

THE BEGONIAN



May/June 2011

The Begonian

Publication of the American Begonia Society

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 that will be mailed to all members of the society.
- To bring into friendly contact all who love and grow begonias.

B. 'Shaun's Dream'

Photo by Charles Henthorne



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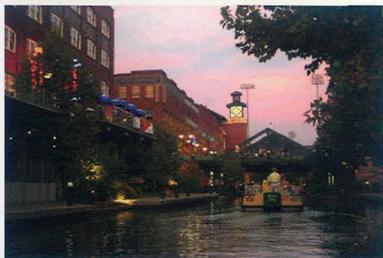
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Front Cover: An award-winning *B. masoniana* grown and photographed by Joe Romeo. See the story, *How to Grow A Champion*, on pg. 113.

Back cover: *B. letestui* Photo by Charles Henthorne

President's Message

I was discussing begonia business with Linda Tamblyn prior to this edition of *The Begonian*. She was particularly excited about an unsolicited article she received so I asked to read it. I am pleased that we are sharing it with you in this issue.

The article is an interesting description of tissue-culturing by a college student. A good article. What makes it so special is that this student was encouraged to study begonias by a grant provided by the West Palm Beach Branch of the American Begonia Society. What a testament to promoting "all things begonia"!

They certainly have had many, many things to their credit over the years but I am especially elated when I see something like this that so personally touches a life.

West Palm is a large, close and active group. They are always promoting and sharing begonias in lots of creative ways. It's worth joining their branch just to get the newsletter.

I have had numerous occasions to be proud of the ABS Branches and individuals. This is a wonderful organization full of great talent and energy.

I want to ask each of you to share your triumphs and experiments with us. Send an article to the Editor or pick up the phone and call one of us. (There are lots of numbers in the back of the *Begonian*.) We will see that the information is made public. We really are interested in what you are doing.

Inspire one another!

Cheryl SEE YOU IN OKLAHOMA

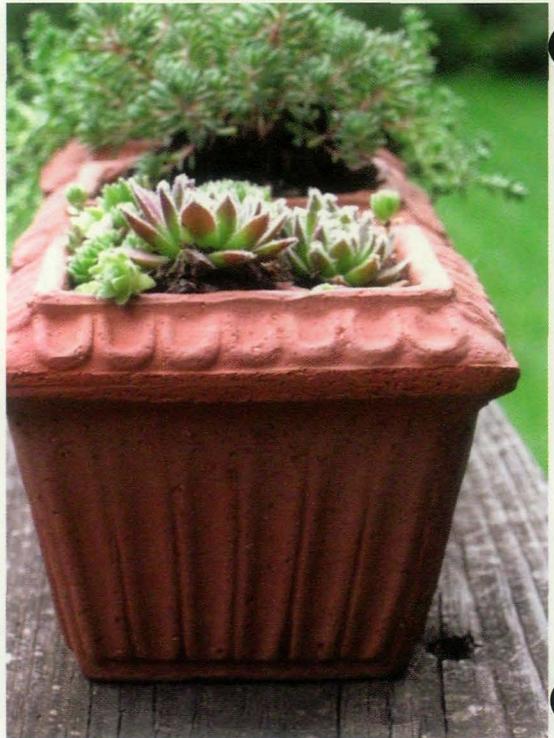
A Big Thanks!

*From Cheryl Lenert,
ABS President*

When the ABS decided to establish a web page it was decided that we should use a recommended professional to set it up. It was an "ok" venture which contained the basics of our organization.

Julie Vanderwilt took the basic web page and turned it into a beautiful, world-class destination. She has served as the Web Master since the beginning and for that we are all most grateful. She has decided to move on to other pursuits but she leaves us with a program that we can use with pride and enjoyment.

Thank you, Julie.



Sempervivums and miniature sedums love cool spring weather. Photo by Linda Tamblyn

Go Wild In Oklahoma

May 11 - 15

By Tom Keepin, Houston, Texas

The American Begonia Society National/Southwest Region Convention “Go Wild In Oklahoma” is fast approaching. The correct dates for for this convention are May 11-15, 2011. There was some confusion about the date due to a typographical error on the registration form reading April instead of May. We apologize for this error. The correct dates all appear throughout the packet and articles written for *The Begonian* and the *Leaflet*.

Please make your hotel reservations as soon as possible to get a room in the main building where everything will be happening.

The tours and seminars are all lined up and waiting for you. If you have any questions at all please contact Dianna or Kenny Wilkerson at (405) 390-4228.

When you are packing please prepare for any kind of weather as the weather in May in Oklahoma is very unpredictable.

Please check your collections for Show Entries, and don't forget your “Traveling Begonia”. If you need a Show Schedule, Show Rules and Entry Form contact Tom Keepin at (713) 686-8539 or E-mail thefrogman@earthlink.net and he will send you what you need.

The trophies have arrived and they are very beautiful and unique. Also, we are also looking for items for the fundraising auction. If you have anything you can donate please contact Dianna or Tom.

We look forward to seeing each of you in Oklahoma City in May.



A very special Oklahoma City hotspot - Bricktown. Photo from www.bricktownokc.com

A Word with You: Cutouts

By Claudia Goodridge, New Haven, CT

I used to love cutting snowflakes and paper dolls; that was before technology uprooted reading and crafts, but the pastime taught me much about symmetry, and a little bit about daring. Fold that paper and snip away. Cautious cuts often meant nicely rounded, even voluptuous pieces; daring cuts sometimes meant elaborate designs ... and other times disaster.

Mother Nature wielded her scissors with great panache on her begonia leaves. Not exactly snowflakes or paper dolls, but something symmetrical, or nearly so, in *lobed*, *cleft*, and *parted* leaves. The pieces she cut out and tossed are the *sinuses*. The cuts can have even or uneven edges. Even edges are *incised*; uneven ones are *lacerate* almost as if Mother Nature had used her pinking shears.

But back to *lobed*, *cleft*, and *parted*. Visualize cuts of 1/3 (the cautious ones), 2/3, or almost 3/3 (the daring ones) of the distance from the leaf edge to the stem. The 1/3 cuts are *lobed*, as in *B. bowerae* or *B. oxyloba*. The 2/3 cuts are *cleft*, such as *B. deliciosa*, *B. taliensis*, *B. heracleifolia* (which Mark Tebbitt characterizes as lobed from 1/3 – 4/5 of the blade length). *Parted* leaves are cut almost to the stem, such as *B. diadema*, *B. crassicaulis*, *B. pedatifida*. Not all begonia literature makes these three distinctions, but when they do, the vocabulary is useful.

Mother Nature had fun with her scissors and created some beautiful leaves in the process.

Above: The lobed leaves of *B. bowerae* var. *major*. **Right:** *B. heracleifolia* shows a nice example of cleft leaves.

Both photos by Kingsley Langenberg

Opposite page: Heavily cut leaves are categorized as cleft which are uniquely displayed on *B. bipinnatifida*.





