



SAN DIEGO BROMELIAD SOCIETY

Established 1965

# The Bromeliad Blade

Newsletter of the  
San Diego  
Bromeliad Society

November 2023

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## President's Message

By Stephen Zolezzi

Hope this message finds you in good stead body and soul and able to cultivate your Bromeliad family collection. Due to Veterans Day landing on Saturday the park building will be closed so we are not meeting in Room #104 this month. We will be meeting at the Pt. Loma home of Member Sandy Valone----regular start time of 10am (Sandys living room is large enough to accommodate us all). Please read down in the newsletter for the address and more details.

The society will be providing food and beverages so please don't feel you have to bring any, but, if you would like to add to the offerings please do. There will be a great program and plant raffle but not show-n-tell. November is also Board of Directors Election time so we need a good showing to usher in the new slate of officers and directors.

We will not conduct a December plant sale this year due to the city of

San Diego bumping us from room #101 for a paying party. The December meeting will be the Holiday Party so be thinking of a gift to exchange—Should be great fun and plenty to eat. Many thanks to all those who volunteer their time and energy preparing for all our meetings and special events--we could not do it without their and your participation and support. See you all Saturday, 10am in Pt. Loma.



*It's blooming season for Portea Candy. They help feed hummingbirds at a time when flowers are sparse. Photo by Juliana Raposo*

# November Meeting

Saturday, November 11 at 10am in Sandy Valone's House  
3682 Ligget Dr., Point Loma

## Program

Bromeliaceae and Associated Flora in Eastern Brazil. Covering some areas of note from Minas Gerais to Bahia, by Dylan Zoller.

Dylan grew up in Laguna Beach with a strong interest in exotic cultivated plants- starting with palms, cacti, and succulents. At the age of six his father gave him his vintage copies of Alfred Graf's EXOTICA. For those not familiar, the two volumes served as pictorial encyclopedias for a multitude of tropicals. In these books he was introduced to the great diversity in the bromeliad family. Since then, he began to grow and appreciate the plants himself. Now working at Sherman Botanical Gardens, he

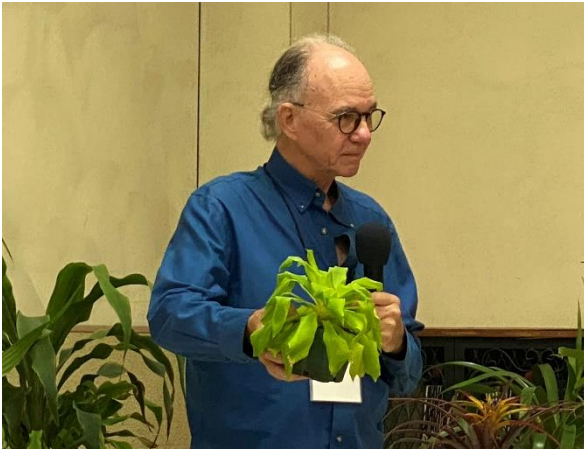


*Dylan in Medina, Minas Gerais, the type locality for the rare tillandsia renate-ehlersiae. Photos by Dylan Zoller.*

maintains a collection of 300+ species in the family, both in the garden's naturalistic displays and on off-display benches.

Also happening in the November meeting: Raffle table, with a fresh batch of colorful Florida bromeliads, and the club elections.

## October Recap



We thank Dan Kinnard for the very fun, and challenging pitcairnia growing trial. In 2022, Dan provided the seedlings and dared us to grow *Pitcairnia nigra* and *tabuliformis*. After a year, people got vastly different results. While comparing our experiences in the October meeting, one thing was clear - Bob Kopfstein knocked it off the park, with a blooming *P. tabuliformis* (photo by Kopfstein) and a huge leafy *P. nigra*. The rest of us learned something. And thus, we start a new growing trial, with *Araecococcus* and *Acanthostachys*. Thanks, Dan!



