ILLAWARRA BROMELIAD SOCIETY INCORPORATED

NEWSLINK

April 2022

Tillandsia usneoides
Spanish Moss
Photo by Alan Cressler via Flickr

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- The Society is, by the holding of meetings, displays and competitions, to provide a forum for the people of the Illawarra region who are interested in the culture and collection of bromeliads.
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BANK DETAILS FOR FEE PAYMENT, ETC: **GREAT SOUTHERN BANK; BSB No. 814 282; Account No. 50997160**

MEETINGS - The Society meets from 12.00 noon to 4.00 pm on the first Saturday of each month (February to November) at the Berkeley Neighbourhood Centre, Winnima Way, Berkeley* See April 2021 Newslink
MEMBERSHIP SUBSCRIPTIONS - Due 30th June each year: $15 single/$25 family.
NEWSLINK ISSUED QUARTERLY - January, April, July, and October and at http://www.bromeliad.org.au

VISITORS ARE ALWAYS WELCOME

NEW MEMBERS: A very warm welcome to our new members, Jennifer Webb and Nina Woodcock, who signed up at our March meeting. We wish you a long and happy association with our Society.

MONTHLY RAFFLE PRIZE ROSTER: Each rostered member is asked to bring up to five bromeliad plants--or goods related to the cultivation of bromeliads--for the raffle. The quality of plants should comply with the requirements of 'Plants for Sale' and should you be unable to provide items for the raffle on your rostered day please contact the Program Officer (Bob Stephens 04 1283 4985) so that appropriate re-arrangements can be made.

April	-	Michael Drury, Christine Stephens, Sandra Carnie, Barbara Jones-Beverstock
May	-	John Toolan, Eunice Stark, Carole Taylor, Les Thain
June	-	Bob Stephens, Steve Wain, Eileen Killingley, Suzanne Burrows
July	-	Glenn Martin, Maureen Wheeler, Judy Hunt, Cheryl Mathews

SATURDAY, APRIL 2, 2022 MEETING – NOTE CHANGE OF VENUE
Due to the hall at Berkeley being booked for a wedding we will transfer to the Laurel Room at the Ribbonwood Centre for our April meeting. Our May meeting venue is still a little in doubt at this time as the Berkeley hall is used as a polling place and voting dates are still uncertain. You will be advised later, either at our April meeting or by email or phone.

SATURDAY, APRIL 9, 2022 – COACH TRIP (57 SEATER) TO COLLECTORS' PLANT FAIR, CLARENDON
Bob has been working hard to arrange the coach trip for us and details of pick up times are as follows:

7.00 am - Depart from Oak Flats Railway Station
7.15 am – Pick up at Dapto Railway Station
7.35 am – Pick up at Corrimal Park
8.20 am – Pick up at Waterfall
9.30 am - Arrive Plant Fair
3.00 pm – 4.00 pm – Leave for home.

Tasty food and coffee will be available at the Plant Fair.
Entry fee is covered in the cost of $45 per person.
For further information contact Bob Stephens on Mob. 0412 834 985.

GARDEN VISITS – SATURDAY, MAY 21, 2022 – We have three gardens to visit for our first garden visit for the year. At 10.00 am we will meet at the home of Ann and Noel Kennon, 7 Whitely Place, KANAHOOKA where we will have morning tea. Tea and coffee will be provided but please bring cake or slice to share. For information, Ann and Noel's phone number is (02) 4262 7614. At approximately 11.15 am we will move on to the home of Judy Hunt at 81 North Terrace, DAPTO where we will spend approximately 30 minutes (Judy's phone number is 0478 157 522). We will then move on to the home of Cheryl Mathews at Unit 1/24 Prince Edward Drive, DAPTO (Phone 0438 612 971) which is only a short distance away. Here we will have lunch at approximately 12.30 pm. Tea and coffee will be provided but please bring lunch items to share. Please note that Cheryl has 13 back steps (with railing either side) to get access to her garden. Also, to help with seating, can some members bring along fold-up chairs.
For any further information please contact Bob Stephens on Mob. 0412 834 985.