B. bipinnatifida

By Linda Tambllyn, Merriam, KS

A native of New Guinea, *B. bipinnatifida* is also known as the Fernleaf Begonia. Pinnate means that there are leaflets on both sides of a common petiole, like a feather. Add "bi" to the front of that and the leaflets double. Begonia leaves with this form are also called *parted* (see opposite page). In his book, "*Begonias*", Mark Tebbitt lists *bipinnatifida* in the section *Petermannia* which, has about 200 described species and count-

less undescribed species. He says that this group is unusual in that on any given plant the female flowers open first. In most other sections just the opposite is true. A few other plants in the section *Petermannia* include *B. amphioxus*, *B. chlorosticta*, *B. isoptera*, *B. polilloensis* and *B. serratifida*.

Two views of a beautiful *B. bipinnatifida* growing at the Atlanta Botanical Garden. Photos by Susan Grose

Request for Holiday Ad Donations

By Wanda Macnair, ABS Advertising

Congratulations members and branches for once again coming through for *The Begonian* last year. You donated a total of \$3,512. We did tweak the categories a bit, and some were unable to contribute, but it was a great effort on your part. This helps to pay for the expenses of printing *The Begonian*, and helps to keep the membership dues at a steady level.

Categories are thus: **Bronze, \$1-\$50; Silver, \$51-\$100; Gold, \$101-\$150; Platinum, \$151 plus.** In order to save room for more articles and photos, these are listed on a single page in the November-December issue of *The Begonian* with only the category and donors listed.

Checks will be accepted at the national convention in Oklahoma and anytime through the first week in September, although they will not be deposited by the treasurer until the new fiscal year, beginning September 1, 2011.

Please send checks made out to ABS, for holiday ads, and send to:

**Wanda Macnair, 59 Walker St.,
Cambridge, MA 02138.**

If you have any questions, please contact Wanda by email at wmacnair@msn.com. Thank you.

Westchester Branch 52nd Annual Begonia Show & Sale

The Westchester Branch of the American Begonia Society is proud to present its 52nd Annual Begonia Show and Sale this coming summer on Saturday, July 16, 2011. The beautiful and exciting Westchester event is the only judged begonia show in Southern California and will not only showcase begonias but also ferns, orchids, bromeliads, aroids and other shade loving plants. The Show Honoree for 2011 will be the Ms. Patricia McElderry of Los Angeles, a nationally renowned grower, lover and promoter of begonias and Senior Judge for the American Begonia Society.

An excellent selection of rare and beautiful begonias - species & hybrids - and other plants and gifts will be available for purchase. Admission is free. Ample, easy and free parking is available. Everyone is welcome!

Date: Saturday, July 16, 2011

Hours: 9:00 am - 4:00 pm

Place: Covenant Presbyterian Church 6323 W. 80th Street (north-west corner of Sepulveda & 80th) Los Angeles, CA 90045

Contact: Martin E. Delgado, Show Chairman (562) 310-8380
mdlibrarian@consultant.com

B. aborensis Dunn

Article & photos by

Rekha Morris, Pendleton, SC

On my first trip to Arunachal Pradesh in April 2005, the road I was on wound uphill above a river. Among the ferns, which sheathed the hillsides in textured green swathes, there were colonies of two large leaved plants. One of these was *alocasia*, which generally grew in colonies along the base of hillsides in the shallow water channels created by the frequent rains in this region of India. Another group of plants which grew on the hillside interrupting the near uniform dominance of the ferns was the first begonia species I encountered in Arunachal, and which I later identified as *B. aborensis* [Sphenanthera].

As I gradually became familiar with begonias in three western districts of Arunachal, I realized that there was only one begonia species in Arunachal whose regal presence overshadows *B. aborensis*, and this is *B. silletensis* var. *silletensis* [Sphenanthera]. Since the habitats of these two species seldom overlap, *B. aborensis* is assured its primacy throughout its range, which is extensive.

First recorded by Burkill in 1911-1912 in what is now E. Siang, its name has highly pejorative connotations. Although this species was named for the Abor Hills where it was recorded by Burkill, the fiercely militant tribal group occupying these hills was also referred to as Abors by the British. It is the determined opposition of tribal groups such as these, which was largely responsible for keeping the British presence restricted to the borders of Assam. The designation of the hills, as well as the people occupying these hills, as Abors by the British appears to have been a pejorative abbreviation of ab-



B. aborensis (above) showing a rare perfect flower – a very unusual occurrence.

Below: Underside of *B. aborensis* leaf.

origines. The people so designated call themselves Adi, an appellation which has replaced the derogatory British usage.

Until I began documenting it from 2005, this species was known from a single collection made in 1911-1912. This has led to an inaccurate and erroneous inclusion of *B. aborensis* in the *Red Data Book of Rare and Threatened Plants of India*. Rather than being rare and threatened, *B. aborensis* flourishes from approximately 500' to 2000' in scattered colonies from W. Kameng to E. Siang in Arunachal and on the much lower hills of Assam along the borders of Arunachal Pradesh.

B. aborensis is a rhizomatous species growing to a height of approximately 3' forming robust clumps as wide if not wider than 3'. Its ovate to orbicular leaves are generally about 15-20" in length, with leaf margins either entire or crenate. The





emergent foliage of *B. aborensis* is a remarkable red tinged copper, and on numerous occasions I have encountered *B. aborensis* with striking red veining on both sides of its leaves.

Depending on the elevation at which it grows in the wild, *B. aborensis* blooms between late October and December, although in cultivation it bloomed for me

in late summer initially producing numerous male flowers. On one of these plants in cultivation in South Carolina was a perfect flower, that is, a flower with male and female parts on a single bloom, an extremely rare occurrence in begonias.

Growing from the base of the plant, the bloom stalks are between 3"- 4" high, and each blossom is approximately 1"

in size. The female flowers have 5 tepals and the males have 4. The fruit of *B. aborensis* is the luscious color of ripe strawberries with dark red speckling on a light red washed milky base. Each fruit or berry has four raised ridges indicative of the four locular structure of each of these. Although the flowers are not fragrant during the day, in the evening they suffuse the air around them with a light scent. The fruit, stipules and stems are pubescent with white hair which becomes both thicker and longer on the mature stems.

B. silletensis var. *silletensis*, apart from the much larger size of its foliage and the plant in general, is distinguished from *B. aborensis* by being glabrous rather than pubescent. Moreover, not only are the leaves



Opposite page: *B. aborensis* leaf. This page: Above: Juvenile leaves. Bottom: Flowers and fruit of *B. aborensis*

of *B. silletensis* much larger than those of *B. aborensis*, its flowers and berries are also larger, with the latter being either lozenge shaped or orbicular, and without





the prominent ridging of the fruit of *B. aborensis*. The larger flowers of *B. silletensis* var. *silletensis* are also much more strongly fragrant.

