

The

Begonian

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The Begonian

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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 that will be mailed to all members of the society.

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

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Cover

Front: **Kathleen Burt Utley** shares this lovely shot of *Begonia fimbriata* in its natural setting.

Back: **Doug Pridgen** makes the Miami Branch Show live for us with his lovely photos including this one of B. 'Phoe's Chloe'.

In This Issue

Longing to travel this summer? This issue should really whet your appetite! First, we travel south with **Rekha Morris** and the **Utley's**. Or go to California to see the wonders of tuberous begonias. Or who would not want to go to Florida if the begonias there are as beautiful as they were at the the annual Miami Branch Show. Or maybe you want to go afar - perhaps to India with our new contributor, **E. S. Santhosh Kumar** to have at last some answers about *B. malabarica*. Or maybe to Peru as **Maureen O'Reilly** sees species variation at first hand. I hope you agree with the editor that this is a wonderful issue thanks to those who are sharing their adventures with us.

Our annual branch listing is postponed until next issue; read the editor's notes to find out why. But, please! Send her the name of your current National Director anew if that has changed from last year's listing.

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Quick

Check your mailing label. If it reads
200509 or 200510, your membership is about to expire.
Please renew! We don't want to lose you.

President's Message

I asked questions and I got answers.

What does ABS do for the branches?

I have been asked this question a number of times, but when I ask, "What do you think ABS as a national organization should do for your branch?" the answer is usually some form of "send money."

The American Begonia Society originated in Southern California in the early 1930s when a group of people who were interested in growing and studying begonias started meeting in a number of cities and subsequently formed the society as an umbrella organization primarily to sponsor shows and conventions, publish a newsletter and distribute seeds.

The American Begonia Society (the national organization) is responsible for a number of activities such as administering the Society; publish the *Begonian*; sponsor the annual convention and show; register hybrids; provide seed distribution through the Clayton M. Kelly Seed Fund; and fund and sponsor begonia research. Dues paid by ABS members both branch *affiliated* and *members-at-large* who constitute the member/subscriber base are about sufficient to pay for publishing and distributing the *Begonian*. Estimates are that about half of ABS members/subscribers belong to branches. The annual convention/show provides most of the revenue to support the other activities of ABS such as research funding, publications, and makes up any shortfall in costs of printing and distributing the *Begonian*. Additionally, ABS is responsible for guaranteeing all the expenses incurred by the branch sponsoring the convention. A few years ago ABS had to pay a few thousand dollars to satisfy creditors of a badly managed convention.

With our member count at the

level it has been for the past few years, our convention income has to sponsor national activities and subsidize the *Begonian*. ABS does not place any levy on the branches for being affiliated, but only asks that each branch member belong to ABS by subscribing to the *Begonian*. Since the *Begonian* is delivered to each subscriber, it can be assumed the member is deriving benefit from the subscription. The branches are then affinity groups who meet to study, grow, swap, buy and sell begonias and take advantage of the seed fund and association with other ABS members to acquire hybrids and species that are not available within the local branch. ABS members who attend ABS Conventions meet and make friends with begonia growers from the U.S. and many foreign countries.

ABS asks a branch or a group of branches to sponsor a convention and show, and in return the sponsoring group is given a portion of the revenue of the event.

In economic terms, the relationship between the branches and ABS is a symbiotic relationship in which each party exists because the other exists. It's a "zero sum game" In the final analysis, branches, members and national could all be asking what they can do for each other.

Note Editor's New Address on Page 158.

I think the phone number will remain the same, but if there is no email address there, check with Ann Salisbury to get new phone number and email address.

In Search of Begonias on Roads Through Hades

Rekha Morris,

South Carolina

On trips to document begonias in Veracruz and Oaxaca states over the last three years we have driven on a variety of roads, some of which can barely be dignified by referring to them as roads. Three attempts to reach the habitat of *B. imperialis* and *B. lyniceorum* in the Isthmus of Tehuantepec in March 2004 familiarized us with dirt tracks which suddenly ended, not in a village or field or pasture, but just ended as though we were in maze created not out of well clipped hedges but dirt tracks. On the most recent trip to Oaxaca [Dec. 26th 2004 – Jan. 9th 2005], we traversed endless vistas of dry mountains on a dirt track cut into the hillsides to test not the endurance, forbearance, stamina and steadfast dedication of Frodo Baggins on a cosmic task, but an undertaking as lacking in glamour and panache as documenting species begonias.

We crossed the US border into Mexico at Matamoros on Dec. 26th, and spent the next two days driving south. For the most part the landscape from the US border to Tamazunchale in San Luis Potosi is for a begonia explorer a waste land comprising unending stretches of scrubby ranches and treeless fields, which in December lay parched and prickly from the dry stubbles of crops already harvested. Intermittently the highway traverses either close to or through hills which are as dry as the undulating plains surrounding them. However, as one approaches Tamazunchale the environment becomes less inimical to begonias, but little forested land remains as these have been replaced by citrus orchards, small banana plantations and patches of corn and sugar cane.

Although there are pockets of begonia habitat around Tamazunchale, having

explored these on earlier trips we drove via Huejutla in Hidalgo to the hills of Tepitzintla in Veracruz. Disheartening as the drive had been up to now, it was not as frustrating as it became around Tepitzintla and Cerro Azul where I was searching for begonias but found that the plough and the tractor had preceded me right down to the coast. The low hills were themselves dry and arid at this season, so after a few hours of fruitless search we continued south.

After a day resting, reorganizing and replenishing our food supply at Tropical World near Fortin, we headed for Oaxaca on the morning of Dec. 31st. Although I have driven several times on route 175 which cuts through Sierra Juarez, I invariably find myself full of anticipation and excitement as we enter a begonia rich habitat through which this winding, often treacherous route hugging the base of near vertical cliffs takes us. It is among these hills that I have previously documented *B. heracleifolia*, *B. nelumbifolia*, *B. sericoneura*, *B. glabra*, *B. mariti*, *B. ludicra*, and *B. pustulata*.

Having photographed all these familiar species one more time, and after collecting seeds of *B. mariti*, I tried reluctantly not to continue to punctuate our long drive to Oaxaca City by stopping to explore every likely patch of these cool, moist hills for begonias. Close to dusk and still some 4 hours from Oaxaca City, I was unable to pass a length of hillside still dripping from a brief, passing shower without exploring on foot. Small ferns and mosses formed luxuriant sheaths over rocks and boulders too steep to sustain the more tumultuous medley of trees, vines and shrubs twining and interlacing themselves in chaotic, unrestrained verdure.

Continued on page 141.

During our field work in Mexico, John and I have concentrated our collecting in the states of Veracruz, Oaxaca, and Chiapas. Not only are species of *Begonia* most abundant here, but these states also represent a region with a concentration of unusual bromeliad species that we also study. Oaxaca is topographically and ecologically complex with two major mountain chains dissecting the state, the Sierra Madre Oriental in the north, which runs from the northwest to southeast and the Sierra de Miahuatlán which runs from west to east, south of the city of Oaxaca. The Sierra Madre reaches heights of more than 11000 feet, and, in the winter months, the roads crossing the Sierra are occasionally covered with ice. Lower northern or

Gulf slopes of the Sierra Madre rise from a broad, seasonally dry coastal plain that extends from Veracruz into Oaxaca. The northwestern part of the state is seasonally dry with low deciduous shrubs, cacti and some agaves. Similar vegetation occurs in areas south of the Sierra Madre and east of the city of Oaxaca. The eastern part of the state is dissected by the low-lying Isthmus of Tehuantepec which divides Oaxaca phyto-geographically. Vegetation east of the isthmus is more similar to that of Chiapas than the remainder of Oaxaca.

The low northern foothills of the Sierra Madre have abundant exposed formations of limestone or karst; it's in this area that *B. wallichiana* Lehm. is con-

spicuous along the roadsides during rainy periods. *Begonia sericoneura* Liebm., as well as the ever present *B. heracleifolia* Schlecht. & Cham., colonize the karstic formations in drier parts of Oaxaca, as well as in Veracruz, Tabasco and Chiapas. *Begonia lyman-smithii* Burt-Utley & Utley can be found on karstic hillsides actually growing on the limestone with *B. sericoneura* in the northern part of the state.

In general, the Gulf slopes of the Sierra Madre receive significantly more rainfall than the corresponding Pacific slopes.

On the lower Gulf slopes, *B. nelumbifolia* is commonly found along drier road-banks. Moist stream banks and roadbanks with seepage areas often abound with *B. pustulata* Liebm., an attractive species in section

Weilbachia (K1) A.DC. with finely hairy, pustulate leaves that are usually a bright green above and lighter below; however, some populations have conspicuous, attractive silver maculations on their upper surfaces. Hairs on the petioles, flowers and capsules are either clear or red. Like a number of other species from Oaxaca, *B. pustulata* does not occur in the Sierra de Miahuatlán. Riverine populations of *B. pustulata* are vulnerable to flooded steams resulting from heavy rains due to hurricanes along the Gulf coast. While populations have been severely impacted again and again, they have not been obliterated. A far more serious threat to *B. pustulata* and other species along the lower Gulf slopes

Travels in the Sierra Madre

by

Kathleen Burt Utley

and

John F. Utley

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Above is a closeup of the flowers, male flower above, of **Begonia fimbriata**, shown on cover. To the right is **Begonia ludicra** with its female flowers below left.



of the Sierra Madre is increasing pressure from agriculture. Where tropical forests once covered steep slopes in the foothills of the Sierra, corn is now planted to feed ever-increasing populations.

