Leuenbergeria lychnidiflora, *Pereskia lychnidiflora*, Manzanote Cactus Tree

Flowers, June 29, 2023, Pink at 9:30am, turning more White by 9:38am

FLAAR Mesoamerica Aerial Photos by drone pilot Haniel Lopez, text by Nicholas Hellmuth

FLAAR Reports, FLAAR (USA) and FLAAR Mesoamerica (Guatemala),
June 2025

Introduction to the unexpected finding of the white manzanote flowers being pink at 9am on morning of July 29, 2023

Since the largest white-flowering mutant of manzanote cactus trees in the world was blown over in a wind storm in mid-May 2025 we wanted to find all the photographs by the FLAAR Mesoamerica teams during our multiple earlier visits in 2023. June 21, 2023 was when the team discovered a previously unknown white-flowering variant of *Leuenbergeria lychnidiflora*. This is a cactus but has a trunk with bark, limbs, branches and twigs, and leaves. So I call it a cactus tree or tree cactus. To learn more about this plant you also have to Goggle the earlier botanical name, *Pereskia lychnidiflora*, plus the local name in Zacapa, manzanote cactus.

The aerial photos of this manzanote tree cactus were taken on the day of discovery, June 21, 2023, and on subsequent field trip research in June 28 and June 29, 2023, plus another field trip July 6 and July 7 that same year, 2023.

We arrived in front of the manzanote tree at 9:21am on June 29th, 2023. The flowers were a totally unexpected pink tone. But by 9:40 the flowers were more of their expected white color. Since the two white-flowering *Leuenbergeria lychnidiflora* are the only such trees yet noticed anywhere in the Americas, and since the biggest one was blown over by a wind storm in mid-May, it is essential to find and publish all the photos of these two trees in the FLAAR Digital Photo Archive of Flora, Fauna and Biodiverse Ecosystems of Guatemala. I show the fallen tree in a separate FLAAR Reports, plus several additional FLAAR Reports with abundant photos from year 2023 of the white-flowering tree. Since the tree that later collapsed was the largest, and had flowers on branches that we could reach by climbing our ladder (that we bring in the pickup truck on all field trips), we focused on the larger tree. Now the smaller white-flowering cactus-tree remains plus the fallen trunk of the larger one. Fallen trunks of *Leuenbergeria lychnidiflora* trees are often fully capable of continuing to live and grow sprouts upwards even after falling over and thus not having any more roots—the fallen tree was still flowering on May 19 and May 20, 2025, even though it had fallen over more than a week before those dates.

Since the “white” flowering manzanote tree had pink-tinted flowers at 9:21am, we wanted to show all these photos in the present separate FLAAR Reports so you can have it open on your monitor parallel to our FLAAR Reports on white-flowers-that-are-white.

9:21am, June 29, 2023.

Pollinators like to visit manzanote flowers even before the flowers are completely open.

These flowers are dusty pink at 9:21 and for several more minutes.

Would be helpful to do timelapse from 7am to 10am.

9:21 in the morning, so the flowers are still beginning to open. June 29, 2023, aerial photo by Haniel Lopez.

Flower buds everywhere. Manzanote has hundreds of flowers every day from late May, all June, all July, and into August.

9:22am, June 29, 2023.

Big buds will bloom in July; the small buds may bloom in early August.

9:23am, June 29, 2023.

The upper part of all the petals are dirty pink—they will turn more white (or at least off-white) as they open further. I estimate that the flowering times and colors varies by whether the morning is cloudy or full sun, plus when did it rain most recently.

This is a crop by Nicholas Hellmuth from an aerial photo by drone pilot Haniel Lopez. Now you can see why it is essential to have a drone with good resolution camera, such as this Mavic 3. The new Mavic 4 Pro will be even better. This was launched in mid-May 2025. As soon as a kind soul can donate the funds we can have a Mavic 4 Pro Fly-More-Combo for all future field trips.

This flower is not yet fully opened.

Lots of epiphytes in the background.

9:24am,
July 29, 2023.

9:24am,
July 29, 2023

9:25am, June 29, 2023.

This tree has hundreds of epiphytes—mostly bromeliads but also one orchid, not visible here, but flowering in May 2025.

