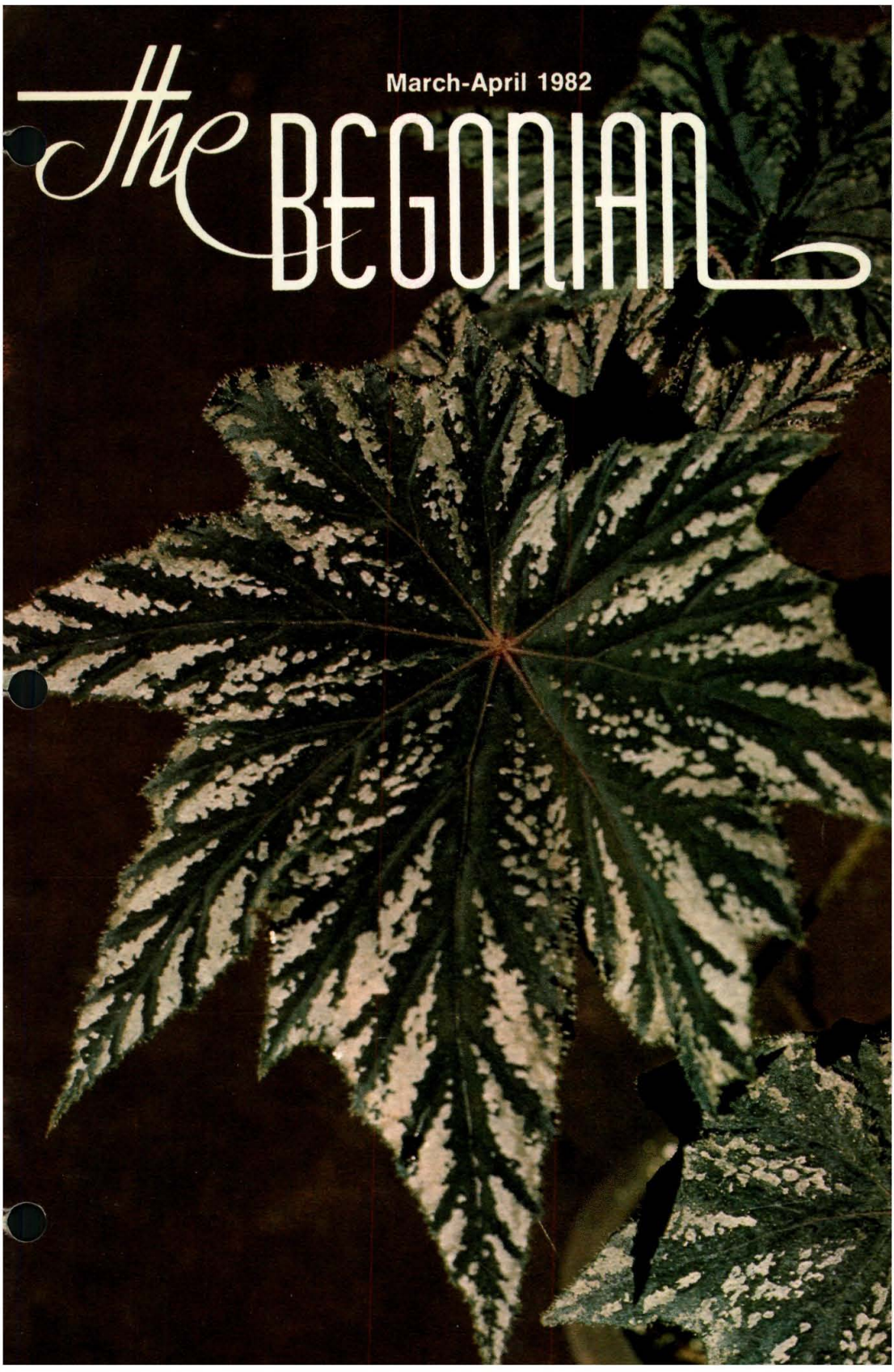
March-April 1982

The BEGONIAN



the BEGONIAN

Publication of the American Begonia Society

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AMERICAN BEGONIA SOCIETY

Founded January 1932 by Herbert P. Dyckman

Aims and purposes

TO stimulate and promote interest in begonias and other shade-loving plants.

TO encourage the introduction and development of new types of these plants.

TO standardize the nomenclature of begonias.

TO gather and publish information in regard to kinds, propagation and culture of begonias and companion plants.

TO issue a bulletin which will be mailed to all members of the society.

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

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See inside back cover

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INSIDE/ *March-April 1982*

THE COVER: Kit Jeans of New Johnsonville, Tenn., won a ribbon at the 1981 ABS convention with this photograph of her hybrid, *B.* 'Nancy Cummins', formerly *B.* 'Candyman'.

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NOTES/ *From the editors*

It's amazing what 2½ weeks in the wilds of Costa Rica can do—it's invigorating and relaxing at the same time, it gives you a renewed appreciation for your own luxuries, it provides endless tales.

And it makes *The Begonian* late.

Yep. Nobody else—including the Postal Service—we can blame this one on. It's just that when 2½ weeks of work piles up, you can't get up-to-date overnight.

If all goes according to plan now, this issue will be delivered to the Post Office in early to mid-April. Just in time for us to start scurrying for May-June material.

Well, at least editing will be a little easier from now on. Just get out our new jungle machete . . .

□

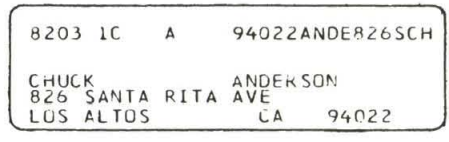
It's absolutely impossible to appreciate the vastness, beauty, diversity, and richness of tropical rain forests until you stand in one. Mammoth trees with names strange to North Americans form the topmost canopy. Smaller trees grow under them, with vines, shrubs, giant aerial roots, and assorted other greenery crammed in between. It is hot and humid, often muddy. The screechy sounds of a jungle movie come to life. Many times you happen upon a fallen blossom and strain unsuccessfully to see what plant bore it. It may have come from a vine hundreds of feet above you—invisible from the jungle floor.

Our trip was sponsored by UCLA Extension and led by Mildred Mathias, the renowned tropical botanist who will be banquet speaker at the ABS convention, "Begoniafest," in Santa Cruz, Calif., Sept. 9 to 12.

We can guarantee Mildred will put on a good show. She did on our tour—none of the 24 of us could keep up with her. She puts her energies where they will be effective; one of her achievements has been to be instrumental in preservation of large portions of rain forest before they are destroyed for timber or agricultural purposes.

Tropical countries like Costa Rica are home to many begonia species, including countless ones yet undiscovered. Conservation activities like Mildred's save species like these.

□



Have you ever tried to figure out when your membership expires by checking your *Begonian* mailing label? Did you go away more confused than ever?

Here's a handy-dandy guide to reading your mailing label:

Take a look at the sample label above. The first four numbers represent the expiration date, with the year listed first. The next two figures show whether you have a regular membership with a third-class mail subscription to *The Begonian* (3C) or pay more for a first-class subscription (1C). Forget the rest.

—C.A. & K.B.

Semi-pendulous B. borneensis from Borneo

Mildred L. Thompson

In 1859, *B. borneensis* was named and first described by Alphonse de Candolle, the renowned botanist who made major contributions to the literature on the Begoniaceae. The original citation of this species can be found in the first major work by de Candolle, "Mémoire sur la Famille des Bégoniacées," in *Annales des Sciences Naturelles*, Series IV *Botanique* II page 128.