OUR REVAMPED *NEWSLINK* INDEX – WITH HEARTFELT THANKS TO DREW MAYWALD OF THE FAR NORTH COAST BROMELIAD STUDY GROUP (FNCBSG)

Drew has done a remarkable job at revamping our *Newslink* Index which can be reached via:
https://sites.google.com/view/illawarranewslinkindex/home

February 5, 2022 – Competition Plant Results

Open

1st	Suzanne Burrows	*Neoregelia*
2nd	Suzanne Burrows	*Neoregelia lilliputiana*
3rd	Suzanne Burrows	x*Sincoregelia* 'Firecracker'
3rd	Suzanne Burrows	*Cryptanthus*
3rd	Bob Stephens	*Neoregelia* 'Bevvie Bee'

Novice

1st	Judy Hunt	*Billbergia* 'Louise Maree'
2nd	Judy Hunt	*Neoregelia* 'Dream Baby'
3rd	Judy Hunt	*Neoregelia* 'Perfect Red'

Tillandsioideae

1st	Suzanne Burrows	*Tillandsia mallemontii* (on palm seed pod – so interesting!
2nd	Judy Hunt	*Tillandsia*

March 5, 2022 – Competition Plant Results

Open

1st	Cheryl Mathews	*Neoregelia* 'Hellacious'
2nd	John Toolan	*Vriesea philippo-coburgii*
2nd	Ann Kennon	*Cryptanthus* 'Dusk'
3rd	Bob Stephens	*Billbergia* 'B A Bubblz'
3rd	Ann Kennon	*Dyckia* 'Warren'

Novice

1st	Judy Hunt	*Neoregelia* 'Heat Wave'
2nd	Judy Hunt	*Neoregelia* 'Perfect Red'
3rd	Judy Hunt	*Neoregelia* 'Enchantment'
3rd	Jenni Wenzel	*Neoregelia* 'Alley Cat'

Tillandsioideae

1st	Glenn Martin	*Tillandsia straminea* (Giant form)
2nd	Judy Hunt	*Tillandsia disticha*

NOTES ON PLANTS BROUGHT TO OUR MARCH MEETING:

***NEOREGELIA* 'HELLACIOUS':** Cheryl's beautiful plant is a large-growing 'Tiger' hybrid by Chester Skotak, registered in 2005 and released in 2016. A cultivar of [(*carolinae* variegated X 'Hannibal Lecter) X 'Norman Bates] X 'Skotak's Tiger' it has rich dark-green leaves with cream coloured variegation. The leaves are heavily covered with red tiger banding and bars. (No colour change at anthesis.) Country of origin: Costa Rica.

***BILLBERGIA* 'B A BUBBLZ':** Bob's lovely billbergia is an albomarginated form of the parent—*Billbergia* 'Hallelujah'. The Bromeliad Cultivar Register (BCR) tells us: Mature tubular rosette to 45 cm high, flaring at the top. Maroon leaves heavily spotted/marbled cream in strong light and marginated cream/white. Typical arching inflorescence of *B*. 'Hallelujah' from which this variegate sported in *Bromeliads Australia* Nursery around 2010. It was registered by G. Larnach in 2016. Country of origin: NSW, Australia.

THE NAME GAME

(Reprinted from "THE PRESIDENT'S CORNER" of the March 2015 issue of *The Bromeliad Blade,* newsletter of the San Diego Bromeliad Society – by Robert Kopfstein)

The Name Game

What's in a name?

That which we call a rose
By any other name would smell as sweet.
Shakespeare, *Romeo and Juliet*, Act II sc.2 ll 43-4

A teacher who can arouse a feeling for one single good action, for one single good poem, accomplishes more than he who fills our memory with rows on rows of natural objects, classified with name and form.
Johann Wolfgang Von Goethe, *Elective Affinities*

Lincoln!
Lincoln Lincoln, bo Bincon
Bonana Fanna Fo Fincon,
Fee Fy Mo Mincon,
Lincoln!
Shirley Ellis, "The Name Game" (Song) 1965

Let it not be said that *The Bromeliad Blade* lacks in literary quality. But what has all this to do with bromeliads?

