Plumeria, Frangipani, Flor de Mayo

on Karst Cliffs of Alta Verapaz

Candelaria Cave Area Turnoff to Raxruha from Highway AV-9

Text: Nicholas Hellmuth
Drone Pilot and Aerial Photographer: Carlos Elgueta

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

Introduction to surprise discovery of *Plumeria* on karst cliffs of Alta Verapaz

While driving through the karst hills past the Candelaria cave area of Alta Verapaz towards Peten (to study wild native palm tree ecosystems) I began to notice shrubs or low trees with lots of white flowers. As I saw more of these flowering small trees or large shrubs I gradually recognized them as wild native *Plumeria* flowers—flor de maya, also called flor de la cruz and frangipani.

When we stopped for diesel fuel for our VW Amarok 4x4 double-cabin field trip pickup, I noticed that there were many of these trees literally right in front of us, but high up on the karst mountains. When you drive through the cave area of Alta Verapaz on this highway it's like driving through the floating karst mountains of Planet Pandora (the movie). The gas station was at the turnoff of one highway north to Peten and the turnoff east to Raxruha. So we unpacked and sorted through the tons of field trip supplies to find the FLAAR drone and Norma fortunately had a memory chip available so drone pilot Carlos Elgueta could fly the drone over to the steep karst hills and accomplish photography. Since we had to overnight in Sayaxche we had time to photograph only the *Plumeria* directly in front of us. But in a future field trip in year 2026 we will dedicate an essential day to start in the Candelaria cave area and document on a map where these *Plumeria* shubs and low trees begin. Then drive towards Raxruha to see if more can be found there.

The same range of karst hills can be seen driving from Rio Dulce north to Peten. Whether there are *Plumeria* also on the hills there we will need to check in a future year's field trip. There are lots of low *Plumeria rubra* trees in the rolling fields area of the copper mine plant area of Exmibal, Municipio de El Estor (Portal de Biodiversidad de Guatemala, biodiversidad.gt). Lots more field work to accomplish.

FLAAR has the largest photo archive of *Plumeria* flowers of Guatemala in the world since we have accomplished field trip after field trip to find this plant flowering out in the wild in diverse ecosystems. From year 2011 through 2023 we found and photographed *Plumeria* shrubs or low trees across Guatemala for many years: 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2023. During 2015 and again in 2023 we worked week after week, month after month (during the flowering season April-May-June). By 2023 we had an experienced drone pilot and drone camera so we could photograph *Plumeria* trees in remote areas across gullies where no one could walk to get close with a camera.

Some maps use the name CA14 only as far as Coban and then AV-9 (Alta Verapaz 9). In Peten the identical highway becomes PET-11. Raxruha is also spelled Raxruja, and with an accent on the a. Ha means water in most Maya languages. Rax is a color, green (in other Maya languages Yax is for color green such as Lake Yaxha (lake of green water).

