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The BEGONIAN



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Advertising — send copy to Editor; send payments to Treasurer; send inquiries to Business Manager, below.

Circulation ManagersArnie and Edie Krupnick
11506 McDonald, Culver City, Ca. 90230

Contributing Editors

Elda Haring.....Box 236 Ravenswood Loop Rd.
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Phyllis Wright.....536 N.E. 98th St.
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Views expressed in this magazine are not necessarily those of the Editors, the Society or its officers.

NEW BEGONIA BOOK

By Rudolf Ziesenhene
Nomenclature Director

Three hundred and two excellent color photographs of begonias are the important discovery in the recently-published Japanese book, *Begonia*, by Isamu Misono, which will soon be offered for sale by the American Begonia Society Library.

Never have so many beautifully-colored photographs of begonias appeared under one cover to my knowledge (appearing on ninety full-colored pages.) There are also 102 black and white photographs and eight drawings.

Although published in Japan in the Japanese language, the book lists the begonia pictures alphabetically by the English or Latin name. It should prove a great aid to those who wish to identify begonias grown in American and Japanese gardens.

To help ABS members obtain copies of this outstanding begonia book, which was first shown in the United States by Hikoichi Arakawa at the 1974 ABS Convention in Goleta, Mrs. Lydia Austin, librarian of the ABS, 15329 Eastwood Ave., Lawn-dale, CA 90260 will soon send in an order to the publisher in Japan. ABS members wishing to order a book may send \$20.00 for each copy to Mrs. Austin as soon as possible.

COVER PICTURE

The cover picture is *Begonia manicata aureomaculata crispa*, photographed by Percy Merry. Mrs. Ruth Merry found this photo among their collection of slides, after reading about *B. manicata aureomaculata* in "Begonia Collecting in Mexico," *The Begonian*, October, 1974, p. 257.

Percy Merry was a commercial photographer and a begonia hobbyist-hybridizer. He was responsible for hybrid crosses which produced *B. 'Needham'*, *B. 'Beatrice Haddrell'*, *B. 'Kingsbury'* and many others. He and his wife were active in the Buxton Branch, American Begonia Society, almost from its inception. He died March 3, 1971. Mrs. Merry continues to be interested in begonias and the A.B.S.

Evelyn Cronin

FROM THE EDITORS:

The compliments on the December issue were most gratifying. We thank Mrs. Alice Clark for her generosity in making her original watercolor available for the special inside color page. We thank all of you who helped during the past year for the splendid items you submitted. We encourage everyone to send us pictures and articles. Our best wishes to all for a very Happy New Year.

Edgar and Phyllis Bates

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*.

CHOOSING A RESEARCH PROJECT

By M. Carleton L'Hommedieu, Research Director ABS

I can best tell how a project is chosen by relating the process in selecting the leaf stem propagation project.

There are three problems that face the Research Committee in trying to get a research project started. The first is having sufficient funds on hand to support a grant. Second, when the money is available a suitable project is decided upon—one that will be of interest to many of our members. And the third is the problem of finding a University that may have a student who would be willing to work on our project. All three of these problems have to be solved before starting on any research project.

Why was the leaf stem project started? The idea for this project was initiated at one of the Eastern Conventions. Several of our members were discussing the problem of not being able to initiate bud growth from the leaf stems of cane type begonias even though they will root profusely. This problem exists with all begonias except the rhizomatous ones. Perhaps many of our members have been able to use the leaf stem method of propagation with some of the so called fibrous rooted begonias. This is possible when one of the parents of the fibrous rooted plant is a rhizomatous begonia. Many of the seedlings from a cane x rhizomatous will look very similar to the original cane begonia used in the cross. Thus thinking that you have a cane type begonia when in reality you have a hybrid which may be a cross with a rhizomatous begonia.

The research committee, therefore, decided to use this problem for the first project. Since we had the funds and had decided on a project, our next step was to find a University that would be interested in doing research along this line. This is not always easy. But we were very fortunate in finding a University that was currently carrying out research on the Rieger tuberous begonia in regard to increasing branching by trying to initiate bud growth at the base of the Rieger begonia plant. They understood the basic principle of adventitious growth. So we were very pleased to have Rutgers University agree to carry on our project of leaf stem propagation of cane begonias.

The arrangement with Rutgers University was very satisfactory as I was able to visit the University many times to see how the project was progressing. Since there are still many unanswered questions to the problem of adventitious growth, arrangements are being made to carry on this project for another year.

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SMITHSONIAN BEGONIA AUTHORITY DR. L. B. SMITH "RETIRES"

By Carrie Karegeannes

When one of the foremost authorities on *Begonia* becomes Botanist Emeritus, the *Begonia* world might fear a loss — except that when Dr. Lyman B. Smith took that title in September he did not pause for breath, or even congratulations.

Work goes on as usual, early and late and weekends, in his office in the U.S. National Herbarium in the Smithsonian Institution's National Museum of Natural History. And he is always ready to answer questions, with a twinkle of blue eyes, and to share the wealth of knowledge gathered in 27 years in the U.S. Herbarium and 16 in the Gray Herbarium of Harvard University.

A familiar name to members of the American Begonia Society and 1968 winner of the Society's highest honor, the Eva Kenworthy Gray Award, with Dr. Bernice G. Schubert of Harvard — Dr. Smith is continuing full-length studies in a number of plant families. His preliminary revision of *Begonia* of Venezuela appeared in *Phytologia* in December 1973, in preparation for a more extensive one in *Flora de Venezuela*. Volume 1 of *Bromeliaceae* (the extensive Monograph No. 14 in *Flora Neotropica*, with Robert Jack Downs) has just been brought out by Hafner Press. Half of Volume 2 has gone to the editor and a third volume is planned.

Dr. Smith is working out a worldwide key to the *Begoniaceae*, begun with Dr. Fred A. Barkley and con-

tinuing with Jack Golding of A.B.S., a huge project seeking eventually to make it possible for anyone to turn up the name of an unidentified *Begonia* by its key traits. He also has studies under way in the grasses of Santa Catarina Province of Brazil and in the *Velloziaceae* of South America. His descriptions of the *Begonia* of Santa Catarina, prepared with Mrs. Smith and published in 1971, was one of several recent books he has authored in the *Flora Illustrada Catarinense* series and follows a long list of publications on *Begonia* in Argentina, Bolivia, Peru, Panama, Colombia, Ecuador, Guatemala, Venezuela, and Mexico, many in collaboration with Dr. Schubert. In addition are many publications on the *Bromeliaceae* and other families.

Close to 90 species of *Begonia* owe their names to Dr. Smith and Dr. Schubert. One of the most recent — the beautiful, large-flowered Venezuelan *B. mariae* L. B. Smith — was pictured in color on the cover of the March *The Begonian*, and *B. olsoniae* Smith & Schubert was on the July cover. A drawing of the new Brazilian species *B. konderreisiana* Smith & Smith was published in the October 1971 *The Begonian*.

Pressed plants are important to the botanist for examination of minute details of each plant, but Dr. Smith also observes his plants in the wild. He plans his ninth trip to Brazil in January, and he has col-



Dr. Lyman B. Smith in his Smithsonian Office

Photo by P. Karegeannes

lected plants in Costa Rica, Argentina, Cuba, and Venezuela as well.

Dr. Smith took his A.B., M.A., and Ph.D. degrees from Harvard University and was a member of Harvard's Gray Herbarium curatorial staff from 1931 to 1947. He went to the Department of Botany of the U.S. National Museum, Smithsonian Institution, in 1947, serving as Curator of Phanerograms from 1956 and Senior Botanist from 1966. He has been a member of numerous expeditions, beginning with Gaspé, Can-

ada, in 1923, and continuing in South and Central America. He did research in Bromeliad malaria for the Rockefeller Foundation in 1952.

A long and full career — but, in talking with him, it seems he has just begun! Our congratulations on "retirement," anyway!

Dr. Smith's publications on *Begonia* include:

Smith, Lyman B. "*Begonia* of Venezuela" in *Phytologia* 27, No. 4: 209-227. December 1973.

— and Ruth C. Smith. "Begoniaceas," *Flora Illustrada Catarinense*, Pt. 1, Fasc. BEGO: 1-128. 1971.