I first located *B. silletensis* var. *silletensis* a few days after *B. aborensis*. However, instead of being visible above the ferns as is often the case with *B. silletensis* var. *silletensis*, this first plant I encountered

was not only hidden from view by the thick fog which enveloped the hillside, but also by the giant fern fronds, heavy with moisture, drooping over to camouflage the single, large clump of *B. silletensis* var. *silletensis*. Despite the lack of visibility due to the fog and light drizzle, I was able to locate this plant by following the strong fruity fragrance which perme-

ated the hillside for a radius of approximately 15-20'.

Both in the wild and in cultivation *B. aborensis* requires evenly moist soil. Although I have encountered *B. aborensis* in scattered colonies along hillsides, the largest plants of this species have generally been near or along the banks of streams and waterfalls. In cultivation, plants which have completed their bloom cycle require very little moisture, and should not be watered regularly. Instead, it is best to allow the soil to be minimally moist and to keep it at this much reduced level of moisture until the growth cycle commences.

In the warm, humid conditions of conservatories and greenhouses, *B. aborensis*, like many other begonia species, is prone to being infested by spider mites and mealy bugs. Weekly watering with water in which dried, powdered Neem* leaves have been allowed to immerse for about five minutes will keep the plants free of all such destructive pests.

* Neem [*Azadirachta indica*] is a large tree native to India where for centuries its leaves have been dried and used in sachets to prevent



Opposite page: *B. aborensis* nestled into a wall of green.
This page: Male flowers.

clothes in storage from being damaged by moths and other destructive insects. Its leaves, stems and small fruit have long been used in India for medicinal purposes, and neem oil based sprays are now used widely by horticulturists to treat insect and fungal prone rose plants. In India dry, powdered neem leaves continue to be used in hair washes to get rid of dandruff and various fungal infections. In recent years the recognized antifungal, antibacterial, and antiviral properties of neem have popularized neem-based products for cosmetic and medicinal purposes both in and outside India.

Rekha Morris
Hyderabad,
3/26/2011

The Genus *Begonia* L. (Begoniaceae) in New Guinea

By Janet Gagul, *Biological Sciences, University of Papua New Guinea, P.O.Box 320,
Uni P.O., NCD, Papua New Guinea*

Email: jgagul@yahoo.com

1.0 Introduction

A list of New Guinea *Begonia* species is presented. *Begonia* being the largest genus in the family Begoniaceae is very diverse and 95% of the species in New Guinea are endemic. The genus as a whole has never been revised for over 80 years after Irmscher (1925) for New Guinea. Many collections have been made over the last six decades, which indicate many new undescribed species.

The New Guinea *Begonia* flora is currently represented by three sections (*Petermannia*, *Symbegonia* and *Diploclinium*). A total of 79 species (75 are endemic) distributed in the three sections have been recorded so far. Section *Petermannia* (Klotzsch) A. DC is the largest with a total of 56 accepted species while section *Symbegonia* (Warb.) L.L. Forrest & Hollingsworth now comprises 13 known species (excluding the new species) from a current study (Gagul in press), all endemic to New Guinea. Section *Diploclinium* (Lindl.) A. DC comprises 7 accepted species in three groups (Group I – climbers; Group II – erect stems and Group III – stem absent or reduced).

Four other New Guinea species are unplaced into sections at the moment. They are *B. archboldiana*, *B. oligandra* (although, Doorenbos *et al.*, 1998 assigned this species to section *Diploclinium*, it is not confirmed yet), *B. physandra* and *B. warburgii* (this species is likely to belong to section *Petermannia* but further investigations are required).

However, the arrangement of New Guinea species into the sections is based only on limited study of the species, and their relationships are still very poorly understood. In terms of estimating species

numbers, a figure for New Guinea would range from 100 – 300 species (Ruth Kiew pers. comm.).

2.0 New Guinea

Begonia Species List

This list is based on the current available information.

2.1 Section *Diploclinium* (Lindl.) A. DC.

Sect. *Diploclinium* (Lindl.) A. DC., Ann. Sc. Nat. Bot. 4, 11: (1859) 129. -- *Diploclinium* Lindl., Veg. Kingdom: (1846) 319. Type species: *Diploclinium evansianum* (Andrews) Lindl. = *B. grandis* Dryander (heterotypic synonym). *Begonia* sect. *Trilobararia* A. DC., Ann. Sc. Nat., Bot. 4, 11: 131 (1859). Type species: *B. ovalifolia* A. DC.

Distribution: Asia, from India and Sri Lanka to the Himalayas, China, Malesia to Fiji.

Taxonomy: This is a widespread and polymorphic section comprising about 140 species worldwide. In New Guinea 7 species have been recorded already. It is closest to section *Reichenheimium* which has undivided (entire) placentae, whereas it is bifid in this section. The species in this section are divided into three groups based on their life forms (habit): Group I (*Diploclinium* I = DI) are mostly creeping or climbing species while Group II (*Diploclinium* II = DII) are species with erect or upright stems and Group III (*Diploclinium* III = DIII) are species with much reduced or almost no stems.

B. acaulis Merr. & L.M.Perry (DIII)

B. bartlettiana Merr. & L.M.Perry (DI)

B. brassii Merr. & L.M.Perry (DII)



B. serratipetala Irmsch. (sect. *Petermannia*). Photo by Janet Gagul



B. kaniensis Irmsch. (sect. *Diploclinium*). Photo by Janet Gagul

- B. kaniensis* Irmsch. (DI)
B. minjemensis Irmsch. (DIII)
B. sharpeana F. Muell. (D?)
B. subcyclophylla Irmsch. (DI)

2.2 Section *Petermannia* (Klotzsch) A. DC.

Sect. *Petermannia* (Klotzsch) A. DC., Ann. Sci. Nat., Bot. 4, 11:128 (1859). – *Petermannia* Klotzsch, Monatsber. Kön. Preuss. Akad. Wiss. Berlin 1854: 124 (1854), lectotype (Barkley & Baranov,

1972): *Petermannia cumingiana* Klotzsch = *B. cumingiana* (Klotzsch) A. DC. (homotypic synonym).

Distribution: The Philippines to New Guinea and Borneo, Sumatra, Sulawesi, Java, Peninsula Malaysia and Indochina.

Taxonomy: It is one of the largest sections in *Begonia* accounting for over 250 species worldwide. In New Guinea 56 species have been recorded so far with many yet to be described. In this section, the female flowers open before the male

flowers which is unusual because in the other sections the male flowers open first. The female flowers usually have five tepals, sometimes four while the male flowers have two tepals. The tepals of both male and female flowers are free (except some species which have a tendency to have fused tepals although they do not form a tube).