The upper Gulf slopes receive abundant rain and support well-developed evergreen cloud forests with a variety of epiphytes, lianas, abundant ferns and tree ferns. At these higher elevations, we find populations of *B. ludicra*, so named because of its unusual, variously lobed leaves. Like *B. pustulata*, it is in sect. *Weilbachia* and is a rhizomatous species with elongate internodes. It occurs most commonly in wet areas on roadbanks or seepage areas on hillsides. *Begonia ludicra* can be so dense in some areas that a patch of it in the forest occupies 600 square feet or more! Leaves range from green or maroon to silver maculate and may be densely to moderately hairy. Although inflorescences of this species are few-flowered, the flowers are unusually large. *Begonia ludicra* has not been found south of the Gulf slopes of the Sierra Madre in Oaxaca. In the same areas that we've encountered *B. ludicra*, we have also found *B. fimbriata* Liebm., one of our favorite Oaxacan species. It colonizes wet roadbanks and rock faces at around 6000 ft in the Sierra. The species has attractive green foliage and very large pink flowers, making it one of the prettier species found in the state. We have not yet observed *B. fimbriata* elsewhere in Oaxaca or adjacent Veracruz. Also common in the upper Gulf slopes of the Sierra Madre, is the robust *B. maritii* Burt-Utley. This species colonizes wet roadbanks and hillsides and is likely endemic to the Sierra.

For some years we were interested in locating *B. acutiloba* Liebm which was described from Oaxaca. Although it had been reported from Guatemala in the Flora of Guatemala by Smith and

Schubert, the specimen that they cited represents a distinctly different species which has yet to be recollected. After searching for *B. acutiloba* during several field trips, we were finally successful during one trip when we traversed the Sierra Madre on a poorly maintained gravel road cut into the mountainside. For all appearances, the road resembled someone's driveway in the country. (I always hope that we don't meet anyone coming towards us on these roads because the roads aren't wide enough for two vehicles to pass, and one of the vehicles must back up until there is space to pull off the road either in a ditch or at the edge of the hillside. I prefer the ditches!). By the time we collected *B. acutiloba* and began looking for *B. rafael-torresii* Burt-Utley & Utley, it was too late to safely descend the Sierra and return to Oaxaca. We set up camp for the night under some power lines alongside the road, the only flat area for some kilometers. Although there was a small settlement some miles below us, there were no lights visible at night. At one point in the evening, we watched the headlights of a truck as it picked its way up the Sierra towards us. That was the only vehicle we saw that day in the Sierra. Hopeful that the next day would bring us good collecting, we finally went to sleep. Unfortunately, we woke up in the clouds and could barely see anything. Since the clouds didn't lift, we tried a little collecting but couldn't see the roadbanks, let alone any vehicle that might be coming along and decided that it was too dangerous to continue our fieldwork there. Although disappointed that we were unable to spend more time in the Sierra, we were very happy to have made the first unequivocal collection of *B. acutiloba* since Liebmann collected it in the mid-nineteenth century. It is a striking species with large, asymmetric leaves, slender, elongate rhizomes and

very large pink flowers. As we crossed the continental divide and descended towards the Valley of Oaxaca, we dropped below the clouds and found *B. fusca* Liebm. This very large species ranges from parts of Honduras, through Guatemala and Chiapas to Veracruz and Puebla. Unlike the other species we've mentioned, *B. fusca* also occurs in the Sierra de Miahuatlán near Juquila. Collecting in this part of the

Sierra Madre was satisfying, and we plan to return in the future.

You may contact Kathleen Burt Utley at kburtutl@uno.edu

Seeking Help with my Begonia Project

By Charles Coyle

I am currently an undergraduate student at The University of Reading in the United Kingdom. During the summer of 2004, I worked at Glasgow Botanic Garden, my home city, gathering and data basing information regarding *Begonia* species growing in the British Isles. As a result of my work each major and significant collection of *Begonia* in the British Isles is now catalogued in one file, a copy of which is kept in Glasgow Botanic Garden.

I have returned to University here in Reading, where I have begun preparation for my final year project. My project proposal is based on the relationship between *Begonia foliosa* and *Begonia fuchsioides*. *Begonia fuchsioides* was recently reclassified and is now *Begonia foliosa* var. *miniata*. However recent analysis was carried out on these two and thirteen other species, has yet again raised several questions regarding the relationship between these two plants. These analysis based on single accessions of each species have suggested that *Begonia foliosa* and *Begonia fuchsioides* are not as closely related as has been suggested.

Begonia foliosa and *Begonia fuchsioides* are extremely similar in appearance hence the recent reclassification. The conflict of species identification using DNA and morphology is extremely interesting and it is my intention for my final year project to study these plants using

molecular and morphological approaches and attempt, once and for all, to confirm their relationship to one another.

Since first discussing this project with my project supervisors, **Dr Mark Tebbitt** and **Dr Julie Hawkins**, I have planned a series of tasks combining two analyses, molecular and morphological, that I hope will lead me to answering this question.

For a successful conclusion of this project, I will need to collect as many of the following plants as possible: *Begonia annobonensis*, *boliviensis*, *convallar-iodora*, *dominicaulis*, *dregei*, *engleri*, *foliosa* and its varieties; *fuchsioides*, *guaduensis*, *holtonis*, *humilis*, *sutherlandii*, *meridenensis*, *pearcei*, *rotundifolia*,

Please send plants or cuttings to:

Charles Coyle
School of Plant Science
Whiteknights, Reading
Berkshire, RG6 6AS, UK

From these plants, I would make herbarium specimens and also remove some of the leaves for DNA extraction. I will also use the same plant to conduct the morphometric analysis.

I will then collect DNA sequence data for two genes regions of all of these

plants. These analyses will be supplementary to the initial work already carried out and it is my hope to clarify those results.

I also plan to carry out more morphological analysis of the two species in question. This involves studying the plants and listing every distinguishing character of them to the smallest detail. This will involve each part of the plant, the leaves, the flowers the stem, as many features as possible. Measurements will be taken and will form the basis of a morphometric analysis.

Once I have completed these two analyses I will then be in a position to confirm the relationship of *Begonia fuchsoides* and *Begonia foliosa*.

I have written to some who hold in their collection the plants I need. I must say that in a very short space of time I have received positive replies. Everyone seems to be supportive. **Jack Golding** has kindly sent me copies of all of the literature

he has on *Begonia foliosa* and *Begonia fuchsoides* and the other *Begonia foliosa* varieties.

My project will run from now until April 2006, when I have to submit my thesis. The sequencing will involve not just *Begonia foliosa* and *Begonia fuchsoides*, but thirteen other species, nine of which are from the same area as the two species in question South America. The remaining four are from Africa and will act as an out group

I am keen to hear of any suggestions, or opinions regarding this project from the Members of the American Begonia Society. Thank you for your help and comments.

Charles Coyle, Email _____
sbu03cpc@reading.ac.uk

Monterey Bay, The land of Tubers

by **Bill Schramm,**
Salinas, CA

Monterey Bay is located along the California coast about midway between the Mexican border and Oregon. It is a special place to many people for a number of reasons. For golfers it is the golf capital of the U.S. and the site of Pebble Beach. For nature lovers it is the location of the beautiful and rugged Big Sur coastline. For those who enjoy food it is the Salinas valley, which is called the salad bowl of America. For those interested in the sea it is the site of the largest concentration of ocean science and ocean education institutions in the world including the famous Monterey Bay Aquarium. Finally, for flower lovers it is the land of beautiful tuberous begonias.

Today's hybrid tuberous begonias with their huge flowers in a variety of

colors and flower forms bear little resemblance to the species tuberous begonias that were brought back to Europe from the new world. By 1900 a large number of hybrid tuberous begonias had been developed and there was considerable commercial production of begonia tubers in places such as Belgium and Holland. Many of those tubers were shipped to the United States, but in 1919 that changed with the implementation of the U.S. Plant Quarantine Law, which prohibited importation of plants from Europe.

This provided an opportunity for American growers and there was no place better suited for growing tuberous begonias in the United States than the Monterey Bay region which has the ideal soil and climate. James Brown had started grow-

ing tuberous begonias in Capitola in 1914 along with other plants so he was ready and able to expand his business when the opportunity arose. Soon after Vetterle & Reinelt became the second major grower in the area. The early European hybrids could not be reproduced consistently by seed, but by 1928 the American growers had developed hybrids that would reproduce consistently and that allowed them to produce large numbers of tubers from mother stock seed. In 1935 three Antonelli brothers, who had learned the business working for Vetterle & Reinelt started their own company, which became the third major grower along Monterey Bay. For many years these three companies dominated the tuberous begonia industry in the United States. They developed the hybrids that we all grow and love today and produced millions of tubers. But all things change and especially so in California.

In the late 1940s Vetterle & Reinelt closed and sold their mother stock to a Belgium grower. The offspring of those begonias are still sold today under the name of Pacific Hybrids. Antonelli Brothers sold off most of their farm land and today that land is the site of homes. Today [Ed.'s note: see article following this one.] Antonelli Brothers is a retail operation and sells about 100,000 high quality tubers a year at their nursery in Capitola and through their catalog. They continue to work at developing new and better hybrids. The Brown Bulb Ranch is still under the ownership of the Brown family, but is now called Golden State Bulb Growers. They produce about 2 million begonia tubers a year in addition to even larger numbers of calla rhizomes. Golden State is a grower and they sell wholesale to others who retail the tubers in a variety of catalogs, at nurseries, etc.

The growing and processing of tuberous begonias is very interesting and I had the opportunity to visit the Golden

State facility in Watsonville and their fields in Marina this last year to witness the process. The mother stock plants are grown in greenhouses in Watsonville and that is where the seed is set and collected that will be used later to grow the tubers that will be sold. Also in Watsonville there is a continuing effort to develop new and better hybrids for the future. The greenhouses there remind me of a gardening operation only with bigger greenhouses and more beautiful plants than a regular gardener would ever have. Most ABS members would understand the operations in the greenhouses, but what happens in production side of the business is very different.