- _____ and Bernice G. Schubert. "Plantae Mexicanae I: *Begoniaceae*" in Contributions from the Gray Herbarium of Harvard University, No. 127: 20-33. 1939.
- _____. "Begoniaceae" in J. F. MacBride, Flora of Peru, Field Museum of Natural History, Chicago, Botany 13, Pt. 4, No. 1: 181-202. 1941.
- _____. "Revisión de las Especies Argentina del Género Begonia," in Darwinia 5: 78-117. 1941.
- _____. "Revisión de las Especies Bolivianas del Género Begonia" in Revista Universit. (National University of Cuzco) 33, No. 87: 71-85 and Figs. 13, 14.
- _____. "Una Begonia nueva del Peru," *ibid.*: 91 and Fig. 15.
- _____. "Studies in the *Begoniaceae*, I" in Contributions from the Gray Herbarium, No. 154: 23-31. 1945.
- Part II, *ibid.*, No. 161: 26-29 and Plate III, 1946.
- Part III, in Journal of the Washington Academy of Sciences 40, No. 8: 241-245. Aug. 15, 1950.
- Part IV, *ibid.* 45, No. 4: 110-114. April 1955.
- _____. "The *Begoniaceae* of Columbia" in *Caldasia* 4, Botanica, No. 16: 1-38. No. 17: 78-107. No. 18: 180-209. 1946.
- _____. "Some Mexican Begonias" in Contributions from the Gray Herbarium, No. 165: 90-94. 1947.
- _____. "Una nueva Begonia Argentina" in *Lilloa* 23: 143-146. 1950.
- _____. "Additions to the Flora of Ecuador: *Begoniaceae*" in *Lloydia* 13, No. 1: 85-87. March 1950.
- _____. "Plants Collected in Ecuador by W. H. Camp—*Begoniaceae*" in Memoirs of the New York Botanical Garden 8, No. 1: 36-40. March 26, 1952.
- _____. "*Begoniaceae*" in J. A. Steyermark, Contributions to the Flora of Venezuela, *Fieldiana: Botany* 28, No. 2: 416-421, 1952. No. 4: 997-999, 1957.
- _____. "*Begoniaceae*" in R. E. Woodson, Jr., R. W. Schery, *et. al.*, Flora of Panama, Pt. 7, in *Annals of the Missouri Botanical Garden* 45, No. 1: 41-67. February 1958.
- _____. "*Begoniaceae*" in P. C. Standley and L. O. Williams, Flora of Guatemala, Pt. 7, *Fieldiana: Botany* 24, No. 1: 157-185. November 1961.
- _____. "The Machris Brazilian Expedition, Botany: A New Brazilian *Begonia*" in Contributions in Science (Los Angeles County Museum), No. 47: 3 pp. Dec. 21, 1961.
- _____. "Nuevas Especies Peruana de la Familia *Begoniaceae*" in Publicaciones del Museo de Historia Natural "Javier Prado," Series B, Botanica No. 17: 2-11. November 1963.

THE THOMPSON BEGONIA GUIDE

Mildred L. Thompson

This is a compilation of facts and data for over 1600 different species and hybrids. The book has 9 major sections with information on classifications, parentages of hybrids, bloom, and references for each begonia listed. There is also a glossary included. Diagrams, drawings and illustrations are found in all sections.

For further information and advance orders, please write to:

Edward J. Thompson, 310-A Hill Street, Southampton, N.Y. 11968

The printing is very limited (300 copies) and was prepared without realization of profit. Approximate price will be \$10.00 to \$15.00. No money for advance orders will be accepted until the delivery date which is early 1975.

BEGONIA POPENOEI STANDLEY

By Mauro Hernández M.

Northeastern University, Boston

and

Fred A. Barkley

University of Khartoum, Sudan

In February 1970 the writers collected *Begonia popenoei* Standl. incidental to obtaining living material of *Begonia glabra* Aublet, at Lance-tilla, Honduras.

In recent years several growing specimens have been obtained, purportedly of *Begonia popenoei*. However, these did not show runners which Standley had called attention to in his original description*, and which had been so prominent in our original collection. Likewise, these specimens purportedly of *B. popenoei* had their peduncles much stouter and longer than those we had seen. The leaf-margins and pubescence had minor differences.

Unfortunately, we did not make photographs of the original collections before preparing herbarium specimens, and the cut bases of the runners showed (on the thick upright rhizomes of the herbarium specimens) no difference from cut petioles of leaves.

Obviously these oversights needed correction. Arrangements were made four times with other botanists to obtain additional specimens and photographs. All of those attempts failed to produce the desired specimens. The present writers returned in June of 1974. Our camera failed us, but a rented camera functioned. The senior writer was able to find an abundance of the species**. Adequate photographs were made and a

number of (duplicate) specimens of the plant will be distributed.

Begonia are usually roughly classified on the basis of stem structure into a few convenient and easily understandable groupings. The stem types*** are usually grouped as bulbous, tuberous, cane, semituberous, upright rhizomatous and creeping rhizomatous. The rhizomatous vary from very thick stemmed to thin stemmed. In the grouping of creeping rhizomatous are a few with short-internoded runners as is seen in *B. pustulata* Liebm. However, the writers are not aware of any other *Begonia* having runners with as much as ten centimeters between nodes of the runners. This is sufficiently unique that it seemed worthy of note.

* Standley, Paul C. Publ. Field Mus. Nat. Hist. Chicago Bot. Ser. 8: 142. 1930.

** In dense shade of rain forest at Lancetilla, Tela, Atlántida, Honduras, ± 333 m. alt., soil pH 5.9. 20 June 1974. Mauro Hernández M. & Fred A. Barkley 1075.

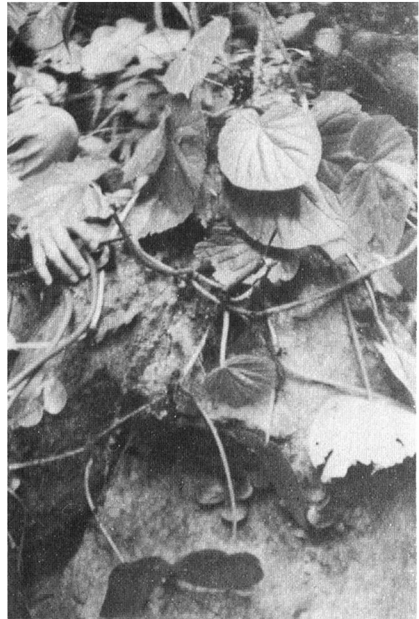
***An example of each of these are:
Bulbous: *Begonia socotrana* Hook f.
Tuberous: *Begonia boliviensis* A. DC.
Cane: *Begonia maculata* Raddi
Semituberous: *Begonia dregei* Otto & Dietrich
Upright rhizomatous: *Begonia lindleyana* Walpers
Creeping rhizomatous: *Begonia heira-cleifolia* Chamisso & Schlechtendahl

PLATE I

A.



B.



C.



D.

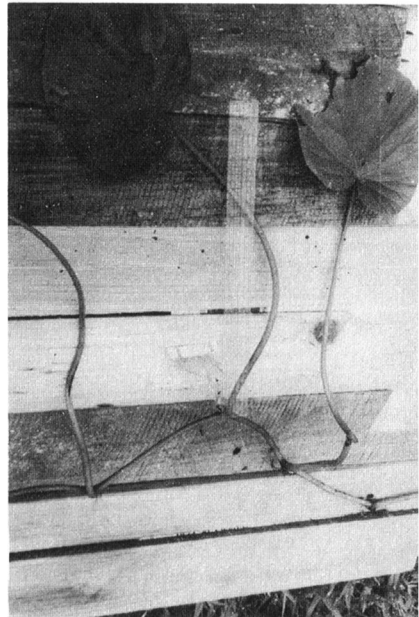
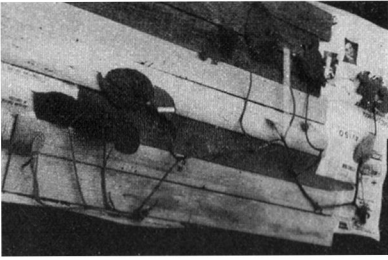
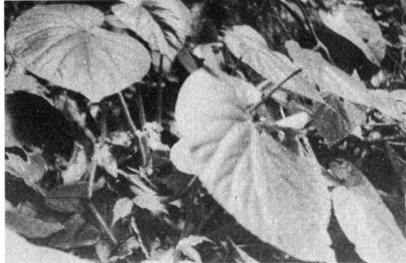


PLATE II

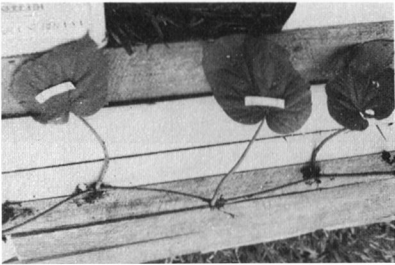
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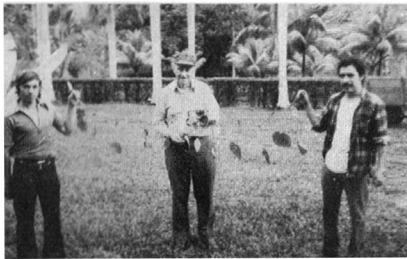
C.



