

The Bromeliad Blade

Newsletter of the
San Diego
Bromeliad Society

November 2016

VOLUME LI

NUMBER 11

President's Corner

By Robert Kopfstein

*Be patient, O be patient! Put
your ear against the earth;
Listen there how noiselessly,
the germ o' the seed has birth;
How noiselessly and gently it
upheaves its little way
Till it parts the scarcely broken
ground, and the blade stands
up in day.*

"Patience"

by William James Linton
(1812-1898)

This is an example of why I chose not to study much of 19th century doggerel verse when I was a college student—If the seed is so noiseless as it upheaves and parts the earth, how are you going to listen to it? Even if your hearing is perfect, you are unlikely going to hear that which makes no noise.

Nevertheless, consider seeds.

Most of us take them for granted because they are so common. We

use them for food (peanuts, sunflower seeds, wheat seeds etc.), flavorings (poppy seed), oils (sesame seed), drinks (coconut milk), decoration—the list could go on and on.

We also have incorporated seed into our idiomatic expressions:

To go to seed
Plant the seed of doubt
Seed money
Seedy dwellings or seedy clothes
Sprouting an idea
A kernel of knowledge
Separating the seed from the chaff

This list also could go on.

I would be hard to conceive of a world without seeds; yet that was indeed the case a few hundred million years ago. (I think perhaps this was even before the current U.S. presidential race began . . .)

The earliest plant forms—mosses, clubworts—reproduced by spores, and demanded a very wet atmosphere. The ferns came along and 250 million years or so ago evolved to produce what we know from the fossil records as the seed ferns.

A branch of these seed ferns gave rise to the cycads, whose cone bearing descendants we still have with us today.

The cycads, ancient plants, are dioecious; that is the plants come in two forms, "male" (pollen producing cones) and "female" (seed producing cones). So you need at least one form of each plus a pollinating agent in order to yield fertile seed. In the case of the cycads, the pollinator is usually a small beetle—remember, these plants evolved before there were bees. Modern pine trees, like the cycads, are also coniferous and produce megastrobili (female cones) and microstrobili (male cones). But the pines use wind to transport the pollen from the male to the female cones, a more efficient way of fertilizing and producing viable seed.

Shortly before the demise of the last of the dinosaurs—100 or so million years ago—the angiosperms showed up on the scene. These are the flowering plants, and of course it includes the bromeliads, who evolved rather late in the scheme of things.

Many of the angiosperms are self-fertile; that is, they have "perfect" flowers with both stamens (producing pollen) and a pistil (containing the ovarian structure).

These self-fertile plants can reproduce without the aid of another plant.

If humans ever evolve to be monoecious like the angiosperms, it is possible that the divorce rate might plummet.

The key features of seed production are that it allows for a liberal mixing of DNA in order to create variants of the parent plant. It also allows for "warehousing." That is, if conditions are not ripe for germination, seeds can wait, sometimes for years, in order to sprout. There are tales of thousand year old lotus seeds found in a tomb that were still viable. In a dig at the ruin of Masada in Israel, archeologists found seed of a Mediterranean date palm that has been extinct since before the crusades. The seed was apparently still viable.

Closer to home there was Dyckia seed collected in 1992 and stored in the freezer at the San Diego Botanic Garden. A portion of this seed was planted in 2022, and the germination rate was 90%. The remaining seed is back in the freezer and in 2011 another portion will be sown in order to test its viability. But this interest in the perseverance of seed is nothing new.

One of my heroes in American literature is Henry David Thoreau (1817-1862). In his day the concept of spontaneous generation still held sway, even among well educated people—much like global climate change is denied today.

Thoreau is probably best known for his experiment of living alone in the woods for one year. From this experience he produced Walden, a work in which his observations of nature and his linking humans to the world they live in is a masterpiece.

In 1993 some of his heretofore unpublished writings were printed under the title Faith In A Seed in which Thoreau argues against the idea of spontaneous generation.

Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed. Convince me that you have a seed there, and I am prepared to expect wonders.

If you think about it, all seeds truly are wonders. When you plant them there is no way to know exactly what you are going to get in any given grex.

And because of this phenomenon we in the plant world have been the lucky recipients of some amazing crosses and cultivars, not just in bromeliads but also in food crops and other genera.

Club Elections happening in November Meeting

November is the time to vote!

Here are the candidates who are running for the offices for 2017. The election will be at the Nov. meeting, and the new officers will take over in Jan. of 2017.

Candidates:

President Scott Sandel

Vice-president Al Evans

Secretary Ruth Contino

Treasurer Kerry Nelson

Newsletter Editor Juliana Raposo

Board Member Don Nelson

Board Member Morlene O'Donnell

October Meeting

Program

Our speaker, Dr. Ivon Ramirez Morillo, a lead researcher of the epiphyte communities of the Yucatan peninsula in Mexico, gave a wonderful presentation on the bromeliad species of the region. Using photos taken in the field, lots of geological data, rain patterns and mostly her years of research in the region, she explained why the Yucatan has so few endemic bromeliad species compared with the rest of Mexico. Thanks Ivon for this wonderful presentation!

October's Plant Table

Featured plants acquired from the collection of the late Guy Wrinkle. Highlights were several dyckia clumps in decorative pots (I got one!) alcantareas, Hohenbergias and tillies. Auction featured Ursulaea tuitensis, tillandsia bulbosa (?) clump and a cute dyckia specimen (below).



Show and Tell

Due to the disappearance of my notes we are left with the pictures. My apologies to those who brought plants but aren't mentioned.



Multiple tillandsias in a hollow log with rocks. Beautiful display by Al Evans.



Vr. philippo-coburgii finally in bloom, by Robert Kopfstein



Morlene O'Donnell and her unknown tillandsia hybrid.

Upcoming Events

Highlighted Meetings

November 12, 2016 at 10 AM
SDBS Monthly Meeting
Balboa Park, Casa del Prado, room 104
www.bsi.org/webpages/san_diego.html

December 10, 2016 at 10 AM
SDBS Monthly Meeting
Balboa Park, Casa del Prado, room 104
www.bsi.org/webpages/san_diego.html

Monthly Meetings

1st Tuesday, 6:30 PM
San Diego Orchid Society
Balboa Park, Casa Del Prado, Room 101
www.sdorchids.com

2nd Saturday, 10 AM
San Diego Bromeliad Society
Balboa Park, Casa Del Prado, Room 104
www.bsi.org/webpages/san_diego.html

2nd Saturday, 1 PM
San Diego Cactus and Succulent Society
Balboa Park, Casa Del Prado, Room 101
www.sdcss.net

2nd Monday, 5 PM
San Diego Horticultural Society
Surfside Race Place at the Delmar
Fairgrounds
www.sandiegohorticulturalsociety.org

November Program

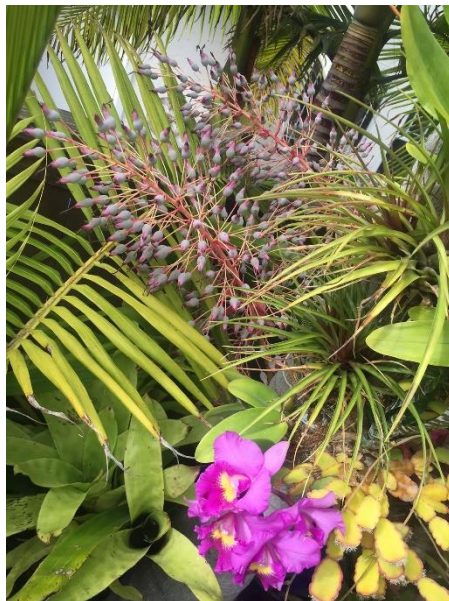
The November speakers will be Pamela Koide-Hyatt, David Kennedy, and Lucia Velasquez. Each presenter will give a 10-15 minute talk on growing bromeliads from seed. Lucia will also have some seeds to distribute to any members who might like to try growing from seed themselves.