- B. albobracteata* Ridl.
- B. augustae* Irmsch
- B. axillipara* Ridl.
- B. bipinnatifida* J.J. Sm.
- B. brachybotrys* Merr. & L.M. Perry
- B. breviformis* Irmsch.
- B. breviformis* subsp. *exotica* Tebbitt
- B. calliantha* Merr. & L.M. Perry
- B. clemensiae* Merr. & L.M. Perry
- B. diffusiflora* Merr. & L.M. Perry
- B. djamuensis* Irmsch.
- B. dosedlae* Gilli
- B. eliasii* Warb.
- B. filibracteosa* Irmsch.
- B. flexicaulis* Ridl.
- B. fruticella* Ridl.
- B. gilgiana* Irmsch.
- B. glabricaulis* Irmsch.
- B. glabricaulis* var. *brachyphylla* Irmsch.
- B. hirsuticaulis* Irmsch.
- B. humboldtiana* Gibbs
- B. kelliana* Irmsch.
- B. kerstingii* Irmsch.
- B. lauterbachii* Warb.
- B. ledermannii* Irmsch.
- B. malmquistiana* Irmsch.
- B. media* Merr. & L.M. Perry
- B. monantha* Warb. in K. Schum. & Lauterb.

- B. montis-bismarckii* Warb. in K. Schum. & Lauterb.
- B. moszkowskii* Irmsch.
- B. multidentata* Warb. in K. Schum. & Lauterb.
- B. mystacina* L.B Sm. & Wassh. = *B. richardsoniana* Merr. & L.M. Perry
- B. naumoniensis* Irmsch.
- B. novoguineensis* Merr. & L.M. Perry
- B. otophora* Merr. & L.M. Perry
- B. oxyura* Merr. & L.M. Perry
- B. papuana* Warb. in K. Schum. & Lauterb.
- B. pediophylla* Merr. & L.M. Perry
- B. peekelii* Irmsch.
- B. pentaphragmifolia* Ridl.
- B. pinnatifida* Merr. & L.M. Perry
- B. randiana* Merr. & L.M. Perry
- B. rhodantha* Ridl.
- B. rieckei* Warb.
- B. serraticauda* Merr. & L.M. Perry
- B. serratipetala* Irmsch.
- B. simulans* Merr. & L.M. Perry
- B. sogerensis* Ridl.
- B. spilotophylla* F. Muell.
- B. stilandra* Merr. & L.M. Perry
- B. strictinervis* Irmsch.
- B. subelliptica* Merr. & L.M. Perry
- B. suffrutescens* Merr. & L.M. Perry
- B. tafaensis* Merrill & Perry
- B. torricellensis* Warb. in K. Schum. & Lauterb.
- B. vandewateri* Ridl.
- B. wariana* Irmsch.
- B. warburgii* K. Schum. & Lauterb.
- B. weigallii* Hemsl

2.3 Section *Symbegonia* (Warb.)

L.L. Forrest & Hollingsworth

Sect. *Symbegonia* (Warb.) L.L. Forrest & Hollingsw., *Plant Syst. Evol* 241:208 (2003) – *Symbegonia* Warb., *Nat. Pflanzenfam.* 3(6A): 149, pl. 52, 1894, emend. Irmsch., *Bot. Jahrb. Syst.* 50: 381-383,

See March/April 2009
The Begonian for Janet's
 original article on
New Guinea Begonias.



B. argenteomarginata Tebbitt (sect. *Symbegonia*). Photo by Janet Gagul

1913. Type: *S. fulvo-villosa* (Warb.) Warb. in Engler & Prantl, Nat. Pflanzenfam. 3(6A): 149, pl. 52, 1894.

Distribution: Endemic to New Guinea.

Taxonomy: Section *Symbegonia* Warburg was initially described as a distinct genus, but molecular data has indicated that it falls within the overall concept of the genus *Begonia*. A revision of section *Symbegonia* (Gagul in press) has uncovered some new species. Although, this section is well defined due to its tubular flowers, distinct columnar androecium and unique endothelial cells, the species within it are difficult to delimit and taxonomically complex.

B. arfakensis (Gibbs) L.L. Forrest & Hollingsw.

B. argenteomarginata Tebbitt

B. fulvo-villosa (Warb.) L.L. Forrest & Hollingsw.

B. mooreana (Irmsch.) L.L. Forrest & Hollingsw.

B. pulchra (Ridl.) L.L. Forrest &

Hollingsw.

B. strigosa (Warb.) L.L. Forrest & Hollingsw.

B. symbeccarii L.L. Forrest & Hollingsw.

B. symbracteosa L.L. Forrest & Hollingsw.

B. symgeraniifolia L.L. Forrest & Hollingsw.

B. symhirta L.L. Forrest & Hollingsw.

B. sympapuana L.L. Forrest & Hollingsw.

B. symparvifolia L.L. Forrest & Hollingsw.

B. symsanguinea L.L. Forrest & Hollingsw.

3.0 Summary

It is not possible to give an educated estimate of the number of species in New Guinea, because: (1) the entire area is poorly explored botanically but especially the western half of New Guinea, (2) most species are represented by very few

specimens, therefore it is not possible to appreciate their variability, (3) existing collections are spread in various herbaria overseas.

Several New Guinea species are widely cultivated by enthusiastic *Begonia* growers all over the world. For instance, *Begonia exotica* has been in cultivation for over 40 years, but was not scientifically named until 2005. There is enormous potential for local people to develop local and international horticultural trade in the many native species that exist within New Guinea.

4.0 Acknowledgements

University of Papua New Guinea (UPNG), World Wildlife Fund for Nature (WWF-PNG Program), Association of Australian Begonia Society (AABS), Centre for International Forestry Organization Research (CIFOR), McIntyre Trust Fund and Bentham-Moxon Trust are all thanked for their support in various ways.

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B. kui

By Michiko Nakamura,
Japan

Translated by Akira
Tanaka, Japan

Taken from *Begonia*, October -
December 2010

Rhizomatous from Viet Nam. Coelocentrum Section. A Taiwanese botanist, Dr. Ching-I Peng bought this species, which was imported from Viet Nam at a flower market in the north area of Taiwan in 2006. At that time he did not identify the name of this species. When he attended the academic convention held at Hanoi, Viet Nam, he was shown photographs of begonias growing in northern Viet Nam from Professor Nguyen Tien Hiep. Dr. Peng identified the begonia he bought at the Taiwanese market as a Vietnamese species shown to him by Professor Nguyen.

Mr. Shin-Ming Ku who specializes in begonias attributed this plant to the Section Coelocentrum and wrote many academic records on the plants growing in calcic areas on the south side of China. Begonias attributed to the Section Coelocentrum conform to limestone rocks and grow in a very limited areas. The species was named "kui" in honor of Mr. Shin-Ming Ku's records. #

Begonia kui

Shown above and on previous page.
Charles Henthorne grew and
photographed this beautiful
specimen.



B. kui. Photo by Charles Henthorne

Grower and photographer of the *B. kui* pictured, Charles Henthorne, provided some of his personal experience.