D.



E.



EXPLANATION OF PLATES

PLATE I

Fig. A. The senior author with *Begonia popenoei* Standl. showing runners.

Fig. B. Runners of *B. popenoei*.

Fig. C. "Central" or parent plant of *B. popenoei* showing the short inflorescence.

Fig. D. A portion of a runner of *B. popenoei* showing a lateral plant developing at the "tape". Tape marked to show 3 cms.

PLATE II

Fig. A. A portion of a runner of *Begonia popenoei* Standl.

Fig. B. A plant of *B. popenoei*. Note inflorescence.

Fig. C. A runner of *B. popenoei*. The tapes are marked to show 3 cms.

Fig. D. A stand of *B. popenoei*, as found in the rain-forest at Lancetilla.

Fig. E. José Leonidas C., Fred A. Barkley & Mauro Hernández M. (left to right), holding a runner of *B. popenoei*. The photograph was taken on the lawn of the workhouse at the Lancetilla Botanical Center near Tela, Honduras.

REGISTRATION OF BEGONIA CULTIVARS

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

No. 416 — Begonia (B. rex cultorum unnamed varieties) 'Frasier'

Originated by Sylvia Leatherman, 2637 Lee St., So. El Monte, Ca. 91733, in 1964 and first distributed in 1971. This cultivar was named for the famous lion whose off-spring were numerous because all mature leaves produce plantlets. This rex has round leaves, 2 to 4"; texture thin; color, pink, silver and green; flowers are pink; can be grown in a terrarium. Registered Aug. 15, 1974.

No. 417 — Begonia (B. rex cultorum unnamed X B. 'Reiga') 'Streaking'

This rex of unusual brown coloring with rosey pink and silver, was originated by Sylvia Leatherman, address above, in 1965; first distributed in 1973, the plant of easy culture has round, 6-8" leaves of medium texture; flowers are pink. Registered Aug. 15, 1974.

No. 418 — Begonia (B. rex cultorum unnamed varieties) 'Lady Florita Cowell'

Sylvia Leatherman, address above, developed this rex in 1964, and first distributed it in 1971; it has a leaf with silver with dark markings, an 8-12" round, ruffled spiral; roughly textured and ridged, unusual in form. Registered Aug. 15, 1974.

No. 419 — Begonia (B. rex cultorum unnamed varieties) 'Sir Mike Kaskkin'

Of easy culture, with unusual tex-

ture, coloring and markings, this rex was originated by Sylvia Leatherman, address above, in 1964, and it was first distributed in 1970. The leaves are mainly reddish purple with silver and green markings, a round spiral, 6-8", with pebbly texture. Registered August 15, 1974.

No. 420 — Begonia (B. rex cultorum unnamed X B. 'Reiga') 'This 'N That'

Sylvia Leatherman, address above, originated this rex begonia in 1963 and it was first distributed in 1968. Leaves are colored bluish silver, heavily overlaid with bright rosey pink, with small areas of bright green; pointed-edged, 6-8", with medium-smooth texture; flowers pink. Registered August 15, 1974.

No. 421 — Begonia (B. rex cultorum unnamed X B. 'Reiga') 'Sir Pinky Harrison'

Developed by Sylvia Leatherman, address above, in 1964, distributed in 1970, this rex cultorum has leaves of brilliant red with small sections of bright green and jet black; of oblong, pointed-edged shape, the 6 x 8" leaf has medium-smooth texture. Flowers are pink. Registered August 15, 1974.

No. 422 — Begonia (B. rex cultorum unnamed varieties) 'Sir William Cook'

Dark, blue-green leaves with small areas of pink and silver distinguishes this rex developed in 1965 by Sylvia Leatherman, address above, and first distributed in 1972. The leaf is a round-spiral, 6-8", of medium texture; flowers are pink. Registered August 15, 1974.

Rudolf Ziesenhenné
Nomenclature Director

BEGONIAS FROM SEED

By Elda Haring

Photos by Walter Haring

Many members of ABS grow begonias from seed. In reading the letters of the Round Robins, chatting with members at meetings and conventions I am amazed at the ingenuity and persistence of those who propagate begonias from seed. There is no one perfect method for what suits my conditions could quite likely be unsuitable for yours. In Charles Tagg's delightful pamphlet on growing begonias from seed he mentions using perlite (Sponge-Rok) for the root system, topped with a layer of sterilized soil for sowing seed. To me, it seems puzzling to use an inert material at the root system but obviously he has found this method necessary to prevent root rot where he grows his seedlings. In their propagation leaflet the Thompsons of Long Island find a mix of two parts vermiculite, 2 parts perlite to 1 part Jiffy Mix the perfect seedling medium for their conditions. My friend E. L. McWhorter of South Carolina sows his begonia seed in Jiffy 7's with great success. For many years my own preference for growing begonias from seed has been a mixture of 2 parts vermiculite, 1 part *finely ground* perlite and 1 part of *milled* sphagnum moss. In any event it is most important to use a sterile medium to prevent "damp off" a fungus disease that rots seedlings at the soil line.

There are many containers suitable for seed sowing and I have tried all of these at various times. Plastic

cottage cheese or margarine cartons, aluminum foil loaf pans and market-paks or plastic flower pots all of which must have holes for drainage and bottom watering and should be enclosed in plastic bags to keep the medium moist. Plastic bread, shoe or sweater boxes with clear plastic lids, mini-greenhouses and even one of those terrariums that come complete with drainage material and sterile potting mix have been utilized for sowing seed. Clear plastic boxes with lids provided with drainage holes are the choice of the Thompsons. Our Research Director Carl L'Hommedieu likes to sow ten seeds each to two-inch pots which he places in clear plastic sweater boxes. This method I have found is excellent for use under fluorescent lights. For busy people who do not have time to check seed pans regularly the wick-fed pots and aquatamatic planters are especially good for they may be placed on window sills or under lights. As they maintain a constantly moist medium so essential to good germination they need not be placed in plastic bags.

Fill seed pan with seedling medium to within $\frac{1}{2}$ inch of top. Press firmly to obliterate any air pockets. The mix should be thoroughly moist before sowing seed. If you must use dry mix place prepared pans or pots in tub, sink or pan containing at least two inches of water permitting to remain overnight to ensure that there is no dry material in the pan.

Drain containers before sowing seed. Begonia seed is very fine. Open packet on small piece of paper creased in the middle. Always reserve some of the seed for re-sowing in case of possible failure. Lack of germination is rarely due to faulty seed. Some begonias germinate readily in 7 to 10 days. Seed of others may take 60 days or more. Label each variety or species as you sow showing date sown and source of seed. If you wish to sow more than one kind in the same seed pan plastic labels cut to fit can be utilized as dividers. Sow in rows or broadcast as you choose. Let seeds roll off paper and try to sow thinly and evenly. After seed has been sown I like to press lightly into contact with soil with finger tips. Never cover the fine seed of begonias with seedling medium. After sowing it is important to water again from the bottom until moisture can be seen. Top watering or misting is not recommended for the beginner for this method could disturb or bury the seed. Permit pan to drain before enclosing in plastic bag or covering with plastic lid. Be sure to prop up plastic bag so that it does not rest on the mix. The bag may be closed if you wish. In my greenhouse I pro-

vide a shade of muslin for seed pans but leave end of bag open. Under the lights the bag is closed. Place containers in strong light but never in direct sunlight for the interior can heat up with disastrous effect. Under lights seed pan may be kept from 6 to 10 inches from the tubes. It is essential that adequate moisture be maintained at all times. Should top of mix dry out slightly the microscopic roots of seedlings quickly perish. Touch mix with finger tips. It should feel moist and spongy. Condensate on the plastic bag or lid is caused by fluctuating temperatures and not an indication that the seedling medium is properly moist. Water from bottom when necessary permitting pan to drain before returning to its original position. The use of a heating cable although not essential is helpful particularly if seed pans must be kept in a cool room. Temperatures of 70 to 80 are ideal for germination of most begonias but I find they germinate well anywhere from 60 to 70 degrees.