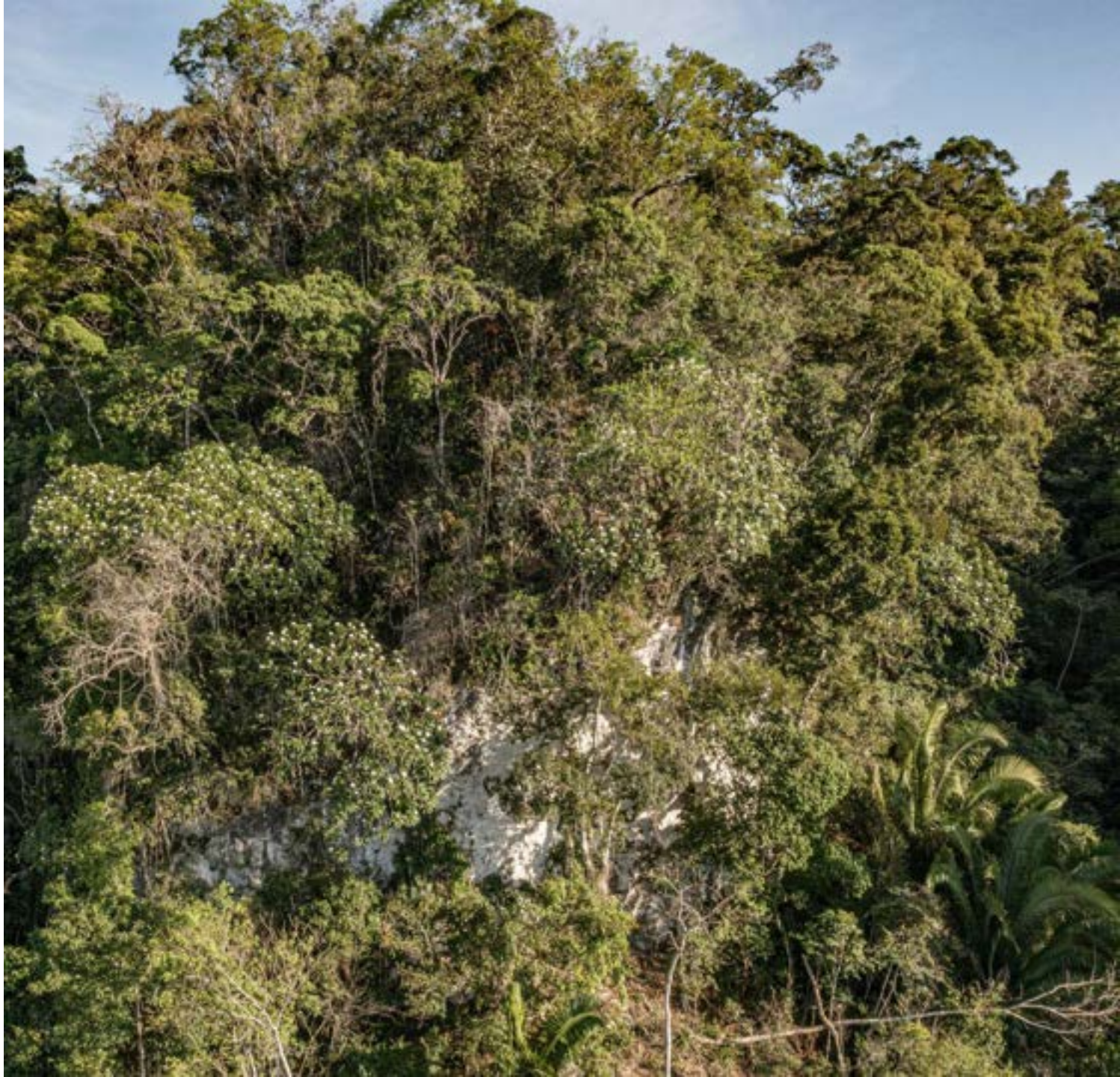
I discuss the two species of Genus *Plumeria* that are in Guatemala on the final page of this photo essay.

We have also photographed *Plumeria* of many difference colors in gardens across Guatemala and in the main plaza of the town of Copan Ruinas, Honduras. All native species that are wild are white (with varying amount of yellow in the center). Any "wild" plumeria of other colors are remnants of a garden of a house that has rotted away and is no longer present—but the Flor de Mayo continues to grow there.

I grew up in the karst area of south-central Missouri, along Sinking Creek in Shannon County. There are many caves on our family farm and even a cenote behind our house. So I am familiar with cliffs and caves—but no wild frangipani plants outdoors in Missouri.

Here in this part of Alta Verapaz, corozo palms grow below, where there is more soil, and lots of trees grow on the hill—but the *Plumeria* is the plant most adapted literally to the cliff portion.