De Candolle described *B. borneensis* from a herbarium specimen of the species that was lent to him from the Hooker Herbarium. This specimen was reportedly collected by the collector Barber in an unspecified location in Borneo. Thus the origin of the name of the species is apparent: Borneo plus the Latin suffix -ensis indicates the place of origin. De Candolle placed this species in the section Petermannia (Klotzsch) A. DC. The section Petermannia is a botanical classification in which species of *Begonia* with certain characteristics are placed; most of the species placed in this section are endemic to the Malay Archipelago and the Philippines.

In 1864, in the work *Prodromus Systematis Naturalis Regni Vegetabilis*, de Candolle referred to another specimen of this species, collected by Motley in Labuan, a small island on the northwest coast of Borneo. Other collectors in addition to those mentioned by de Candolle found *B. borneensis* as well. O. Stapf (1894), H. N. Ridley (1906), and E. D. Merrill (1921) mention herbarium specimens of this species collected on Mt. Kinabalu and in Sarawak.

All of the places where this species was reported to have been collected were in the northern portion of the island of Borneo, the third largest island in the world, located in the Malay Archipelago. Borneo is equatorial, and in the tropical climate of the northern portion the temperature range is 70 degrees in the morning to 88 degrees at noon; higher temperatures are not usual. The wettest season starts in October and continues through February. The annual rainfall varies from 60 to 180 inches.

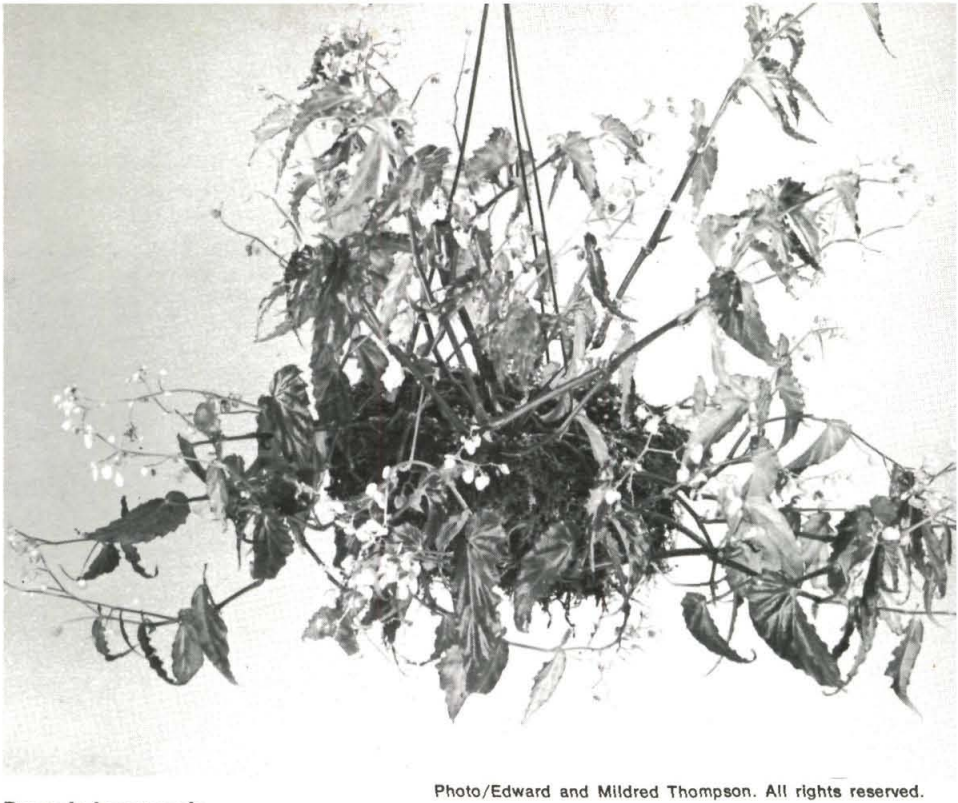
In June 1975, I received a beautiful cutting of this unusual and interesting species from Dr. Jan Doorenbos; this species became one of our favorites immediately. Dr. Doorenbos wrote that he received his first start of this species in 1964 from Kew Gardens in England. Kew Gardens had received its plant from L. M. Mason, the well-known collector from King's Lynn, England. I do not have any knowledge of this species being grown in the United States prior to 1975 when I first received it.

Since this species is relatively new to cultivation in this country, it is premature to report on its hybridizing possibilities and importance. However, one can not help but think that hybridizers will use this species as a parent plant more and more as time passes. In our greenhouses, we have tried to cross this species with other interesting begonias, but, up to the present time, we have not been successful. We are still trying, however, because we feel that this species has many interesting characteristics that could be used to develop very attractive new cultivars.

B. borneensis has relatively long, semi-pendulous, deep red stems that are moderately branched. The leaves measure 3 to 5 inches in length and are 1¼ to 2¼ inches wide. They are deep yellow-green with a fine deep red edge around the entire leaf; the undersurface is pale green or light red, depending on the light exposure. The surface of the leaves is glossy and the texture is chartaceous. The leaf shape is narrowly ovate with an unequally lobed cordate or subcordate base and an acuminate apex. The leaf margin is undulate and is dentate with large toothing. The leaf venation is palmate with 6 or 7 main veins. The deep pink stipules are oblong with caudate-like apices and are caducous.

Flowering is profuse in all seasons. The

Mildred Thompson of P.O. Drawer PP, Southampton, NY 11968, is author with her husband, Ed, of Begonias: The Complete Reference Guide.



Begonia borneensis

flowers are bright pink and are arranged in a panicle. The male flowers have two ovate tepals. The anthers are subsessile on an oblong torus. The female flowers are few; they have five tepals and have two-lobed styles. The capsule is obovate and has three unequal wings.

The cultural requirements for *B. borneensis* are not intricate; it responds favorably to systematic good care and attention. This species grows attractively and gracefully in a hanging container. The plant exhibits a tendency to legginess so, to get a full and compact plant, it is extremely important to pinch the stems regularly to encourage branching along the stems and to induce the development of new basal shoots. Staking is never necessary.

The clues for environmental conditions that *B. borneensis* requires can be deduced from the information concerning its native habitat in Borneo. It requires a fairly humid growing area, so it will not respond favorably to being grown in a window garden or light garden unless the humidity is sufficient (around 55 to 60 percent); however, there is no difficulty in growing it in a greenhouse where humidity and light conditions are optimum. *B. borneensis* will lose its leaves if exposed to temperatures below 60 degrees. It thrives in warmer temperatures—65 to 70 degrees or more whenever possible.

B. borneensis requires sunlight for at least 4 to 6 hours daily; the sun's rays may need to be filtered in some locations where the sun is intense. The coloring of the leaves is greatly enhanced and the plant appears more vigorous when this species gets a proper amount of sunlight in all seasons of the year. Proper sunlight all year is crucial for the profuse blooming of which this species is capable.

The potting accommodations that I have found most beneficial for this species are the moss-lined wire container for the larger plants and the clay pot for the smaller plants. Both kinds of containers afford good drainage and allow aeration of the root system so important to the health of the plant. The usual potting mix that you use for begonias will be

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B. pearcei: A favorite early tuberous species

J. Doorenbos

Begonia pearcei commemorates a plant collector to whom all *Begonia* lovers are in debt. Within a few years, he imported the four species from which the modern tuberous begonias were developed, which in turn gave rise to the winter-flowering begonias.