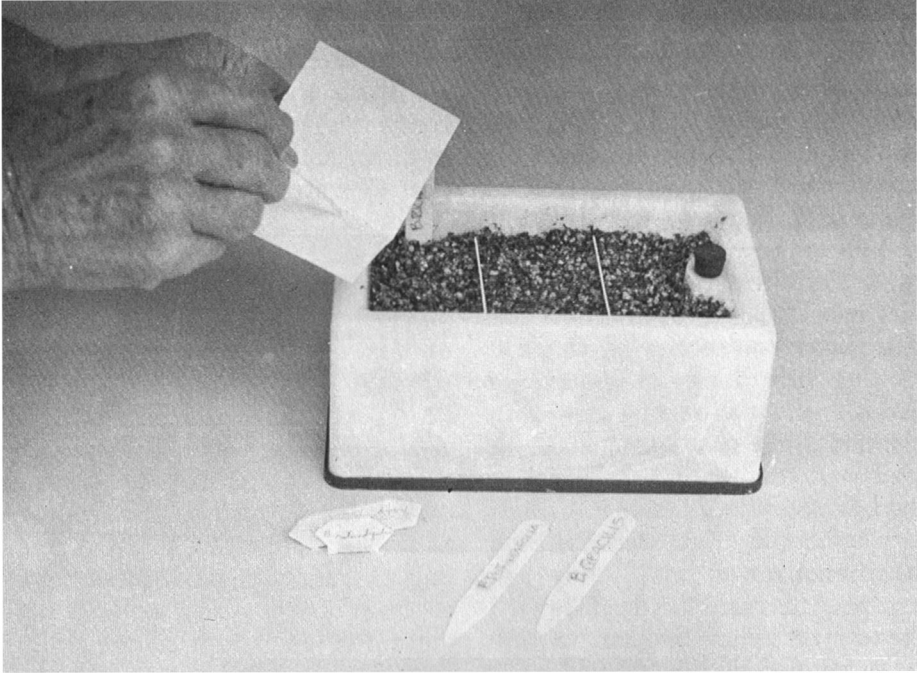
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THE SPECIES OF THE BEGONIACEAE

Fred A. Barkley & Jack Golding

A compendium of the published names of the species, varieties, synonymy of the *Begoniaceae*, including place and date of publication, original habitat, and section of the genus.

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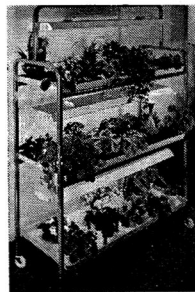
Sowing Begonia Seed — Aquatamatic Planter

Germination of some species takes longer at cooler temperatures.

When germination occurs and you can see the green seedling leaves remove plastic bag or lid to give all light possible. Check daily to be sure the medium is always moist and continue to water from bottom as necessary. If the medium contains no plant food provide a weekly feeding of $\frac{1}{4}$ strength water soluble fertilizer until ready for transplanting. The seedling leaves are rounded and not at all typical of the mature plant. Wait until the first or second pair of true leaves are showing before transplanting. Experienced growers like to transplant when seedlings are tiny. However, the smaller they are the more delicate the plantlets and roots. I prefer to wait until seedlings are well developed. Be patient,

this may take from 3 to 8 weeks. At this point seedlings are loosened and lifted with a wooden label disturbing the roots as little as possible and are transplanted to community containers placing them $1\frac{1}{2}$ to 2 inches apart setting them up to the first pair of true leaves. For this step the con-

(Continued on Page 25)



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CONSTITUTION

of the American Begonia Society

ARTICLE I. NAME

Section 1. This organization shall be known as the American Begonia Society and shall be conducted on a non-profit basis. The main office of this Society shall be within the County of Los Angeles, California.

ARTICLE II. PURPOSE

Section 1. 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.

ARTICLE III. MEMBERSHIP

Section 1. All persons who are interested in begonias shall be eligible to membership, subject to the approval of the Board of Directors. The Board of Directors may revoke the membership of any member for just cause.

Section 2. There shall be three classes of membership in this Society, known as Annual, Life, and Honorary.

Annual Members. Annual members shall have all the usual privileges of membership, and shall pay dues of an amount stated in the Bylaws. Annual Membership shall be for one year from date dues are paid.

Life Members. Life members shall have all the usual privileges of membership. The payment of fifty dollars (\$50.00) shall entitle any person to Life Membership and Life members shall be exempt from any further payment of dues. Life Memberships shall not be subject to cancellation or refund of any part of dues for any reason.

Honorary Members. Any person whom this Society shall deem worthy of the honor may at any Annual Meeting be elected an Honorary Member by a two-thirds vote of the members present; and such election shall specify whether such Honorary Membership is Annual, terminating at the next Annual Meeting, or for life. For each person elected an Honorary Life Member, fifty dollars (\$50.00) shall be transferred from the current funds of the Society to the Life Membership Fund. Honorary Members shall have all the usual privileges of membership and shall be exempt from the payment of dues.

Section 3. Each Annual, Life or Honorary Member shall be entitled to one vote on all matters brought before the Society. Membership shall cover the immediate family, except that only one member of the family shall receive the official publication and exercise the right to vote, unless additional dues are paid.

ARTICLE IV. OFFICERS

Section 1. The officers of this Society shall be: President Emeritus, President, Past President, three Vice Presidents, Treasurer, Secretary and one Director from each Branch Society.

Section 2. The President Emeritus shall be Herbert P. Dyckman, Founder and First President of this Society.

Section 3. The following officers shall be elected biennially in August by ballot: president, first vice president, second vice president, third vice president, treasurer, and secretary. Each member of the Society is entitled to one vote. All officers shall serve for two years and be installed at the appropriate Annual Meeting.

Section 4. A Director shall be elected biennially by each Branch Society to assume office and be installed with the remaining National Officers referred to in Section 3 hereof, and shall serve two years.

Section 5. All remaining officers shall be Directors to serve as heads of departments, and shall be appointed biennially by the President, subject to the approval by a majority vote of the Elective Members of the Board of Directors.

Section 6. Any appointed officer may be relieved of his office for just cause, and/or for the good of the Society, by a majority vote of the Elective Members of the Board of Directors.

ARTICLE V. BOARD OF DIRECTORS

Section 1. The Board of Directors shall consist of the President Emeritus, the seven officers elected by the entire membership of the Society, the Branch Directors — one elected by each Branch Society — and the Department heads appointed by the President.

ARTICLE VI. MEETINGS

Section 1. There shall be an annual meeting of the Society at a time and place to be designated annually by the Board of Directors.

ARTICLE VII. BRANCH SOCIETIES

Section 1. Any group of seven or more members of this Society who wish to affiliate themselves to forward the work and purposes of the Society may be organized into a Branch Society, and upon approval of the Board of Directors shall be issued a Charter.

Section 2. The Charter of any Branch, upon approval of the majority of the Board of Directors, may be suspended, and after due hearing before said Board, upon action of a majority of the Board, may be withdrawn.

ARTICLE VIII. FUNDS

Section 1. The current funds of the Society shall be expended only upon order of the Board of Directors.

Section 2. Neither the Board of Directors, nor anyone delegated by them, nor any of the officers, shall incur any debt or liability in the name of the Society beyond the available or maturing funds in the hands of the Treasurer, excluding money and securities held for a specific purpose.

Section 3. All monies received for Life Memberships shall be invested by the Treasurer as may be directed by the Board of Directors, and only the interest accrued therefrom shall be used for the current expenses of the Society.

Section 4. The fiscal year shall start on September first.

ARTICLE IX. AMENDMENTS

Section 1. Amendments to this Constitution may be initiated by a two-thirds vote of the members present at any Annual Meeting. Such amendments shall then be submitted by mail to the membership in accordance with Section 2 of this Article.

Section 2. The Membership Secretary shall mail a ballot covering the proposed Amendment to each member of the Society within thirty (30) days after the Annual Meeting at which the Amendment was initiated, with the request that the member vote, upon said Amendment and mail his ballot to reach the Secretary within sixty (60) days after the Annual Meeting at which the Amendment was initiated. If two-thirds of the votes cast are in favor of its adoption, the Amendment shall be declared adopted at the next meeting of the Board of Directors, when published in the official publications of the Society.

ARTICLE X. RULES OF ORDER

Section 1. Robert's Rules of Order shall govern the conduct of all meetings, and the decision of all questions not specifically covered by this Constitution and Bylaws.

ARTICLE XI. ADOPTION OF CONSTITUTION AND BYLAWS

Section 1. This Constitution and Bylaws shall be subject to the same rules of adoption laid down in Article IX concerning Amendments, and upon adoption shall go into effect, superseding all former Constitutions and Bylaws, when published in the official publications of the Society.