# Interview with Rodrigo Freitas, 2023 Award Recipient for the San Diego Bromeliad Society Conservation Grant

By Juliana Raposo

*This interview is the continuation of the article published in the October Bromeliad Blade. It will also appear in the BSI Journal.*

## Interview with Rodrigo Freitas October 2023

**Few people know Três Picos State Park (PETP) like you. Explain to us the importance of the park in the context of preserving the Atlantic Forest. What is unique about PETP?**

Três Picos State Park is a new park. It was created in 2002. In addition to PETP being the largest state park in the State of Rio with just over 65 thousand hectares (250 square miles), it is also the park with the greatest biodiversity due to its wide variation in altitudes ranging from 100 to 2366 meters (328 – 7,762 feet) and safeguards the most preserved portion of the Atlantic Forest in the State of Rio de Janeiro. This in itself would be of great relevance to justify the existence and territorial size of the park. But PETP also contains the largest quantity of endemic plants among all of Rio's parks, in addition to being today the main source of water resources for several municipalities in the State.

**Describe to us the different types of ecosystems present in the park. The Atlantic Forest is made up of several phytoecological regions. Here in the State of Rio, due to the great elevation variation and its geography, the Atlantic Forest has many of these regions that are interconnected, forming today a**

large Hotspot. We have at about sea level, the Dense Ombrophyllous Atlantic Forest that remains up to around 300 meters (984 ft) in altitude. Going up, we enter the Dense Submontane Ombrophyllous Forest that occurs between 300 meters (984 ft) and 600 meters (1968 ft) range. From 600 to 1000 meters (3280 ft) above sea level we have the Montane Dense Ombrophyllous Forest. From 1000 to 1800 meters (5,905 ft), which can vary slightly depending on the area, we have the Highland Dense Ombrophyllous Forest. From an altitude of 1800 meters to PETP's highest point at 2366 meters (7,762 ft), we finally have the Highland Grasslands with their unique vegetation. It is worth remembering that among the

Atlantic Forest's phytoecological regions, we also have associated ecosystems such as Mangroves and Restingas, although they are not represented in PETP.

**As you said, PETP contains a mosaic of vegetation due to the variation in altitude within the park. How is this reflected in the bromeliad species found?** The State of Rio de Janeiro, despite being one of the smallest in Brazil, has the largest amount of bromeliad species from the Atlantic Forest. There are more than 300 species, and it is the State that also has the largest number of bromeliads endemic to the Atlantic Forest, with more than 120 species that only



*Tillandsia gardneri. Phot by Rodrigo Freitas*

occur here in the State of Rio. As the largest state park in Rio and because of its elevation range, PETP also has the largest number of bromeliad species. I would not be able to precisely say the number of bromeliad species in the park as there is no study covering all 65 thousand hectares (250 square miles), but there are studies carried out in parts of the park such as the town of Macaé de Cima where over 50 species of bromeliads were found but with the potential to record many more species. We also have a study carried out in a preserved buffer area of the park where more than 5000 bromeliads were recorded in an area of just under 5000 square meters (1.2 acres) and the study focused only on epiphytic bromeliads larger than 10cm (3.9 inches). That gives you an idea of the quantity and variety of bromeliads that PETP contains.

**Highlight endemic species of the park flora.** I can highlight *Begonia friburgensis* (Begoniaceae), which had not been recorded in nature since the beginning of the 1970s,



*Vriesea vidali*. Photo by Rodrigo Freitas

being considered extinct and I was fortunate to find it on one of my botanical forays. We also have the rare *Vanhouttea fruticulosa* (Gesneriaceae) which has only one record in the region of Macaé de Cima, in the State of Rio, but I and another friend, Jorge Gastin, have

already recorded it in two other places which we have not publicly revealed yet to keep the plants safe. We have many other endemic plants at PETP, but I can highlight species that only had a record of occurrence in other states and that through my work, I was able to include Parque

dos Três Picos as an area where these plants occur. To cite just a few examples, we have *Passiflora catharinensis* (Passifloraceae) which was only recorded for Santa Catarina. I recorded the plants in two different regions of Três Picos. I also recorded a plant that occurs in the Amazon region, which is *Mandevilla urceolata* (Apocynaceae) and here in the State of Rio there was only one record of it in 1968, the location of which was