The field operation is a true farming effort and Golden State, like any farmer, has to worry about the weather, getting the crop to market, etc. The annual cycle for planting and harvesting the begonia tuber crop for sale is driven by several factors. The longer the plants are in the ground the bigger the tubers will be when they are harvested and bigger tubers bring better prices. But the seedlings can't be planted too early because of the threat of frost and they have to be harvested in time for processing and shipping to the retailers who, in turn, must have them in time to sell to their customers. It is a very interesting balancing act. Golden State Bulb Growers begins the cycle in January when it is time to plant the seeds. Since there are many different flower forms and colors grown by Golden State, the sales department has to estimate how many of each they expect to sell the next year. After that decision is made the seeds are planted. The seed flats are then put in a germination room at 74 degrees temperature and 100% humidity. After 10 days the seeds have cracked and it is time to move the flats to greenhouses where the plants will grow as seedlings. In mid April the seedlings are planted in the fields in Marina. These fields are very near the sea so the soil is sandy which provides

good drainage. In the summer in Monterey Bay the weather is cool and cloudy near the Bay. This means the begonias can be planted in the open without the need for artificial shade. By late summer the fields are ablaze with millions of flowering begonias in swaths of brilliant colors. For any flower lover and especially begonia fans it is truly an amazing sight, but Golden State is not interested in the flowers. There is one exception and that is their interest in the selection of new tubers for the mother stock and selections for the hybridizing program. Those tubers are given special treatment and harvested by hand. In mid December it is time to start the main harvest. Special machines go through the fields lifting the tubers along with a lot of dirt and depositing them in large containers. During this step and throughout the remainder of the processing it is important (and difficult) to keep all the different kinds of tubers separate. Remember, we

are talking about 2,000,000 tubers. The containers are taken to the Watsonville facility and the first thing done is to wash off all the dirt. Then the Tubers are put in flats and placed in drying rooms. Large gas heaters produce the heat and big fans circulate the warm air in drying rooms. This is a noisy process, but it gets the job done. Next the tubers are taken to the sorting room where they are sorted and graded by hand. From there they go to the packing facility and then on to shipping. As the processing of the tubers from the fields is taking place the planting of the seed for the next year's crop is happening in an adjacent building and thus the cycle continues.

Over the last 90 years or so there have been many changes in the business of growing and selling tuberous begonias, but one thing remains constant. Monterey is still the land of the tuber.

Antonelli Brothers

By Chuck Anderson

Recovering from a huge fire in March, historic Antonelli Bros. Begonia Gardens has reopened for one last summer season in Santa Cruz, Calif., where hundreds of thousands of locals, tourists and begonia collectors have flocked over the past 70 years.

A move, however, is imminent. Owner **Linda Antonelli Bobbitt** and her co-owner husband **Dennis** are looking for a new site of 5-10 acres including greenhouses in or near Santa Cruz County.

The Antonelli family has sold the three acres of land on which the nursery now is located to a housing developer. The sale took place before the fire, but had not been made public.

"I would have preferred to stay

here," Bobbitt said, "but I was outvoted." She and her husband owned the nursery business but the land was owned jointly by Bobbitt and seven relatives, the other children of the founding brothers. "I could have refused to sign, but I didn't want to make waves in the family," she explained. "I'm just not that way."

Bobbitt had expected the developer to want possession in about two years, but now they want to get started this fall, she said. The surrounding 12 acres of the nursery's original acreage had been sold in recent decades for housing as increasing property values outstripped the lands value for agriculture.

Rubble from the fire has been cleared, and makeshift display space and a customer service counter have **been**



Bill Schramm photographed the blooming begonia fields of Monterey above and Chuck Anderson shows the very latests news from Antonelli Brothers below.



set up, even with some charred lumber still showing. After the smoke cleared, nursery employees discovered many tuberous begonia and fuchsia plants were untouched, and Bobbitt said she plans to order other plants from wholesale growers as she usually does for summer. Among the nursery's lesser specialties are angel's trumpets, African impatiens and cane-type, rhizomatous, shrub-like and rex-cultorum begonias.

Cause of the spectacular March 8 blaze, which destroyed about one-third of the nursery, its main showroom, a packing room and other display space continues to be undetermined, according to Fire Capt. Patrick Sharp, head of the county's arson task force.

"I can't rule out arson and I can rule out an accidental cause," Sharp said, adding that he won't close the case. "The case remains open and if new evidence shows up I can take action." A separate probe by insurance investigators concluded that the source was electrical.

Sharp said the fire started at the southeast corner of the main building in the packing room, location of computers, many of the nursery's begonia bulb-like tubers, packed orders and files.

A day after the fire, arson investigators detected unburned hydrocarbons near the point of origin, which can indicate the presence of an accelerant such as gasoline. But Sharp said a laboratory analysis showed the hydrocarbons were not from an ignitable liquid. "They likely were from melted plastics or nursery chemicals," he said.

"However, other common materials such as newspapers can be used as accelerants," he noted. "I can't rule out someone coming in and lighting ordinary combustibles." The investigation also involved the Sheriff's Office, district attorney's investigators and the U.S.

Department of Alcohol, Tobacco, Firearms and Explosives.

Asked who might have wanted to damage the nursery, Sharp declined comment.

Among begonia enthusiasts, a visit to Antonelli Bros. often was a pilgrimage including a picnic lunch. It is the only remaining retail tuberous begonia nursery in Northern California from among numerous ones from the mid-1900s. One was in Capitola and others were located in Big Sur and Carmel Valley and along the North Coast.

For more information visit: <http://antnelli.infopoint.com>.

The hand-lettered signs tell the whole story. The historic nursery has reopened for one final summer season.

MINUTES OF BOARD MEETING American Begonia Society Tampa, FL, February 26, 2005

President **Howard Berg** opened the meeting. **Mary Sakamoto** read the Aims and Purposes of the Society. There were 29 board member votes present. The minutes of the prior board meeting in San Diego, August 28, 2004, were accepted as sent to board members.

Treasurer **Carol Notaras** presented and distributed copies of the financial statement for August 1, 2004, to January 31, 2005. The general fund beginning balance was \$9726.49 and the ending balance was \$6218.96. The most significant items were \$15,215.32 income from the San Diego Convention and a transfer of \$9000 to the money market fund. The combined checking accounts for Begonian mailing, seed fund and general fund began at \$9979.58 and ended at \$9896.76. The seed fund showed no activity because the report received from the fund had errors in the figures and a corrected report was not received in time for this meeting. The savings accounts totaled \$54,772.34

Continued on page 149.

THE REAPPEARANCE OF RHEEDE'S *TSJERIA* –*NARINAMPULI* - IT'S IDENTITY AFTER THE DISCOVERY AND A NOTE ON THE ALLIED SPECIES

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Abstract

The identity of Rheede's *Tsjeria-narinampuli* elucidated as *Begonia malabarica* Lamk. Notes on its allied species are also provided.

Introduction

On a floristic exploration conducted to Pampavalley and adjoining hills of Pathanamthitta district of Kerala, the authors collected a curious specimen of *Begonia* from a muddy cliff of a shady stream bank at an altitude of about 200 m. The weak stemmed herbaceous habit with creamy white flowers on short peduncled axillary cymes and the perianth lobes hairy on outer side, which are strictly 4 in male and 3 in female flowers had a close resemblance to Rheede's *Tsjeria-narinampuli* described in *Hortus Indicus Malabaricus* (Vol.9:167.t.86. 1689). Based on Rheede's description and illustration of this Malabar plant, French biologist Jean Baptiste Antoine Pierre Monnet de Lamark described *Begonia malabarica* in 1783. Sadly Rheede has never preserved any specimen of his plant and the description and illustration created much confusion for A de Candolle (1864), who eventually split this up retaining the plate under *B. malabarica* and the description under var *rheedii*. This constituted lectotypification as was also suggested by Nicolson et al. (1988). This wrong and reprehensible judgment of A de Candolle (l.c.) made the later workers overlook *B. malabarica* Lamk. This prompted us for a detailed study on the taxonomy of

B. malabarica.

Perusal of literature and herbarium tells us of the 'blanket treatment' of *B. malabarica*, which has a total of two to three elements under this name. Clarke (1879) while treating the Begoniaceae of the erstwhile British India included *B. malabarica* with two more varieties viz. var. *dipetala* and var. *hydrophila*. In all these taxa the number of perianth lobes is consistently 2 in both male and female flowers. He also cited Wallich's numerical list 3675 and 3676 (excluding D) for these species. He incorporated Rheede's *Tsjeria-narinampuli* under var. *malabarica* stating "It may be the present plant and it is difficult to guess what other species Rheede could have got in Malabar: though it differs not merely in the points mentioned by A. de Candolle; but in the male flowers with two sepals and two petals". But he remained silent about the structure of female flowers. Gamble (1919) followed Clarke (L.C.) while treating *B. malabarica* occurring in the erstwhile Madras presidency also included *B. fallax* A.DC. by accepting Wight's name *Diploclinium lindleyanum* unwarrantable under the synonymy of *B. malabarica*, perhaps with their close resemblance with Rheede's *Tsjeria-narinampuli*.