"This little *B. kui* (pictured) is a small plant and I am waiting for it to bloom. I have had it for almost 2 years now and expect and hope for blooms soon."

"It is somewhat similar to *B. variegata* with a rounded or obtuse leaf apex. Its leaves are 8-16 cm. wide, dark brown, with white stripes in intercostal areas with white spots near margins. The leaves are thick and papery with rugose surfaces. It is adapted to limestone and highly restricted in distribution. It is propagated by seed or leaf cuttings.

We have found it difficult to grow and we have only had success growing it in a terrarium environment. As our plants have not bloomed yet, and we have not been able to obtain seed, we have only been able to propagate by leaf cuttings."

Begonia Tissue Culture Project

Article and photos by Brenda Lines, Jupiter, FL

Welcome to the wonderful world of begonia tissue culture. As a student in the Horticulture Program at Palm Beach State College, I was thrilled to receive a generous grant from the Begonia Society of the Palm Beaches, a Chapter of the American Begonia Society. The grant focused on investigating tissue culture methods with begonias, particularly species begonias.

Plant tissue culture is the process of propagating new plants using a very small piece of the plant (leaf, meristem, bud, etc.) under controlled, sterile conditions. The technique is known also as micropropagation. Tissue culture is utilized for many different reasons. The major reason is that it can be an efficient way to produce more plants, uniformly, cleanly, and in large quantities with little reference to seasonality. Some plants are difficult to propagate using traditional methods, such as by leaf or stem cuttings or seeds. Since only a tiny piece of the plant is used for propagation, tissue culture provides a valuable means of reproducing endangered species, sports, hybrids, and unusual cultivars where only tiny samples are available. Containers with tissue cultured specimens or with small samples intended for tissue culture can be easily shipped around the world. Tissue culture can also sometimes be used to eliminate plant viruses (Kyte and Kleyn, 1996).

The steps in the process are:

- Sterilize all equipment, counters, jars, lids, and utensils
- Prepare the media by combining the following ingredients in distilled water:
 - Sucrose
 - Nutrients (a commercial product called Lloyd and McCown Woody Basal Medium Plus Vitamins was used for most of the begonia trials)
 - Cytokinins- growth hormones which promote cell division and shoot multiplication
 - Auxins- growth hormones which promote root development
 - Plant Preservative Mixture (PPM)- disinfectant
 - Agar- the gelling agent for the tissue culture media
- Boil the media about five minutes in closed jars in a microwave oven
- Sterilize the leaves removed from the donor plant in a series of variably diluted

Left: A tissue culture sample showing many tiny new plants developing
Right: An explant showing leaves on outside edges and callus in the middle





Begonia popenoei explant beside a dime to show the size of the tiny plants

and variably timed laundry bleach, alcohol, and distilled water solutions

- Cut squares of tissue approximately (variably) $\frac{1}{4}$ " x $\frac{1}{4}$ " into tissue samples (explants) to be cultured
- Place one explant in each jar; cover and seal the lid with tape
- Place on a cart provided with 24 hour fluorescent light at room temperature
- Check regularly for growth (callus or leaves) or contamination
 - If the explant shows signs of contamination, such as fungal growth, it is destroyed.
 - If the explant shows signs of growth, it is placed in new media (subcultured) every five weeks.
 - Each time the explant is subcultured, it is divided into multiple jars until the desired number of shoots has been achieved.
- When leaves and roots develop, the explants are planted into potting soil.

Fungal, and less commonly, bacterial contamination are the main problems. Contamination from the air is a relatively minor problem. Most trouble comes from fungal growth starting from the leaf or stem surface or from internal tissues of the plant pieces placed in the culture medium. Airborne contamination is minimized by cutting the specimens or opening culture jars under a positive pressure hood with air blowing out to expel bacteria and fungi.

Surfaces, instruments, and skin are decontaminated with ethanol or isopropyl alcohol. The most critical decontamination by far is of the plant materials, beginning with a very strong preference for plants grown indoors under the most sterile possible conditions. The timings and concentrations of commercial laundry bleach (sodium hypochlorite), ethanol or isopropyl alcohol, and distilled water are among the most critical variables in the process.

TABLE 1

Begonia	Explant	Date in tissue culture media	Sterilized in commercial bleach solution for 10 min.	Hormones In media	Date leaves developed	Date roots developed	Date planted into soil	Time from media to soil
<i>B. 'Linda Dawn'</i>	Meristems	2/10/10	10% bleach	Cytokinin: BAP*	4/7/10	7/14/10	8/17/10	6 mo. 1 wk.
<i>B. odorata</i>	Meristems, leaves	2/17/10	10% bleach	Cytokinin: BAP*	4/20/10	7/14/10	8/17/10	6 mo.
<i>B. odorata</i>	Meristems	4/7/10	15% bleach	Cytokinin: 2iP*+BAP*	6/8/10	7/14/10	8/17/10	4 mo. 1 wk.
<i>B. 'Linda Dawn'</i>	Meristems	4/28/10	10% bleach	Cytokinin: 2iP*+BAP*	5/26/10	8/17/10	10/25/10	6 mo.
<i>B. 'Linda Dawn'</i>	Meristems, leaves	4/28/10	15% bleach	Cytokinin: 2iP*+BAP*	5/26/10	8/17/10	8/30/10	4 mo.
<i>B. coccinea</i>	Meristems, Buds	5/26/10	10% bleach	Cytokinin: 2iP*	6/2/10	8/17/10	10/11/10	4 mo. 2 wks.
<i>B. coccinea</i>	Buds	5/26/10	15% bleach	Cytokinin: 2iP*	6/2/10	8/17/10	9/7/10	3 mo. 1 wk.
<i>B. 'Linda Dawn'</i>	Meristems	5/26/10	10% bleach	Cytokinin: 2iP*	7/14/10	8/17/10	10/11/10	4 mo. 2 wks.
<i>B. 'Linda Dawn'</i>	Meristems	5/26/10	15% bleach	Cytokinin: 2iP*	7/14/10	8/17/10	10/11/10	4 mo. 2 wks.
<i>B. popenoei</i>	Leaves	8/30/10	10% bleach	Cytokinin: 2iP*	10/4/10	10/11/10	11/16/10	2 mo. 3 wks.
<i>B. popenoei</i>	Leaves	8/30/10	15% bleach	Cytokinin: 2iP*	10/4/10	10/11/10	11/29/10	3 mo.
<i>B. U521</i>	Leaves	11/22/10	10% bleach	Cytokinin: 2iP*	12/13/10	1/3/11	2/2/11	2 mo. 2 wks.

- 2iP (y-dimethylallylaminopurine); *BAP (benzylaminopurine)
- *Both 2iP and BAP are cytokinins, which are hormones that promote cell division and shoot multiplication

Generally surface contamination, white fungal growth, appears within a week after placing the explants in the jars. Internal bacterial or fungal contamination may appear even after several months in the media (Hartmann, Kester, and Davies, 1990).

