



HIBISCUS INTERNATIONAL



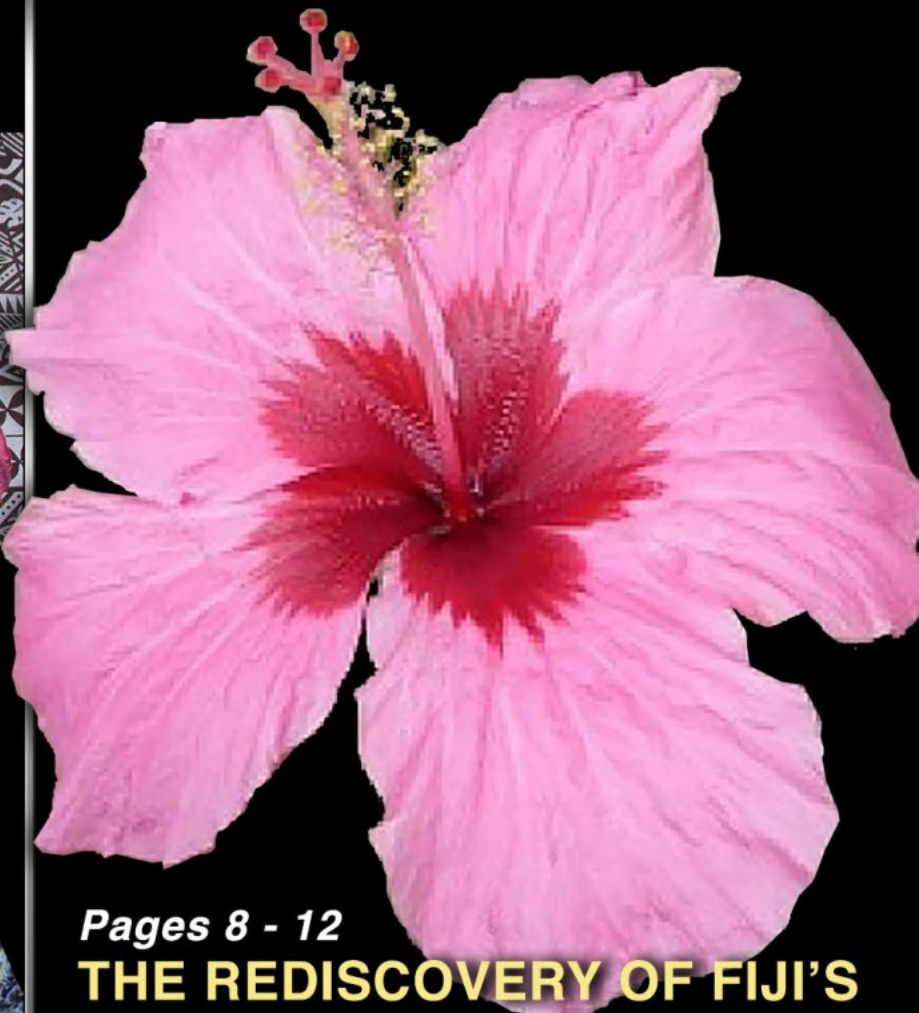
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By Dr. Lex Thomson



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and more!

Merry Christmas
& HAPPY NEW YEAR



This stunning Christmas tree decorated with Hibiscus flowers (renewed daily) was made by Dick Johnson in Tahiti. Thank you Dick for sharing this glorious 2016 treat with us!



GOING SOLAR

Solving the Problem of Heating my Greenhouse

By Diego J. Dominguez

Winter in southern Spain's Sierra Nevada mountains



iHola Hibiscus Friends!

I live in the south of Spain, in a mountainous area with a mountain climate that is not suitable for hibiscus. Normally, the winters are cold, but not ultra cold, although there are some occasions when we get night frosts.