Studies of the microfiche {Wall. Cat. No. 3675 & 3676 (excluding D)} and specimens housed at Central National Herbarium, Kolkata (CAL) revealed that the fiche no. 3675A, C & D belongs to *B. malabarica* var. *dipetala* sensu Clarke, which later came to be called *B. dipetala* Graham. fiche no. 3676B is *B. fallax* A.DC. The fiche no. 3675 B, 3676 A & C are the specimens allied to *B. dipetala* by the presence of 2 perianth lobes both in male and female flowers are herein forms a new combination viz., *Begonia dipetala* Graham. var. *hydrophila* (C.B. Clarke) Santhosh et Seema. The Sri Lankan specimen (CP 2807) housed at Madras Herbarium (MH) also represented this taxon. Though it is differing considerably from *B. malabarica* proper, but without a detailed study on their population and ecology we refrain from elevating them to a distinct species status. All these specimens are characterized by the suffrutescent habit, long and lax inflorescence, the presence of glabrous perianth lobes which are consistently 2 in both male and female flowers are no way consistent with Rheede's *Tsjeria-narinampuli*.

Jayasuriya (1983) while treating the Begoniaceae of Sri Lanka commented on Rheede's plate as "it represents *B. malabarica*, although no stipules are depicted and the flowers are not completely illustrated in the plate". This statement seems ambiguous as there is a well illustrated figure with stipule (Photograph-A). The occurrence of *B. malabarica* in Sri Lanka represented *B. malabarica* var. *hydrophila* C.B. Clarke. Ansari & al. (1984) segregated *B. fallax* A.DC. as a distinct species from *B. malabarica*. They erroneously placed Rheede's figure synonymous with *B. fallax*. According to them *B. fallax* is characterized by the distantly angular and toothed leaves, 4-lobed perianths in the male flower and 3-lobed in the female

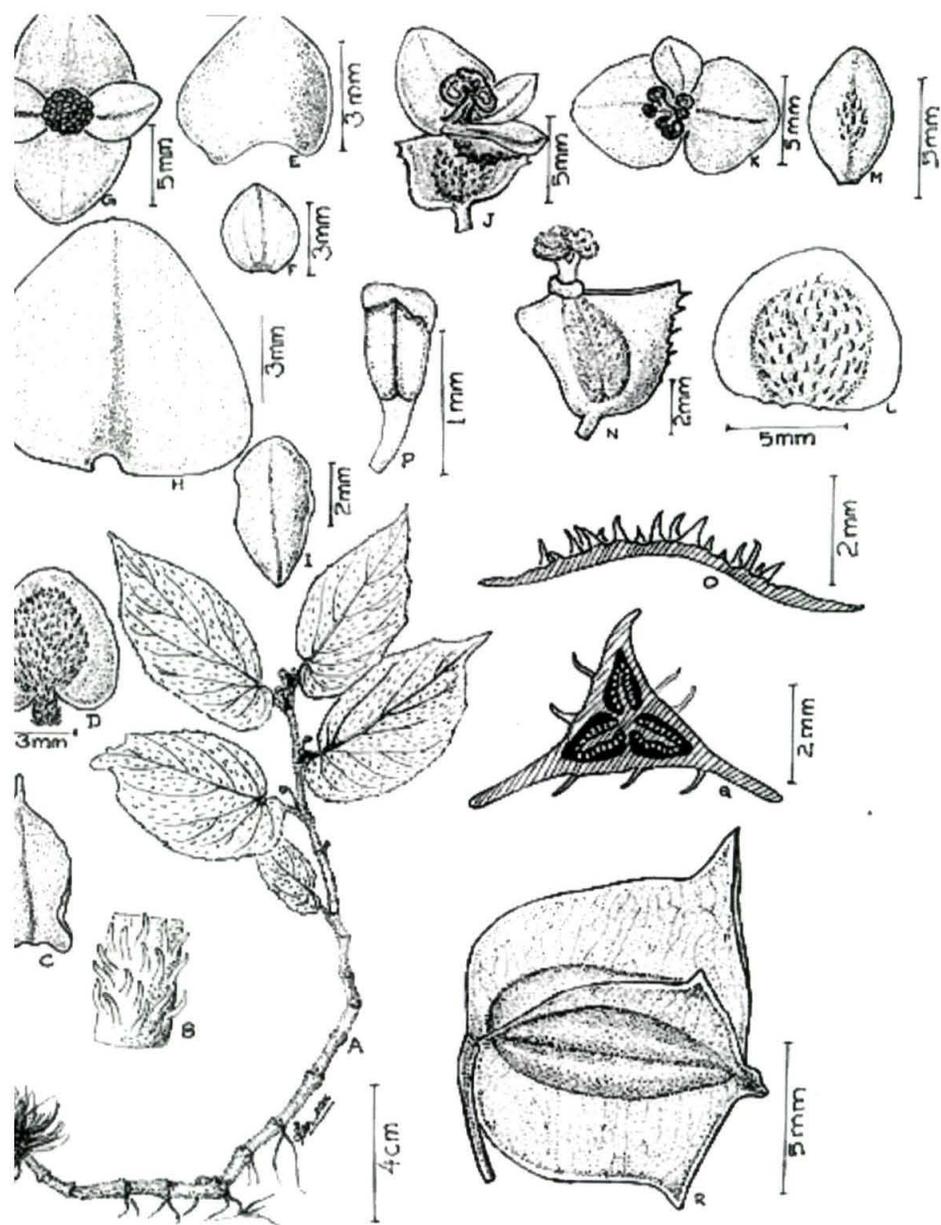
and the placenta bifid. They argued that *B. fallax* warrants a specific rank and accordingly reinstated it to a distinct species. They further described *B. malabarica* as "leaves closely serrate, male and female flowers with 2 perianth segments and the placenta undivided". Studies on their specimens revealed that it represented *B. dipetala* Graham another sympatric species occurring in South India and Sri Lanka.

Smith & al. (1986) cited *Tsjeria-narinampuli* under the synonymy of *B. malabarica* proper. However the photograph given for the type species (Fig.20.24) is ambiguous as it represented *B. dipetala* var. *hydrophila* (C.B. Clarke) Santhosh & Seema. This taxon is from Courtallum hills of South India and the same has been recently collected by us from the type locality.

The *Tsjeria-narinampuli* was collected by a few subsequent workers evidently by the herbarium specimens housed in two of the herbaria (MH, TBGT); however they are invariably determined as *B. trichocarpa* Dalz. in most of the cases. Kumar & Bhattacharya (1990) stated that *B. trichocarpa* Dalz. was rediscovered from Adoor in Quilon district of Kerala in 1978. Perusal of the above specimens housed at Madras Herbarium (MH) matched with the type specimen (digital image) of *B. trichocarpa* did not show any resemblance rather than it represented Rheede's *Tsjeria-narinampuli*. Hence the rediscovery of *B. trichocarpa* is still a mystery.

Fig. 1 *Begonia malabarica* Lamark

A. Habit, B. Stem detail, C. Stipule, D. Male flower bud, E. Female bract, F. Male bract, G. Male flower, H. Inner side of male perianth, I. Inner view of inner male perianth, J. Female flower (top view), L., Outer view of outer female perianth, M. Outer view of inner female perianth, N. Gynoecium, O. Male flower c.s. of outer perianth, P. Stamen, Q. ovary c.s., R. Capsule



In the light of above facts, it is high time to recognize the identity of Rheede's plant described in Hortus Malabaricus. This taxon was infrequently collected and is rare in their respective localities. Rheede's *Tsjeria-narinampuli* hence eventually determined as *B. malabarica* Lamk. It can be distinguished from its allied species by the following key:

1. Male and female flowers consistently with 2 perianth lobes.....2
1. Male flowers with 4 perianth lobes and female with 3 perianth lobes3
2. Fruit attenuate at apex, wings rounded along the margins.....*B. dipetala*
2. Fruit obovate-rounded, obtuse at the base, wings obtuse or subangulate*B. dipetala* var. *hydrophila*
3. Herbs to 40 cm tall, flowers with perianth lobes and capsule pilose on the outer sides, placenta entire.....*B. malabarica*
3. Erect shrubs ca. 1 m or taller, flowers and capsules glabrous, placenta bifid.....*B. fallax*

Begonia malabarica Lamk., Encycl. 1: 393. 1783; Smith *et al.*, Smith. Contrib. Bot. 60: 196. 1986. *B. malabarica* var. *rheedii* A.DC., Prodr. 15.1:392. 1864. *Tsjeria-narinampuli* Rheede, Hort. Mal. IX: 167.t. 86. 1689. (Fig. 1 A-R).

Slender herbs, 20- 40 cm high. Stem sub erect, branched, cylindric, pilose, and tumid at nodes. Leaves 4-11 x 1.5-6 cm, oblong, shortly asymmetric, the larger side cordate at base, the outer side rounded, shortly acuminate at apex, margin serrulate and doubly irregularly crenate, membranous, 6-9 veined, upper surface dark green with white spots, sparsely pilose above, densely so along the nerves beneath; petioles to 2 cm long, succulent,

cylindrical, densely pilose; stipules 0.5-1 cm, ovate-lanceolate, acuminate, membranous. Peduncle axillary, succulent, to 2 cm long, pinkish; cymes 2-5 flowered; bracts ovate to 4.5 mm long. Male flowers: Pedicels to 1 cm long, bracteoles 2-3, ovate, 3-4 x 3 mm, obtuse at apex, pilose; tepals 2+2, creamy white, outer perianth sub-orbicular, 6-8 x 6-7 mm, cordate at base, glabrous within, pilose without; inner perianth oblong-ovate, 4-5 x 3-4 mm; stamens 30-50, filaments to 0.6 mm long, shortly monadelphous, anthers to 0.8 mm long, oblong, shortly cuneate at base, connective truncate at apex. Female flowers: peduncles to 2.5 cm long; bracteoles 3-4, sub-orbicular, to 3 x 2.5 mm, pellucid; pedicels to 0.4 cm long; tepals 2+1, creamy-white; outer perianths to 5 x 8 mm, ovate-deltoid, pilose without; inner perianths 5 x 3 mm, elliptic, obtuse at apex, glabrous; ovary pilose up to 5 x 6 mm including the wings, triangular in cross section, wings subequal, distantly sharply angular-acuminate, ciliate, rounded at base; placenta simple; ovules numerous; styles 3, free, to 2 mm long; stigmatic zone undulate-spiral, 1.5 mm across, penicillate. Capsules to 8-9 x 12-15 mm (including the wings), papery, pale brown when dry; broader near the apex; wings subequal, 8-9 x 6-8 mm, truncate at apex, distantly sharply acuminate, reticulate. Seeds ellipsoid.