Opportunity Table

by David Kennedy

This month's opportunity table will feature the remainder of the Jacque Wrinkle plants, featuring Dyckias and an assortment of other treasures, plus a number of fine Tillandsias from the donation of Irv and Allison McDaniel.

There will be an auction of some swell Dyckia and Tillandsia clumps. Don't miss out!



Portea petropolitana var. extensa produces inflorescences that last a loong time, and I just love them when they mature into these purple berries. They look even more beautiful with the new cattleyas on the tree.

SDBS 2016

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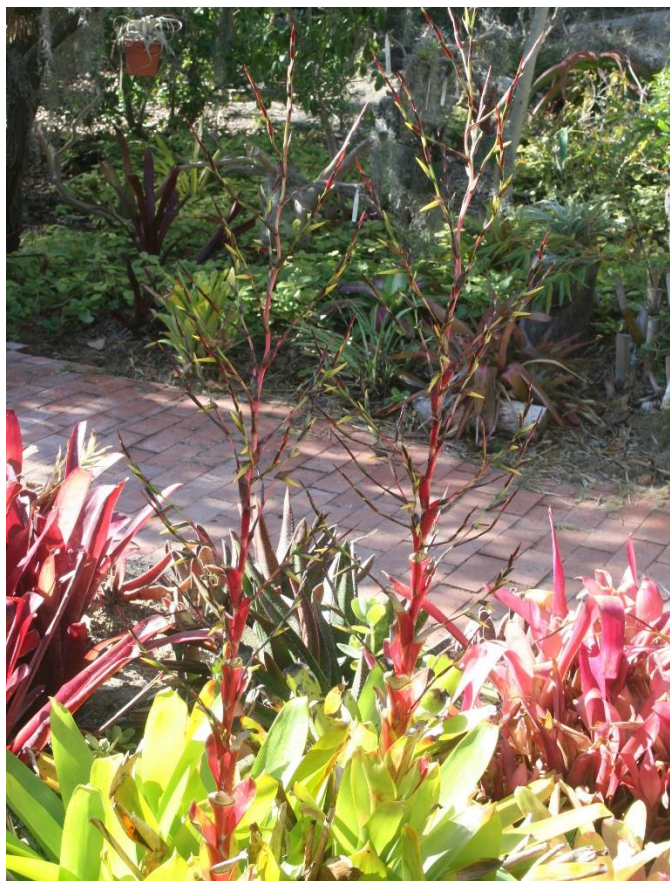
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Questions about *Vriesea philippo-coburgii*

by Andrew Wilson



Blooming plants in Andrew's garden

Grown by bromeliad enthusiasts around the world this is perhaps the most popular of all vrieseas. It is tough and able to handle heat and cold, sun or shade better than other vrieseas. It provides a reliable, tidy appearance with its iconic red-tipped leaves. It pups freely but is not invasive. The inflorescence opens in July and florets continue to open in mid-October (see image). Despite those good points about which everyone agrees there are two others that seldom get answered. "How is it that it never flowers?" Well, this year it was answered, if only in part. In San Diego, at least, it did flower. The other, "Where does its name come from?" is a more

straightforward question and we'll address it first.

The species was named "philippo coburgii" in 1880 by the Austrian botanist Dr. Heinrich Wawra von Fernsee, the man after whom the genus *Fernseea* is named. This was in honor of Crown Prince August Leopold Philipp Maria Michael Gabriel Raphael Gonzaga of Saxe-Coburg-Gotha. Fortunately, those involved chose to abbreviate the title. Philipp was a son of Princess Leopoldina, of the royal court of Brazil. Saxe-Coburg was an area of the Austrian empire that is now part of the Czech Republic.