BYLAWS ARTICLE I

DUTIES OF ELECTED OFFICERS

Section 1. The President shall preside at all meetings of the Society and of the Board of Directors; shall appoint the heads of the various Departments with the exception of the Editor; and shall have general supervision of the affairs of the Society. The President shall be an ex-officio member of all committees.

Section 2. The First Vice President shall perform the duties of the President in the absence of the latter, or whenever the President is unable to perform the duties of his office, and such other duties as are assigned to him by the President.

Section 3. The Past President shall be the Chairman of the Finance Committee. This committee shall consist of the Past President, Treasurer, and Business Manager, and shall submit an annual budget for the approval of the Board of Directors at the first meeting of the Board of Directors following the Annual Meeting of the Society. Any proposed expenditure in excess of \$50.00 shall be submitted to the Finance Committee for recommendation before being voted upon by the Board of Directors.

Section 4. The Vice Presidents, in the order of their seniority, shall perform the duties of the President in the absence of, or the disability of the President and the President Elect. The Vice Presidents may be assigned by the President the duties of one of the appointed officers outlined under Article II of these Bylaws.

Section 5. The Directors elected by each Branch shall attend the meetings of the Board of Directors of the American Begonia Society when possible, shall make such reports and recommendations as will further the interests of the Society, and shall file an annual written report of the Branch activities with the Secretary of the American Begonia Society at the last regular meeting of the Board of Directors prior to the Annual Meeting.

Section 6. The Treasurer shall receive and account for all monies of the Society and shall pay out the monies under the directions of the Board of Directors. He shall file bond in such surety company and in such sum as the Board of Directors may determine. He shall make, to the Board of Directors monthly, and to the Society annually, a report of all receipts and disbursements. The annual report made by the Treasurer shall be presented at the Annual Meeting of the Society and shall be accompanied by a report of audits made by an audit committee of two members appointed by the President.

Section 7. The Secretary shall keep the records of the proceedings of the Society and of the Board of Directors, shall conduct necessary correspondence, and shall have charge of the records of the Society, except such basic records as are necessary for the proper functioning of the various departments and offices. The Secretary shall condense the minutes of the regular Board meetings, and shall transmit them to the Editor for publication in *The Begonian*, not later than the first day of the month following the regular meeting of the Board of Directors.

ARTICLE II. APPOINTED OFFICERS AND THEIR DUTIES

Section 1. The officers to be appointed by the President as Directors to serve as heads of Departments shall be as follows: Business Manager, Membership Secretary, Research Director, the Clayton M. Kelly Seed Fund Director, Nomenclature Director, Public Relations Director, Librarian, Chairman of Speakers Bureau and Slide Library, Chairman of

Flower Show Committee, Historian, Chairman of the Committee of Awards, Chairman of the School for Judges, Parliamentarian, Circulation Manager, and such other heads of Departments as shall hereafter be established by the Board of Directors.

The Editor shall be selected by an editorial board consisting of the President who shall act as chairman; the First Vice President, the Past President; and two others chosen by the President. The Editor shall serve as a member of the Board.

Section 2. The Editor shall have charge of the Publications Department and shall, under the direction of the Board of Directors, prepare and issue such publications as the Board of Directors and Society shall authorize and shall perform such other duties as the Board of Directors shall require of him. The Board of Directors shall determine his allowable expenses.

Section 3. The Business Manager shall act as business agent for the Board of Directors and for the Publications Department; shall act as advertising manager for the official publication and shall perform such other duties as the Board of Directors may require of him. The Board of Directors shall determine his allowable expenses, if any.

Section 4. The Membership Secretary shall receive all dues, which shall be deposited immediately with the Treasurer; keep an accurate roster of the membership of the Society; and have charge of the mailing and selling of back numbers of the official publication, less than one year old; and of the sale and distribution of all other special bulletins and directories. The Board of Directors shall determine his allowable expenses.

Section 5. The Research Director shall have charge of the Research Department; of arranging for the testing of begonias in test gardens in different locations throughout the country; and of collecting information relative to the culture, propagation and housing of begonias and companion plants.

Section 6. The Clayton M. Kelly Seed Fund Director shall have charge of the importation of seed of new begonias and companion plants, and the distribution of the same to the membership. The Board of Directors shall determine his allowable expenses.

Section 7. The Nomenclature Director shall have charge of determining and establishing correct names of species and established varieties of begonias; of approving and registering all newly developed horticultural varieties of begonias; and shall cooperate with the Editor in the publication of the results of his work.

Section 8. The Public Relations Director shall have charge of the Public Relations Department; of contacting prospective members; promoting and assisting in the formation of new Branch Societies; and seeing that the affairs of the Society receive the fullest publicity.

Section 9. The Librarian shall establish and maintain a circulating library for the use of the officers and members of the Society; shall preserve three copies of all publications of the Society and shall have charge of the mailing and selling of all issues of the official monthly publications over 12 months old. The Board of Directors shall determine his allowable expenses.

Section 10. The Chairman of the Speakers Bureau and Slide Library shall provide lists of speakers and a slide library for the use of the Branches.

Section 11. The Chairman of the Flower Show Committee shall prepare show schedules and encourage begonia shows and the use of begonias in flower shows, and maintain a register of the American Begonia Society Trophies.

Section 12. The Historian shall maintain a complete history of the Society.

Section 13. The Chairman of the Committee of Awards shall be the representative of this Committee on the Board of Directors. The duties of this committee are outlined in Article V of these Bylaws.

Section 14. The Chairman of the School for Judges shall have charge of the instruction and examination of potential Begonia Judges, and will accredit those qualifying, the names of whom shall be submitted to the Board of Directors with his regular monthly report.

Section 15. The Parliamentarian shall see that all proceedings of the meetings of the Society and the

Board of Directors are conducted according to the Constitution and Bylaws of the Society and where a question is not specifically covered there, Robert's Rules of Order is to be cited by him.

ARTICLE III. BOARD OF DIRECTORS

Section 1. The Board of Directors shall be the administrative and executive body of this Society; shall transact all business of the Society between Annual Meetings; arrange for Annual Meetings and any special meetings; establish and appoint such special committees as may be necessary to promote the objectives of the Society; approve the establishment of Branch Societies and issue charters to them; and make such regulations as may be necessary for the good of this Society.

Section 2. The Board of Directors shall meet at least four times a year and/or monthly on call of the President, or in his absence by the President Elect or First Vice President, the time and place to be published in the official publication.

ARTICLE IV.

DEPARTMENTS AND COMMITTEES

Section 1. The activities of the Society shall be divided into Departments and Committees under the charge of officers elected or appointed for such department or committee.

Section 2. The Department Directors may recommend the appointment of such special officers, assistants, or specialists as may be necessary to properly conduct the affairs of their departments.

Section 3. Each Department Director shall make a report at the annual meeting and such other reports as may be required by the Board of Directors.

ARTICLE V. COMMITTEE OF AWARDS

Section 1. The Committee of Awards shall consist of six members and the Nomenclature Director. Two members will be appointed yearly for a three year term by the President, subject to the approval of the Board of Directors. In the event of a vacancy it shall be filled by appointment by the President, subject to approval of the Board of Directors, for the balance of the unexpired term. The President shall appoint the Chairman of the Committee of Awards.

Section 2. The Committee of Awards shall study each year the system of ratings and awards and make its recommendations of general policy to the Board of Directors.

Section 3. The Committee of Awards shall receive and study carefully the reports of the judges and on the basis of this study shall make its recommendations to the Board of Directors.

Section 4. The Committee of Awards shall grant the awards of the American Begonia Society, including the Alfred D. Robinson Memorial Medal, the Eva Kenworthy Gray Award, and such other special awards as may be established and approved by the Board of Directors, subject to such regulations as the Board of Directors may adopt.

ARTICLE VI. ANNUAL DUES

Section 1. The dues of annual members shall be determined by the Board of Directors of this organization at necessary intervals of not less than one year through a majority vote of the Board of Directors including proxy votes of branch representatives not present at the initiating meeting. Members in arrears thirty days shall be dropped from the rolls of the Society and their names removed from the mailing list of the official publication until the arrearage has been paid.

ARTICLE VII. ELECTIONS

Section 1. The President shall appoint, not later than 150 days before the Annual Meeting, a nominating committee of three, who shall be Presidents or Past Presidents of Branch Societies. This Committee, not later than 90 days before the Annual Meeting, shall report to the Board of Directors at least two nominations for each elective office to be filled at the Annual Meeting.

Section 2. Additional nominations may be made by a petition signed by at least fourteen members of the Society, if made and delivered to the Sec-

retary at least 80 days before the Annual Meeting.

Section 3. An official ballot containing the names of all nominees shall be mailed to each eligible voter at least 30 days prior to the Annual Meeting.