Flowering and Fruiting: May – January.

Distribution: Apparently endemic to Kerala State.

Habitat and Ecology: Being a rheophytic herb, it usually prefers semi shade habitats at altitudes between 20-800 m.

Specimens examined: Kerala: Pathanamthitta district, Adoor, c. 125 m, 28-12-1978, C.N. Mohanan 59698 (MH) (identified as *B. trichocarpa* Dalz.); Ponthanpuzha Reserve, 50 m,

A.



B.



B. -1



B. -2



Figure 2. A. *Tsjeria-narinampuli* Rheede, B. *Begonia malibarica* in its natural habitat, B. -1 Male flower, B. -2 Female flower.

17-05-1984, V.T. Antony 521 (MH); Thottappara ± 925 m, 15-08-1988, R. Chandrasekharan 89219 (MH); Pampavalley, c.200 m, 23-08-2002, E.S. Santhosh Kumar 45818 (TBGT); Sabarigiri hills, 1000 m, E.S.Santhosh Kumar 45860 (TBGT). Idukky district, Inchathody-Thattakkadu-Neriamangalam, 11-07-1988, P. Bhargavan 87460 (MH).

Begonia dipetala Graham. var. **hydrophila** (C.B. Clarke) Santhosh et Seema, comb. nov.

B. malabarica Lamk. var. *hydrophila* C.B. Clarke in Hook.f., Fl. Brit. India 2: 1879, syn. nov.

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Smith L.B., Wasshausen D.C., Golding J. and Karegeannes C.E. 1986. **Begoniaceae:** Part I: Illustrated Key Part II: Annotated Species List. Smithsonian Contribution to Botany 60: 1-584. Smithsonian Institution Press, Washington.

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Continued from page 125.

As I made my way slowly through this pulvius habitat, I noticed small, glabrous, tan colored foliage sprinkled across one mossy surface, and realized that despite this unusual color these were also leaves of *B. ludicra*, although different from the forms I had found previously along this route. Close by were several plants of the more familiar green form of the same species. I saw no more begonias as dusk had swiftly turned to night as we drove south through these mountains.

Auspiciously as 2004 had ended, 2005 for me was to be inaugurated with a great clash of cymbals when I expected it least. On Jan. 1st we drove out of Oaxaca City heading east for some thirty miles, and then turning northwards into the mountains which roughly paralleled those we had crossed the day before.

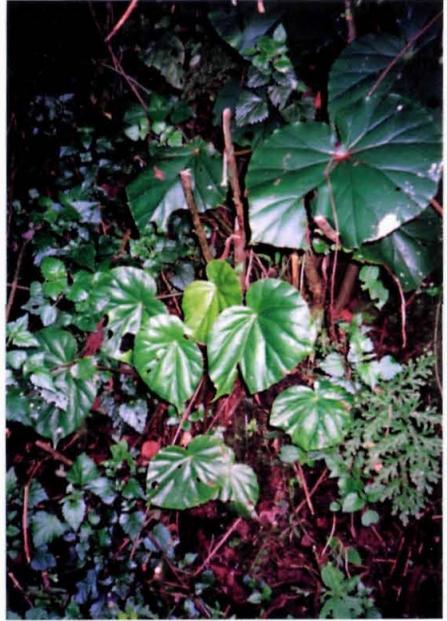
For over three hours the road wound and rewound among dry, denuded hills, with scruffy looking shrubs and cacti struggling to survive among the ocher and rust colored rocks. Why I wondered had Mexico wasted its engineering skills in laying this road where there was little human habitation and less vegetation to grace the land? Morosely I found myself muttering lines from T.S. Elliot's *The Waste Land*, "**What are the roots that clutch, what branches grow / Out of this stony rubbish?**" Certainly not those of begonias, so what were we doing here?

Despite my somber mood I realized that the landscape had begun to change, imperceptibly at first, and then more dramatically as the rusty rocks gave way to dark lichen covered ones, with a few glistening with moisture from seepage able to support ferns and mosses. Soon we began to encounter landslides, which generally signaled our approach to habitats more congenial to begonias. Little trickles of water and increasingly greener hills alerted but did not quite prepare me for the sudden

appearance of a lush cove at an elevation of about 1800' littered with debris from a small landslide. Among the thick green growth I noticed a sparse sprinkling of pink, and hopefully made my way first down and then up a muddy slope with shattered tree trunks and broken branches strewn among the boulders which had brought them down. Across this muddy patch was a shallow stream, and there at the base of trees grew begonias with large pink flowers and hirsute foliage, some with prominent red veins, and all with long, white hair on the leaf surface. I had never seen this species before nor have I been able to identify it so far.

We encountered two other small colonies of the same species, both in the vicinity of small waterfalls. Revitalized by these finds I began to be hopeful about finding other species. A few miles further on, our way was all but blocked by a huge landslide. As I craned out of the window to look at the exposed, boulder strewn slope, I saw light green shrubs with huge leaves at the top of the ridge. Almost instantaneously I recognized these as *B. fusca*, as I had found *B. fusca* in Veracruz but never in such numbers. Although they grew high above us skirting the top edge of the curved ridge, I realized that with some effort I could clamor up to them as the avalanche of boulders and the debris they had brought down had considerably modified the sharp gradient of the rest of the hill side.

However, when I tried to climb up the landslide, I found myself foundering on the unstable dirt and rocks, which instead of providing anchor for my feet, shifted, slid and careened down hill. Luckily I did not have to climb all the way to the top of the ridge as barely half way up, hidden from view by the fallen trees and shrubs were more *B. fusca*, some with mature seed heads. Collecting these was simpler



Above left, **B. sartori**. road to Totontepec. Above right, **B. rafaeltorresii**. South of San Juan Comaltepec. Below, hairy begonia like **B. hispadivillosa**.



than photographing the plants. Not only was my right hand bandaged from two emergency surgeries in Austin days before we headed south, but the excitement of seeing so many *B. fusca*, and quite possibly also the unstable ground I was trying to balance myself on made my hands and knees tremble.

As it turned out I need not have put myself through this ordeal, as a few miles further up this road to Totontepec and beyond *B. fusca* grew in long, continuous sweeps barely a few feet above us. Their long floral stalks arched above the foliage in a gloriously lively display which erased, albeit temporarily, memories of the sullen hills we had driven through for hours to get here. The extraordinary abundance of *B. fusca* along this stretch of the road was exhilarating but there was more to come. Shortly after this we encountered *B. sartori*, sometimes growing in distinct colonies and sometimes interspersed with *B. fusca*. I lingered as long as I could along these stretches but the imminence of darkness, the increasing muddiness of the road, and the fact that we still had another twenty miles or so to reach the recorded sites of *B. rafael-torresii* militated against further delay.

By 4.00 p.m. the hills facing east were dark shadows presaging the complete darkness not far behind. Fearing that we might get bogged down on this muddy track unable to find *B. rafael-torresii* before darkness overtook us, I sat tensely scanning the hillside as Michael maneuvered the car around water filled ditches and deep ruts and furrows in the track. We had passed Totontepec and were heading towards San Juan Comaltepec when I saw dark green, glabrous foliage in the shadows cast by an overhang. Despite the pressure to push on, I got down to examine these closer, and was delighted and relieved to discover that I had found

B. rafael-torresii miles south of its several recorded sites. Nevertheless we continued northwards, stopping to examine tiny rivulets of water along the slopes in the hope of finding more begonias. Along one such moist spot I saw light green foliage, which in a general way resembled those of begonias. On closer examination of this spot, I found *B. ludicra* all but hidden from view among the thick growth, and another begonia with rough foliage which turned out to be a form of *B. oaxacana*, the first time I have found this species in Oaxaca.

At the southern edge of Comaltepec were scattered plants of *B. nelumbifolia*, and although we drove several miles north of this village, we did not reach the recorded sites of *B. rafael-torresii* as darkness swiftly enveloped the surrounding hills. We reluctantly turned back and reached Oaxaca City 7 hours later. Mercifully darkness obscured the long grim segments of the landscape we had driven through earlier **“where the dead tree gives no shelter,...../ And the dry stone no sound of water.”** A day later I would find myself in a terrain which made the dismal hours on this road seem but fleeting moments of visual discomfort.

Exhausted from the previous night's long drive in the dark we allowed ourselves a relaxed morning walking around Oaxaca city. That afternoon we headed south to Miahuatlan. The next long trip I had planned would take us on more dirt tracks leading to San Jeronimo Coatalan, and further south till this dirt road eventually joined a subsidiary black top, which would take us to the Pacific coast. Since we needed to make an early start I had to locate the nearest town with a hotel, and Miahuatlan not only had two small, provincial hotels, but the dirt road to San Jeronimo Coatlan lay on the southern outskirts of the town. My plans for an early start were thwarted as the entire street in

front of our hotel had been converted to an outdoor, pedestrian market. The hotel owner had alerted us to this, and arranged for us to park our car on another property he owned so that we could drive out long before the market closed. Despite my efforts to ignore the noisy bustle which greeted us as we emerged from the hotel courtyard, there were too many unusual fruits, vegetables and kitchen utensils for me to walk by with my eyes averted. Nevertheless, by 11.00 a.m., a mere three hours later than planned, we were bumping along yet another dusty road towards San Jeronimo Coatlan.