Over the years that I have been involved with the *Bromeliaceae* the issue of names has seemed to be a sticking point with members of the various bromeliad societies. Common names are rare (Queen's tears, pineapple are examples—note *Billbergia nutans* has no connection to royal tear duct secretions, and *Ananas comosus* is neither an apple nor does it come from a pine tree). And herein lies the sticking point. Most bromeliads have only the binomial scientific name to identify them, and many of these scientific names are derived from Latin, Greek, foreign places, or names of people none of us have ever met.

It is to Linnaeus that we can ascribe the invention of the system of nomenclature that we know today. His Swedish name was Carl Linne which he subsequently latinized to Linnaeus. In the 18th century the languages of learning were Latin and Greek. As a result, most of the scientific names that Linnaeus gave to the thousands of plants that he described came from the roots, prefixes, and suffixes of these two classical languages. The idea of a genus (a group of similar plants) and a species (a specific member of that group) originated with the Swedish botanist Linnaeus. As a result today we have a genus *Aechmea* (spear point) which has a species *recurvata* (bent back).

Linnaeus also honoured friends and associates by naming plants after them. The best known to us might be Gustav Bromel who taught geology at the University of Uppsala in Sweden. The family *Bromeliaceae* bears his name; however—ironically—Bromel likely never saw even one of the myriad of bromeliads bearing his name. Several genera of bromeliads are named after notable people in the plant world:

Tillandsia	(Elias Tillands, a 17th century Finnish professor of botany)
Dyckia	(Prussian botanist, botanical artist and horticulturist, The Prince and Earl of Salm Reifferscheid-Dyck (1773-1861)
Vriesea	(Professor W.H. de Vriese, a Dutch botanist)
Neoregelia	(Eduard August von Regel, superintendent of the Saint Petersburg Botanical Garden in Russia in the 19th century)

The naming after persons can sometimes prove to be an issue. Spelling and pronunciation can sometimes present challenges—the cycad *Dioon rzdowski* for example. Sometimes perhaps the name proves less than poetic: *Aloe krapohliana*. And occasionally the wry humor of the botanist is evident; consider the corpse flower, *Amorphophallus titanum*. Greek translation: … do I really need to translate this? After all, this is supposed to be a G rated newsletter, no?

Perhaps you get the idea. Naming is really important if we are to be able to communicate about the plants, but it is no small task to master the naming system.

HOW SPANISH MOSS—WHICH ISN'T SPANISH OR MOSS—WAS NAMED

By Normand Guilbaut, Master Gardener Volunteer (Submitted by: Alice Alexander)
(Reprinted from Boca Raton Bromeliad Society Newsletter, August 2003

Common names of flora can often be misleading. Spanish moss (*Tillandsia usneoides*) is neither Spanish nor a moss, but rather a New World bromeliad. Native Americans around Louisiana called the plant "Itla-okla" or tree hair, an apt description. French explorers found the name amusing and as a mockery of the Spanish, their bitter rivals, said that the Itla-okla looked more like scraggy Spanish beards and referred to it as "Barbe Espagnole". The Spanish, on the other hand, tauntingly called it "Cabala Frances", saying it reminded them of the ratty wigs worn by the French.

Leave it to the botanists

In the mid-1500s English ships began trading with southern Native Americans. Most ships had a botanist aboard as there was a lucrative market in Europe for rare and unique plants, and the stranger the plant the better. In 1670 the frigate *Carolina* first encountered the Sewee tribe whose women wore skirts--"new roabs of new mosses" (sic) … which had been woven from the Itla-okla. The English traders were told that the plant was called Spanish Beard by the French but the young botanist aboard, thinking it was a moss or lichen, dubbed it Spanish moss. The plant made its way back to Europe and eventually into the collection of George Clifford, a rich Anglo-Dutch merchant who fancied himself as a botanist.