Section 4. Eligible voters shall mail their ballots to the Secretary of the Society not later than 14 days prior to the Annual Meeting. Only ballots received seven days prior to the Annual Meeting shall be counted.

Section 5. The Secretary shall deliver the ballots on the seventh day preceding the Annual Meeting to a committee of three members appointed by the President. This committee shall count the ballots and make an immediate report in writing to the Secretary of the results of the election, together with the ballots cast, after which all candidates shall be notified of the results of the election immediately by the Secretary.

Section 6. Vacancies in office, either elective or appointive, shall be filled by appointment by the President, subject to approval by a majority vote of the Elected Members of the Board of Directors.

ARTICLE VIII. QUORUM

Section 1. Fifty members shall constitute a quorum for the Annual Meeting or any special meeting.

Section 2. Fifteen members of the Board of Directors shall constitute a quorum for any Board Meeting.

ARTICLE IX. BRANCH SOCIETIES

Section 1. Any member of this Society may affiliate with any Branch Society provided he meets the requirements for membership in that Branch.

Section 2. Each Branch Society shall have a Constitution and Bylaws, both of which shall be approved by the Board of Directors of the American Begonia Society; it shall require that one member of each family maintain membership in the American Begonia Society; it must include among its officers a President, a Secretary, and a National Director, each being a different person; it may determine its own officers, other than those specified above; it may make additional qualifications for membership; it may determine the manner in which its local activities shall be financed; and it may determine its own activities and meetings provided that those activities and requirements in no way conflict with the National Constitution and/or Bylaws.

Section 3. Each Branch Society shall file with the Secretary of the American Begonia Society a copy of its Constitution and Bylaws and all subsequent amendments.

Section 4. Each Branch Society shall file with the Membership Secretary of the American Begonia Society the names and addresses of all new members, together with their dues, as received.

Section 5. Each Branch Society shall furnish the Secretary of the American Begonia Society with the names and addresses of all officers of the Branch immediately following elections.

ARTICLE X. PROPERTIES

Section 1. All properties and physical assets of the Society are under the control of the Board of Directors.

Section 2. Approval must be obtained from the National Board before the disposal of any property of the Society. This shall apply to material going to individuals as well as institutions.

Section 3. Each officer, whether elected or appointed, shall be responsible for a complete accounting of Society properties through equipment lists, book lists or inventory of other Society properties to the President Elect at the time accounting for the year is closed, prior to the Annual Meeting.

ARTICLE XI. AMENDMENTS

Section 1. Amendments to the Bylaws may be initiated by a majority vote of the members present at any Annual Meeting or special meeting called for this purpose, or by a two-thirds vote of the Board of Directors. Such amendment shall then be submitted by mail to the membership in accordance with Section 2 of this Article.

Section 2. The Membership Secretary shall mail a ballot covering the proposed amendment to each member of the Society within thirty (30) days after

the amendment is initiated, with the request that the member vote upon said amendment and mail his ballot to reach the Secretary within sixty (60) days after the meeting at which the amendment was initiated. If two-thirds of the votes cast are in favor of its adoption, the amendment shall be declared adopted at the next meeting of the Board of Directors when published in the next issue of the official publication of the Society.

PHOTOPERIODISM IN RIEGER BEGONIAS

Reference — Molnar, J.M. Photoperiodic response of *Begonia*
x hiemalis cv. Rieger.

Can. J. Plant Sci. 54: 277-280.

Report by Dr. Grant McGregor

Member of the the Research Committee

Photoperiodism is the response of plants to differing periods of day and night. Very limited work has been done on the photoperiodic response of Rieger begonias. One researcher (Goldschmidt) reported that Rieger begonias have a critical day length of 14 hours. He stated that a short day treatment from 3 to 6 weeks was desirable to induce flowering. Less than 14 hours of daylight induced initiation of flower buds but daylengths longer than 14 hours caused the plants to remain vegetative. Another study (Sandved) indicated a requirement of about 13-14 hours daylight. The following experiment was initiated on the photoperiodic response of the newer Rieger cultivars by the Ornamental Research Service, Canada Department of Agriculture, Ottawa, Ontario:

"Schwabenland Red" and "Aphrodite Cherry Red" cultivars of Rieger begonias were grown in the greenhouse in 15 cm. pots. The soil mixture was 70% peat, 15% soil and 15% perlite with the pH adjusted to 5.6. The plants were grown at 16 hour daylength for 6 weeks and arranged in groups to be grown at

10-, 12-, 14, 16-, 18-, and 24 hour daylengths respectively. Night temperatures were maintained at 18°C and day temperatures at 21°C. Each plant received 1/2 teaspoon of Osmacote (14-14-14) 1 week after planting and another 4 weeks later. A Benlate drench, 6g./10 litre of water at planting time and again 4 weeks later was used to control mildew. The greatest number of flower and flower buds occurred under 10 hour daylength. The different daylengths did not significantly effect the plant height, or number of shoots per plant. Longer daylength produced more vegetative growth at the expense of flower development. Both cultivars flowered earlier and most abundantly when they were grown under long days (16 hours) at the early part of their growing season followed by 3 weeks of short day conditions (10 hours). Plants were in bloom within 6 weeks from the time the short-day treatment began. Year-round production might be achieved by a 12 week schedule by growing them for 6 weeks at 16 hour daylength, 3 weeks at 10 hour daylength and this remaining 3 weeks at 16 hour daylength.

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Ja 1—B. caffra

An East African species of the same group as *B. dregei*. White flowers. per pkt. \$.50

Ja 2—B. 'Chumash'

Rhizomatous star-type. Tall flower stems, beautiful, pea-green bracts with center of leaf and all nerves to the edge black with medium-green at edges. Leaves are unequal heart shaped, lobed. Pink blooms.

Per pkt. \$1.00

Ja 3—B. lindleyana

Fibrous, cane type. Large robust stems, very thick, becoming brown with age. Sparsely short branched; leaves rounded, shallowly and angularly lobed, green-bristly-hairy. Flowers small, white, and pearl-like.

Per pkt. \$.50

Ja 4—B. paulensis

Brazil species. 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

Ja 5—B. pavonina

Rhizomatous, Asiatic species with brownish, glabrous leaves and fairly large white flowers. When grown in the shade the leaves may have a peacock-blue sheen. Per pkt. \$1.00

Ja 6—B. 'Torsa'

A cross of *B. evansiana* and an unidentified species from Bhoton. Looks much like *B. evansiana*, but

the leaves are much larger.

4 bulbils \$1.00

Ja 7—mixed tuberous.

This is a mixture of all colors, reds, pinks, yellows, orange, scarlett, including some spotted blooms. It also includes all the basic upright types, fimbriated, crested, etc.

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Ja 8—B. xanthina

Rhizomatous from India. Ovate leaves which are unequally cordate, are brownish with a ring of white spots. Flowers are a medium size and conspicuously yellow.

Per pkt. \$1.00

Other Seeds:

Repeat of the dwarf Impatiens, but these had larger blooms this year. Flowers 1 to 1½ inches wide in pink, salmon red or magenta varieties. Can be used in hanging baskets as they branch readily, also makes a beautiful border planting. Seeds should not be covered, they need bottom heat and light for germination.

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Some of the above varieties are in short supply, if no alternative is listed you will receive credit for future orders. Please do not ask me to choose your substitute. Make checks payable: Clayton M. Kelly Seed Fund, and mail to: Mrs. Pearl E. Benell, 10331 Colima Rd., Whittier, Calif. 90604.

"THE BEGONIAN"		
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Full Page	\$40.00	\$30.00
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Quarter Page	12.50	10.00
Per Inch	5.00	3.50

TWO VINES FROM COLOMBIA, (AND A NOTE FROM METAPHYSICS)

By W. Scott Hoover

Department of Biology, The Colorado College

Two vines, *Begonia tropaeolifolia* A.D.C. and *Begonia maurandiae* A.D.C., in all their spreading splendor, allow for development of some ideas; the outcome here to be presented. For this brief moment, consideration will dwell upon the degree to which these species have been investigated, and potential areas for investigation.

Some taxonomic work has been done on both these species, and enough similarities exist between them to have both placed in the section *Gobenia*. Among several characteristics they both have in common are a branching vine habit, symmetrical leaves, axillary cymes, and persistent bracts (Smith and Schubert 1946). The distribution is also somewhat known: *B. tropaeolifolia* has been observed to occur in isolated locations of Columbia (Department of Cundinamarca) and areas of Ecuador; *B. maurandiae* is widely distributed in Colombia (Departments of Antioquia, Caldas, Cauca, Cundinamarca, Narino, Putumayo, and Valle) and occurs in parts of Ecuador as well. These remarks certainly do not do justice to the investigations on these species, but several questions do arise in relation to possible research: 1.) How much can be known about each of these species? 2.) What are the limitations with which science can investigate these organisms?