Research indicates that meristems (the growing tip), leaves, buds, and petioles

can be used as explants for begonia tissue culture (Kyte and Kleyn, 1996). Meristems are the most virus-free explants for begonia tissue culture, but a large specimen plant with many growing tips would have to be available. In my trials, leaves, meristems and buds were used successfully. Different procedures may be needed for different species and cultivars.

Results:

The results of successful trials with *Begonia popenoei*, *B. 'Linda Dawn'*, *B. odorata*, *B. U521* and *B. coccinea* are on Table 1 (pg. 104).

The optimum soak times and concentrations of commercial laundry bleach varied. Soaking too long kills the specimen. Too brief, and contamination invades. Striking the balance is challenging, and depends on too many variables for a single definitive recipe. For most trials the usual optimal treatments were 10% to 15% bleach for ten minutes, adjusting upward for especially pubescent, tough, or contaminated materials.

No auxins were added to the media since the begonia explants readily developed roots without it. The time between when the explants developed leaves and roots and when they were ready to be planted into soil varied from two to six months. Many factors influence this time frame. All of the begonias developed leaves and roots and were eventually planted into Fafard potting soil.

There was little documentation on using tissue culture media to propagate begonias from seed. Because begonia seeds can be propagated successfully using tissue

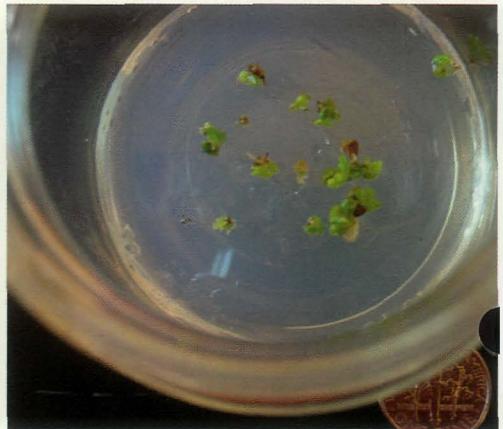


Above: *Begonia 'Linda Dawn'* plants in soil

culture media, tissue cultured seeds can yield many plants from a single seed, assist with minimizing viruses, and provide an alternative method of propagating species or rare begonias. The media is a more sterile environment for the seeds than planting them directly in soil. The resulting plants would also provide valuable, clean explants for future tissue culture.

Seeds from an unidentified rhizoma-

Below. Left: *Begonia 'Linda Dawn'* Right: Seeds sprouting in media



tous begonia were placed into tissue culture media in May 2010 and sprouted and multiplied. Species begonia seeds were then purchased from the American Begonia Society. Begonia seeds are challenging to propagate using tissue culture procedures due to the extremely small size of the seeds and the difficulty in sterilizing them. The seeds were sterilized in 10% commercial laundry bleach and 90% distilled water solution for ten minutes by placing the seeds in a folded coffee filter before placing them in the bleach solution.

The sterilization procedure remained the same for all seed trials. In five trials hormones (cytokinin) were added to the media, and for three trials, there were no hormones added. The trials are still in the early stages, but are showing promising early results, especially the begonia cultivar planted in May 2010. The time the seeds are in the media to when they are planted into soil is longer than for leaf or meristem explants and the length of time that the seeds take to germinate can vary, but the most significant fact is that they can germinate and multiple in the tissue culture media.

Conclusions:

Tissue culture of begonias works well. Starting with clean, healthy plants assists greatly with the explants successfully surviving the sterilization process then later developing callus, leaves and roots. One small change in any of the tissue culture procedures can affect the success of the trial, whether it is the choice of explants, any step in the sterilization process, or any media change.

Begonia seeds of species begonias can be successfully germinated in the tissue culture media. Up to fifty plants or more could be subcultured from one small seed. The use of tissue culture procedures with begonia seeds may provide another viable alternative for propagation of species begonias.

If anyone would like more specific information regarding the tissue culture trials, procedures, or bibliography, feel free to contact me at blines@aol.com.

(continued on next page)

TABLE 2

Begonia	Explant	Date in tissue culture	Sterilized in bleach solution for 10 minutes	Hormones in media	Date leaves developed	Date roots developed
<i>B.</i> (Unknown cultivar)	Seeds	5/12/10	10% bleach	None	8/17/10	2/14/11
<i>B. kenworthyae</i>	Seeds	10/18/10	10% bleach	Cytokinin:2iP*	11/29/10	___
<i>B. peltata</i>	Seeds	10/18/10	10% bleach	Cytokinin: 2iP*	11/16/10	___
<i>B. dipetala</i>	Seeds	10/18/10	10% bleach	Cytokinin: 2iP*	11/8/10	___
<i>B. sericoneura</i>	Seeds	10/18/10	10% bleach	Cytokinin: 2iP*	1/3/11	___
<i>B. carrieae</i>	Seeds	10/18/10	10% bleach	Cytokinin: 2iP*	11/16/10	___
<i>B. peltata</i>	Seeds	11/22/10	10% bleach	None	1/3/11	___
<i>B. kenworthyae</i>	Seeds	11.22/10	10% bleach	None	1/3/11	___

*2iP (γ-dimethylallylaminopurine) – a growth hormone which promotes cell division and shoot multiplication

(Tissue Culture - continued)

Acknowledgments

I would like to thank the West Palm Beach Chapter of the American Begonia Society for the opportunity to participate in the begonia tissue culture project with special thanks to Nancy Cohen for her support and encouragement. Thank you also to Dr. George Rogers, professor of Horticulture at Palm Beach State College, as mentor, inspiration and valuable resource. I really appreciate the generous people from Agristarts, AG3, the USDA, University of Florida, and Cornell University, who so willingly shared their expertise. Last, but not least, thank you to Alex Kroneke, Horticultural Technician at Palm Beach State College, for his enthusiasm and assistance throughout the begonia tissue culture project. #



One seed which has multiplied into many shoots

The seed fund is a service to members only. It is a privilege of your membership.

Please self-pollinate your species begonias, collect the seeds and send them to the seed fund. We depend on your contributions of seeds to make a wider variety of species available to the members.

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B. sikkimensis

New seeds from Thelma O'Reilly

B. sizemoreae

B. wollnyi

Thanks for your contributions.

Packets of seeds are \$2.00. Very rare seeds and newly collected seeds will be \$3.00 or more per packet when noted. California residents please add 8.75% sales tax. All orders must be accompanied by check or money order, payable in US funds ONLY to the Clayton M. Kelly Seed Fund.