The topographical maps, which enable me to find my way around the back roads of Mexico, are detailed and accurate. However, there is no way of calculating the time it will take to cover specific distances, as this depends almost exclusively on the condition of the gravel or dirt roads and the number of times we come to a fork with no signs. With no one to question as to which one to take, there have been occasions when we have lost valuable time by taking the wrong turn. There were to be many such moments on this long road south. Up to the fork [which we reached at 3.30 p.m.] where another dirt road went northwest into the hills to San Jeronimo Coatlan, we passed a few scattered villages and pick-up trucks heading in the same direction. It had taken us 4 1/2 hours to cover 45 miles through hills and valleys so denuded of vegetation that the exposed orange-red clay was brick hard. Two or three species of pines sparsely dotting this hilly landscape were reminders that we were still on earth and not on the red planet.

My notes from the herbarium of the Field Museum of Natural History in Chicago indicated that several species of begonias [*B. fusca*, *B. sartori*, *B. squarrosa*, *B. boissieri*, and *B. gracilis*] had

been recorded south and southwest of San Jeronimo Coatlan. So instead of driving 12 km north from this fork in the road to San Jeronimo Coatlan, we took the road heading generally south but with numerous twists and turns in a southwesterly direction. Nothing along this road, best described in the words of T.S. Elliot as winding over “*endless plains, stumbling in cracked earth,*” through “*mountains of rock without water*” even remotely hinted at the presence of begonia habitat. *B. fusca*, *B. sartori* and *B. gracilis* are all species which require a damp, moist environment, and these arid, red hills burnt by the relentless sun were utterly inimical to begonias. Reminding myself of the suddenness with which the habitat had changed on the road to Totontepec, I struggled to keep doubt and disappointment at bay.

Less than an hour from the road to San Jeronimo Coatlan, noticing two large, lobed leaves turning yellow among the undergrowth below the pines on the slope, I decided to see if these were begonia leaves. Climbing up a bank some 10' high to a ledge I realized that I had reached a dry, steep streambed littered with rocks and fallen trees. This was not visible from the road, and the two yellow leaves at the mouth of this seasonally dry mountain stream did not belong to begonias. However, the presence of a stream, dry though it was, indicated moisture which may well enable a few species of begonias to survive. So with the help of my walking stick I hobbled upwards examining the steep banks for any sign of begonias. Twenty feet up I saw small, maroon begonia foliage lit by the rays of the setting sun. Minutes later I had found numerous plants of the same species on both sides of the dry stream at an elevation of nearly 8000'. Some of these had all green foliage while others had foliage

shading from an olive-tan to deep maroon. A few still had dry stalks of seed capsules which I carefully collected, and among the nooks and crannies of the rocky banks were juvenile plants, their serrated foliage dotted maroon. Since this location was roughly analogous to the recorded find spot of *B. boissieri*, this is what I erroneously thought I had found. However, what I had found were several colonies of *B. squarrosa*. There was another large colony of this species on the banks of yet another dry stream bed, and a small scattering of them beside a small waterfall which created a dank bog justifying its malodorous existence by being home to Calla Lillies in bloom.

It was well past 4.30 p.m., and in the sinking sun the distant hills were dark silhouettes against a luminous sky. A pick-up truck had passed us as I collected seeds of the begonias along the second stream, about 4.00 p.m., and had told us that if we were heading for Puerto Escondido, we needed to get going as we had a long way to go, and it would be dark soon. It was nearly dark as we resumed our drive south. The road we were on was cut through soft, limestone hills, and the rains of the summer had carved long, deep channels across it. Since there was some vehicular traffic, these chasms on the road had been bridged by using a few pine trees dislodged by innumerable landslides. The first such gash in the road was entirely spanned by pine logs, but all the rest, perhaps a dozen or so, had only four logs placed in pairs to allow us to cross by aiming the tires just right. In the dark Michael would have to back up, study the position of the logs and gingerly ease the tires over them to make sure the car did not slip and dive downwards. We saw no humans, no pick-up trucks, no lights in these benighted hills for the next 6 hours. The road was a chalky ribbon in the headlights, twisting and turning up

and down interminably silent and brooding hills. A hundred million Mexicans but not a single one in these forlorn, desolate mountains!

Tense with fear and worry, we drove in silence hour after hour, pausing only to decide which fork in the road would take us out of this nightmarish scenario. Around 9.30 p.m. we found ourselves at the edge of a river with no bridge. It was so wide that the head lights did not reach the other side so we could not see if the road, such as it was, continued. However, we could see that under the clear water the river bed was not muddy but packed hard with smooth stones. There was no turning back and retracing our way for another ten hours, so I offered to tie a rope around me, and walk in front of the car. Before I could unbuckle the seat belt Michael, generally cautious in the extreme, had started across the water. I held my breath and prayed, and luckily we made it to the other side where the road continued. An hour later we reached the village of La Reforma, and the turn off to San Pedro Mixtepec at the junction of the hard top leading south to Puerto Escondido, another 3 hours away.

The next afternoon, Jan. 4th, we began our drive back north to Miahuatlan on route 175. Just north of Candelaria Loxicha we encountered several colonies of a large leaved, unidentified begonia [a *B. stigmosa* relative] before nightfall overtook us. We spent the chilly night in a cabin in San Jose Pacifico overlooking expanses of the mountain range we had crossed in fear the night before. With a clean bathroom and bright fire which I kept going all night, I was able to suppress some of my feelings of aversion for those mountains as they had provided shelter and sustenance for isolated pockets of begonias to survive.

The next day, our last one looking for begonias in Oaxaca, we found three

species. Since we had driven in darkness for several hours the night before, we retraced our way south from San Jose Pacifico to make sure we had not passed begonias in the dark. We had missed two colonies, each occupying the upper escarpments of a steep hillside at an elevation of approximately 6000.' From a distance their foliage looked similar to that of the *stigmosa* relative flourishing further south on this same road. However, the floral clusters were spherical in form, and created a magical pattern of creamy-white orbs against the light green foliage and dark rocks. With some effort I found a few of this species lower down the cliff, and pulled and pushed myself close enough to see that this was a distinct species, with dark hair covering the stipules and the reverse side of the foliage. This stretch of the hills was covered in a thick coat of dust which flew in my face with every movement I made, so I could not appreciate the striking ovate foliage until I washed them two nights later.

Noticing a few mature seed capsules on these hairy begonias, I climbed a little higher, and as I stretched my hand to pull down one of these stalks, I noticed a single, totally dry seed capsule, larger than those of this hairy species. I followed the thin, dry, branchless stalk downwards, and found a few dry, orbicular, lobed leaves still attached to the stem. *B. biserrata* had been recorded in this general vicinity, so I assumed I had found this species. Barely able to contain my excitement, I slowly scoured a 15' length of this cliff side, and found half a dozen more seed capsules. No matter how carefully I dug down to see if I could locate tubers, I found none as I would hit rocks firmly embedded in the soil. Although I did not find any tubers or bulbils, this species with non-branching stalks may well be *B. pedata*.

The last begonia I found that day once again occupied a near vertical cliff which was covered not with dust but with a moist, resilient tapestry of mosses. We were driving towards San Pedro el Alto in

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search of *B. squarrosa*, which according to my notes from the Harvard Herbaria, had been documented along the cliffs there. By now I was reconciled to having to drive miles through the ubiquitously dry hills of Oaxaca before finding isolated, moist patches hospitable to begonias. So I was surprised that after a mere five or six miles I saw the dark pink flowers of a cane-like species with thick, lobed foliage with dramatic red veins on the reverse. These grew on the upper segments of a vertical cliff with no jutting rocks or ledges. There was no way we could climb up to collect their flowers, seeds and foliage. After walking up and down for about ten minutes I saw small plants within reach, and realized that the reason why all the larger ones were some 20' above was because the lower segments of the cliff were regularly slashed after the rains. The few small plants of this species, *B. chivatoa*, within reach had survived the slashing, and were making their annual attempt to re-grow, flower and set seeds.

Pleased at finding 9 species I had not located before in Oaxaca (*B. chivatoa*, *B. fusca*, *B. oaxacana*, *B. rafael-torresii*, *B. sartori*, a species related to *B. stigmosa*, possibly *B. pedata*, the hairy species, and *B. squarrosa*), we started on our long drive back to the USA on Jan.8th. Having spent much of my childhood in the foothills of the Himalayas, mountains for me represent shelter, safety, and solace, and in their majestic isolation lies mystery and adventure. Now miles from the dreadful, dry mountains of Oaxaca I nevertheless find memories of the long, dark hours we spent driving on treacherous mountain roads reviving near panic feelings of fear and foreboding. In searching for begonias in those desolate mountains we had experienced more of the sinister than the sublime.

Rekha Morris' next trip to document the begonia of Oaxaca state is early this October, that is October 1-12, 2005. Contributions to help fund this trip are most welcome, and may be sent to Carol Notaras, Treasurer of the ABS.

Changes in the Seed Fund by Mary Sakamoto

When you mail an order to the seed fund please include your e-mail address so that Ed Bates can get back to you and let you know he received it and if you don't have an e-mail address he will send you a post card. If you don't hear from Ed in a couple of weeks then either e-mail him or send him a note about your order. When you receive your seeds please e-mail Ed Bates or send him a note saying you received them. The Seed Fund has no way of knowing if the seeds have been received unless you tell them. We are trying to correct the problems in the Seed Fund so if there are any complaints PLEASE e-mail or write Ed Bates and Mary Sakamoto. You may also send a copy to the other officers but they will only send it on the Ed Bates.