In 1735 Clifford commissioned Carolus Linnaeus (yes, the Linnaeus, Father of Taxonomy) to catalogue his botanical collection. The cataloguing gave him the opportunity of naming new specimens and classifying them according to his own system of binomial nomenclature (genus and species). During this two year stay Linnaeus produced the definitive *Hortus Cliffortianus.*

Within Clifford's collection were some epiphytic bromeliads that had been previously described and illustrated by the French monk, Fr. Charles Plumier (1646-1704), which he designated as "caraguata", the Caribbean native term. But Linnaeus wrote in *Hortus Cliffortianus* "the name Caraguata is American and barbarian. In its place (*Tillandsia*) is substituted in memory of Elias Tillands, a great and unique botanist from Finland."

Meet Mr Tillands

Let me tell you about Elias Tillands (1640-1693). Born in Abo, Finland, he began his studies in medicine at the University of Turku (Abo), later transferring to Sweden's University of Uppsala. The trip required Tillands to cross the Gulf of Bothnia (an arm of the Baltic Sea) which separated Stockholm from Abo by less than eighty miles. The sailing made him so seasick that he developed a phobia to crossing any body of water, no matter how small. His fear apparently was so intense that, rather than crossing any stretch of water, he chose to travel by land regardless of time, distance or inconvenience. But Tillands' fears proved to be an opportunity in disguise. His "dry land" travels brought him to areas of Sweden and Finland that had not been previously explored. In his travels Tillands collected and recorded all the plants he encountered, eventually publishing the first collection of the flora of Finland (*Catalogus plantarum*), which later was expanded to include plants of eastern Sweden and western Finland found along his regular route as he travelled between Stockholm and Turku (Abo).

While studying at the Herbarium of the University of Uppsala, Linnaeus discovered the *Catalogus plantarum* published by Tillands. Fascinated with the work, he learned that Tillands was a local legend for having been an eccentric water-averting plant collector. Linnaeus found the work extremely detailed and original. In fact, Linnaeus often referred to it in his *Species Plantarum*.

It seemed only appropriate that the newly discovered water-avoiding "air plants" be named for Tillands.

What's *usneoides*?
The second part of the name *usneoides* was given because the plant resembles a lichen in the genus *Usnea* (derived from the Arabic word "ushnah", meaning moss). *Usnea* sp. was very common in Europe and could be found draped on trees in a similar fashion to Spanish moss.

MOVE OVER, HAIRSPRAY, "BAD HAIR DAY MOSS" IS SOME TONY PLANT

By Normand Guilbaut, Master Gardener Volunteer (Submitted by: Alice Alexander)
(Extracted from Boca Raton Bromeliad Society Newsletter, September 2003)

Since pre-Columbian days, Spanish moss (*Tillandsia usneoides*) has elicited shaggy comments. And no wonder! With their silvery grey threadlike strands hanging in dishevelled masses and limply clinging to oaks, cypresses, gums and pecans, it will give any tree the appearance of having a bad hair day.

Tillandsia usneoides is probably one of the most widely recognized plants in the Americas, conjuring up images of swamps, bogs and bayous, and old Southern Plantations. But did you know it has a rich tradition of commercial and medical usage?

What is it good for?
In 1500 when European explorers arrived in coastal southern areas, they were astonished to observe Native Americans clad in patterned natural fibre cloth which had been woven from Spanish moss. In making pottery, Spanish moss had also been added to clay as a method of preventing cracking during firing.

Settlers from the earliest Colonial times learned from Native Americans how to process the Spanish moss to obtain the threads. The Spanish moss was gathered from trees, stacked in piles and soaked in water until the grey outer coating rotted away, exposing the fine black fibre in the centre. It was then hung on frames to dry and beaten to rid it of the dried scales. The coarse fibres were used for stuffing pillows and mattresses and woven into bridles, cinches, reins, horse collars and saddle blankets.

Even in the construction of their homes Cajuns used it in bousillage, a mixture of clay and Spanish moss, for making walls. Bousillage provided a natural insulation against all weather conditions.

By 1720 Florida and Louisiana had developed a significant commercial industry for curing and ginning Spanish moss for obtaining the long black thread-like inner fibres. The raw product was baled and sent to England. There it was spun to be eventually used as a substitute for the more expensive horsehair or even cotton products.