The discovery of the species occurred during a trip Wawra made to Brazil with the two princes of Saxe-Coburg, August Philipp and Ferdinand, respectively. *Vriesea philippo coburgii* is listed as the first of many bromeliads collected on that memorable trip (see *J. Brom. Soc.*, Nov.-Dec. 1993).

It is found in the Organ mountains of Brazil at an altitude of about 2000 ft. near Teresopolis, a town about 40 miles north of Rio de Janeiro. As described by Adda Abendroth in *BSI Journ.* 17 (1967) it grows in the tree tops of a cloud forest. With plants perched between their upper

branches, trees can look as though they were in bloom, a spectacular sight when it does occur. A significant statement in the article deals with the flowering habit: 'Periodicity in flowering is a mystery. The colony always contains at least one mature shoot which could be expected to bloom, but years and years go by without a single spike.' So, rare flowering of this vriesea is not confined to San Diego.

Many people have commented on the unreliable flowering habit. Paul Isley <http://www.therainforestgarden.com/2010/01/my-bromeliad-garden-is-oblivious-to.html> declares that it does not bloom for him without a cold winter. Growers in the Florida East Coast Bromeliad Society also claim the need for cold to prompt flowering; so do enthusiasts in Sydney, Australia <http://forums.gardenweb.com/discussions/1758406/great-year-for-vriesea-philippo-coburgiis>. There are many more citations of this sort. In our group, Dan Kinnard says it would flower regularly for him in Orange County but not in the milder weather of San Diego County. This is the first time I have managed to get it to bloom and I suspect the same is true for more of our members. It would be interesting to hear how many of our members have seen this behavior. Do let us know.

These facts would seem to confirm the need for cold winter conditions. However, last winter in San Diego was not unusually cold. The gardens of Dan, Robert Kopfstein and a

number of other members including myself experienced no frost. In fact, the winter was very sunny with daytimes warmer than usual with the warmest February on record. So, what happened? After consulting the weather records the best explanation I can offer is that November 2015 was notable for its clear sunny weather with winds predominantly from the desert areas rather than

Pomologists say that bud dormancy is required for bloom buds to form and in the case of these fruits, the number of hours below 45F is what matters, not the presence of hard freezes. Whether a mechanism like this is valid for *Vriesea philippo-coburgii* is not known although it is tempting to propose as the cause of the wonderful blooms that we have seen this year. If any member living



*Mass bloom of vr. philippo-coburgii in habitat, Rio Grande do Sul, Brazil.
photo credit: Luis Eduardo Masiero, @Flick*

from the ocean. This led to warmer days and colder nights for almost the entire month. Fruit growers were warned of frost danger for this period but no significant frosts occurred except in low-lying areas or those with poor air drainage. Temperatures in my own garden did not fall below 36F (2C) but they did drop to 40F quite often during the period, an unusual event. Fruit trees such as apples, apricots, peaches, plums and pears require chilling to ensure a good spring bloom. The behavior is quantified through the number of chilling hours in winter. Some varieties need 1000 hours below 45F, others require much less.

in the more upland, non-coastal areas sees blooming each year please let us know. We'd like to hear some details of your conditions. Or perhaps, if anyone can provide the nighttime temperatures in winter (June-July) for areas in the hills above Teresopolis that would also be useful!

THE BROMELIAD BLADE

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Make sure to submit your contribution before the 20th of the month for inclusion in the next newsletter.

SDBS MEETING

The club meets on the second Saturday of the month at 10am in Balboa Park, Casa del Prado, room 104.

SDBS WEBPAGE

www.bsi.org/webpages/san_diego.html

Scott in Northern Peru, Part 1:

Tabaconas Namballe National Sanctuary

by Scott Sandel

Northern Peru, Cajamarca State -

We enjoyed two days and three nights at this protected area that is not really open to visitors. However, after some enquiries, we got invited to come and experience the large sanctuary that includes different elevations of cloud forest and even high paramo. Thanks to Douglas Contrino (in photo below), and Jefe of the Sanctuary, we were set up with two of his rangers, Alex and Marco, for the entire trip! We got most of our stuff, including the food that we bought, mounted onto a horse, and then we hiked up to the ecological field station.