The trail at the left is used by local workers to get to the cattle ranches and other areas where they work, by motorcycle.

9:28am

Only in a close-up can you really notice that the outside of the petals are slightly pink.

Cropped by Hellmuth so that you can see that there are two insects, of different sizes.

Cropped from aerial photo by drone pilot Haniel Lopez.

Lots of epiphytes, but often they are not on the outside, so you can’t always see them from above.

Lots of epiphytes at the lower right.

Wasp or bee digging down into the center of the manzanote flower.

9:37am, June 29, 2023.

This flower is only beginning to open, probably because it was in the shade earlier in the morning.

The outside of these petals are more off-white than pink.

This flower opened earlier and it still has a pink tint, but the ring of white is always around the center.

The upper flower and lower flower are still nowhere near fully opened. The flowers in the middle opened earlier. All the flower petals have pink tone.

9:38am, June 29, 2023, aerial photo with FLAAR drone, Mavic 3, piloted by Haniel Lopez.

Several flowers have withered but their former “buds” are still in place. Lots of other buds will bloom into July.

Lots of wandering branches, just like other trees. This is the manzanote tree that blew over in a wind storm in mid-May 2025.


9:38am, the flowers
have lost most of the
pink tone.

9:39am, the flowers are turning white. The pure sun or cloudy sky may determine when the flowers open with pink and then turn much more white.

Amazing that at 9:40am the flowers are now white (unless this is the adjacent tree). There are two white-flowered manzanote trees, a few meters from each other, on the edge of a cattle field, about 100 meters away from the edge of the aldea of Agua Caliente. These two trees are easy to reach by 4x4, on a flat area at the top of a steep cliff rising above the Rio Tambor. As usual, lots of insects are attracted to this flower.

The following aerial photograph shows a wild *Plumeria* tree flowering still in late June, 2023. The tree is called Flower of the Month of May since that is the peak flowering month. But most start to flower in April and continue into June. Some wild *Plumeria* in Guatemala even flower through August and into the autumn (depends on the soil and local climate).

Plumeria is native to Guatemala but super popular in Hawaii, where it is called the lei, for necklaces to welcome dignitaries and also tourists. The flowers are called frangipani in most of USA, called flor de la cruz in Zacapa and called flor de mayo in lots of areas of Guatemala.

These wild *Plumeria* trees tend to be found on steep cliffs because if they are on a level area all the vegetation there is chopped down, burned over for slash-and-burn milpa agriculture or bulldozed for cattle ranches. There are several web pages and FLAAR Reports on wild *Plumeria* of Guatemala. FLAAR has the largest digital photo archive in the world of these large shrubs or trees throughout Guatemala.