Car-seat moss
The American Spanish moss industry began to flourish in the early 1900s when Henry Ford began using Spanish moss as the stuffing for his Model T automobile seats. Ford, always the crafty and consummate businessman, contracted with his suppliers that the Spanish moss be shipped in cypress crates. Ford had discovered that cypress wood was perfect for his wooden door panels, dashboards, and panelling of trucks, and, best of all, he got it for nothing by buying the Spanish moss!

But by 1975 the last commercial mill in Florida closed when it became no longer profitable to operate. Synthetic fibres had eliminated the need for natural filaments.

HOW AIR PLANTS DRINK

(Reprinted from *In Defense of Plants*, a blog by Matt Candeias PhD, ecologist and botany-enthusiast, February 11, 2018 (https://www.indefenseofplants.com/blog/tag/Spanish+moss> extracted 2/3/22)

Air plants (genus *Tillandsia*) are remarkable organisms. All it takes is seeing one in person to understand why they have achieved rock star status in the horticulture trade. Unlike what we think of as a "traditional" plant lifestyle, most species of air plants live a life free of soil. Instead, they attach themselves to the limbs and trunks of trees as well as a plethora of other surfaces.

Living this way imposes some serious challenges. The biggest of these is the acquisition of water. Although air plants are fully capable of developing roots, these organs don't live very long and they are largely incapable of absorbing anything from the surrounding environment. The sole purpose of air plant roots is to anchor them to whatever they are growing on. How then do these plants function? How do they obtain water and nutrients? The answer to this lies in tiny structures called trichomes.

Trichomes up close. Photo by Mark Smith 1989
Licensed under CC BY-SA 4.0 (en.wikipedia.org)

Trichomes are what give most air plants their silvery sheen. To fully appreciate how these marvellous structures work, one needs some serious magnification. A close inspection would reveal hollow, nail-shaped structures attached to the plant by a stem. Instead of absorbing water directly through the leaf tissues, these trichomes mediate the process and, in doing so, prevent the plant from losing more water than it gains. [Photograph shows trichomes of *T. usneoides* 20x magnification.]

The trichomes themselves start off as living tissue. During development, however, they undergo programmed cell death, leaving them hollow. When any amount of moisture comes into contact with these trichomes, they immediately absorb that water, swelling up in the process. As they swell, they are stretched out flat along the surface of the leaf. This creates a tiny film of water between the trichomes and the rest of the leaf, which only facilitates the absorption of more water.

Because the trichomes form a sort of conduit to the inside of the leaf, water and any nutrients dissolved within are free to move into the plant until they reach the spongy mesophyll cells inside. In this way, air plants get all of their water needs from precipitation and fog. Not all air plants have the same amount of trichomes either. In fact, trichome density can tell you a lot about the kind of environment a particular air plant calls home.

The fuzzier the plant looks, the drier the habitat it can tolerate. Take, for instance, one of the fuzziest air plants—*Tillandsia tectorum*. This species hails from extremely arid environments in the high elevation regions of Ecuador and Peru. This species mainly relies on passing clouds and fog for its moisture needs and thus requires lots of surface area to collect said water. Now contrast that with a species like *Tillandsia bulbosa*, which appears to have almost no trichome cover. This smoother-looking species is native to humid low-land habitats where high humidity and frequent rain provide plenty of opportunities for a drink.

Absorbing water in this way would appear to have opened up a plethora of habitats for the genus *Tillandsia*. Air plants are tenacious plants and worthy of our admiration. One could learn a lot from their water savvy ways.

SOME THOUGHTS!

THINK ABOUT THIS!

(Reprinted from Bromeliad Society of Victoria's June-July, 2014 newsletter, Vol. 31(3))

In their natural environment bromeliads grow in trees, on rocks and in the ground. Leaves from trees fall around the plants and gather in dips, hollows and cracks. They break down rapidly into humus and bromeliads are quick to exploit this food source. Bromeliads have been doing this for eons—it is in their genes.

What do we do? Plant them in a pot with rock, sand and lumps of bark. WHAT/NO LEAVES?

So why not incorporate leaves into your mix at home as it provides food and bacteria into your mix. Simply collect leaves from your backyard, the neighbours' backyard or the local park (especially in autumn). Leaves can be used in the mix whole or chopped, but chopped is better. Run over them with a mower or blower/vacuum them. Use a 150 ml pot of chopped leaves to 1 bucket of your mix.