Certainly we cannot be so bold as to ever proclaim reaching a total

knowledge of the two species. Any scientific investigation concerning either *B. tropaeolifolia* or *B. maurandiae* would fall under the heading of Biology. Anything having to do with organisms is biological. Combine the concerted efforts of anatomists, biochemists, biophysists, and taxonomists and a boundless journey into unexplored regions of Being becomes an immediate realization. To consider isolating and determining the structure, function, and evolution of every polypeptide comprising either of these species is so staggering a pursuit that it may as well be restricted to the mind. The analysis of the physical behavior of molecules at this point in time would be a difficult undertaking, for the physicists have enough problems with just a single hydrogen atom, and its component parts, let alone entire molecular systems. Thus, it quickly becomes a recognizable fact that what science potentially could discover about these species is nearly infinite.

As briefly mentioned at the embarkation of this lyrical crusade, previous taxonomic analysis indicates there are several similar morphological characteristics between *B. tropaeolifolia* and *B. maurandiae*. This suggests a close evolutionary relationship between the two species; ie. a relationship based on the idea that one species may have been derived from the other through mutations that were successfully adaptive. The process of evolution is funda-

mental to understanding *B. tropaeolifolia* and *B. maurandiae*.

It must be considered that at any time we choose to view these species, we are observing results from millions of years of evolution. Contained within the genome of these species is a rearranged sequence of deoxyribonucleic acid, whose role as the hereditary material is to transcribe mRNA which thus codes for amino acids comprising the proteins. Biologists suspect that these same nucleotides and amino acids existed in the first organisms capable of reproducing themselves, perhaps bacteria. Whatever mechanism or mechanisms caused these molecular transformations is a question that should be explored in greater depth. (Substantial data is available supporting natural selection, and suggestive hypotheses have been put forward concerning gene duplication, random drift, and neutral fixation of genes.) The matter in concern is that the molecular substance that determines the exomorphic characteristics of *B. tropaeolifolia* and *B. maurandiae* is the same, though the arrangement or sequence of those components may be different. The nucleotides and polypeptides are the common bond between all organisms. This common bond is biological essence, as suggested by Zuckerkandl and Pauling (1965). Certain similar morphological features are known to come about independently through parallel or convergent evolution, but this clearly has its limitations as it is restricted to a minority of cases.

The ethereal idea that two begonias, with their difference in mor-

phology, have the same essence may leave one wavering with question. Is essence as such an invention of mind? The idea of essence is restricted to the mind; it is not observable or tangible, but dwells in abstractions. Thus it may be . . . or so not, like watching witches waltz in the willows. Up to this point biological evidence has provided us with the necessary information to conclude that the genetic substance of all organisms is DNA. This idea is within the boundaries of science. The suggestion that this molecule and the amino acids are the essence of organisms is the matter in question. It is not possible within the limits of this statement to support the hypothesis that the universal basis for essence is Being. Thus, this previously explored idea will be left to reside momentarily. For that matter, at what point does one make the distinction between science and other disciplines? Referring to the classical study and subsequent historical developments, is it possible to study metaphysics as a science?

We will consider evolution again and the DNA molecule with its ever pervading potential to rearrange itself. Within any given unit of time *B. tropaeolifolia* and *B. maurandiae* have the potential to evolve to some other form; ie. through mutations a new species may be originated and divergence occurs, or the new form survives and the older becomes eliminated. It is this potential to evolve that is inherent in each species during any living unit of time. The species, in its most immediate state of Being, consists of all that it presently is — its sequence of DNA and

proteins, morphological features, etc., as well as its potential to become some other form. Being, as it is here considered in a living state, consists of the characteristics possessed by an organism as well as the potential for other characteristics. To escape the dialectic involved here would be simple negligence. Therefore, a species state of Being consists of what it is as well as what it is not. (Potential Being represents those characteristics which the species does not possess, but in time could evolve to possess.)

So it is, the introduction exhibits itself again. What are the limitations of knowledge concerning these species of *Begonia*? The question that has flooded men's minds for centuries still prevails. Given a certain amount of scientific data, when do the interpretations and certain logically testable hypotheses resulting from the given data stop being scientific?

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ROUND ROBIN NOTES

Reports are still coming in from robin members who were fortunate enough to meet at the annual Conventions in California and the East. Meeting these friends in person was a bonus for them. Someone suggested a robin just for California members — if you live in California and are interested, let me know.

In a recent letter, Eleva Buesink of New York told the members of her robin that her notes had recorded the facts that that particular robin had been started in the spring of 1940 by Mrs. Bessie Buxton, with May Taft Drew as a member, too. Eleva's first robin letter was dated in May, 1941. So the robins have endured and multiplied through the years, giving much pleasure and lasting friendships.

Mildred Swyka of Delaware told of a project she has for making a few dollars to help with costs of heating her greenhouse this winter. Noting the expense of dishgardens, she recently made one, using begonias, for a condolance gift. She used a dark green ceramic bowl 8" high and 5" wide. Using *B. 'Sophie Cecile'* as the focal point, she used *B. 'Glabra'*, *B. 'Mary Frances'*, *B. undulata* and an unknown brightly silver-spotted begonia. It turned out to be the prettiest dish garden there, among several received. A florist ordered some after seeing it.

Anita Sickman, Kansas, started some *B. sutherlandii* tubers under her lights and they were soon out of room. After moving them to greenhouse, they grew much larger than previous years.

Priscilla Beck, Connecticut, has noted where there's some natural light as well as flourescent lights, the plants respond seasonally more like those in natural light than those where no natural light can reach them.

Connie Holcombe of Virginia agrees. Despite the convenience of lights, she's discovered that many of her begonias do better at a window. *B. 'It'* bloomed for the first time when moved from lights to a south-east window. *B. prismatocarpa* got all tight and tense under lights, began to bloom after 10 days in a bowl at an east but shady window.

Dora Lee Dorsey, Florida, uses vinegar to clean the sides of terrariums and bowls; adding salt to it helps cut the spots that are stubborn to remove.

Rosetta White, Kansas, advises: to root wedge cuttings try putting the leaves in a pan of water and let them soak up the water for a few minutes. Don't use any for wedge cuttings except those that have heavy veins. After they have soaked a bit, remove, cut stem off at the sinus but leave the sinus on the leaf. Then cut through the sinus, keeping about two veins to each wedge. Place these in dry vermiculite and then wet the vermiculite down, let drain, put a plastic bag over the cutting and top of pot, fasten bag to pot with rubber band, put in good light and don't bother them until they have started sending up plants. If they get dry, dampen the vermiculite and put bag back on until the plants get about 2" high before potting in potting mix.

She has noticed that her leaves she puts to root without soaking in water a bit will rot quicker than those she soaks in water before setting wedges to root.

Joseph Bond of Balboa, Canal zone, said nematodes are really easy to see. However, you should be aware of the fact that there are many types of nematodes. The nematode, after it is well established in the plant, begins to appear on the stems of leaves and the veins on the underside of the leaves. They form knots in which they lay eggs. As the egg matures the knots burst and most of the time the leaf will fall off. Unfortunately, at this stage it is very difficult to save the plant. Be careful of CONTAMINATION! Since they know what it is to lose a large quantity of plants, they now keep a medical library and are very interested in anything that will adversely affect their plants.

Norman Ruskin, New York, told of a virus that attacked his plant collection several years ago. From what he remembers, it began with a small species of a black ant, which nipped the main veins of the leaves, causing a fungus development from the oozing sap. This they seemed to use for food, then a virus set in. The ants came in with a bromeliad that he had purchased by mail from a nursery in Florida.

(Continued on Page 25)

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CALENDAR

January 13, 1975 — Hampton Branch, 7:30 p.m., at Parrish Memorial Hall, Southampton, N.Y. Plant and Literature Sales precede the meeting. Meeting begins at 7:45 p.m. The program is Growing Begonias in Terrariums by Anita Baldwin. Refreshments will be served.

Jan. 28, 1975 — The Miami Begonia Society will have a Plant and White Elephant Sale. The meeting will begin at 8 o'clock p.m. at the Simpson Memorial Garden Center, 55 S.W. 17th Road. The public is welcome to the free session.