Richard Pearce was born at an unknown date at Stoke Devonport in England. He became a plant collector in South America for Messrs. J. Veitch and Son from 1859 to 1866. Subsequently he started to collect for William Bull but he

Dr. Jan Doorenbos directs the extensive Begonia *collection at Agricultural University, P.O. Box 30, 6700 AA, Wageningen, The Netherlands, where he is professor of horticulture.*

BEGONIA PEARCEI.

Mr. Pearce's Begonia.

Nat. Ord. BEGONIACEAE.—MONOECIA POLYANDRIA.

Gen. Char. (*Vide supra*, TAB. 4131.)

BEGONIA Pearcei § Huszia, § § Paucipetalae, A. De Cand.); caule herbaceo erecto folioso pubescente, foliis palmatim plurinerviis oblique ovatis acuminatis basi cordatis irregulariter crenato-serratis, petiolis laminâ brevioribus, stipulis ciliatis, pedunculis folio longioribus bifloris, bracteis ovatis rotundatisve ciliatis, floribus flavis; *fl. masc.* sepalis 2 amplis rotundatis petalis 2 obovatis vix brevioribus, *fl. foem.* lobis 5 obovatis obtusis, ovario pubescente trialato.

A very beautiful species, nearly allied in botanical characters to *B. cinnabarina* (Bot. Mag. 4483), introduced from La Paz by Messrs. Veitch, where it was obtained by Mr. Pearce, whose name well deserves to be associated with it. The foliage is very pretty, the leaves being of a dark velvet-green above, dull-red traversed by pale-green nerves beneath, and in agreeable contrast with the rather large, bright-yellow, overtopping flowers.

DESCR. *Stem* succulent, pubescent, leafy. *Leaves* obliquely ovate, acuminate, cordate at the base, irregularly crenate-serrate, on petioles of about half their length, dark velvet-green and nearly glabrous above, dull red beneath excepting the nervures. *Peduncles* erect, two-flowered, exceeding the leaves. *Bracts* rotundate or elliptical, entire, pubescent or ciliate. *Flowers* yellow, about an inch to an inch and a quarter across; *male fl.* perianth quadripartite, two outer segments ample, rotundate, two inner rather smaller, about equal in length to the outer; *female fl.* with a quinquepartite perianth, lobes obovate-oblong, obtuse. *Stamens* indefinite, free; *filaments* filiform; *anthers* obovate, obtuse, two-celled. *Ovary* three-winged, three-celled, with indefinite *ovules* on each side of the forked placentas; *styles* spirally stigmatose; *capsule* not seen.

Fig. 1. Stamen. 2. Ovary and style. 3. Transverse section of an ovary:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Begonia Pearcei (from original text)
Reproduction from Curtis's Botanical Magazine, London. 1865
By the American Begonia Society, 1978

died on July 17, 1867, in Panama.

Pearce's first *Begonia* import was *B. boliviensis*, which had already been discovered by Weddell in 1857. Pearce sent living material from Bolivia to Veitch in 1864; it did not flower in England before 1867. *Begonia pearcei*, also from Bolivia, was also sent in 1864 and flowered in 1865. *Begonia veitchii* from Peru was imported in November 1865 and flowered in 1867. Finally, *B. rosiflora*, also from Peru, flowered in England in July 1867, so it had probably been imported in 1866.

Pearce was also the sender of a mysterious *Begonia* which was lost without ever having been described, but not until after having been crossed with *B. boliviensis*, giving rise to *Begonia x sedenii*, from which nearly all hybrid tuberous begonias descend.

With such a beautiful picture at hand, there is no need to describe *B. pearcei* in detail. In our greenhouse the stems reach a length of 60 cm (2 feet). They are ascendent and fleshy at the base, thin and slightly zigzag at the top. In October, growth stops under the influence of the prevailing short days. Perforce, flowering also comes to an end. Otherwise, the plants flower the whole summer. As to the leaves, Helen Krauss describes them as "velvetlike dark green with glistening light green veins," and I won't try to improve on that.

The yellow flower color is of course very special. Very few American species of *Begonia* have this color and of these *B. pearcei* is the only one cultivated. Genetically, this color is recessive—it disappears when *B. pearcei* is hybridized with species of another color. The first crosses with *B. pearcei* were made in 1869, but the yellow color did not turn up in the offspring until 1874, when Victor Lemoine, the famous French nurseryman and plant breeder, found the plant subsequently put on the market as *Begonia* 'Eldorado'. The equally famous Belgian plantsman Louis van Houtte obtained the first hybrid with double yellow flowers, which he called 'Rachel', in 1878. Since then the yellow color of *B. pearcei* has gradually turned up in all types of hybrid tuberous begonias.

Recently it has also made its appearance in the winter-flowering hiemalis begonias. This is a group of hybrids between hybrid tuberous begonias and *B. socotrana*. Although the first hybrid was produced as early as 1883, the first yellow variety called 'De Ridler's Yellow,' a sport of 'Apricot Beauty', did not arise until 1948. The next, much improved yellow variety, 'Tiara', was produced in 1974 by treating a hybrid of a yellow tuberous begonia and *B. socotrana* with x rays. Since then several other yellow varieties have been raised.

The prevalence of yellow-flowering hybrid tuberous and winter-flowering begonias shows that *B. pearcei* not only is a charming species in itself but also a very important source of horticulturally im-

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An update on endangered begonia habitats

W. Scott Hoover

Since the publication of my article, "The Race to Save Endangered Begonia Habitats" (*The Begonian*, June 1981), I have become acquainted with additional information that should be important to ABS members.

One of the principal areas of tropical rainforest is found in Southeast Asia. In an article entitled, "Botanical Exploration in Indonesia," Rifai (1974) outlines the major areas of the country where rainforest is being destroyed by logging companies; he also discusses the disappearance of unknown species due to the lack of any forest management policy.

In direct response to the disappearance and extinction of unknown species of plants has been the recent publication of two books, one, *The Biological Aspects of Rare Plant Conservation*, edited by Hugh Synge (1981), and the other, *Conservation Biology*, edited by Michael Soule and Bruce Wilcox (1980). Each book deals with different aspects of the same subject, but combined they provide an extremely thorough treatment of the problems mankind faces by destroying his environment.

A recent article by Smith (1981) describes the tragedy of the Amazon highway system and the problems resulting from trying to colonize the largest single rainforest area of the world.

Two public presentations that I'm familiar with recently appeared that concern rainforest devastation. Dr. Peter Raven, director of the Missouri Botanical Garden, spoke at the 1981 American Institute of Biological Sciences meeting in Bloomington, Ind. The battalion of statistics he presented regarding the rate and degree of rainforest destruction was apparently frightening.

By the year 2000, there will be no more lowland tropical forest remaining that is virgin if the present rate of cutting continues. On Sept. 6, 1981, a television special, "Threat to the Tropical Rainforest," appeared. Cameras were taken to clear-cut logging operations in Papua New Guinea and parts of the Amazon. The film showed how the forest was ruined and consequently the hunting and agriculture of the native people was destroyed. The offender in New Guinea is a Japanese pulpwood logging company.

One of the principal ways by which the cutting of tropical forests can be halted or, if continued, done with a specific agricultural management program, is through education. A symposium pertaining to the destruction of New World tropical forests took place in Quito, Ecuador last year.