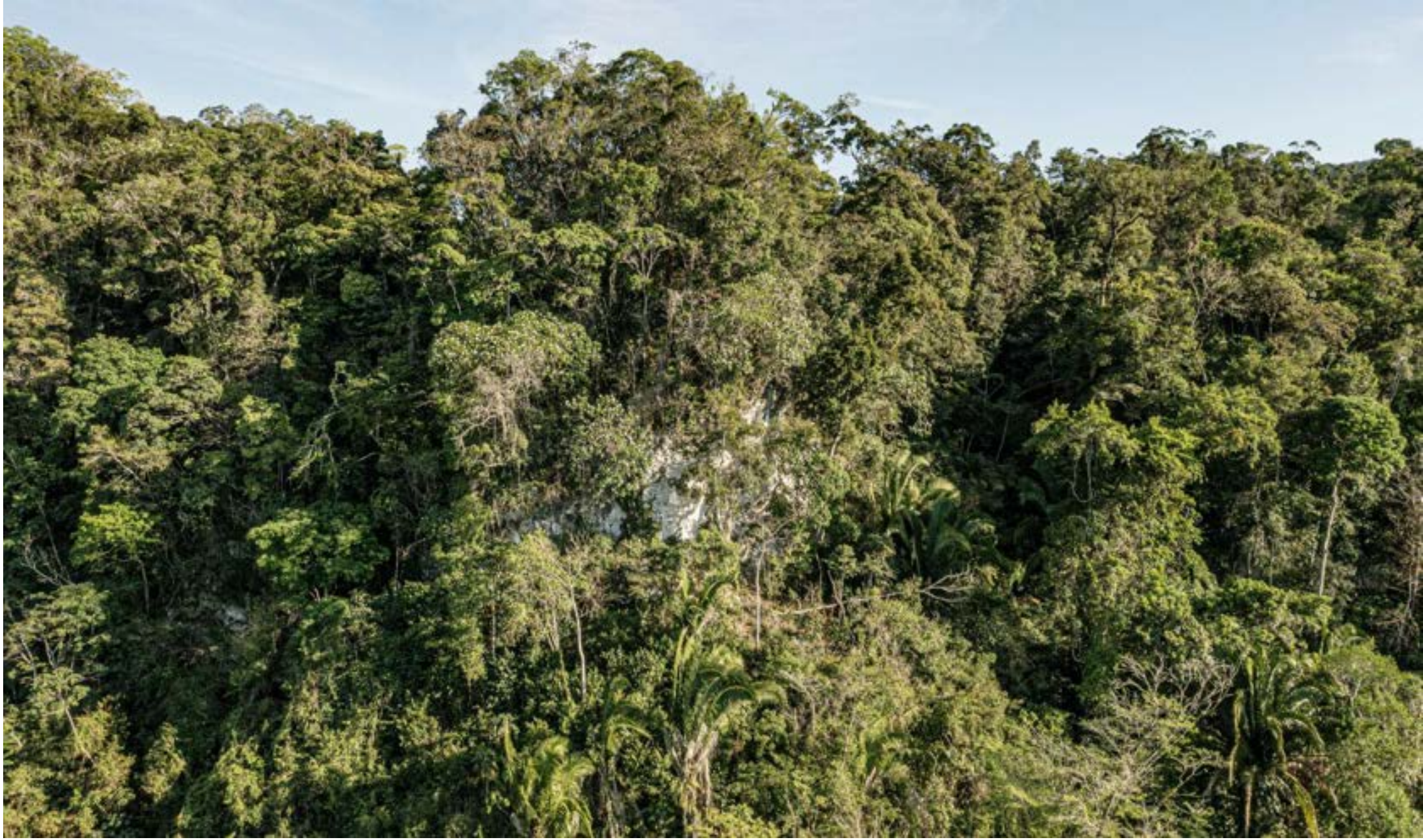
In past years we have seen and photographed Flor de Mayo growing on sheer cliffs in many parts of Guatemala. I estimate that if they grow on lower hills they are slashed-and-burned with the constant milpa agriculture. But if they are up on a cliff, then they don't get cut down with a machete and their roots burned out.



These *Plumeria* high shrubs and low trees are literally growing out of a limestone cliff (as we have seen elsewhere in Alta Verapaz, Guatemala).

In the photo on the following page you can see much better how steep the limestone area is where these *Plumeria* are growing.