Ed Bates,
2908 Luciernaga Street, Apt C
Carlsbad, CA 92009-
Email: epb888@adelphia.net

Mary Sakamoto
9682 Featherhill Dr.
Villa Park, CA 92861;
Ph: 714-637-8787; Email:
m.sakamoto@worldnet.att.net

Note: All known back-orders for seeds from the seed fund have been filled and mailed. If anyone still has an unfilled request please re-order. Any uncashed checks must be presumed lost or destroyed. **Ed Bates**



Above, Division Winner **B. 'Piccolo'** grown by **Joyce Pridgen**. Below is Hanging Division Winner and "People's Choice" award winner, **B. foliosa** grown by **Jason Lopez**. See also, on the back cover, **B. 'Phoe's Cleo'** grown by **Joyce Pridgen**.



2005 Miami Show

by Doug Pridgen,
Miami, FL

The Miami Begonia Society held their 37th annual show and sale at Fairchild Tropical Botanic Garden on April 30th and May 1st, 2005.

Although not our biggest show in terms of total number, we made up for it in the quality of the entries. 17 exhibitors with a total of 173 entries received 41 cultural certificates. And that doesn't really say it!! The balance of the entries were truly first class.

Begonia 'Morocco' entered by Palm Hammock Orchid Estate won Best of Show. Once again, Paul Hammock put in an outstanding exhibit.

Johanna Kitson of the Palm Beach Branch received division awards for her *B. hatacoa* 'Silver' and for *B. 'Wind Dancer'* (a rock planting in novel grown). Jason Lopez won the hanging division with *B.*

foliosa which also was voted "People's Choice". **Marie Flowers** won the novice division with *B. 'Bunchii'*. **Ann Anderson** won the dish garden division, and **Mary Bucholtz** won the artistic photograph division with her photo of *B. acetosa*.

Joyce Pridgen received 12 division awards and also received the "Showing is Sharing" and the "Sweepstakes" awards.

A special thanks this year to the members of the Palm Beach Branch (**Johanna Kitson, Nancy Cohen, and Doris Happel**) for clerking our show. Our distinguished panel of judges included **Maybelle Green, Mary Bucholtz, Charles Jaros, Cheryl Lenert, Tim Anderson, and Dale Sena**. We really appreciate their participation.

Continued from page 134.

initially and \$66,796.96 finally. The balance forward for the conservation savings account should be corrected to read \$1213.78 rather than \$11,213.78. The combined checking and savings totals were \$64,751.92 beginning and \$76,693.72 ending. The increase was due to the San Diego Convention. The report was accepted.

Membership Secretary **Arlene Ingles** reported membership statistics for the period September 1, 2004, to February 20, 2005. Attendees who received data sheets on membership should be aware that some of the numbers on those sheets are not accurate. For example, the corrected total membership for February is 1107 and the new member data remain inconsistent. The next report will have revisions. However, it is clear that branches and the internet still bring in the most new members and that the Delaware Valley and Palm Beach Branches brought in the most new members this period.

Branch Relations Director Mary Bucholtz reported that the Society has 36 local branches and one regional branch at this time. The Branch Relations Newsletter and the Program List with annual updates will no longer be published because communication among branches is being accomplished by other methods such as the internet. Information for formation of a new branch was sent to Riverside, CA, where members of the former Rubidoux Branch and others may form a new branch. No reply was received from the Austin, TX, group that was considering forming a branch. The last communication from them was in April of 2004. The Monterey Bay Branch has requested a name change to the Leslie Hatfield Monterey Bay Branch. A question arose concerning the viability of the Greater Chicago Branch since Treasurer **Carol Notaras** received a check from that branch for \$1393.06 in January. The Branch Relations Director will contact the Greater Chicago Branch National Director to

Continued on page 157. *

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Nomenclature Notes

Begonia Species, Hybrids and Cultivars

by Jack Golding

Revised January 6, 2005

A species is a unique plant growing in the wild. When it is selfed (sexually reproduced using pollen from a male flower to fertilize the stigma of a female flower of the same species) it produces seedlings that are true to the parent plant. A species may be variable within the parameters used to distinguish it when it was named.

Botanical Latin is the language used for naming and describing plants. The name of a species is a binary [two-name] combination, consisting of the name of the genus, written with an initial capital letter, followed by a specific epithet [descriptive word] written in lower case letters. In some older literature, when the epithet was derived directly from name of a person or place, the initial letter was capitalized. A species name is written in a different type, primarily **bold** or *italics* to set it off from the surrounding text. e.g., **Begonia acaulis** or *Begonia acaulis*. I prefer to write correct species names in bold roman type.

A hybrid is a plant that has been crossed [sexually reproduced using pollen from the male flower of one plant to fertilize the stigma of a female flower of another plant]. The parents of a hybrid may be two different species, a species and a cultivar or two cultivars. A hybrid name is written as a formula, the name of the genus followed by the specific epithets of the two parents connected by a multiplication sign (x) e.g. **Begonia hydrocotylifolia** x **Begonia manicata**. The order of the names in a formula may be alphabetical, but it is preferred to list the female parent first. The method used should be stated. An

interspecific [between two species] hybrid may occur in the wild.

The seedlings of a hybrid are variable having some characters from either or both parents. A cultivar (cultivated variety) is a plant selected from these variable offspring. It is to be clearly distinguished by any characters that it retains when it is reproduced either by cloning or sexually by selfing. A cultivar name published after January 1, 1959 must be a fancy name, one that is markedly different from a botanical name. The fancy name is written in regular type and every word of the epithet has an initial capital letter and is enclosed in single quotation marks. e.g. Begonia 'Lenore Olivier'. The earlier use of "cv." to indicate a cultivar has been discontinued.

In the past (as in *The Buxton Check List of Begonia*) hybrids have been designated by preceding the epithet by an "x", e.g. Begonia x Erythrophylla. Since they are actually cultivated plants selected from a group of hybrid seedlings, it is now best to write them all as cultivar names, e.g. Begonia 'Erythrophylla'.

Note: The present use of computers or typewriters with interchangeable fonts, has eliminated the obsolete typographical method of underlining text that was used to indicate that it should be printed italic type.

You may contact Jack Golding, our nomenclature editor, at the address shown on page 158.

**CLAYTON M. KELLY SEED
FUND LISTING
July/August 2005**

The CLAYTON M. KELLY SEED FUND is a project of the Margaret Lee Branch of the ABS in San Diego County, California.

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

DISCLAIMER: The seeds distributed by the seed fund are identified as received from the donors. The seed fund cannot guarantee that the identification is correct. The species names (in italics) reported here are correct based on the latest information from **BEGONIACEAE**, Ed. 2; Golding, and Wasshausen. The descriptions published are from the literature and apply to the name submitted for the offerings.

The Seed Fund has made some administrative changes. All orders are to be sent to Ed Bates at the address given below. The orders will be filled by members of the branch and returned to Ed Bates to be shipped. In recent weeks we have filled several more back-orders. Because the postal delivery was compromised last year some orders never reached the seed fund. Please resubmit orders that were not received. Checks that have not been cashed appear to have been lost and destroyed with the lost mail orders. We apologize for the inconvenience.

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US only: 1-12 packets \$1; 13-24, \$1.35; 25-36, \$1.71; 37-48 (2 cans), \$2.30; 49-60, \$2.66 **For delivery conformation add \$0.55.**

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. **For delivery confirmation add \$10.00.**

Send orders to:

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2908-C Luciernaga Street
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e-address: epb888@adelphia.net

All orders must be accompanied by check or money order, payable in US funds ONLY, to **The Clayton M. Kelly Seed Fund.**

Most packets of species seeds are \$1.50; all packets of cultivar seeds (including open pollinated) seeds are 50¢ per packet. Very rare seeds and newly collected seeds will be \$2.00 or more per packet. California residents please add 7.75 % sales tax.

Please continue to send comments, suggestions, or complaints to:

Edgar A. Bates
2908-C Luciernaga Street
Carlsbad, CA 92009-5914
e-address: epb888@adelphia.net

We thank **Leigh Heard** for the following additions to the seed fund inventory:

- Mixed Canes
- B. 'Irene Nuss'
- B. 'Rose' also known as
- B. 'Hazel's Front Porch'

The seed fund no longer has *B. acetosa*, *dichroa*, *popenoei*, or *versicolor*. These species should be deleted from the master seed inventory for 2005.

No descriptions are provided for cultivar seeds. The appearance of the plant grown from hybrid seeds cannot be predicted. And probably every one of them will be different.

**Descriptions For The Seed Fund List for
2005**

Descriptions to accompany all the seeds in the Master List cannot be published in a single issue of The Begonian. Each issue will have descriptions of the new additions and selected other entries in the Master List for 2005. For descriptions of specific items contact **Ed Bates** at the address above.

B. fischeri Schrank (Syn. U129) [N. & S. America] (Sect. *Begonia*) A highly variable shrub with many varieties. Var. *fischeri* has erect red stems to 2'; medium, puberulent green leaves, red flushed on back; palmately veined; pink blossoms and winged carpels throughout the year. Very prolific.

B. foliosa HB&K [Columbia, Ecuador, Venezuela] (Sect. *Lepsia*) A shrub having many-branched floppy stems to 3 ft., slender, branched, arching; leaves. 1/2-1 in. long, many, densely 2-ranked on short, shaggy branchlets, ovate-oblong, slightly toothed, dark green to bronzy green,; red stems and petioles; small pinkish-white flowers from spring to autumn.

B. grandis Dryander subsp. *evansiana* (Andrews) Irmscher [China] (Sect. *Diploclinium* II) Erect stems to 1 foot; medium green leaves with purple veins narrowing towards pointed tips; bright pink flowers in summer; bulbils that form in the leaf axils drop to the ground to grow new plants in the spring. This species is quite hardy. The tubers in the ground can withstand temperatures below freezing for an extended period if well mulched. Cultivated variety 'Alba' has white flowers..