I decided to build a greenhouse to protect my hibiscus from the cold and everything was fine for a while. However, the winter of 2015 was extremely cold - the coldest winter I remember in my entire life. Periods of cold were frequent with frost and snow appearing in my area and temperatures dropping below zero many days

in a row. The month of February 2015 was especially hard and a disaster for my hibiscus. The greenhouse I had built to protect my hibiscus from the cold became a cemetery for hibiscus. I tried to save some of my plants by bringing them home, but I could not save them all. By the end of the winter, hundreds of hibiscus had died and those which had survived were sick from the cold. When I saw all this disaster, I thought of giving up and accepting that my area is not suitable for growing tropical hibiscus.

But my love for hibiscus led me to seek a solution. So, I decided to install a system to heat the greenhouse during the winter. Some of the systems I evaluated for installation were very expensive and I made a risky decision - I decided to install a system to heat the greenhouse using solar energy. In principle, installing a solar energy system for the greenhouse was expensive, but I thought that in the future I could save on running costs by using the energy of the sun.



Left: The first signs of cold damage to the plants in the greenhouse.

And so I went ahead and I installed solar panels on the roof of the greenhouse that heated a water pump which distributed warm water through pipes in the floor of the greenhouse. In this way, it not only heated the greenhouse, but kept the greenhouse floor and the roots of the hibiscus plants warm. I tested the system this year and, although the winter of this year (2015/2016) has not been cold the hibiscus have been grateful for the heat of the soil and began to sprout earlier in spring.

Using solar energy to heat the greenhouse may be an interesting solution to protect hibiscus from cold. I want to analyze the advantages (and the problems) so that

Right: After the first signs of cold damage, as many plants as possible were brought indoors but the discoloured, wilting leaves were a bad sign.



hibiscus enthusiasts have another option to protect hibiscus from the cold.

One of the advantages of using solar energy is that it is a clean energy and constantly renewed, thanks to the sun, so you do not have to buy fuel or spend a lot on electricity. In addition, the use of hot water in the ground causes the hibiscus to receive the heat just where they need it and the heat does not go straight to the roof space like other heating systems.

I have also installed a radio frequency environment thermostat, so that I can indicate the temperature I want the greenhouse to maintain and the system automatically turns on when the temperature reaches the minimum value that I have recorded on the thermostat.

Left: The cold damaged plants left in the greenhouse gradually lost all their leaves and began to look worryingly dead. Sadly, many of them never recovered.