TILLANDSIA ROOTS

In a query which I put to the *Tillnuts* group back in March 2011 whether pot size would make a difference to the time of maturity of tillandsias—or other bromeliads for that matter—one of the replies that came back to me was from Maurice Kellett in Victoria which I found very interesting.

"If tillandsias are mounted the roots form an outer layer of cells that harden and no longer absorb moisture and therefore nutrients.

The theory supported by Benzing and Paul Isley that if grown in a pot in an open mix the roots will retain their fleshy appearance and therefore have the abilty to absorb moisture and food.

One of our members in Victoria adds lots of Dynamic Lifter to his pots and produces huge plants and rapid growth. The only downside is that quite often immature offsets will flower. Our thoughts are the gases released from this fertilizer contain ethylenes.

I use a lot of the orchid net pots and find them great with or without the addition of an open potting mix. They are very hard to overwater. However, you will see heaps of roots comng out of the side of the pots and they quickly harden when exposed to the air. You have to grow in an enclosed pot to get the best results!"

BROMELIAD-LIVING SPIDERS IMPROVE HOST PLANT NUTRITION AND GROWTH

Abstract reprinted from *Ecology* (2006), 87(4)

Article by Romero, G.Q., Mazzafera, P., Vasconcellos-Neto, J., and Trivelin, P.C.

Although bromeliads are believed to obtain nutrients from debris deposited by animals in their rosettes, there is little evidence to support this assumption. Using stable isotope methods, we found that the Neotropical jumping spider *Psecas chapoda* (*Salticidae),* which lives strictly associated with the terrestrial bromeliad *Bromelia balansae*, contributed 18% of the total nitrogen of its host plant in a greenhouse experiment. In a one-year field experiment, plants with spiders produced leaves 15% longer than plants from which the spiders were excluded. This is the first study to show nutrient provisioning in a spider-plant system. Because several animal species live strictly associated with bromeliad rosettes, this type of facultative mutualism involving the *Bromeliaceae* may be more common than previously thought.

AN ARBOREAL SPIDER PROTECTS ITS OFFSPRING BY DIVING INTO THE WATER OF TANK BROMELIADS

Article by Hénaut, Y, Corbara, B, Azémar, F, Cereghino, Dezerald, O, and Dejean, A.
Extracted 12/3/22: https://www.sciencedirect.com/science/article/pii/S1631039118300222

Abstract

Cupiennius salei (*Ctenidae*) individuals frequently live in association with tank bromeliads, including *Aechmea bracteata,* in Quintana Roo (Mexico). Whereas *C. salei* females without egg sacs hunt over their entire host plant, females carrying egg sacs settle above the *A. bracteata* reservoirs they have partially sealed with silk. There they avoid predators that use sight to detect their prey, as is known for many bird species. Furthermore, if danger is more acute, these females dive with their egg sacs into the bromeliad reservoir. An experiment showed that this is not the case for males or females without egg sacs. In addition to the likely abundance of prey found therein, the potential of diving into the tank to protect offspring may explain the close association of this spider with bromeliads. These results show that, although arboreal, *C. salei* evolved a protective behavior using the water of tank bromeliads to protect offspring.

JAIL STRIPE SPIDERS MAKE A BREAK FOR IT USING BROMELIADS

FEATURED CREATURE.COM – Posted by Carly Brooke December 13, 2013

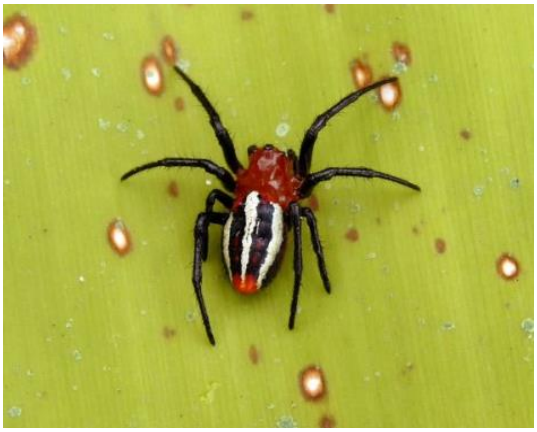


Photo: Antonio Fiorito
Habitat – South America: Paraguay, Brazil

Sporting the always fashionable jailbird look is this neotropical orb weaver species, *Alpaida quadrilorata*. There's not much in the way of info on this species (that I can tell) except that it's found on certain species of plants. Bromeliads, in particular, seem to house these convicted creatures.