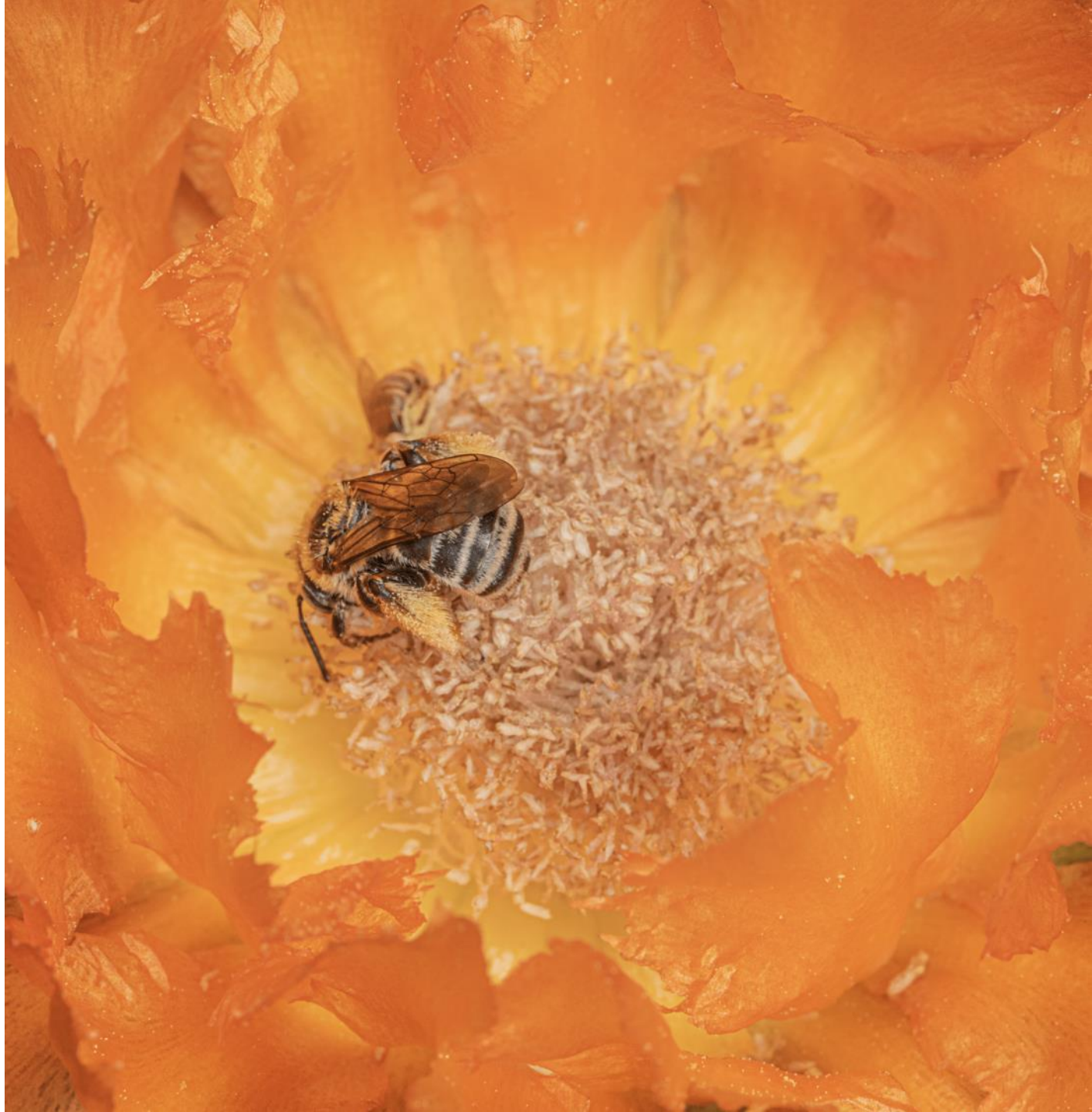
The team of FLAAR (USA) and FLAAR Mesoamerica (Guatemala) first discovered the white-flowering mutant of *Leuenbergeria lychnidiflora* on June 21, 2023. Haniel Lopez was piloting the FLAAR drone, Mavic 3, to document a nice flowering *Plumeria* tree near the top of the steep cliff overlooking Rio Tambor (we were near river level on the rural highway bridge over this creek). But when Haniel said he had found a white-flowering manzanote cactus tree, we all said that 100% of the thousands of *Pereskia lychnidiflora* have deep orange colored flowers. So we drove to the top of the hill to see what in the world the drone had discovered. *Pereskia lychnidiflora* was the accepted name in most plant databases in 2023 (and still common today in 2025, but cactus specialists prefer *Leuenbergeria lychnidiflora*). At the top of the hill we all noticed that the white-flowering tree was indeed a cactus tree—but truly had white flowers instead of the expected orange flowers. FLAAR published this discovery on-line and in our year 2023 annual report. Now that this incredible variant was sadly blown over in a wind storm in early May, we are making all our photos available to encourage botanists and ecologists to save this white variant from being further decimated.

99.99% of the thousands of manzanote cactus trees of Guatemala have bright orange flowers. This tree is on the other side of the Rio Tambor, km152, near the nature park El Niño Dormido

11:05am, this is a true orange-flowering *Leuenbergeria lychnidiflora* tree, not the white flowering mutant. There is a separate FLAAR Reports on the red flowering trees.

One insect at upper left; two insects at left.

Based on the discovery by Laia Hauriem in 2024 and published in 2025, that there are male flowers and female flowers I can now estimate that these are male flowers. These male trees are much much more common than manzanote trees with female flowers.



The common orange flowers of *Leuenbergeria lychnidiflora* cactus tree have a ring of yellow instead of a ring of white of the mutant flowers.