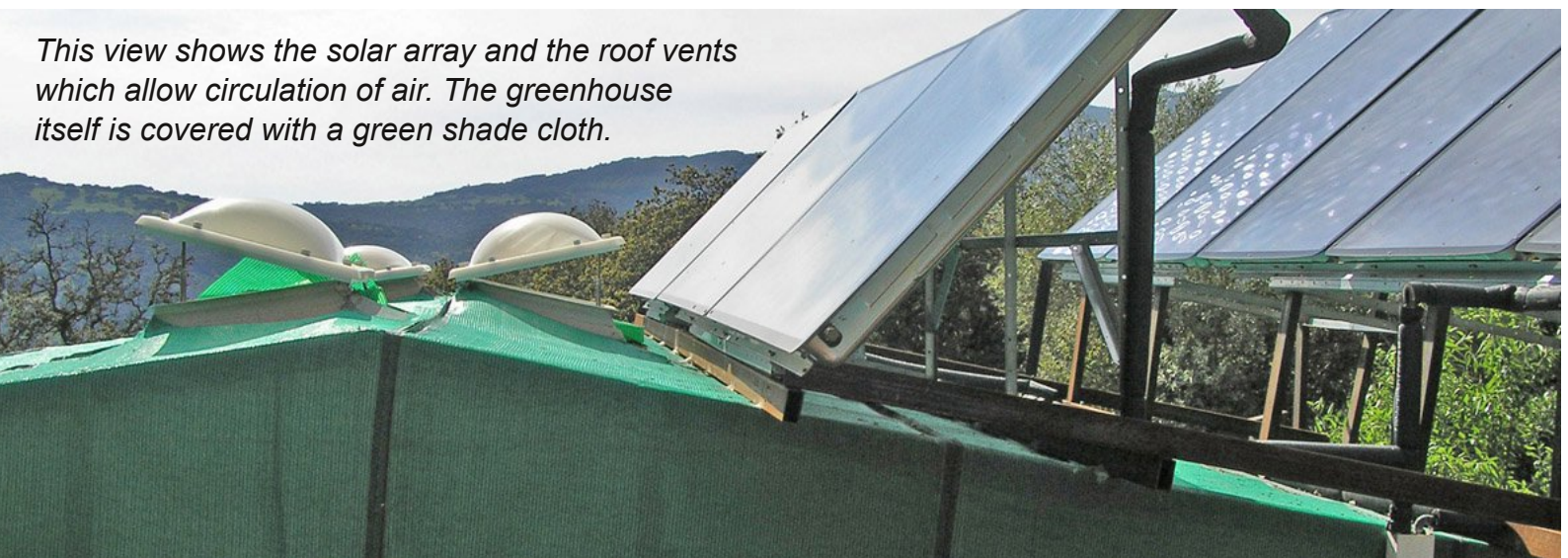


The double array of solar panels installed to heat the greenhouse.

However, using this solar power system does have some drawbacks, such as that it is very expensive to install. However, if you think about the fuel you could save, the expense looks less dramatic. Another drawback is that the system runs on electric power to collect solar energy which could be a problem during a power failure.

Another problem may be that there are too many sunless days when the system can not heat the water. To control this problem I installed an element inside the water boiler so, if the temperature goes down a lot, I can heat the element with electricity and the water is heated by it. This can, however, waste a lot of electricity and it would only be used in extreme circumstances.

This view shows the solar array and the roof vents which allow circulation of air. The greenhouse itself is covered with a green shade cloth.





Above: A view of the underside of the solar panels.



Left: Another view of the underside of the solar panels showing elements of the construction.



The water storage tank and pump which pipes warm water under the new floor of the greenhouse.

I hope there will be no more problems and that I can grow my tropical hibiscus successfully, although I will never be able to do it like the friends who live in warmer climates.

I also hope that my experience can help other hibiscus friends in less than perfect climates to grow their favourite plant.

- Diego Javier Domínguez García, 2016



Left: The front of my greenhouse before the addition of the solar panels.



Santa Paws
admiring
Nectar Pink.
Photo by Eliseo
Mendoza.



- REDISCOVERY - FIJI'S LONG LOST HIBISCUS

By Dr. Lex Thomson



The Delaikoro mountains, Vanua Levu, Fiji



Dr. Lex Thomson is a forest scientist who has worked extensively in Fiji, the region and elsewhere. He is Associate Adjunct Professor (Agroforestry) at University of the Sunshine Coast in Queensland and is a citizen of Fiji and Australia. He is passionate about the conservation of Fiji's flora and fauna.



It started with a simple idea. Early last year I was researching Fiji's own *Hibiscus storckii*, first recorded in 1860 on the garden island of Taveuni by German botanists Berthold Seemann and Jacob Storck, but seemingly lost from Fiji ever since.

Searching for information, I came across many images of *Hibiscus storckii* on the Internet—mostly photographs of plants growing in the heated glasshouses of Europe. There were also unconfirmed reports and suggestions that *Hibiscus storckii* had been maintained in glasshouses at the Royal Botanical Gardens, Kew from seed sent from Fiji in the nineteenth century.

My idea was to 'liberate' this Fiji endemic hibiscus from its European hothouse confines and bring it home to Taveuni to enjoy some Fiji sun, water and fresh air - with spectacular views across the Somosomo Straits.

I imagined this beautiful and distinctive flower gracing the Hibiscus Festival in Suva in July, and hoped to make it available for the Jacob Storck family reunion in Fiji this year.

Hibiscus storckii rediscovered on Vanua Levu, Fiji.



**Left: Berthold Seemann
(1825-1871)**

A German botanist, he travelled widely and collected and described plants from the Pacific and South America.



**Right: Jacob Storck
(1836-1893)**

Also a German botanist, Storck was invited to join the botanical expedition led by Dr Berthold Seemann. This four month expedition travelled to many parts of the Fiji Islands and resulted in the publication of Seemann's work "Flora Vitiensis": a description of the Fiji Islands.