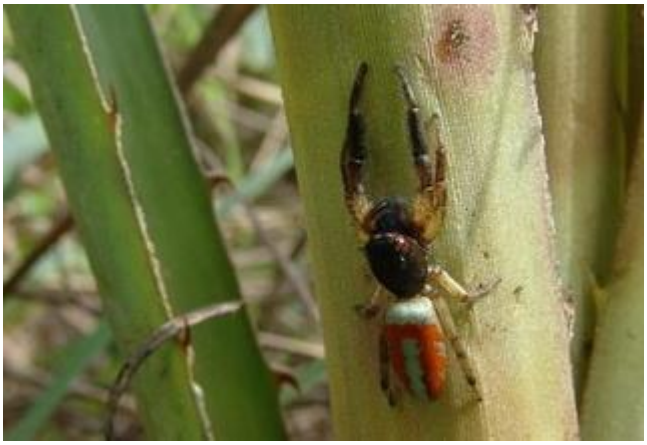
Photo: J. Kochalka, PyBio.org
***Alpaida quadrilorata* sneaking into a bromeliad's water pool.**

When disturbed, they've been known to dive straight into the bromeliad's collected pool of water. It's posited that they hang out around these tropical plants for a source of food, feasting on larvae that brood in the plant's water, and as a defensive strategy. I think of them as tiny little jail stripe spiders that "escape from prison" by jumping into the nearest reservoir. Now that's an escape strategy alright!

FIREPROOF - 'HEART OF FLAME' BROMELAD PROTECTS SPIDER AGAINST FLAMES'

By Willy van Strien

(Reprinted from *So Simple a Beginning* – blog.willyvanstrien.nl – accessed 13/3/22)



Small jumping spider, *Psescas chapoda*, female
Photo: Gustavo Q. Romero

Bromelia balansae - Photo: João Medeiros
Wikimedia Commons, CC BY 2.0

In case of a fire event on the Brazilian cerrado, many animals are killed. But the spider, *Psecas chapoda,* which lives on a bromeliad plant, has a chance to survive, Paula de Omena and colleagues write.

The terrestrial bromeliad plant, *Bromelia balansae*, and the spider, *Psecas chapoda*, are strongly associated with each other. The spider lives almost exclusively on this prickly plant, in the centre of which it is protected against its predators. On the leaves, adult spiders hunt, court and mate, females lay their eggs, and spiderlings grow up. Up to twenty spiders may inhabit one plant. Conversely, although the plant can do without *Psecas chapoda*, it benefits when it is inhabited by spiders because it extracts nutrients from their faeces; the predatory spiders also protect the plant against herbivorous critters.