In a recent issue of *Plant Science Bulletin*, Rudolph (1981) reports on a symposium, "Tropical Rainforest: Ecology and Resource Management," to be held for four days in April at the University of East Angelia, United Kingdom.

The purely scientific aspects of exploration and collecting and describing the plants and animals of the rainforest is enough justification for protecting these areas before they are eliminated, since science has just begun to discover what the rainforests contain.

Another aspect of rainforest destruction regards economics and the ability of mankind to develop strains of agricultral crops that can survive disease and insects. Walsh (1981) explains how genetic diversity is being threatened by excessive clearing of land, primarily in the Third World. Many wild strains of agricultural plants are becoming extinct due to the unmanaged practices of Third World governments. This is another measurable area where rainforest destruction can affect future generations, if not our own.

An aspect of rainforest destruction that has potential tremendous economic manifestations, but still is very speculative, regards the increased amount of atmospheric carbon dioxide resulting from burning of fossil fuels. Hansen et. al. (1981) provides a thorough scientific re-

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Scott Hoover of 718 Henderson Rd., Williamstown, MA 01267, is a botanist and tropical plant explorer. His latest begonia-collecting trip is to Mexico.

B. ampla: It has amazing orange fruits

Mildred L. Thompson

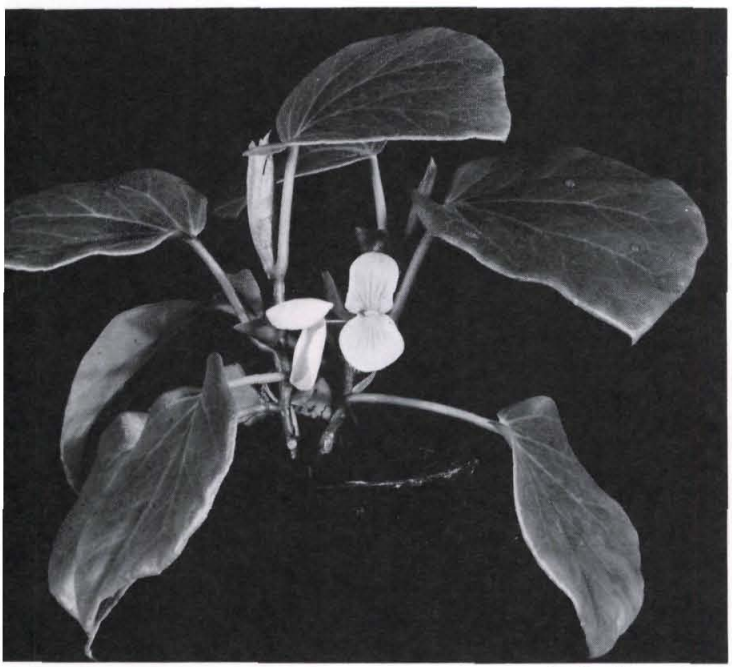
Nature has given us a wealth of beautiful and interesting species of *Begonia*; evidence of this is apparent in the more than 2,000 species of *Begonia* that are described and named in botanical and horticultural literature through the years. Serious growers, however, are concerned that only about one-quarter of these are in cultivation today. We are delighted, therefore, when seeds of any begonia not in cultivation at the present time are brought back once again from the wilds for growers to enjoy and maintain in cultivation. *B. ampla* is one of these species. To my knowledge, this species was not grown in this country before 1980.

In 1980, I received a letter from Dr. Jan Doorenbos of Wageningen, The Netherlands, in which he included seeds of *B. ampla*; he mentioned that this species had "fleshy fruits the size of a hen's egg, pale orange in color." I was immediately fascinated because I had never seen a begonia with this characteristic.

Dr. Doorenbos had received *B. ampla* from Lisa Groenendijk, a Wageningen student, who had collected this species in S. Tomé. Without delay, I sowed the seeds and hovered over them until seedlings appeared, and this constant vigil did not cease until I finally had mature plants! During this time, I searched through all the references dealing with this species to gather all the available information about its background and native habitat.

In 1871, Dr. Joseph Dalton Hooker, a renowned botanist, plant explorer, and director of Britain's Royal Gardens at Kew, described and named *B. ampla* in the *Flora of Tropical Africa,* Volume 1, on page 574. For this description, Dr. Hooker studied two herbarium specimens of this species, one collected by Charles Barter in trees at Prince's Island (Principe), the other collected by Gustav Mann on the island of Fernando-Po at an altitude

A veteran collector and writer on begonias, Mildred Thompson of P.O. Drawer PP, Southampton, NY 11968, is a regular Begonian *contributor.*



Photos/Reyer Jansen

Young plant of Begonia ampla

of 1,000 to 2,000 feet. Principe and Fernando-Po are islands in the Gulf of Guinea off the coast of West Africa.

In *The Proceedings of the Linnean Society* in 1860, an interesting letter from Charles Barter, a member of Baikie's Niger Expedition, to Sir William Hooker was published; this letter was written on January 2, 1859, while Barter was aboard the Steamer *Rainbow*. Barter wrote that he was immediately taken by the abundance of begonias ("some 10 or 12 species") on Prince's Island. He gathered several, but lost all but three in the drying process for specimen sheets. He noted, however, that most of the begonias on this island were large-leaved succulent species, and that they grew on trees for the most part as semi-epiphytes sustained in the black soil which collects in old trees of the forest. It was during this time that Barter collected specimens of *B. ampla* and *B. loranthoides* (syn. *B. mauricei*). Charles Barter died in 1859 on this expedition, and was replaced by Gustav Mann, apparently the first botanist able to withstand the climate in the Gulf of Guinea.

In subsequent years, other plant collectors have collected *B. ampla* in the four islands in the eastern part of the Gulf of Guinea: Fernando-Po, Principe, S. Tomé, and Annobon. These islands have typical equatorial climate, high temperatures, very high humidity, and considerable rainfall. *B. ampla* has also been collected in West Africa, East Africa, and on the Cameroon Mountain.

For botanical classification, *B. ampla* is placed in the section Squamibegonia. Species placed in this section are scandent or creeping-type semi-shrubs. The leaves are palmately or pinnately veined, with scaly covering. Bracts are often large and persistent surrounding the short inflorescences. The fruits are berry-like, indehiscent, and thick-walled; and the flowers possess certain characteristics. To my present knowledge, there are no other species in cultivation in this section. B. *loranthoides* and *B. rhopalocarpa* had been placed in the section Squamibegonia until Drs. J. J. F. E. DeWilde and J. C. Arends placed them in the section Tetraphila.