The background to this special hibiscus is that Dr Seemann was sent to Fiji in 1860 after an appeal from islanders that they be included in the British Empire. The British Government asked him to seek more information on the island group, which he provided on his return to London in his account '*A Mission to Viti*', published in 1862.

While in Fiji, Seemann's team of botanists and illustrators documented around 250 plant species and in 1865 published these in *Flora Vitiensis: A description of the Plants of the Viti or Fiji Islands*. In it Seemann described a number of plants in honour of his assistant Jacob Storck, including *Hibiscus storckii*.

Left: The 1860 botanical specimen of Hibiscus storckii from Taveuni now held in the herbarium at Kew Gardens, London.

Right: An artist's impression of *Hibiscus storckii*, drawn later from the specimen collected in 1860 and Seemann's botanical description.

Jacob Storck stayed on in Fiji and became a planter on the Rewa River. He continued to send specimens to Seemann and has other plants named after him, including a flowering leguminous tree called *Storckiella vitiensis*. He passed away in 1893 and some of his descendants live in Fiji.

At Kew Gardens, the Seed Collection Officer Ms Noelia Alvarez kindly agreed to self-pollinate *Hibiscus storckii* flowers under bagged conditions to ensure the genetic purity of the Hibiscus seeds to be repatriated to Fiji.

Then in June last year an email from Noelia revealed that the Kew plants assumed to be *Hibiscus storckii* did



not in fact derive from nineteenth century Fiji but rather from 1972 Hawaii, and from a hibiscus that had been labelled 'Naselai Pink'.

Naselai in this name is the coastal village near Nakelo on Viti Levu. The American hibiscus enthusiast, Ross Gast, had found a hibiscus which he thought might have been *Hibiscus storckii*, and this had been sent to Hawaii and much later to Kew.

Left: Kew Gardens Seed Collection Officer Ms. Noelia Alvarez shows the 'Naselai Pink' which was earlier thought to be *Hibiscus storckii*.

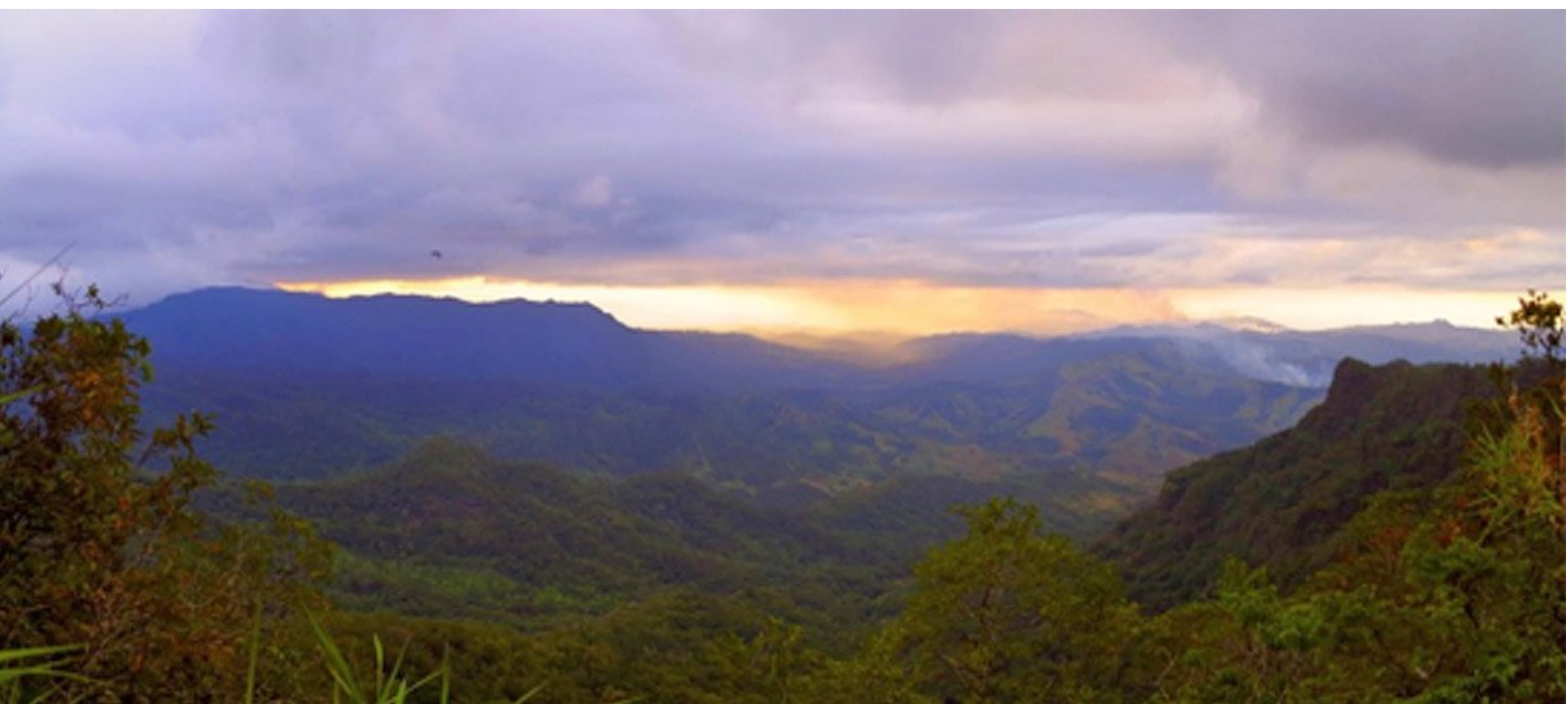
A twentieth century legend of hibiscus research and breeding, Gast had used a personal fortune accrued from his patent on the paper-covered wire tie to pursue a love of hibiscus. His insightful and entertaining letters to J W Staniford recorded in his *Hibiscus around the World* are well worth a read, as are his account of travels to Fiji in the 1950s in his quest to re-locate *Hibiscus storckii*. But he failed to find the elusive hibiscus.