Fires

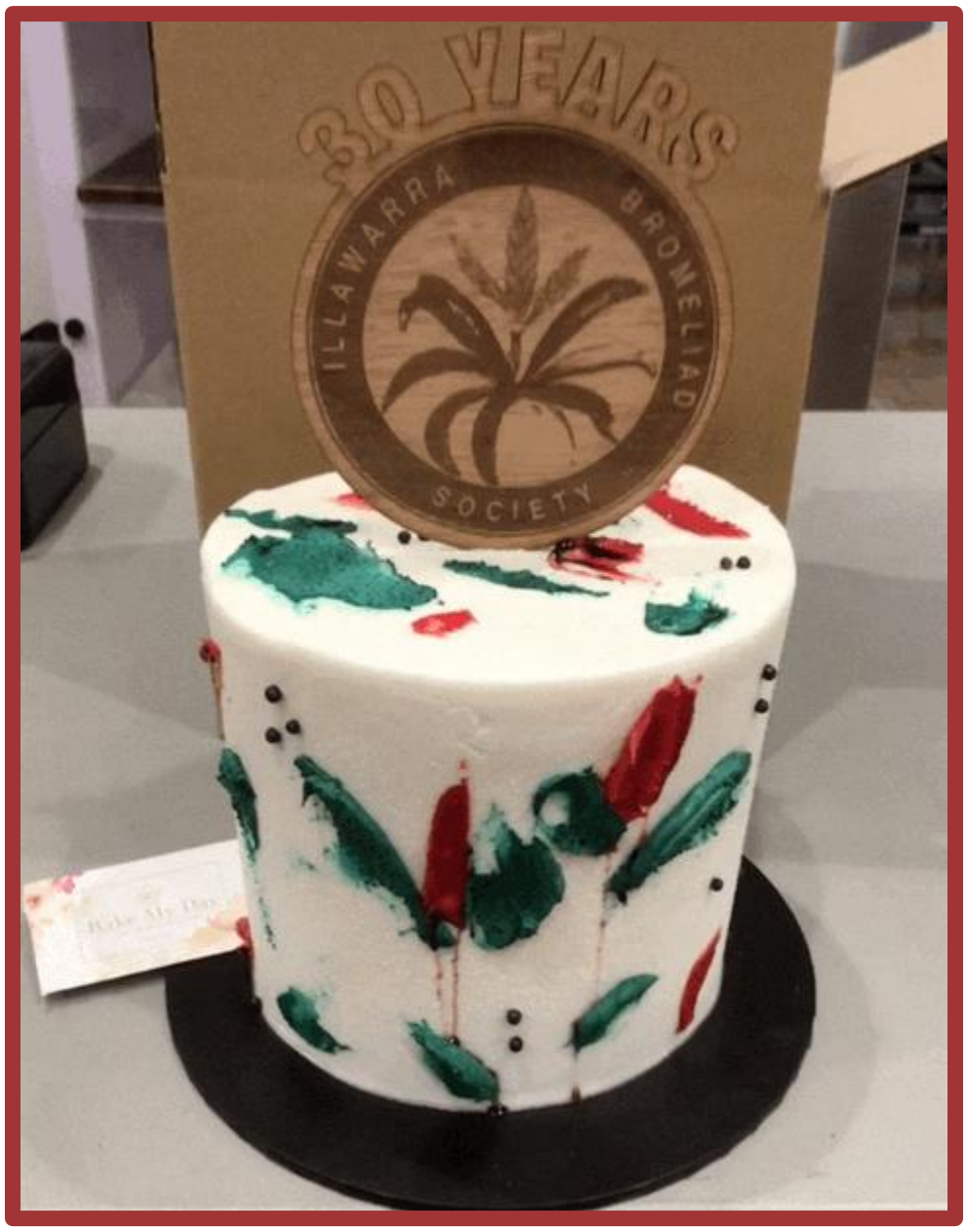
Now, Paula de Omena and colleagues discovered that this nice mutualism offers an additional benefit to the spider: it can survive a fire on the plant because the leaves provide shelter and protection from the heat of the flames. Strikingly, the plant is known as 'Heart of Flame, as the centre turns bright red when it is about to bloom.

The bromeliads and spiders live in South America, including the Brazilian cerrado, a savanna-like area with trees and shrubs. In the dry period, which lasts about half a year, natural fires frequently rage. The researchers assumed that in the centre of the plants the spiders are sheltered from the heat of flames, and to find out whether they were right, they counted plants and spiders in a small and isolated caerrado fragment before and after a natural fire event.

Recovery

The day after the fire, the number of spiders had strongly decreased, and also the percentage of bromeliads occupied by spiders was low. But in the centre of a number of plants with intact leaf structures, the researchers found spiders that had survived the fire, and thanks to their survival, the spider population recovered within five months.

Without this possibility to hide, far fewer spiders would survive a fire event and it would take much longer for the population to return to pre-fire levels. A new fire would probably break out before the population fully recovered so that *Psecas chapoda* would run the risk ot disappearing completely. Thanks to the plants, this does not happen.



Our Celebration Cake – 30 years – 1992 – 2022
Beautiful and delicious!
(Kindly organised by Suzanne Burrows)