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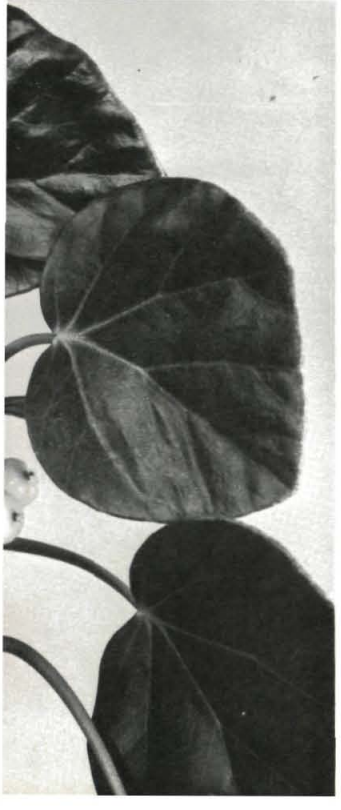
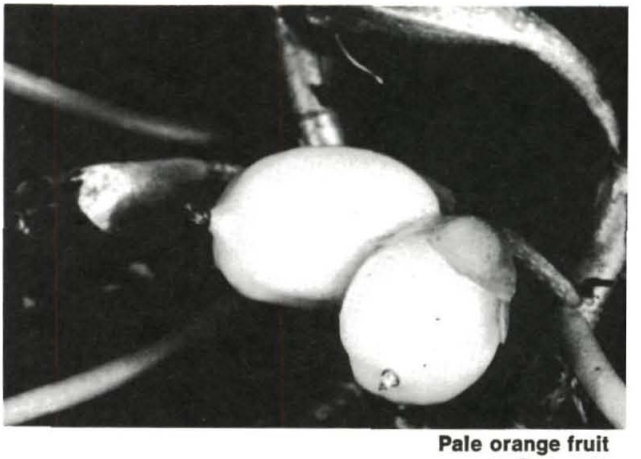


Fruits and flowers on the same plant



Pale orange fruit on B. ampla

ROUND ROBINS/ *Pruning, containers, and secrets*

Mary Harbaugh

While many of us enjoy growing cane-like begonias, space is limited and pruning is necessary to keep them in bounds. This chore tends to be neglected, however, because of a fear that we might somehow kill or injure plants.

Bob Ammerman of Vista, Calif., usually starts pruning his canes in October by taking out most of the old wood. Over the next two or three months, he cuts back the newer growth so that by January he has them all properly trimmed. When cutting back, he tries to leave a bud that is pointed to the outside of the plant. This gives more room for new growth and promotes a better-shaped plant when summer comes around.

Some canes have proved to be quite hardy such as an unnamed cane belonging to Beryl Orchard of Mansfield, Mass. It was caught by a frost last fall so she threw it into the woods. In June she discovered shoots of it starting to come up. Temperatures had gone down to –20 degrees during winter but the plant had been insulated from the cold by a covering of snow and ice.

Mildred Swyka of Middletown, Del., finds that *B.* 'Sophie Cecile' and *B.* 'Martha Floro' need extra feedings to bring them into bloom. She has also noticed that *B.* 'Martha Floro' requires quite a bit more water than the others.

Favorite containers

Most every grower has a preference for certain types of containers. The most lively discussions have centered on clay and plastic pots but other types have their fans also. Mabel Corwin of Vista, Calif., thinks it depends on the individual grower's conditions, the type of mix used, watering habits, and the like. "In areas where the air is very dry the clay is hard to keep moist," she notes.

Information about joining a robin—a packet of letters circulated among begonia lovers—is available from Mary Harbaugh, round robin director. Write to her at W2899 Homewood Ave., Shawano, WI 54166. Please include a self-addressed stamped envelope.

Eager to get into a robin? There are immediate openings in these flights: Terrariums, Organic Begonia Growing, Begonia Growing in Arid Climates, Mounted Begonias, Hybridizing, Odd and Rare Begonias, Rhizomatous Begonias.

With just a few more requests I can start new flights on Branch Administration, Cacti and Succulents, Small Commercial Growers, an All-Australian flight, Begonia Identification, Judging, Pacific Northwest, Semperflorens, Shrub-like, Southwest Growers, and Tuberous Begonias. If any of these sound interesting, please write me today.—Mary Harbaugh

Judy Hansen of Apple Valley, Calif., had most of her small plants in plastic pots because small clay pots dry out too quickly. She does like the look of clay and her tallest cane is in clay because of the necessity for bottom weight.

Jeannette Gilbertson of Vista, Calif., says one thing she likes about clay pots is that they help keep the humidity up.

Joan Campbell of Corvallis, Mont., finds she has less loss with cuttings and small plants by putting them in clay pots.

Marian Cross of Springfield, Ore., has always had good luck using just plastic pots. She does find that some of her rexes seem to do a little better in clay. Plants also seem to like styrofoam pots. Topping the list are moss-lined wire baskets. The plants growing in these have larger leaves and more color. "I take them down and soak them in a bucket of fertilizer water. I don't think they hold enough water by just pouring it over the top."

Barbara Rogers of Pearce, Ariz., describes how she makes her own mesh pots. To form the pots she takes a 3-inch clay pot and cuts gutter mesh (from a 6-inch x 25-foot piece) about 1½ inches longer than the circumference of the pot. Then she forms the mesh around the clay pot, first turning down the top inch for a doubled top edge.

She places this around the pot with the top edge even and laps over the lower part of the mesh to shape to the clay pot.

Box fold the bottom to make a heavy bottom. Then at the top edge cross over at an angle with a strand of picture wire.

She plants a new leaf for propagating in milled sphagnum and then some soil after lining the pot with long-fibered sphagnum moss. A wick is put up through the mesh. The mesh pot is put in a pot a size larger with the wick through the hole. This allows space for air to circulate and does not permit the propagating medium to dry out as quickly.

Secret ingredients

Many growers have special ingredients they like to add to their usual potting mixes. Russ Hammer of San Antonio, Tex., likes to use cedar in his mix since it is fairly inexpensive. He finds that it makes a good extender to keep down the overall cost. It does rob the plant of some nitrogen so he mixes a little 20-20-20 in all of his water for constant feedings. One major objection that he has is that is the soil ball dries out totally. High cedar content keeps him from saturating the mix; it will look wet on the outside but stays dry on the inside. Too much peat moss does the same thing.

Art Sackenruther of Redwood City, Calif., also notes that feeding is more important when using small bark in soil mixes because the nitrogen is tied up.

Mabel Corwin likes to use charcoal in her terrariums. She puts perlite in the bottom and then a layer of charcoal under the planting mix.

For his tuberous begonias Daniel Haseltine of Chicago uses half Pro Mix with the other half consisting of one-third each perlite, vermiculite, and long-fibered sphagnum moss. He finds that this combination drains well and doesn't rot the tubers.

Dan also told of a commercial grower who is raising lots of plants in a mixture of peat and long-fibered sphagnum moss. He adds some trace elements and is using the mixture for ferns, begonias, and even cacti. He likes it better than anything else he has ever tried and has better rooting of cuttings of all kinds. He uses no perlite or vermiculite.

Seeds—cheap, challenging

Seed starting is becoming more popular both for economic reasons and because growers enjoy the challenge it can present. Sonsie Conroy of Grover City, Calif., has constructed a miniature tabletop greenhouse for seed starting. The top and sides consist of heavy clear plastic. The end panels are wood with holes drilled for ventilation. (These can be kept covered if necessary.)

A disposable baking tray is used for the bottom and seeds are planted in miniature loaf pans (one variety to a pan). Holes are punched in the bottom of the pans with a nail and then they are set in the baking trays. The trays are filled with water to moisten the soil and the excess is poured off. All of this is set under an old-fashioned fluorescent drafting lamp about 12 inches from the lights.

Mabel Corwin uses a large sweater box set on a heating tray under lights. Seed is palnted in small pots and labeled. She can take out pots as they grow and add more pots as they are planted. Moist matting is used in the bottom of the box.