The hiking in the forest was awesome, with layer upon layer of Andean cloud forest plants - including of course bromeliads. We also found tracks of the rare Andean Woolly Tapir and the Spectacled Bear. A herd of White-lipped Peccaries was discovered at a camera trap here at 2,300 meters last year. This species of peccary typically lives in the lowland forest, and the only other high elevation sighting recorded was in 1914 at 1,800 meters. Yes, most of my photos are of the bromeliads, so here are a few...



Our second day's hike took us to the high part of the forest, just below the paramo. It was especially vertical on the trail, but it was worth the effort. Along part of the hike, we were on a ridge that was loaded with epiphytes, including several species of flowering bromeliads. Every tree perch held mesic Tillandsias, Guzmanias, Vrieseas, Racineas and Pitcairnia.

After Tabaconas, we spent another 2-1/2 weeks in Peru -- in both cloud forest habitat and in high elevation Andes locations. ~ Yes we were lucky to see *Puya raimondii* at peak bloom. (More next month)

Bromeliads, from top left: Pitcairnia cf riparia, unknown, unknown, Gusmania squarrosa, Tillandsia aff. confinis

Remembering Roberto Burle Marx (1909-1990)

by Herb Plever

editor of *Bromeliana*, NY Bromeliad Society, Sep. 2016

Editor's Note

I rarely do re-prints, but this article needs to be shared. It describes Burle Marx achievements and tells the story of how he ended up guest of honor at the 1992 BSI – and how Plever helped make it happen.

Before Burle Marx, gardens in Brazil (and pretty much anywhere) were made of roses and lawns, an imitation of Europe. He is credited with inventing tropical gardens, and the introduction of bromeliads into landscape art.

The stimulus for this article was a retrospective, month-long exhibition of the paintings and gardens of Roberto Burle Marx at the Jewish Museum in New York.

The Museum's brochure noted that Burle Marx "was one of the most influential landscape architects of the twentieth century, yet he is not a familiar figure outside of his native Brazil. He is best known for his iconic seaside pavements on Rio de Janeiro's Copacabana Beach, and for his abstract, geometric garden designs. But his work encompasses an enormous range of artistic forms and styles: Burle Marx was a painter and sculptor; a designer of textiles, jewelry, theater sets, and costumes; a ceramicist and stained-glass artist. He was an avid art collector, a talented baritone, a consummate cook, and a visionary self-taught botanist and ecologist. For him, all



Burle Marx (middle) after being introduced by Herb Plever at the 1992 World Conference, Tampa Bay, FL.



A painting of proposed landscape gardens for the new capital Brasilia by Burle Marx.

these endeavors were equally important, facets of one another."

The Museum omitted one very important aspect of his work and interests: He was the first landscaper to use plants native to Brazil to populate his gardens. He acquired a coffee plantation in Santo Antônio da Bica on the outskirts of Rio de Janeiro and converted it to a large estate of many acres on which

he created a beautiful, naturalistic landscape filled with plants he collected from the Brazilian rainforests, savannahs, rocks, cliffs and mountains.

Burle Marx grew, studied and collected bromeliads, philodendrons, ferns, water lilies, orchids, and other tropical plants until he was expert in their biology and horticulture. That estate was donated by Roberto to the Brazilian government and it became a protected national monument called Sitio Burle Marx with more than 3,500 species of plants.

He amassed a very large collection of bromeliads, and became the dean of the great Brazilian bromeliad experts such as Roberto Menescal, Roberto Kautsky, Luiz Correia de Araujo, Renato Bello, Elton M.C. Leme and Luiz Felipe Naves de Carvalho (who recently died).

Brom growers will recognize Roberto's name because burle-marxii is the name of a species in 10 genera: Aechmea, Dyckia, Alcantarea, Cryptanthus, Neoregelia, Hohenbergia, Neoglaziovia, Pitcairnia, Orthophytum and Tillandsia.