You can see two wilted flowers nearby. And one old bud where the flower remains have turned black.

June 29, 2023. All these photos of the trees with orange flowers are by Edwin Solares. There will be lots of FLAAR Reports on the orange flowered cactus trees in July.

Introductory Bibliography on the Manzanote Tree, *Leuenbergeria lychnidiflora* (DC.) Lodé especially the unexpected discovery of White Flowers

https://flaar-mesoamerica.org/tag/lychnidiflora/ Blog info on Manzanote cactus from year 2021.

https://flaar-mesoamerica.org/2021/01/22/manzanote-a-special-cacti-from-the-dry-forest/ Photo of trunk, of leaves, of spines on trunk; has 3-item bibliography.

https://www.tiktok.com/foryou FLAAR Mesoamerica video of a few seconds.

https://www.instagram.com/reel/Cu2mI8ptq3q/ FLAAR Mesoamerica, same video as on TikTok of the orange flowers.

https://www.instagram.com/flaarmesoamerica/reel/Cwlp8MlPJeL/ Posted August 30, 2023, with photos and video by Edwin Solares, FLAAR Mesoamerica. Shows the white flowers discovered by FLAAR in summer 2023. Videos in this Instagram post show the pollinators at work.

https://www.digital-photography.org/digital-camera-vs-iPhone-14-Pro-Max-review/iPhone-14-Pro-Max-macro-mode.php
Posted July 14, 2023, shows the white flower variant with a bee ready to pollinate it. So Hellmuth published the white flowers already in summer of 2023.

During June we will be posting our complete photo corpus of the white-flowering manzanote tree as we found it in summer 2023.

BUNKENBURG, Alexander and Laia HAURIE
2025 The discovery of dioecious Leuenbergeria lychnidiflora (DC.) Lodé (Cactaceae) in Guatemala. Bradleya 43/2025, pages 54-60.

Article kindly sent to FLAAR by Bunkenburg. In the article they document their botanical discovery (by Laia Haurie) that this species is also dioecious. Also has helpful References Cited. The park ranger of the Heloderma reserve took Bunkenburg and Haurie to the same white-flowering manzanote tree in their visit of 2024 that the FLAAR Mesoamerica team had already discovered in 2023 and that Hellmuth already published.

HURTADO, Vivian and Nicholas HELLMUTH
2023 FLAAR Annual Report, For Year 2023. 69 pages.

The back cover shows a green-colored bee popping out of the white manzanote flower. Page 35 shows this bee before it dives down into the center of the white flower. So FLAAR had published its discovery of the white mutant of *Leuenbergeria lychnidiflora* already in several places in 2023—all on-line.

Articles, Books, PDFs, web pages, videos
on *Pereskia lychnidiflora* DC. and *Leuenbergeria lychnidiflora* (DC.) Lodé

Compiled by Nicholas Hellmuth, 2023, updated 2025 to add Bunkenburg and Haurie 2025 (on the previous page). Their article has a lot more botanical reports that you can add.

ANDERSON, Edward F.

2001 The Cactus Family. Timber Press. 776 pages.

Pages 566 to 572 are helpful. If your monograph has to cover almost a thousand species, it is understandable that each individual species gets only a few paragraphs and at most one mid-sized photo. We feel that *Pereskia lychnidiflora* deserves its own entire book with dozens of photos at full page size (when vertical format) or also lots at least half page size (when horizontal format).

ARIANO, Daniel…[et al]

2017 El bosque estacionalmente seco de Guatemala: Flora, Fauna y Cultura. Editado por Jiichiro Yoshimoto y Daniel Ariano. Editorial Serviprensa, Guatemala. 183 pages.

We also list this helpful book under the editors.

ARIS, Salvador and **Mario Esteban VÉLIZ Pérez**

2006 Diversidad y Distribución de las Cactaceae en Guatemala. Pages 229-238 in *Biodiversidad de Guatemala*, Volumen I, Enio B. Cano, editor. Universidad del Valle de Guatemala.

The entire volume is a download on ResearchGate. The article is also a download.

BAILEY, I.