*Vriesea vidali* colony. Photo by Rodrigo Freitas

not determined. I recorded it in Três Picos park, my photographic records being the first of the plant in its habitat and in flower. To talk about bromeliads, we have in the Três Picos area, *Aechmea fasciata*, a plant endemic to the State of Rio, whose most beautiful and protected population is within the Park. We also have the beautiful *Neoregelia carolinae* whose most beautiful specimens, with their vibrant pink leaves at flowering time, are located within the park's boundaries. I could give many other examples, but this would end up being very long. Finally, we have a bromeliad that is very special to me because I discovered it and it bears my name. This plant has an interesting characteristic because it is an intergeneric hybrid, something difficult to happen in nature. The plant is a hybrid between *Quesnelia lateralis* and *Nidularium antoineanum*. The name will probably be *Quesnelarium rodrigoii* but I'm waiting for the publication from Elton Leme, who registered it so I can officially announce it.

**What are the biggest conservation challenges to the park?** Due to its large territorial extension, PETP is under pressure from both real estate speculation and agriculture, especially in its buffer areas. So we have to focus on social-environmental awareness and education, especially for those people who live around the park and look for ways for these communities to earn income from tourism activities focused on the park. The park is always looking to form partnerships with people in these communities so that they can sell their agricultural products (with an emphasis on organic products), and animal products, accommodation and restaurant services, guides provided by locals, both inside and

outside the park. And in this context of preservation, my botanical research work helps justify the existence of the park by showing that we have many endemic plants within it and that these plants are part of an ecosystem in which many animals depend on for their survival and that the entire set (plants and animals) keeps the forest healthy, enabling people to use precious resources from the park such as quality water, milder and more stable climate, air quality, among other benefits such as

the ground, these areas were intensely worked by different crops that alternated over many cycles of occupation, such as greens and vegetable crops, sugar cane plantations, coffee and end, pasture for cattle. In mountainous regions, due to the rugged terrain and few flat areas, these cultures, despite existing, were more punctual. But even so, the extraction of wood for various purposes, such as construction, the export of hardwood to other countries and



*Quesnelia liboniana*. Photo by Rodrigo Freitas

leisure and income through the activities mentioned above.

**The park has areas of intact forest but also areas in different stages of environmental rehabilitation. What is the history of human occupation of the park?** The park is very large and covers five municipalities, so it is difficult to talk about all human occupation throughout the park's territorial extension. But briefly speaking, the low-lying areas of the park have suffered great human intervention over the centuries since the Portuguese arrived. Because they are flatter areas, with less rocks on

charcoal production, also had a great impact on the original native vegetation. Even today, landowners around the park sometimes cause fires due to the ancient practice of burning the remainder of previous crops to prepare the land for new crops. We still have the practice of hunting and capturing wild animals today for consumption and sale, although this practice is much smaller compared to 20, 30, 50 years ago.

**We know that the presence of bromeliads is an indicator of environmental health in Atlantic**

**Forest areas. Within the PETP there are areas in different stages of conservation - from primary forests to pastures. How does this affect bromeliads?** Bromeliads, with the exception of some pioneer and more resistant species, need an already formed and balanced environment to be able to develop, prosper and multiply. In very degraded areas, where there are few large, medium to long-lived trees, we see very few varieties of bromeliads. In these areas we find more *Tillandsias*, with emphasis here in my region on *Tillandsia stricta*, followed by *Tillandsia geminiflora* and *Tillandsia gardneri*. We also have *Tillandsia tenuifolia*, which in its rupicolous variation, we still find with some frequency in highly degraded areas. When a degraded area begins to recover, we first have the undergrowth that can persist for a few years. Over time, short-lived shrubs appear alongside the undergrowth. This shrubby vegetation begins to provide more organic matter to the soil as it dies and also provides some protection for the medium-lived vegetation to appear. As this medium vegetation develops, *Tillandsias* begin to establish themselves. Over time, this medium-height vegetation creates conditions for higher-altitude, long-lived trees to begin to establish themselves. But this last type of vegetation grows much slower. In total, on average, from the initial stages of recovery to the point where we once again have epiphytic bromeliads inhabiting these long-lived trees, we have between 25 and 45 years of recovery, depending on the region.