Early in 1990 a friend, who had just visited Burle Marx, reported that he was in poor health and seemed to be getting weaker. I was concerned because I had always wanted to get the BSI to honor Roberto at a World Conference. At the conclusion of the 1990 WBC in Houston it was announced that the 1992 conference would be hosted by the Bromeliad Society of Tampa Bay. I called Tom Wolfe, then President of that society, and asked him to consider inviting Burle Marx as keynote speaker of the conference. Tom said he would be happy to propose it to his Board if I could get Burle Marx to come.

I called Roberto in Brazil and invited him to come to Tampa Bay in 1992. He said he was honored but would have to decline because his doctor had ordered him to cut down on traveling. He admitted that he had to travel to New York in the fall of 1991 to install a large exhibition of his work at the Museum of Modern Art, but that was because he had made a firm commitment to the Museum the year before.



A luxuriant landscape scene at Sitio Burle Marx

I asked him to hold his decision for a few weeks to see if he was feeling better. I called him back in two weeks and talked to him at length about the significance of his speaking at a World Bromeliad Conference and how much it would mean to bromeliad growers. Although he was unwilling to say yes, I could see he was wavering. So I called Elton Leme in Brazil and asked him to visit Burle Marx and try to persuade him to come. A short time later, Elton advised me that Roberto had agreed to accept our invitation, provided that we would pay for the expenses of travel and hotel for both him and his health aide. Tom Wolfe and the Tampa Bay board agreed to do so. The Tampa Conference was a great success, and the BSTB and the BSI can be proud that we were able to honor a great man during his lifetime. Burle Marx died two years later in 1994.

Coincidentally, the erudite Floridian Jose ("Pepe") Denayre and I both saw the Burle Marx exhibition at the Museum of Modern Art in New York called "The Unnatural Art of the Garden. Among the art works, Roberto had supervised the installation of a very tall, abstract display of more than 100 bromeliads. Pepe was working at the United



Copacabana Promenade, Rio.

Editor's Note: In subsequent years, the original design was mostly destroyed, and only the wave pattern portion by the sand remains today.

Nations at the time and says that when he saw that display he was turned on to bromeliads and became a grower and bromelophile.

In a career that spanned almost 60 years, Roberto Burle Marx created nearly 3000 landscape gardens and terrace and roof top gardens for public and commercial buildings, parks and private homes in 20 countries around the world.

Those of you who watched the Brazilian cultural exhibition at the Olympic Games in Rio, know that

Burle Marx is honored as one of three great heroes of Brazil, not only for his artistic contributions but also for his life-long work to prevent the destruction of the rainforests.

In addition to creating thousands of paintings and sculptures, Roberto Burle Marx designed walkways and garden plots to beautify the avenues of many cities of Brazil and other countries. The most

famous of these is the Copacabana Promenade - three miles of three different mosaic tile walks on Atlantic Avenue along Copacabana Beach in Rio de Janeiro.

Roberto is celebrated in Miami, Florida for his tile design on ten blocks of walkways on Biscayne Boulevard. To mark the 25th anniversary of Burle Marx's design of this Miami streetscape, the consulate General of Brazil, and Passport Miami, sponsored a celebratory reception in Downtown Miami where a plaque was unveiled to permanently commemorate his achievement.

He also excelled in the visual arts, transferring some of his major design works to colorful paintings and tapestries as he developed his signature gardens of bold curved forms mixing plants and local materials.

To accompany Burle Marx's exhibition at the New York Museum of Modern Art in 1991, William Howard Adams published a booklet with 90 photos in which he recognized "Burle Marx's affinity for the sensibilities of such 20th-century artists as Calder, Léger, Miro, and Picasso, and his unique ability to

apply their vocabularies in eloquent compositions of earth and plant.”