January 24, 1975—Redondo Area Branch 7:30 p.m. at Dana School, 135th Street and Aviation Blvd., Hawthorne, Calif. Speaker: Leonard Doran — "Watering and Feeding Plants." Visitors welcome. Door Prizes. Refreshments — Plant Table.



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PLANT LISTS

Continued from The December Issue

Due to space limitations in the December, 1974, *The Begonian* the following lists of plants were omitted from the seminar summaries by Jim Wyrzten and by Ed Thompson, both of the Long Island Branch of the A.B.S.

Jim Wyrzten, in his discussion of aquarium tanks for growing selected plants from *Begoniaceae* and *Gesneriaceae* families, wrote:

" . . . As to plants: first of all they should be colorful. Here is my selection for a 10 gallon tank. In the back would be *B. 'Exotica'*, *B. 'Dew-drop'*, and *B. serratifetala*. About half way toward the back in front of *B. 'Exotica'*, *B. 'Robert Schatzer'*, toward the middle *B. peridot*, next a small *B. rajab*. When it gets too big I transplant it. *B. 'Miyu Berger'*, which will not grow large in a terrarium, is planted next and last but not least is *B. prismatocarpa*. There are many others that can be planted in terrariums. Some of these are: *B. versicolor*, *B. ficicola*, *B. bowerae nigramarga*, *B. 'Cleopatra'*, *B. 'Baby Rainbow'*, *B. 'Red Planet'*, *B. rotundifolia*, *B. 'Skeezar'*, *B. 'Smidgins'*, *B. 'Sun God'*, *B. 'Shorty'*, *B. 'Bantum Gem'*, *B. Gray Star'*, *B. cispula*, *B. imperialis*, and *B. 'Wanda'*.

In the gesneriad tank, which always has something in bloom, are planted: *Sinningia 'Freckles'*, *S. concinna*, *S. 'Bright Eyes'*, *S. 'Cindy'*, *S. 'White Sprite'*, *S. 'Doll Baby'*, *S. 'Tinkerbell'*, *Koellikeria erinoides*, and *Gesneria cunefolia* var. qua-

bradallis. Other good terrarium subjects are: *Episcia 'Pink Brocade'*, *S. 'Cindy-Ella'*, *S. Krishna*, *S. pusilla*, *S. 'Snow Flake'*, and many others.

If you have a bookcase or corner cupboard, fit in a fluorescent light. Attach a piece of furring lath across the front and line the shelf or shelves with plastic for waterproofing and add an inch of marble chips. This can be kept wet below the top of the stones and will create humidity. What could look prettier than a few rexes under lights."

Further along in the article Jim Wyrzten described the arrangement of plants on his porch, then added: ". . . Some of the begonias on the porch are: *B. 'Orange Rubra'*, *B. 'Sophia Cecile'*, *B. 'Texas Star'*, *B. 'Margaritae'*, *B. 'Nora Hansen'*, *B. 'Magdalene Madsen'*, *B. cubensis*, *B. 'Concord'*, *B. 'Los Angeles'*, *B. 'Erythrophylla Helix'*, *B. 'Corattina de Lucerna'*, *B. 'Argenteo-guttata'*, *B. 'Tingley Mallet'*, *B. 'Bow-Nigra'*, *B. bowerae* hybrids, *B. 'Crispie'*, *B. 'Cleopatra'*, *B. 'Mulberry'*, *B. 'Green Gold'*, *B. 'Silver Sweet'*, *B. 'Ricini-folia'*, *B. 'Freddie'*, *B. 'Helen Teupel'*, *B. 'It'*, *B. 'Texas Beauty'*, and *B. 'Beau Rouge'*."

Ed Thompson included the following list of plants that can be used in hanging containers and three photographs of hanging plants on display.

Please contribute seeds to
the ABS Seed Fund.

HANGING CONTAINERS

List compiled by Ed and Millie Thompson

SHADE

(very early morning and late afternoon sun)

- | | |
|---|---|
| B. 'Aladdin' | B. 'Fuscomaculata' |
| B. 'Arcola' | B. 'Gaystar' |
| B. 'Beatrice Haddrell' | B. 'Gemini' |
| B. 'Big Z' | B. 'Granny' |
| B. 'Black Falcon' | B. 'Helen Teupel' |
| B. 'Bunchii' | <i>B. heracleifolia</i> var. <i>nigricans</i> |
| B. 'Cachuma' | <i>B. heracleifolia</i> var. <i>sunderbruchii</i> |
| B. 'Chantilly Lace' | B. 'Immense' |
| B. 'China Doll' | <i>B. macrocarpa</i> |
| B. 'Cleopatra' | B. 'Madam Queen' |
| B. 'Crazy Quilt' | <i>B. masoniana</i> |
| B. 'Crestabruclii' | B. 'Mercury' |
| B. 'd' Artagnon' | B. 'Mumtaz' |
| <i>B. dregei</i> var. <i>macbethii</i> Obtusa | B. 'Norah Bedson' |
| B. 'Earl-ee-bee' | <i>B. parilis</i> |
| B. 'Elda' | <i>B. richardsiana</i> |
| <i>B. fagifolia</i> | <i>B. solananthera</i> |
| <i>B. foliosa</i> | B. 'Universe' |
| B. 'Frances Fickewirth' | B. 'Victoria Kartack' |
| B. 'Freddie' | B. 'Virginia Owen' |



Baskets Hung at Various Levels
Under a Large Maple Tree

SEMI - SHADE

(about 4 hours sun a day or filtered sun most of the day)

- | | |
|-----------------------------------|-------------------------|
| B. <i>angularis</i> | B. 'Kumwa' |
| B. 'Bobolink' | B. 'Lulandii' |
| B. 'China Boy' | B. <i>mannii</i> |
| B. <i>convolvulacea</i> | B. 'Marjorie Daw' |
| B. 'Corbeille de Feu' | B. 'Maxwelton' |
| B. <i>cubensis hort.</i> | B. 'Medora' |
| B. 'Dearest Mae' | B. 'Mme. Fanny Giron' |
| B. 'Decker's Select' | B. <i>molleri</i> |
| B. <i>dichroa</i> | B. 'Orange Rubra' |
| B. 'Digswelliana' | B. <i>parva</i> |
| B. <i>echinosepala</i> | B. 'Paul-bee' |
| B. 'Eunice Gray' | B. <i>procumbens</i> |
| B. <i>foliosa var. amplifolia</i> | B. 'Robinson's Peach' |
| B. 'Florence Carrell' | B. <i>rotundifolia</i> |
| B. <i>fuchsoides</i> | B. <i>schmidtiana</i> |
| B. <i>glabra</i> | B. 'Selover' |
| B. 'Gwenn Lowell' | B. <i>serratipetala</i> |
| B. 'Helene Harmes' | B. 'Washington Street' |
| B. 'It' | B. 'Weltonensis' |
| B. 'Ivy Ever' | |

FULL SUN

(6 hours or more a day. Most can also be grown in semi-shade conditions.)

- | | |
|---------------------------|-------------------------|
| B. 'Argenteo guttata' | B. 'Medora' |
| B. 'Bayern' | B. 'Perfectiflora' |
| B. 'Catalina' | B. 'President Carnot' |
| B. 'Concord' | B. 'Preussen' |
| B. 'Corallina de Lucerna' | B. 'Red Compta' |
| B. 'Dancing Girl' | B. 'Richmondensis' |
| B. <i>dietrichiana</i> | B. 'Rutherfordiana' |
| B. 'Lenore Oliver' | B. 'Sachsen' |
| B. <i>lubberrsii</i> | B. <i>serratipetala</i> |
| B. 'Lulu Bower' | B. 'Wayne Newton' |

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BEGONIAS FROM SEED

(Continued from Page 18)

tainer is filled with standard potting mix. This intermediate transplanting I find results in sturdier root systems and more compact plants. When they have grown until the leaves touch they are ready to go into 2 or 3 inch pots depending upon size of plant and root system. As the plants grow and fill their pots with roots, shift to the next size pot until they have attained specimen size. To test to see if they are ready for transplanting knock plant out of pot. If root ball retains the shape of the pot leaving no material in the bottom it is time to repot. Should there be a half inch or more of potting mix left in the bottom of the pot replace plant until roots have penetrated all of the potting mix.



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ROUND ROBIN

(Continued from Page 21)

How I wish you could read all the interesting notes I have taken from the robins letters coming my way. If you enjoy reading how other people grow their plants, you would enjoy being in some of these robins. Why don't you join us? Just write and let me know how and where you grow your plants, as well as what kind of robins you would like to try.

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306 Cody, Houston, Texas 77009

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Miss Anne Rose, Secy.
14036 Ramona Drive, Whittier, Calif. 90605

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