**What are the park ranger's duties?**

**What is your work routine?** My work routine as a park ranger is to maintain the trails and leisure areas, receive visitors and inform them



*Vriesea atra*. Photo by Rodrigo Freitas

about the park's attractions and visitation rules. There are also other activities such as fighting fires inside the park and in buffer areas. Be present at events focused on social-environmental education, such as lectures at schools, colleges, and universities and in my case particularly when I research plants here in the region, accompany biologists and botanists and assist them in their research, as far as possible. We recently received a visit from researchers from WWF (World Wildlife Fund) Brazil who were collecting information about plants in order to update the red book of endangered plants. Of the 52 plants they researched up there in the center where I work, I was able to identify 48 plants. According to them, this would save months of work identifying all the plants.

**How did you become interested in nature photography?** I always liked photography and when I started

practicing outdoor activities, photography came along with it.

**It is interesting that you went back to college to study biology to support your botanic fieldwork and not the other way around. Why did you decide to study biology?** To be able to delve deeper into the knowledge of plants, to be able to carry out research and conservation work that I cannot today because I am not in the area, like, scientific research work for a university. Today, I love this work more than any other activity I do.

**Talk about your project to document the fauna and flora of Três Picos. How it started, how it evolved, what you've been learning.** At first, back in 2014, when I started practicing outdoor activities, I started to notice the large number of different plants we had in the mountains, and I started photographing them. As I have always been very curious, I tried to find out more about these plants

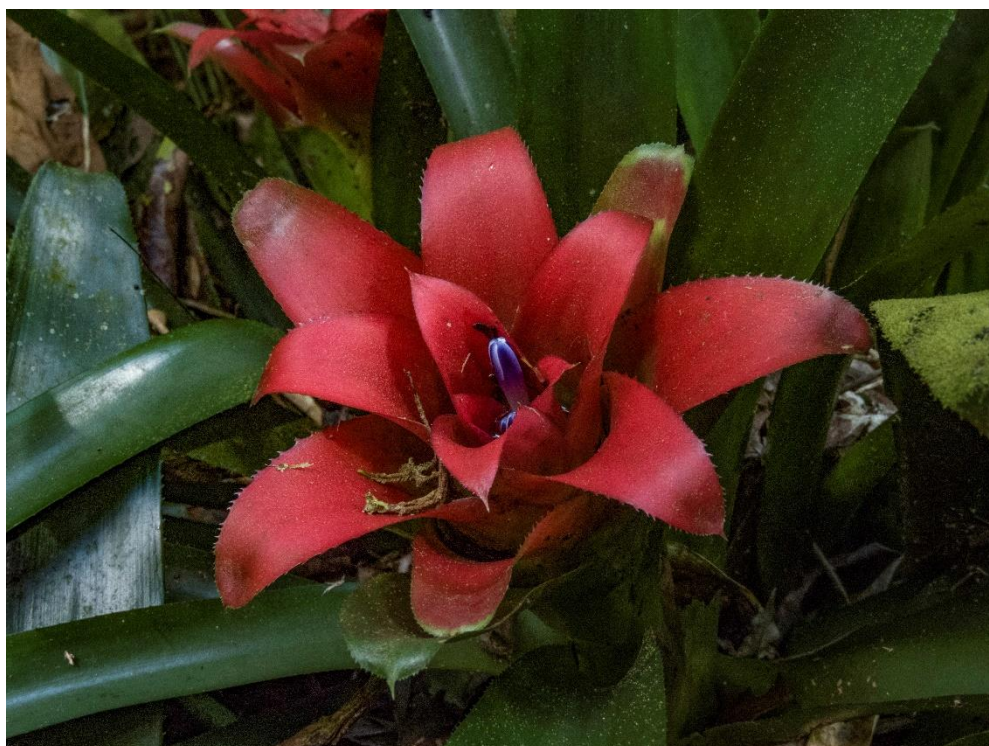
and realized that there was nothing or almost nothing about them. The little material I found was restricted to scientific circles and people doing research (biologists and botanists). As my photographs of plants were good, as I instinctively took photos not only of the plant, but of the habitat, the flowers and details of the flowers, they soon began to be noticed by researchers. Some pointed me to botanical identification groups that existed on Facebook and when I started posting photos, to my surprise, out of every ten photos of plants I posted, 7, 8 or 9 plants were rare or threatened with extinction or were never seen in the areas I found them. It was then that I became very worried about this situation because we had an enormous and beautiful diversity here in the region that was not known and was at risk of ceasing to exist due to lack of knowledge. So I became very worried about this situation. I began to research more and more about this flora and research in a more scientific way, to be able to produce knowledge about it and to be able to carry out the environmental education work that I have been doing since then with my photographs and explanations in simpler language, in a way that everyone understands, especially those who are not from scientific circles. I always have the thought in mind: human beings only protect what they love and only love what they know. Therefore, my work is focused on making people discover our flora through photographs and start to love and want to protect and care for this natural wealth that we have. It's interesting that when researching plants and sometimes animals, I also learned about the whole, about how everything is closely connected and interdependent on each other and that includes us, too. We are nothing