B. heracleifolia Schlecht. & Cham. [Mexico, Central America] (Sect. *Gireoudia*) Rhiz-omatous; leaves 1 foot across, hairy, 5-9 deep narrow lobes, toothed, bronzy green tinged with black near margin; petioles 10-18 in. long, stout, tinged with red, prominent ruff below the blade; flowers rosy pink, fragrant; peduncles 2-4 feet long. This specimen collected in Chiapas, Mexico. R. Ziesenhenné advises this is the true species.

B. hydrocotylifolia Otto ex W. J. Hooker [Mexico] (Sect. *Gireouda*) Hairy, small rhizome; leaves 1 1/2"-2 1/2" long, orbicular to cordate, glossy green above, red underneath; short petioled; pink flowers on rosy-red peduncles to 1 1/2' long in late

winter to summer

B. imperialis Lemaire var. *smaragdina* Lemaire [Mexico] (Sect. *Weilbachia*) Rhizome thick, short; plant low, very hairy; leaves cordate, bright green, irregular bands of bright green along the veins; petioles 4-6 in long; flowers 1/2 in, white; ovary broad, green, 3-angled with 1 long wing, all year

B. johnstonii Oliver ex J. D. Hooker [East Africa,] (Sect. *Rostrobegonia*) Thick-stemmed, stems branched, trailing, succulent, pale green streaked with red; leaves glossy, pale green, 2 1/2 by 4 inch, crenately lobed, basal lobes overlapping, with red scalloped margins, paler underneath with soft hairs along veins; large pink flowers in few flowered clusters on arching peduncles; in spring and summer.

B. kellermanii C. de Candolle, [Guatemala] (Sect. *Gireoudia*) Shrub like, stems 1-3 feet, succulent, hairy; leaves peltate, ovate, acuminate, green with white felting above; flowers white on erect peduncles in winter.

B. kenworthyae Ziesenhenné [Mexico] (Sect. *Gireoudia*). Erect succulent green thick rhizome to 6 in.; 12" X 8" leaves, unequally sharply lobed, basally cordate, serrate, red-ciliate, fleshy, slate grey, green veins, covered with a grey bloom; white flowers in many flowered cymes; winter.

B. leathermaniae O'Reilly and Karegeannes [Bolivia] (Sect. *Knesebeckia*) A superba type discovered in Bolivia; has a swollen base, a shaggy collar where the petiole joins the leaf base and crystal like glands that appear on the leaf underside; tall, up to 10 feet planted in the ground; leaves medium green to bronzy green with fine short hairs that give it a satiny sheen; lower leaves drop off; flowers large white tinged with pink from November to April.



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In July 2004 Maureen O'Reilly and Margie Harris spent two weeks touring the highland of southern Peru. Their trip culminated with a visit to the great Inca citadel of Machu Picchu.

Machu Picchu can only be reached by a 4 hour train trip or private helicopter. The train embarks from the beautiful colonial city of Cuzco which sits at an altitude of 11,000 feet. The train descends from Cuzco to travel through the Sacred Valley of the Incas following the course of the mighty Urubamba River. Because of the river, the valley is extremely fertile and produces much of Peru's food. This fertile abundance is also why the Incas considered the valley to be sacred. The valley is bordered on both sides by mountains and gradually the floor of the valley narrows. Eventually, the river enters a deep gorge leaving the valley behind. The gorge is just wide enough for the river and the train, hence no roads.

As the train proceeds through the gorge it begins to pick up elevation. The tracks end at the small village of Aguas Calientes, at approximately 7000 feet in altitude. From Aguas Calientes a 45 minute bus ride takes visitors to the Lost City of Machu Picchu. The harrowing bus ride scales a mountainside with numerous daring switchbacks. One can also hike up Machu Picchu.

The road between Aguas Calientes and the ruins runs directly parallel to the river for a few kilometers. It was along this stretch that the begonia seeds were collected. The surrounding vegetation was dense and jungle-like bordered by mountains which are topped by cloud forest. One side of the road was basically a slope, steep in places, down to the rushing Urubamba

road. It was on this side that most of the begonias were seen. All told 3 varieties

of a begonia species were spotted, differing in the coloration on

the backs of the leaves, as well as bloom color which ranged from pale pink to deep rose. The leaf backs were either completely green, green with red veins, or completely red. The latter two were collected. Otherwise, the begonias were very similar to each other. They were leggy and sprawling, growing from either the ground, in trees, or from rock. Most either did not have seed pods or were in inaccessible locations which is why more seed was not collected.

[See an example in photo to left.]

*Note from **Thelma O'Reilly**: Seeds collected by my daughter, Mareen, were assigned **Begonia U492**. They are available in the current Seed Fund listing. The Margaret Lee Branch members are conducting a seed growing project with B. U 492 which I have tentatively identified. Project results and identification of this variable species will be discussed in the next issue of the Begonian.*

Editor's Notes

Your wandering editor has come to rest (at least for another while). We have bought a place in northern Louisiana that has 33 acres and a large yard. My address is given on page 158, but we are remaining in the interim rent house until this issue is finished so that I may take advantage of high speed cable internet for one last issue before I have to return to dial-up so my new email address is not yet available.

Northern Louisiana is timber country. It is green, green, green and the trees grow large. The soil is sandy loam and goes deep; never before have I gardened where there were NO rocks. In Alabama, there were some rocks; in Texas, Arkansas, and Oklahoma we had a thin

layer of soil over rocks and more rocks.

I am doing this issue with no reference material which is all in storage in Stillwater and this is the reason I must postpone the directory of branches until next issue for which I was really glad because I had so many wonderful articles to bring you in this issue. I am looking forward to getting back to normal soon and being able to plant all the begonia seed I've accumulated and been unable to plant!

~FH

Continued from page 149.

confirm their status.

A motion to approve the name change from the Monterey Bay Branch to the Leslie Hatfield Monterey Bay Branch passed.

Conservation Chair **Bill Claybaugh** reported that the Astro website has been rearranged to allow more rapid access to pictures for identification of species and cultivars. The web address is **absastro.tripod.com**. Also, a new website has been created for the Southwest Region that contains information on programs for the SWR. He solicited input on good programs to post on it. The website is primarily for SWR activities but national items and any branch activity will be posted as well. Its address is **swregion.tripod.com**.

Grant Committee Chair Mary Sakamoto reported that two grant requests have been received and the Committee is considering them.

Membership Secretary Arlene Ingles requested that all branches inform her of the name and contact data for their branch membership chair so she can post it on the ABS website. She also asked that branches send her copies of their membership lists so that she can check to see who is an ABS member and who is not.

President Berg reported that he has appointed **Sandy Boyd** as Internet Editor to replace **Kathy Goetz** who has resigned. He also reported designating the First Vice President as Chair of the Publications Committee to coordinate all publications including the Begonian, the internet website, the MAL Newsletter and the Save Our Species Newsletter. The latter two might be incorporated into the former two. He asked the committee to consider offering

members a choice of delivery of the Begonian in either hard copy or pdf electronic format at some future time.

PayPal is being considered for membership application and renewal payment, ordering and paying for seeds, publications, the non-downloadable hybrid list and eventually plants. PayPal is more secure than other credit card payment systems.

President Berg stated that he is still receiving complaints about the Seed Fund operation including calls not returned and orders not filled. He has appointed **Mary Sakamoto** and **Janet Brown** to take an independent look at the operation of the fund to determine what needs to be done to avoid complaints and inform the board of these findings.

The hybrid Begonia list is being put on discs by **Ross Bolwell** and should be available on our website by the end of the year. It is a huge database that will allow sorting by hybridizer, parentage and many other categories to obtain desired information. A hard copy would cover 600-700 pages. President Berg demon-

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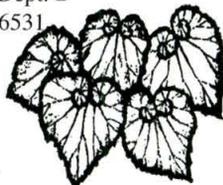
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strated the sorting methods. It was suggested that ABS could have a similarly organized list of selected hybrids. **Jack Golding's** nomenclature files are to be scanned to discs beginning in the near future.

The ABS needs a convention site for 2006. Branches are urged to volunteer.

President Berg proposed elimination of the National Director position because there is little communication from the Directors and the position seems to be a hangover from the 1930's. There was a large amount of discussion mostly in favor of keeping the position. The proposal was tabled for another meeting.

Business Manager **Gene Salisbury** introduced a motion for the board to consider a fixed membership year coinciding with the fiscal year August 1 to July 31 so that all dues would be due at one time rather than staggered throughout the year as is done now. The motion called for studying the idea and making a recommendation at the next meeting. The motion passed. Action rests with the Business Manager and Treasurer and perhaps the entire finance committee.

Dale Sena proposed that the ABS make a donation to the University of South Florida Botanic Garden because the Garden has graciously hosted our Winter Board Meeting for two years. A motion to donate \$500 passed with 7 votes. However, after a reminder that the checking account balance is approximately \$5000, a second motion to change the amount to \$250 passed with 19 votes. The treasurer promptly made the donation.

Mary Sakamoto, on behalf of Awards

Chair **Ann Salisbury**, moved that the board consider changing the rules to allow making award nominations by email. The theoretical reason for this is to increase the number of nominations. The board approved. Action rests with the Awards Committee to study the matter and make a recommendation to the board at the next meeting.

President Berg requested all board members who handle financial transactions for ABS inform the Business Manager of all transaction so that he knows how the money is being spent. The president also stated that he would like to see the board institute a budgeting process to replace the ad hoc system we now use. Action would most likely be the responsibility of the finance committee.

Shirley Brown and the Tampa Bay Branch members were given a round of applause and thanks for arranging the board meeting.

Respectfully Submitted,
Richard Macnair, Secretary

[Abbreviated for reasons of space.]

• • • • •
• **Note: Convention Site for** •
• **2006 needed so that we may** •
• **have a Coming Events page!!** •
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