At some point I would need to follow in the footsteps of Seemann and Storck, who in

1860 were based at Somosomo on Taveuni for six months, visiting other islands in Fiji.

So as I went about my forestry and botanical work between Australia and Fiji, I wondered whether, if there was an original *Hibiscus storckii* still growing in the wild, it was likely to only occur on Taveuni?

As it turned out, in November last year I was travelling in Fiji collecting sandalwood leaf samples for DNA studies with Sonu Dutt (Fiji Department of Forestry) and Dr David Bush (CSIRO).



Hibiscus storckii's view: looking west from Mount Delaikoro

At the end of a long day collecting sandalwood samples, we embarked on a precarious four-wheel drive to the summit of Mount Delaikoro near Labasa in Vanua Levu. We reached the top with the sun just setting on a spectacular and fiery landscape.

Near to the Telecom tower at 900 metres elevation and on a steep rocky slope I was pleasantly shocked to see a bush with glowing rich pink hibiscus flowers and further down the slope another bush of the same species.

I immediately thought it would turn out to be *Hibiscus storckii* as there were no other known pink-flowered hibiscus species in Fiji. How long had *Hibiscus storckii* been hiding out on top of Mt Delaikoro, eluding botanists and hibiscus enthusiasts?

Over the next few months my detailed examinations of the original specimens of *Hibiscus storckii* collected by Seemann and Storck revealed that the Mount Delaikoro hibiscus is without any doubt the long-lost *Hibiscus storckii*.

I am awaiting DNA results to be undertaken by Dr Luca Braglia in Italy which will confirm this as Fiji's own hibiscus and its relationships to other species, but in the meantime from the botanical samples and Seemann's descriptions, it is certainly *Hibiscus storckii*. As noted by Seemann in his original description, the leaves of *Hibiscus storckii* are always more elliptical than related hibiscus: perhaps it is appropriate that Fiji's endemic hibiscus has leaves shaped like a rugby ball. Seemann also annotated his Kew type specimen that the base of the petals was purple—an important detail which hitherto had been overlooked.