without the nature that surrounds us, we are one with it.

**Do you receive any institutional support? Any support from PETP?** In my almost ten years of research, the only help I received was the conservation grant offered by the San Diego Bromeliad Society, to which I am very grateful and will help me a lot in the quality of my work.

**In your research work, you have certainly already encountered some surprises. Describe.** I have found many surprises over the years of research in the forests here in my region. Some very good, others not so much. It's always great when I find a different plant that I've never seen before and when that plant is in flower, even better because I can register it and know "who it is". By walking in dense forest regions, with very difficult access, I have sometimes found beautiful scenery such as rocky walls covered with

orchids in bloom, ancient trees full of bromeliads with perhaps dozens of different species in a single tree, waterfalls hidden within the forest, untouched because they are not known. Century-old fallen trees covered in epiphytic plants of which I try to save as many as possible, relocating them to other trees. These situations of fallen trees, while they are sad for the loss of a unique tree and plants, are also cool because I can see, up close, plants that I can usually only observe from below and from afar. Sometimes I have also found myself in dangerous situations, such as coming across venomous snakes, and if there were an accident, it would be difficult for me to leave the forest alive. I've heard the vocalization of a mountain lion a few times just a short distance away from me. But the most dangerous thing is when I encounter hunters or poachers inside the forest. They are always very suspicious because they