SEED FUND/ *Eight species and B. rex hybrid seed*

Joy Porter, director, Clayton M. Kelly Seed Fund

MA 1 — *B. obscura:* Shrub-like species with medium-green 1-by-3-inch dentate leaves. White 1¼" flowers, with white hairs on tepal reverse in fall. Good basket subject. ..... per pkt 1.00

MA 2 — *B. johnstonii:* Thick-stemmed species from Africa with glossy, pale green, 2½-by-4-inch leaves with red-scalloped margins. Large pink flowers in spring. ..... per pkt 1.00

MA 3 — *B. richii* hort.: Rhizomatous with large, compound leaves. Believed to be a variety of *B. macdougallii.* A real%*#/&! to grow, but, if you succeed, beautiful. ..... per pkt 1.00

MA 4 — *B. incarnata:* Shrub-like with small to medium fresh green, undulate leaves. Bears small pink flowers profusely in winter and spring. A must for hybridizers as it will accept pollen from many types of begonias. ..... per pkt 1.00

MA 5 — *B. vitifolia:* Stately, thick-stemmed species with large, angular, rough-textured medium green leaves. Blooms in late winter with large, upright clusters of small, white flowers. ..... per pkt .50

MA 5 — *B. subvillosa:* Semperflorens type with small, rounded, light green leaves. Blooms profusely with small white flowers. All plant parts, including flowers, covered with soft white hairs. ..... per pkt .50

MA 7 — *B. dregei:* Semi-tuberous species from Africa with small bluntly lobed reddish-green leaves which are usually spotted when young. Large tuber above and below soil line. Good for bonsai. ..... per pkt 1.00

MA 8 — *B. partita:* Semi-tuberous species from Africa with small, green, three-lobed leaves with one lobe tapering to a fine point. Bushy. Bears 1-inch white flower in summer. Much more resistant to mildew than others of this type. See story by Carrie Karegeannes in April 1981 *Begonian.* ..... per pkt 1.00

MA 9 — *B. rex* hybrid seed produced by two famous California growers. ..... per pkt 1.00

MA 10 — A small creeping type of *Stapelia* ..... per pkt .50

Special offer: By the time you read this, we hope to have four kinds of *Begonia* species seed from India. We don't know which species because the seed will be harvested and shipped only when it is ripe. If you are interested, send $1 per packet. (If seed is unavailable, we will credit you.)

PAMPHLETS

Begonias from Seed, Sowing and Growing ..... ea. .25

Begonias in General—Basic Descriptions of Classes and Culture ..... ea. .50

Send orders to Joy Porter, 9 Bayberry Lane, Framingham, MA 01701. Include self-addressed, stamped envelope or add 40 cents for padded, hand-cancelled package. Massachusetts residents add 5% sales tax. Checks and money orders should be made payable to: Clayton M. Kelly Seed Fund. Foreign orders: U.S. funds only and add $1.20 for postage.

More B. ampla

From page 35

B. ampla has woody stems about one to two feet in length at maturity. The leaves are medium green and have deep red coloring along the midrib, especially when the plant is grown in an abundance of bright light and sunlight. The leaves are oblique, broadly ovate, and Hooker describes the leaves as measuring 8 to 10 inches; the leaves on my plant are about 5 inches but they may increase in size as the plant gets older. The venation is palmate with six main veins. Young leaves have a rust-colored, felt-like surface that becomes less evident as the leaves mature. There are a few scattered minute stellate scales on the surface and undersurface. Petioles are 5 to 8 inches in length and the large stipules are deciduous. The peduncles are short (1 to 2 inches) and stout. The two large bracts are convolute, orbicular, and they form a succampanulate cup about three-fourths of an inch long and wide; they enclose shortly pedicelled flowers. The flowers are white with rose-colored markings. The male flowers have two orbicular tepals that measure about 1 inch. The athers are small, linear, and obtuse. The female flowers have two tepals. There are three to four styles that are forked with somewhat long branches. Our mature plants have bloomed in the fall and winter months; the amount of blooming is moderate. The berry-like fruit is enclosed in the bracts and measures about one-half inch.

As the environment of the native habitat seems to indicate, *B. ampla* thrives in humid conditions, preferably where the relative humidity is 60 percent or more. If possible, the temperature should be around 65 degrees or slightly higher. In the summer, it is best to place *B. ampla* where there is filtered sunlight or strong bright light without direct sunlight, whereas in the winter full sunlight produces excellent results. Of course, the amount of filtering of the sunlight depends on the intensity of the sunlight in the location.

Since *B. ampla* is a trailing-scandent begonia, there are two ways to grow it—suspended in a hanging container or on a totem pole. This species will probably grow nicely on a totem pole; as yet, I have not tried this, but I intend to do so because this method has great possibilities. The type of hanging container that I consider the best choice is the moss-lined wire basket, and the second-best choice is the clay container. The usual potting soil that you use for begonias will work well, but, if you like, the mix could be a little richer for this one.

To induce branching along the woody stems, when the stems are 6 to 8 inches long, remove the terminal bud on some of the stems, and on the other stems remove the growing tip. It will also be advantageous to keep the plant very slightly potbound.

It is prudent, as with all begonias, to fertilize regularly. Spraying should also be done periodically with a broad-spectrum insecticide and fungicide. For the best results, be sure to check the pH factor occasionally, and, if it is less than 6.5 or more than 7.0, adjust accordingly.

It will be interesting to see what the hybridizers will be able to do when they use *B. ampla* as one of the parents—exiting things, I am sure, especially for those of us who enjoy growing the species and cultivars in the trailing-scandent group.

More B. pearcei

From page 32

portant characteristics. It is therefore disquieting that Smith and Schubert in their 1945 revision of the Bolivian species of the genus *Begonia* cite only cultivated material of *B. pearcei*. If this really means that the species survives only in cultivation, we who grow it carry the responsibility of keeping it in existence.

Fortunately, *Begonia pearcei* is not difficult to grow. Apart from being susceptible to mildew, it is a healthy plant. It does not seem to suffer from the fact that it has been propagated by self-pollination for a long time, probably since 1864. In this respect it behaves similarly to *B. cinnabarina*, its closest relative among cultivated tuberous begonias, and different from a species like *B. rosiflora*, which degenerates after too much inbreeding and therefore is very difficult to maintain in a collection.

ABS NEWS/ *It's Riverside in '83, Texas in '84!*

Riverside, Calif., will be the site of the 1983 ABS convention on Aug. 25 through 28, ABS directors decided on Feb. 15.

The board also agreed to the Dallas-Fort Worth area of Texas as the site of the 1984 convention. An invitation from the Miami Branch to host the 1985 convention may be acted upon at the board's May 17 meeting.

The Rubidoux Branch made the proposal to have the 1983 event at the Riverside Holiday Inn with a probable bus tour to the famed Huntington Library, Art Gallery, and Botanical Gardens in San Marino.

The Dallas-Fort Worth meeting was proposed by the ABS Southwest Region. Tentative dates are April 26 through 29, 1984. In the South, climatic considerations make spring the best time to view begonias.

(Board members discussed staging a western regional meeting in fall 1984 to include the constitutionally required annual ABS meeting and installation of 1984-85 officers.)

The Miami Branch's 1985 invitation has not been acted upon yet because branch members are still deciding upon a proposed date and site.

A branch withdraws

ABS directors on Feb. 15 accepted "with regret" a request by the Redondo Area Branch to cancel its affiliation with ABS. In a letter to President Gil Estrada, the branch expressed the view that the national society had "lost sight" of its original aims and was "on a self-destructive course."

Gil said eight members of the branch belonged to ABS. The branch, chartered by ABS in August 1949, is continuing to operate, he said, as the "South Bay Begonia Group."