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Cost of mailing: US only: 1-12 packets \$1; 13-24, \$1.35; 25-36, \$1.71; 37-48 (2 cans), \$2.30; 49-60, \$2.66. Canada only: 1-12 packets, \$1.10; 13-24, \$1.46; 25-36, \$1.82; 37-48 (2 cans) \$2.35; 49-60, \$2.71. Mexico only: 1-12 packets, \$1.15; 13-24, \$1.51; 25-36, \$1.87; 37-48 (2 cans), \$2.50; 49-60, \$2.81. All other international mail: 1-12 packets, \$1.85; 13-24, \$2.68; 25-36, \$3.68; 37-48, \$4.68; 49-60, \$5.68.

DISCLAIMER: The seeds distributed by the seed fund are identified as received from the donors. The species names (in italics) reported here are correct based on the latest information from *BEGONIACEAE, Ed. 2*; Golding, and Wasshausen. Hybrid names are made consistent with the *ABS Check List of Begonia Hybrids* edited by Howard Berg dated 9/13/2005.

ABS Book Store

New: Unidentified Species Listing, August 2010 by Mary Bucholtz & Charles Jaros, Co-Directors. This update includes previous listings through U520. The new material begins with U521 and ends with U603. Loose-leaf format for easy addition of new material. Many pictures. Notebook not included.

Domestic: \$40.00

International: \$50.00

Raising Cane: Experiences in Growing the Species Cane Begonias by Freda M. Holley. A wonderful work on the cane species with color photographs. **\$15.00**

Note Cards from the Jack Golding Collection. Eight cards with envelopes, each card a different begonia species. This collection of botanical illustrations is part of a series of renderings by Jack's daughter, Marilyn Golding White. The cards were used as Jack's season's greetings cards to his friends and associates. **\$15.00**

12 Postcard Packet, Taiwan Begonia. Published by Dr. Ching-I Peng. Beautiful pictures of Taiwanese begonia species. 2010 **\$ 5.00**

12 Postcards of Begonia Section Coelocentrum including B. pengii & B. masoniana. Published by Dr. Ching-I Peng. 2009 **\$ 5.00**

2010 Calendar, Taiwan Begonia by Dr. Ching-I Peng. Wonderful timeless pictures of begonia species. **\$ 5.00**

Begoniaceae, Edition 2, Part I: Annotated Species List, Part II: Illustrated Key, Abridgement & Supplement by Jack Golding & Dieter C. Wasshausen, 2002, Smithsonian Institution, Volume 43: 1-289 **\$55.00**

Seeing Begonia by Jack Golding 2003, Revised 2005. Jack Golding's last work. "...dedicated to the many who look at their Begonia but do not see the details."

\$15.00

Begonia Hybridizing: A Primer by Freda M. Holley, 2007. An invaluable source book for the beginning or advanced begonia hybridizer. **\$15.00**

Begonia Notes by Rudolf Ziesenhenn, reissued by the Thelma O'Reilly Reprint Fund. Originally printed in the Santa Barbara Branch, La Begonia Barbareña. **\$15.00**

Begonias - 1984 Update by Mildred L. Thompson, reissued 2009. "An addendum for particular portions of *Begonias: The Complete Reference Guide* (Times Books, 1981). Includes species, hybrids and many pictures. **\$18.00**

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This giant wooden stag beetle delights visitors both young and old at England's Kew Gardens.
Photo courtesy of RBG Kew.

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Left: "Best Vignette" was awarded to the Rhode Island Begonia Branch's display at the recent R.I. Garden Show. **Right:** Pictured in front of the prize-winning garden (left to right) is Linda Kammerer, David Harrington, Priscilla Purinton, Pat Barnes, Jocelyn Sherman and Deb Heidtman. Photos by David Harrington

Kudos to the Rhode Island Branch

By Priscilla Purinton, President, RI Branch

The blue ribbon for "Best Vignette" was the icing on the cake for the Rhode Island Branch of the ABS! Members created a 10 X 15 foot begonia garden for the RI Spring Flower & Garden Show held recently in Providence, RI. This first public exposure for one of the newer branches was a chance to spotlight both begonias and the ABS. With 30,000 attendees, the comment most often heard was that the observer had no idea there were so many kinds of begonias. The outreach over the four day show resulted in eight guests attending the next meeting and five of them joining the RI Branch of the ABS.

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What's *Your* SOS Plant?

Recently I adopted two plants - *B. kenworthyae* and *B. elaeagnifolia* –for my SOS (Save Our Species) plants. Yet I wasn't exactly sure how this should work. So I asked Rekha. Though she was out of the country she took the time to reply.

She directed me to the ABS website - <http://www.begonias.org/SOS/SOS.htm> - where I read the following:

Save Our Species (SOS)

The Save Our Species program of the American Begonia Society was created by Rekha Morris to encourage its members to adopt one or more species, keep it / them growing in cultivation, and, by propagation, share them with others so that we do not lose species begonias altogether.

So many species including begonia species are no longer to be found in the wild, and the loss continues at an alarming rate due to human depreda-

Below: An extremely attractive plant, *B. elaeagnifolia*'s upward creeping habit and stiff shiny leaves make it one of my favorites. Photo by Linda Tamblyn

By Linda Tamblyn, Merriam, KS

tion or natural catastrophes such as landslides.

To join the SOS program all you need do is to select a species or several to adopt and inform Rekha Morris at shivavana@gmail.com

Then, she added in her email, "Let me assure you that all that is required is to continue to grow the species adopted, share plants, seedling, cuttings with others so we can keep them alive in cultivation when they are being lost in the wild so very rapidly. It would also be nice if the adopters eventually described their experience of growing the species adopted for The Begonian!"

I especially like that last part. Please consider sharing your SOS growing experience here in The Begonian. We can all learn something from both the experienced or the novice.

If you haven't yet adopted an SOS plant – make a commitment to your favorite begonia species today.





Another view (above) of the beautiful *B. masoniana*; also pictured on the front cover of this issue.

How I Grew A Champion: B. masoniana

Article & photos by Joe Romeo, Prospect, South Australia

As soon as I saw the Iron Cross Begonia I wanted one of my own. I bought one from the garden centre in a Hardware store but I had no idea how to grow it so I mollycoddled it. This did not work at all; the leaves got mildew, shriveled up and fell off. Only the rhizome was left and I was about to lose it. I thought it needed intensive care - which means putting it in a terrarium. I did not have one big enough to contain the pot so I decided to improvise.

On a trip to Perth in Western Australia I visited Lyla Kilpatrick to see her collection. She grew some beautiful plants on cement sheeting with potting soil, which was kept moist. The covering was made from

Perspex¹ sheets.

My way was to get some large foam boxes - two exactly the same size - which glued together with a tube of No More Nails. Then I placed some bricks on top to force the surfaces together. The next day I cut an opening at the top and angled the sides of the perspex down. That created a slight fall allowing the condensation that forms on the lid to slide down the lower wall and return to the floor of the box. Two inches of peat moss goes into the bottom of the container. I then push holes through the foam walls, level with the top of the peat, so extra water will drain off but leave the peat saturated,

1 a hard plastic similar to acrylic

(How I Grew A Champion - continued)

in this way overhead watering is possible without drowning the plants.