This remarkable hibiscus, or a related Fijian species, appears to have contributed a number of traits to modern tropical or Hawaiian hibiscus hybrids such as the much favoured overlapping petal structure, bright coloured petals and dark eye. Indeed, these traits may have contributed towards it being overlooked or dismissed as a hybrid rather than a pure species.

Hopefully native populations of the *Hibiscus storckii* will now be found on Taveuni where it was discovered by the German scientists back in 1860. In March this year I searched without success on Taveuni. Unfortunately Tropical Cyclone Winston had stripped bare the leaves of almost all vegetation at high elevations on Taveuni.

Fiji guides, bushwalkers, trekkers and peak baggers are urged to keep an eye out for wild hibiscus species, especially any with white or pink flowers in low open forest on rocky slopes at high elevations.

In collaboration with Botanical Gardens Conservation International, and with funding from Mohamed bin Zayed Species Conservation Fund, the University of South Pacific and Nature Fiji Mareqeti Viti are now planning to conserve *Hibiscus storckii* which may be critically endangered.



*The author holding *Hibiscus storckii* as he found it on Mount Delaikoro near Labasa on Vanua Levu. Fading light gives the impression of a white trim on the flower, but this is not apparent in normal light.*

In the wild *Hibiscus storckii* is highly threatened by climate change with small increases in temperature (1-2°C) leading to considerable shrinkage of its limited upland open forest habitats and committing the species to extinction in the wild as it will be unable to quickly adapt to the new climates.

To protect this wonderful endangered plant, the Savurua Botanical Gardens at Pacific Harbour:-
www.facebook.com/BotanicalGardensFiji is now propagating *Hibiscus storckii* to enable its *ex situ* conservation in Fiji's gardens and resorts.

The Secretariat of the Pacific Community (SPC) and Biosecurity Agency of Fiji are making arrangements for the import of seed of the Kew 'storckii' which further research over the next 12 months may show to be a new Fijian hibiscus species and related to the variegated *Hibiscus cooperi*.

I am greatly indebted to a vast number of botanical colleagues, hibiscus enthusiasts, family and friends for their support in my search for *Hibiscus storckii* and in my attempts to unravel some of the mysteries of hibiscus in the Pacific Islands region. - April 2016

A CELEBRATION OF BEAUTY

A selection of fabulous photos shared by members of the
International Hibiscus Society



STORM FRONT

(China Pink x Red Bernard)
Hybridized by Dupont Nursery
Photographed by Tatyana Sokolova

CHARTREUSE ROSE

(Georgia's Pearl x Thunderhead)
Hybridized by Dupont Nursery
Photo by Tatyana Volnova



CARIBBEAN PURE HEART



(Noche Buena x Rainbow Sherbet)
Hybridized by Adil Demirboga. Photo by Caribbean Hibiscus



CHARIOT OF RA

Parentage unknown
Hybridized by Charles Atiu
Photo by Gail Cah



TOGETHERNESS

(Stolen Kiss x Moonstruck)
Hybridized by Charles Black
Photo by Gil T Friedman

Copyright Gil T Photography

BLACK METAL

(Wings [Not Registered] x Unknown)
Hybridized by Pushpa Suresh
Photo by Pushpa Suresh



RAINBOW MOUNTAIN

(Rainbow Christie x Smokey Mountain)
Hybridized by Sonny Stollings
Photo by Véronique Demailly



DARK COSMOS

(Tihiy [Not Registered] x Space Oddity)
Hybridized by Pushpa Suresh
Photo by Veronika Vondrusková



LILLIAN'S COSMOPOLITAN

[Not Registered]

(Moorea Vatina x Moorea Imperial Blossom)
Hybridized and photographed by Chris Chang

MY TEDBEAR

[Not Registered]

Parentage Unknown

Hybridizer Unknown

Photo by Lee Ming



HOT BABE

(Enlightenment x Cosmic Gold)

Hybridized by Charles Black

Photo by Brad Daniels



Moorea Boondah Boo by Charles Atiu. Photographed by Tatyana Sokolova.

2017

January

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*A gorgeous example of
trompe-l'oeil
photographic art shared
by Lee Ming.*



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