Gil had informed Redondo officers they must return their ABS charter and, according to the ABS constitution and bylaws, turn their treasury over to another non-profit organization. There has

It's nomination time

You have until June 15 to nominate recipients for ABS' three major awards.

That's the deadline for the 1982 awards, which will be announced and presented at the "Begoniafest" convention Sept. 9 through 12 in Santa Cruz, Calif.

The awards are the Herbert P. Dyckman award for service to the society, the Eva Kenworthy Gray award for literary merit, and the Alfred D. Robinson medal of honor for a registered begonia hybrid available for between 5 and 10 years.

Letters listing your nominees and a brief statement of reasons should be mailed to Kit Jeans, awards committee chairman, at the address on the inside front cover.

This year's winners will join distinguished company. Here are some of the past winners:

Herbert P. Dyckman award

1968, Florence Gee & Herb Warrick; '69, Alva Graham & Edna Korts; '72, Everett Wright; '73, Walter Barnett; '74, Hazel Snodgrass; '75, Mae Blanton; '76, Gordon Lepisto; '77, Gene Daniels; '78, Margaret & Paul Lee; '79, Margaret Taylor; '80, Rudolf Ziesenhenne; '81, Mabel Corwin.

Eva Kenworthy Gray award

1955, Bessie Buxton; '56, Charlotte Hoak; '57, Connie Bower; '58 Alice Clark; '59, Rudolf Ziesenhenne; '60, Louise Schwertfeger; '61, Helen Krauss; '62, Bert Slatter; '62, Bernice Brilmayer; '63, Dr. Clyde Drummond; '65, Mary Gillingwators; '66, May Taft Drew; '67, Sylvia Leatherman; '68, Drs. Lyman Smith & Bernice G. Schubert; '69, Harry Butterfield; '70, Ruth Pease; '72, Elda Haring; '73, Dr. Fred Barkley; '74, Carrie Karegeannes; '75, Dr. Jan Doorenbos; '76, Alva Graham; '77, Mildred & Ed Thompson; '78, Jack Golding; '80, Thelma O'Reilly.

Alfred D. Robinson medal

1949, *B.* 'Silver Star', *B.* 'Freddie', *B.* 'Golden West'; '50, *B.* 'Ricky Minter'; '51, *B.* 'Glendale', *B.* 'Virbob'; '54, *B.* 'Orange Rubra'; '57, *B.* 'Verde Grande'; '61, *B.* 'Kumwha'; '64, *B.* 'Madame Queen'; '66, *B.* 'Sophie Cecile'; '68, *B.* 'Purple Petticoats'; '69, *B.* 'Lady Frances Jean'; '72, *B.* 'Eunice Grey'; '73, *B.* 'Paul-bee'; '77, *B.* 'Universe'; '78, *B.* 'Bowtique'; '80, *B.* 'Murray Morrison'; '81, *B.* 'Buttercup'.

been no reply.

ABS now has 49 branches and the Southwest Regional Association as affiliated groups.

In memoriam:

Herb Warrick

Herbert H. Warrick Sr., 81, an avid begonia grower in Seattle, twice president of the Seattle Branch, and a founder of the South Seattle Branch, died at his home on Feb. 3.

Herb and his late wife Bessie had joined the Seattle Branch in the early 1950s. He was president in 1959 and 1972, and made it a point to encourage new members with their growing.

For many years, Herb cut stencils and mimeographed the branch newsletter, *Begonia Chatter*, and annual rosters. In recent years, he prepared several lists of ABS-registered cultivars and distributed them.

In 1966, Herb and Phyllis Wright organized the South Seattle Branch. Herb was a past president of that branch, too.

ABS directors to meet May 17

The ABS board of directors will meet Monday, May 17, at 7:30 p.m. at Fullerton Savings & Loan Assn., Anaheim, Calif.

Don't miss an issue . . .

Check address label.

If your membership expires within 3 months, renew today. Send to:

Elisabeth Sayers, membership secretary
369 Ridge Vista Ave.
San Jose, CA 95127

THE BOARD/ *ABS directors' meeting Nov. 16, 1981*

Teasurer John Ingles Jr. reported a checking account belance of $1,470.64 as of January 31.

President Gil Estrada reported receiving a reply from Doug Frost regarding the board's request that he reconsider his resignations from several board positions. Doug has agreed to continue to serve on the awards committee, but declines to withdraw his other resignations.

Co-Editor Chuck Anderson reported conducting a formal bidding procedure for Begonian printing and finding that all but one of the printers who bid quoted prices higher than the one from the current printer, American Business Communications. So the editors have switched to the low bidder, Guardian Printing of Mountain View, Calif. ABC will continue to handle the computerized membership list and Begonian mailing.

Chuck noted that third-class mail rates have been increased by the U.S. Postal Service, so any savings in printing costs may be offset by new mailing rates.

Gil reported receiving a second letter from the Redondo Area Branch, which earlier wrote asking to withdraw its affiliation with ABS. The new letter said branch members took the action "with regret" but stated that ABS is on "a self-destructive course" and has lost sight of the society's original objectives. Gil said he believed eight members of the branch also belonged to ABS. He said the letter did not *comply with his earlier requests for return of the* branch charter and an indication that the branch treasury be given to another nonprofit organization according to law.

George Ghiotto, national director of North Long Beach Branch, moved to direct the secretary to write on behalf of the board to Redondo Branch President Diane Fries, saying that the ABS board concurred with the request with regret and asking that the branch comply with Gil's requests. It was seconded by Chuck Anderson and passed unanimously.

Gil read a letter from Research Director Tony Croce recommending a $200 grant to botanist Scott Hoover to help support his new collecting trip to Mexico. Gil said Scott was to have left before the board meeting, so he had advanced the $200 to Scott and wished the board to ratify his action. Marge Lee, *judging chairman, moved approval. It was seconded* by Chuck Anderson and passed unanimously.

Chuck read a recommendation from the publications committee that the society stop copyrighting The Begonian and instead encourage republication of articles in keeping with ABS aims and purposes regarding distribution of information about begonias. Chuck's motion was seconded and approved unanimously.

As chairman of the ad hoc committee on convention sites, Chuck moved acceptance of the Southwest Region's invitation to host the ABS convention on April 26 to 29, 1984, in the Dallas-Fort Worth, Texas, area. The motion was seconded by Bobbie Lovera, bookstore manager, and approved unanimously.

Secretary Arlene Davis read an invitation from the Rubidoux Branch to host the convention in Riverside, Calif., on August 25 to 28, 1983. Arlene would be *chairman. The invitation was accepted unanimously.*

Chuck said he hoped his committee would have a recommendation soon regarding the Miami Branch's invitation to host the 1985 convention.

Chuck relayed a request from Elisabeth Sayers, membership secretary, for an allocation to reprint the "14 reasons" membership solicitation brochure. Several board members suggested a delay of a few months until society finances are more secure. It was suggested that branches photocopy the brochure for the time being.

Before taking his seat, Chuck said he wished to acknowledge that the board seemed to be working much harder and more harmoniously over the past few months, and wanted to thank each board member for his or her contribution to that progress. Gil said he had noticed the same change.

It was suggested that the per-issue price of The Begonian be raised from $1 to $2 to compensate for the new bi-monthly publication frequency. The change was approved unanimously.