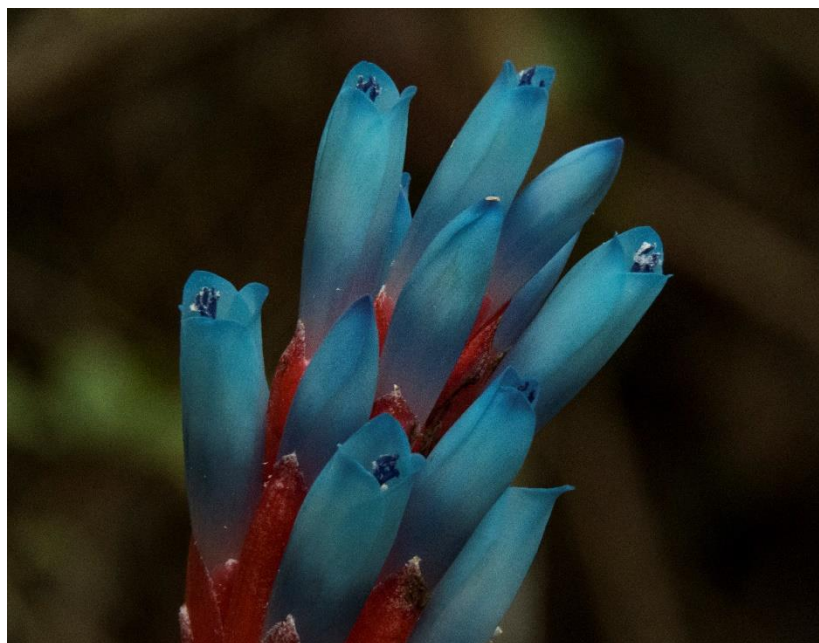


*Nidularium antoineanum*. Photo by Rodrigo Freitas



know they are carrying out illegal activities. But until today I have always managed to get around the situation with dialogue and showing them that I pose no danger to them.

**SDBS is proud to announce that our first bromeliad conservation grant went to your project. How do you intend to use the award?** I am immensely happy that my work touches SDBS members and inspires them to gift me this award. Today, I take my photographs with my cell phone and an adaptation I made on my camera. With the grant, I will be able to buy a professional macro lens, which will greatly improve the quality of my photographs.



*Quesnelia lateralis*. Photos by Rodrigo Freitas



## SDBS Events 2023

[www.sandiegobromeliadsociety.org](http://www.sandiegobromeliadsociety.org)

### SDBS Monthly Meeting

November 11, at 10am  
Sandy Valone's house  
3682 Liggett Dr.  
Point Loma, San Diego

December 9, at 10am  
Casa del Prado room 104  
Balboa Park Loma, San Diego

## Look at this Tree.

Stop by on your way to the November meeting. This bromeliad tree is worth a small detour.

Located at 4102 Point Loma Ave. and visible from the street, the bromeliad tree has been a neighborhood landmark for quite some time. The owner, a master gardener, gave new life to a dead olive tree by covering it with bromeliads.



## SDBS Officers 2023

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## Essential Bromeliad Resources

**Bromeliad Species Database** – <https://bsi.org/members/?bsd> Species names keep changing due to new research. Consult the BSD for identification, photos, distribution, and spelling names of bromeliad species. For more granular information, log in as a BSI member.

**Bromeliad Cultivar Registry** – <https://bsi.org/registry/> The BCR lists information on bromeliad hybrids and cultivars. Here you can check the parentage of a bromeliad hybrid or the species of a sport that goes by a registered name. This is a free resource.

**SDBS Library** – Our bromeliad-specific library contains titles you won't find anywhere else. Contact our librarian, Eloise Lau, and check out a book.

DK ORNAMENTALS

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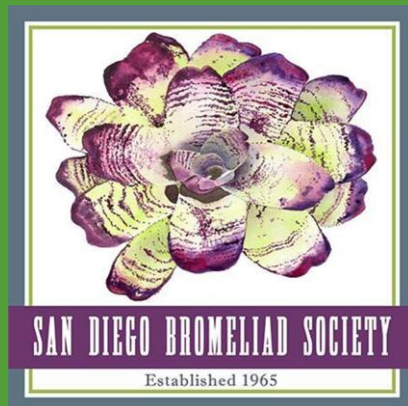
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## THE BROMELIAD BLADE



Newsletter of the San Diego  
Bromeliad Society

Juliana Raposo, Editor

### Invitation

We are in constant need of material for publication. Please contact Juliana at [julianadraposo@gmail.com](mailto:julianadraposo@gmail.com)

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

### SDBS Meetings

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

### SDBS Website

[www.sandiegobromeliadsociety.org](http://www.sandiegobromeliadsociety.org)

### SDBS Facebook Group

<https://www.facebook.com/groups/sandiegobro>