Utrecht. Regel recognizes that the plant has been wrongly named and proposes the name *B. incarnata* var. *purpurascens* for it. It should be noted that he states that it seems to be a hybrid of *B. incarnata*, and that many characteristics already bring *B. 'Arthur Mallet'* to mind, for instance the leaves which are 'obliquely oval-cordate, acuminate, on the upper side olivegreen with a purple sheen, often with many small silver spots and scattered purplish red bristles, on the under side purplish red and set with bristles on the veins'. This is indeed, as Regel notes, far removed from the typical *B. incarnata*. But if it is a hybrid, what is the other parent? I have looked through all reports on the Amsterdam exhibition, but there is no information about Glijm's *Begonia* (it is not even specifically mentioned). Subsequently, the name *B. subpeltata rubra* occasionally turns up in the literature. In 1874 a *B. in-*

carinata purpurea is mentioned, which may be the same plant. Regel's name, which is the legitimate one, does not seem to have caught on.

The other parent of *B. 'Arthur Mallet'* is generally assumed to have been *B. 'Eldorado'*. Now there are several varieties of that name, but the one in question must have been a hybrid raised by L. L. Liebig at Dresden from the pollination of *B. rex* by *B. splendida argentea*. (It is hard to believe that the latter, a hybrid of *B. splendida* (= *robusta*) and *B. xanthina*, should have produced pollen.) It should be mentioned that A. van der Heede says that the other parent of *B. 'Arthur Mallet'* is *B. 'Bettina Rothschild'*. Now as a rule his book 'Les Begonias' of 1903 is a mine of misinformation, but in this case his story is not more improbable than the other one.

Cytological research has not brought us much further in this case. A definite chromosome count could not be made yet, but it seems that the number is high (about 77?), in any case much higher than numbers of the species mentioned as the parents (*B. incarnata* has 28 chromosomes, Rex-hybrids usually have 22, 33 or 44 chromosomes). Polyploidy must have come into play somewhere.

Presumably, much light would be thrown on the ancestry of *B. 'Arthur Mallet'* if the old *B. "subpeltata rubra"* (*B. incarnata* var. *purpurascens*) could be found. Perhaps it is still around somewhere in a collection. Needless to say, I would like to have a cutting.

Lab. of Horticulture,
Postbox 30, Wageningen,
J. Doorenbos,
The Netherlands.

REGISTRATION OF BEGONIA CULTIVARS

Note: The American Begonia Society is the International Registration Authority for the genus *Begonia*. Information may be obtained from Rudolf Ziesenhenné, 1130 N. Milpas St., Santa Barbara, CA 93103.

No. 392 — *Begonia* (B. 'Elizabeth Lockhart' x unknown) 'Lana'

Peter P. Lee, 1852 31st St., San Diego, Ca. 92102, developed this tall cane in 1965. It first bloomed from spring to fall in 1967, and was distributed in 1972; sturdy with many basal stems, nodes slightly swollen, leaves are dark green, silver-splashed between veins, palmately lobed, 8 x 4"; margin is lobed; texture heavy; veins prominent; petioles red. Flowers spring to fall 1½ to 2", in drooping clusters. Registered Oct. 23, 1973.

No. 393 — *Begonia* (B. *violaefolia* x B. *prismatocarpa*) 'Ona-Mae'

Terrarium culture is recommended for this plain-leaved rhizomatous begonia originated in 1972 by Jacqueline Basye, 1318 Judson Way, Chula Vista, Ca. 92011, which first bloomed and was first distributed in 1973. The oblique-pointed leaves vary in color from apple-green to dark-green, some with brown or silver overlay, 4 x 3"; margin serrate; texture pustulate; veins prominent; petioles green with heavy, brown hairs; stipules insignificant. Flowers pale pink, 1" diameter on 2" stem. Registered Oct. 23, 1973.

No. 394 — *Begonia* (B. 'Texas Star' selfed) 'Texas Beauty'

James Wyrzten of Wyrzten Exotic Plants, 26001 87th Ave., Floral Park, N.Y. 11001, originated this star-leaved rhizomatous plant in 1965, and it first bloomed and was first distributed in 1967. Leaves are pinnate, 5 x 2", margin serrulate; texture smooth; veins green; petioles green-splashed red; stipules caducous; color green with darker green edge. Flowers in spring, small pink clusters well above foliage on 8-9" stems. Registered Nov. 5, 1973.

No. 395 — *Begonia* (Chance Seedling) 'Beau Rouge'

This medium-leaved Rex with leaf color configuration of reds and two-toned green, was developed in 1968 by James Wyrzten, address above. It has bloomed continuously since 1968 when it was first distributed. Leaves are of palmate venation, basi fixed, 7 x 5"; margin dentate; texture slightly rough; veins red; petioles 5" hairy; stipules caducous. Flowers pink, 1½". Registered Nov. 5, 1973.

Rudolf Ziesenhenné
Nomenclature Director

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B. MARIAE L. B. SMITH

(Continued from Page 55)

flowers — was described and pictured by Dr. Julian A. Steyermark in the May 1967 *Begonian*. It was discovered in 1938 and first published in 1942.)

Dr. Smith's detailed description of *B. mariae*, with the citation of the type specimen, follows:

"Glabrous herb; stems repent, straight, slender, sulcate. Leaves transversely ovate, acuminate, subcordate at base with the larger side decurrent on the petiole, 5-10 cm long, 3-5 cm wide, doubly serrate with setose-tipped teeth, green above, pale beneath; petioles 1-3 cm long; stipules deciduous, membranaceous, hyaline, elliptic-oblong, obtuse, 25 mm long, entire. Peduncles axillary, to 10 cm monlg. Inflorescences of a few staminate flowers or a single pistillate. Bracts deciduous, hyaline, elliptic, to 13 mm long. Pedicels 15 mm long (staminate) or very short (pistillate). Staminate tepals 4, rose, the outer obicular, 15 mm wide, the inner obovate, 8 mm long. Stamens many, free or nearly so; filaments short; anthers oblong, the connective produced, obtuse. Pistillate brac-

teoles like the bracts but rose. Pistillate tepals 6, subequal, broadly elliptic, 15-27 mm long. Styles irregularly branched; placentae bilamellate, ovuliferous throughout. Capsule broadly turbinate with 3 slightly ascending horns, attenuate, the column subcylindric, 6-10 mm long. Seeds ellipsoid, broadly rounded at apex, reticulate.

"VENEZUELA: MÉRIDA: creeping in watercourse, Teleférico trail between La Aguada and La Montaña, 2600 m, 21 November 1972, John J. & Marie L. Wurdack & S. S. Tillett 2782 (US, holotype; VEN, isotype)."

SEED FUND

(Continued from Page 60)

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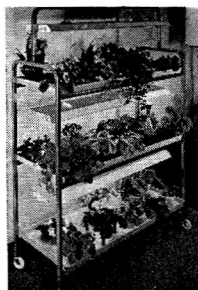
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