Gil appointed Charles Richardson, Pearl Benell, and Sandy Sandoval to the 1982 nominating committee, with Charles as chairman. The board ratified the appointments unanimously. Gil said the committee will be required to report its nominees to the board on May 17. Others may petition for candidacy until June 22.

John Ingles announced that, under authorization voted by the board some months ago, he and Gil will invest surplus ABS funds in an American Savings & Loan Assn. repurchase certificate yielding 16% annually. The funds are used to purchase government securities. At the end of the current quarter (March 31), *they will cancel the eight-year* certificate yielding 8% and invest that money in another repurchase certificate. The higher interest rate will more than compensate for the early withdrawal penalty, John reported. The repurchase certificates are subject to renewal at new interest rates every 84 days.

More endangered habitats

From page 33

port on how climate will be affected by the "greenhouse effect."

What is speculative is how much carbon dioxide the rainforests metabolize. Considering that the rainforests contain one-fifth of the world's vegetation, it is not important to know *exactly* how much CO_2 is metabolized by the forests. The consequences of the "greenhouse effect" and a rise in sea level would be devastating to the human population. If deforestation possibly contributes to a potential disaster, deforestation should be halted.

We must remember that extinction is forever.

Hanson, J., D. Johnson, A. Lacis, S. Lebedeff, P. Lee, and G. Russell. 1981. Climate Impact of Increasing Atmospheric Carbon Dioxide. *Science* 213: 957-966.

Rifai, M. A. 1974. Botanical Exploration in Indonesia. In *Coordinated Study of Lowland Forests of Indonesia*. eds. K. Kartawinata and R. Atmawidjaja. Bogor, Indonesia.

Rudolph, E. D. 1981. Tropical Rain Forest Symposium. *Plant Science Bulletin* 27 (6): 46.

Smith, N. J. H. 1981. Colonization Lessons from a Tropical Forest. *Science* 214: 755-760.

Soule, M. and B. Wilcox. 1980. *Conservation Biology: An Evolutionary-Ecological Perspective*. Sinauer Ass., Sunderland, Mass.

Synge, H. 1981. *The Biological Aspects of Rare Plant Conservation*. John Wiley and Sons, New York.

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More B. borneensis

From page 29

satisfactory. This species does not tolerate overpotting because this only encourages its tendency toward legginess; it prefers to be slightly potbound. Careful watering is critical as it is to all begonias. It is advisable periodically to check the pH of soil mix to be certain that the pH is somewhere between 6.5 and 7 so that the plant will remain vigorous. Regular fertilizing is important for the best results in achieving a healthy, disease-resistant, and beautiful plant.

Those interested in growing and in experimenting with the hybridizing of an unusual species have a real opportunity in adding *B. borneensis* to their collections.

ABS SERVICES

These services are available to all ABS members. For names and addresses of department heads and other officers, see inside front cover. Include a self-addressed, stamped envelope when you write.

AT-LARGE MEMBERS—Services for members who don't belong to branches are handled by the members-at-large director. Contact him for details. If you are interested in finding a branch or starting one in your area, contact the branch relations director for help.

THE BEGONIAN—The journal of the society publishes how-to articles, scientific information, and ABS news. Articles on a member's personal experiences with begonias are welcomed, as are black-and-white photos of begonias and color slides suitable for use on the cover. Contact the editors.

BEGONIAN BACK ISSUES—Individual copies of The Begonian more than a year old are available from the back issue sales chairman (75 cents). A full year is $6.50 for any year in the 1940s. $5 for any year from 1950 through 1979. Back issues less than a year old are ordered from the membership secretary for $2 each.

BOOKSTORE—Books on begonias and related subjects can be purchased mail-order from the bookstore manager. Contact her for a list of books available. The bookstore also sells reproductions of antique begonia prints and other items.

JUDGING DEPARTMENT—The judging department offers a course by mail with which you can learn to become an accredited begonia show judge ($8). Also available are a booklet on point scoring ($1.25), information on fuchsia and fern judging, and other requirements to become a judge. Add $1 postage and handling to all orders and 6% tax for California residents.

LIBRARY—Books about begonias and gardening may be borrowed by mail from the lending library. Contact the librarian for a list of books and the procedure.

NOMENCLATURE — The nomenclature department monitors newly published findings on begonia names as well as handling official international registration of new begonia cultivars. Registrations are published in The Begonian.

QUESTION BOX—Send begonia-growing questions to Mabel Corwin, 1119 Loma Vista Way, Vista, CA 92083. You'll get a prompt answer and Mabel will use questions of general interest in her Begonian column.

RESEARCH—The research department conducts a Grow and Study project in which members experiment with various begonias and compile their findings. The department also has other activities, including the review of requests for ABS backing of outside projects. For details, contact the director.

ROUND ROBINS—Members exchange information about begonias and their culture through a packet of letters which circulates among a small group of growers. There are dozens of these packets—called flights—on many specialized subjects. To join one or more, contact the round robin director.

SEED FUND—The Clayton M. Kelly Seed Fund offers seeds of begonia species and cultivars by mail. New offerings are listed in The Begonian. Donations of seed are encouraged. Please contact the Seed Fund Director.

SLIDE LIBRARY—A series of slide shows on begonias and begonia growing can be borrowed by mail for showing at meetings and seminars. New shows are under preparation. Contact the slide librarian for fee information.

SPEAKERS BUREAU—The speakers bureau maintains a directory of speakers on begonias and related subjects. Contact the director.

BEGONIAN MINI-ADS

Over 80 varieties of herbs for indoor/outdoor growing — culinary, medicinal, ornamental; including many unusual and hard-to-find varieties. Catalog $1.00. ORENMOORE HERBS, 9708 208th Ave. E., Sumner, WA 98390.

One complete set of The Begonian 1934-1967. G. Estrada, 7914 Springer St., Downey, CA 90242. (213) 862-5976.

New List 45c. Begonias, ferns, cacti, violets, pots. Atkinson's GH, Rt. 2, Morrilton, AR 72110. Special—20 rooted begonias $15.95 pp.

Begonias—violets—episcias. Cuttings only. List 50¢. Springtime Gardens, 2212 Hickory, Sulphur, LA 70663.

Violets - Begonias - Episcias
Cuttings only. Send 35¢ for list.
Wilson's Greenhouse, Route 1
Box 165-4 Ozark, MO 65721

Begonias. Episcias. Cuttings only. Catalog $1. Kit Jeans, the Gift Horse Greenhouse, Rt. 1, New Johnsonville, TN 37134.

Mini-ads are $1 per line per insertion with a minimum of $4. A line is about 38 characters including punctuation and spaces. Payment must accompany order. Send to Pam Mundell, advertising manager, 2324 Connie Dr., Sacramento, CA 95815.

BEGONIAS—all types. Illustrated, descriptive catalog featuring over 700 varieties, many rare and unusual. $1.50. THE THOMPSONS, P.O. Drawer PP. Southampton, N.Y. 11968. 516-283-3237.

African violets, begonias, gesneriads, terrarium and dish garden minis, cuttings only. Windowsill Gardens, Box 943, Center Moriches, NY 11934. List 35¢.

Begonia and lily catalog—35¢. Leslie & Winkey Woodriff, Fairyland Begonia and Lily Garden, 1100-B Griffith Rd., McKinleyville, CA 95521. Visitors welcome.

Begonias—Ferns—Unusual plants
Send large stamped envelope for list to Ferns & Foliage Nursery, 1770 Foothill Drive, Vista, Ca 92083.