1963 The Xylem of Pereskias from southern Mexico and Central America. *Journal of the Arnold Arboretum* 44: 211–221.

BRITTON, N. L. and **J. N. ROSE**

1919 The Cactaceae. Descriptions and Illustrations of Plants of The Cactus Family. Volume I. The Carnegie Institution of Washington.

Documents how poorly known and inadequately collected in Guatemala a century ago. Today the team of FLAAR (USA) and FLAAR Mesoamerica (Guatemala) are rescuing documentation of this remarkable *Pereskia lychnidiflora* in the bosque seco areas of Guatemala (each biologist and botanist uses slightly different name, such as monte espinoso). Yes, there are hills; yes this cactus tree is often on hills but does not focus on hills as much as nearby *Plumeria rubra* in the same areas.

BRITTON, N. L. and **J. N. ROSE**

1920 The Cactaceae. Descriptions and Illustrations of Plants of The Cactus Family. Volume II. The Carnegie Institution of Washington. 239 pages.

Both volumes can easily be downloaded on several web sites, including
https://archive.org/stream/cactaceaedescrip01brit/cactaceaedescrip01brit_djvu.txt

BUTTERWORTH, Charles A. and **Robert S. WALLACE**

2005 Molecular Phylogenetics of the Leafy Cactus Genus Pereskia (Cactaceae), *Systematic Botany*, 30 (4): 800–808

BUTTERWOTH, Charles and **Ericka J. EDWARDS**

2008 Investigating Pereskia and the Earliest Divergences In Cactaceae. *Haseltonia*, (14):46-53

Available Online: https://bioone.org/journals/Haseltonia/volume-2008/issue-14/1070-0048-14.1.46/Investigating-span-classgenus-speciesPereskia-span-and-the-Earliest-Divergences-In/10.2985/1070-0048-14.1.46.short

But no cost, no registration required to download from:

https://www.brown.edu/Research/Edwards_Lab/reprints/butterworth_edwards_hasel08.pdf

GUERRA, Rocío, GÓMEZ, Luis Javier, CASTILLO, Ulises G., TOLOZA, Gonzalo, SÁNCHES, Juan Pablo, AVALOS, Noel, MEJÍA, José, NÚÑEZ, Marvin and **Miguel A. MORENO**

2018 Efecto analgésico, caracterización fitoquímica y análisis toxicológico del extracto etanólico de hojas de Pereskia lychnidiflora. *Rev. perú. med. exp. salud publica* vol.35 no.4.

JIMÉNEZ-Durán, Karina, ARIAS-Montes, Salvador, CORTÉS-Palmotec, Aura and **Judith MÁRQUEZ-Guzmán**

2014 Embryology and Seed Development in Pereskia lychnidiflora (Cactaceae). *Haseltonia* (19):3-12

LEUENBERGER, Beat Ernst
1986 Pereskia (Cactaceae), *Memoirs of the New York Botanical Garden*, 14.

LEUENBERGER, Beat Ernst
2008 Pereskia, Maihuenia, and Blossfeldia — Taxonomic History, Updates, and Notes. *Haseltonia*, 14: 54–93.

SAFFORD, William Edwin
1909 Cactaceœ of Northeastern and Central Mexico Together with a Synopsis of the Principal Mexican Genera. Pages 525-563 in *Smithsonian Report for 1908*. Smithsonian Institution.

Has one paragraph and one nice drawing of *Pereskia lychnidiflora* (Fig. 11).

STANDLEY, Paul C. and **Louis O. WILLIAMS**

1962 Flora of Guatemala. *Fieldiana: Botany*, Volume 24, Part VII, Number 2, Chicago Natural History Museum.

VÉLIZ Perez, Mario
2008 Las Cactáceas de Guatemala. Escuela de Biología Facultad de Ciencias Químicas y Farmacia Universidad de San Carlos de Guatemala, Guatemala. 134 pages.

Downloadable:
http://cdc.usac.edu.gt/wp-content/uploads/2019/06/LasCactceasdeGuatemala.pdf

YOSHIMOTO, Jiichiro and **Daniel ARIANO** (editors)
2017 El bosque estacionalmente seco de Guatemala: Flora, Fauna y Cultura. Servi Prensa. 183 pages.

There are obviously lots more botanical articles about cacti of Guatemala but the present four pages give you a good start.