Adams described the evolution of Burle Marx's art, his close collaborative relationships with such architects as Le Corbusier, Oscar Niemeyer, Lucio Costa, and Rino Levi, and his long-standing efforts to save the Brazilian rain forests.”

Brasilia, in central Brazil, has been its capital since 1960. It is a very modern city that arose from a desert area where there had been no structures.

Brazilian architects, especially the great Oscar Niemeyer created a city of futuristic public and commercial buildings and private homes all surrounded by landscape gardens and terrace and roof gardens designed by Roberto Burle Marx.

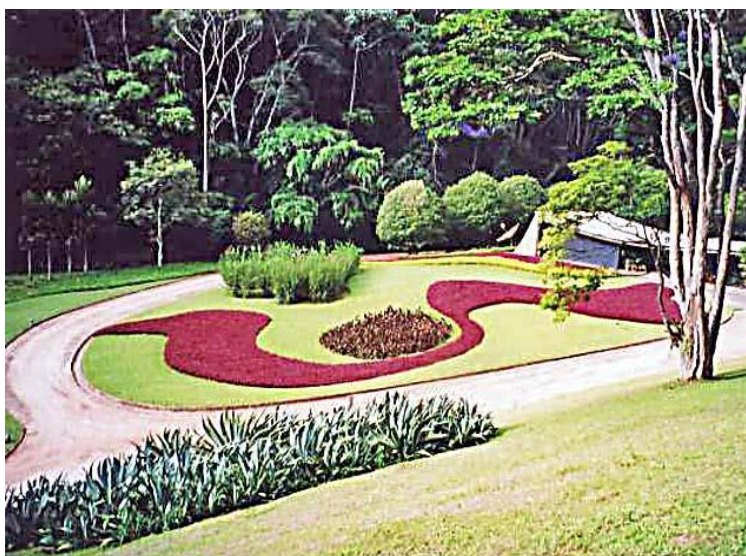
Among these are the Itamaraty Palace with the offices of the Ministry of Foreign Affairs, and buildings for the Ministry of the Army, Ministry of Education & Health, Ministry of Justice, the National Congress of Brazil (Senate and Chamber of Deputies) and the Claudio Santoro National Theater. Of course, there are many hundreds of Burle Marx

designed landscape gardens and terrace and roof gardens in Rio de Janeiro, Sao Paulo, Petropolis and other Brazilian cities.

In the conservatory of the famed Longwood Gardens in Kennett Square, PA, Burle Marx created a permanent bromeliad display with sprays of water cascading into clear pools. The bromeliads are mounted on the vertical rock walls of the greenhouse. Roberto used hundreds of plants, 35 tons of rock and 3,000



Odette Monteiro Valley Garden in Petropolis



Strunk garden, Petropolis

feet of heating cable to create today's Cascade Garden.

Burle Marx designed some breathtaking gardens for the private estates of wealthy clients. For me the most spectacular garden was one Roberto designed for Odette Monteiro. It was later redesigned by Burle Marx for a new owner of the property.

For about 100 years following 1830, the “Coffee Barons” in Imperial Brazil made huge fortunes growing and selling coffee (“Black Gold”) in the Paraiba Valley of eastern Sao Paulo. One of them owned the Vargem

Grande Coffee Farm in Areias; one of his descendants undertook to convert that huge coffee plantation into an estate. He hired Burle Marx and his associates to landscape it with different gardens. It was so huge a project it took Roberto 10 years to complete it, and of course he used lots of bromeliads.

The Cavenelas Residence in an estate near Petropolis had been demolished in the 19th century. When it was purchased by Gilberto Strunk, he hired the architect Oscar Niemeyer to rebuild the Residence and Roberto Burle Marx to landscape the estate grounds with gardens. The team of Niemeyer and Burle Marx were the choice for many famous government, commercial and private buildings.

Roberto Burle Marx died on June 4, 1994 at the age of 84 years in a farmhouse in Barra de Guaratiba. It is important that from time to time we acquaint new members and remind ourselves of the illustrious contributions this great artist and humanist made to our world.