B. *masoniana* stayed in this box for quite a few years until it outgrew it. It always got overhead watering in summer. The perspex guided the water into the box so the plants were bottom watered. I always fertilized the plants by immersing the pots in a bucket of water with fertilizer, letting them drain and returning them to the box. In spring, when the rhizomes are usually sitting high above the potting soil, I put a little fresh mix in the pot. Then I cover that with a small handful of pelletized chicken manure and more soil to cover it to the rim of the pot. When growth starts and new leaves appear it is time to start fertilizing. I use a high nitrogen fertilizer, such as fish emulsion or Aquasol or Thrive. I alternate using a different one in rotation, every two weeks when possible.

After the plant outgrew the foam con-

tainer, I had to rethink the situation. I solved the problem by cutting a foam box three inches up from the bottom with no holes in the bottom. I filled this bottom with perlite, which is an inert substance that holds lots of water. I placed my plant on top and placed it in a position where it received overhead watering so evaporating moisture was replaced in the perlite. In summer I overhead watered every day in the morning for 15 minutes. I hardly ever had any mildew but I did spray if I saw any. In other seasons I watered only when needed.

I entered my plant in our 2010 Annual show, which is held in conjunction with several other plant societies, known as Festival of Flowers. I entered it for the Best Species Section. Surprisingly I won against some stiff competition. For my win I received the Glenda Hutchinson Memorial Trophy, it holds a place of pride in my studio.

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The summer season is in gear, and your begonias are thriving. The heat of summer, moisture abundant, and long days have growth on your plants jumping. You should be actively feeding your begonias, perhaps spraying for fungus if your area of the country is very moist (like mine), and repotting long overdue rootbound plants. Canes are blooming like mad now, and if you ever wanted to try pollinating and hybridizing, this is the time to do it.

The winter in Tampa Bay was another incredibly long cold spell. It began in early December with a light freeze and continued into January with our hardest freeze yet. Although my backyard, where I grow my begonias, only hit 28.9°F as the absolute lowest, we did have 10 days that never hit 50°F. Wind was ever present and my covered greenhouse rattled and rolled keeping me ever vigilant on the plastic staying on. My little electric heater did its job - but I grow less than half my begonias in there...with a few orchids. The rest were outdoors in this arctic weather! Yes, my begonias made it through in fine shape thanks to frost cloth. I use the middle grade that protects to 27/28°F and it did its job. Even tall canes securely covered held fine through the cold. Each time I uncovered the benches I was ready to cringe, but other than tattered leaves, all came through admirably. Begonias are much tougher than they are thought to be. Of course, the more sensitive plants were in the greenhouse or inside my sunny, skylight-laden Florida Room. But they went outdoors as soon as the weather warmed. Thankfully, February was a beautiful month and the second half was above normal with sunny skies.

Among the lessons learned from the past two, unusually cold winters were to keep plants well watered, and that once warm weather returns, begonias will jump into growth. Winter's damage is

In the Mailbox

By Greg Sytch,
Horticultural Correspondent

hardly noticeable. Plants that are well watered can withstand the cold better, and in the drying winter winds they stay upright without tumbling over. Use this experience and remember, not to baby the begonias. Now that it is March, rhizomatous are blooming everywhere and it is time to play bee again.

Q: I left my angelwing outdoors in a freeze, and it was heavily damaged. I forgot to bring it in. What can I do to save the plants? **NC**

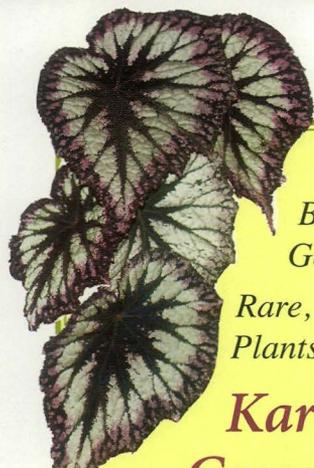
A: Cold damaged plants should be pruned back once you see any growth. Prune to just above the growing tip. Keep any damaged plants on the dry side or root rot will set in. Once new growth really starts, I would suggest working the soil so it becomes loose, so excess water drains well. Lightly fertilizer (perhaps spraying) then resume regular feedings once it is clear the plant(s) are doing well.

If you have any questions regarding your begonias, please do feel free to give me an email at gsytch@cs.com. If I can help, or lend assistance to where you can get what you are needing, I will. Happy Growing!



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Begonias at the Boston Garden Show

Photos and article by Wanda McNair, Cambridge, MA

At the recent Boston Flower and Garden Show six members of Buxton Branch, and a member of the Rhode Island Branch, received a fair share of ribbons and cultural certificates. Plus my *B. bogneri* received two special awards - the Thompson Award for the best plant in the Begonia classes, and the Libby Stephenson Award for the best exhibit grown under lights. Incidentally, the master gardeners also had a bay window filled with begonias.

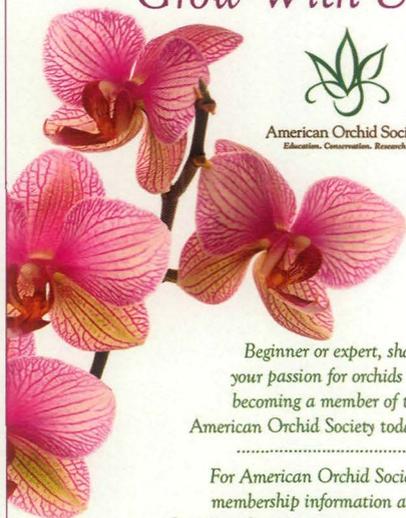
The list for the plants placed in our exhibit follows – all are begonias: 'Stained Glass', 'Vista Queen', 'Red Planet', 'Lois Burks', *Rex cultorum*, 'Irene Nuss', *solan-anthera*, 'Miss Priss', *procumbens*, 'Phoe's Cleo', 'Twisted Sister', 'Fire Flush', 'Bandit', *bifoderma*, *radicans*, *thelmae*, *masoniana*, 'Gryphon', 'Penny Lahn', 'San Miguel' 'Salamander', 'Marmaduke', *paulensis*, 'Miss Julie', 'Black Velvet', 'Suzie's Curl', 'Silver Mist', 'Coral Sabers', *partita*, 'Snow Capped', *barsalouxiae* and *versicolor*.

We had eight members who supplied plants and ten members who helped with set-up, talking with the public and tear-down. Our chairman was Phyllis Savage.

One thing that may be unique to the Boston show is that we take turns manning the exhibit and speaking to the public to answer questions. We hand out information about begonia culture information as well as publicity about our upcoming sales and our fall show. The public seems to appreciate this.

Two views (above right and left) of the Begonia display at the Boston Flower and Garden Show. This plant room and the individual entries were in the Amateur Horticulture Section, sponsored by the Massachusetts Horticultural Society.

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