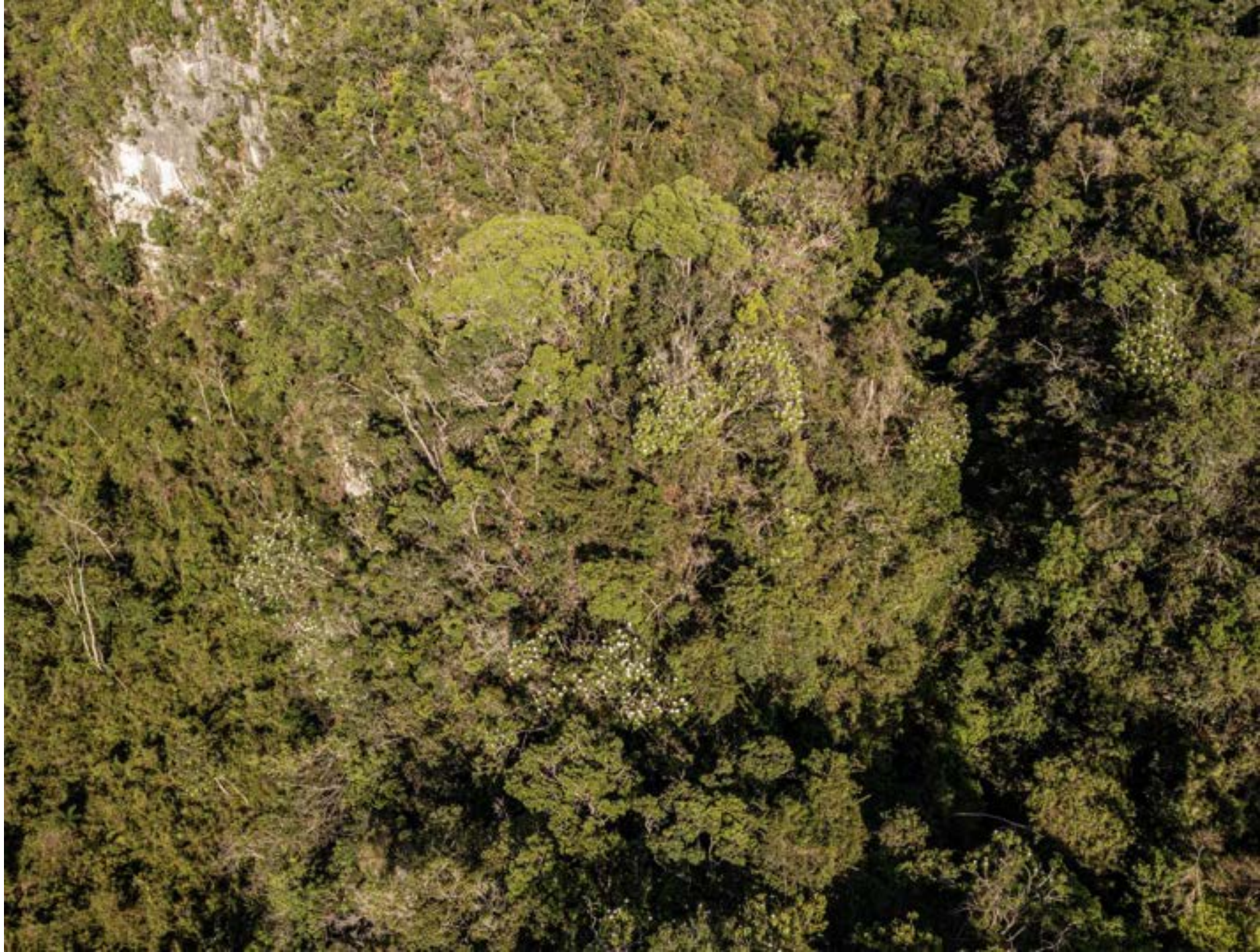
Several corozo palms are below.



Studying a plant is more than just the botanical aspects. You need to see what kind of area the plant is thriving in. So a drone camera helps show documentation that you don't get from the GPS data in a herbarium sample—that GPS info and the physical sample, are essential for botanists, but we prefer to show the "ambiente", that is surrounding each plant species. So we document ecology as well as botany.

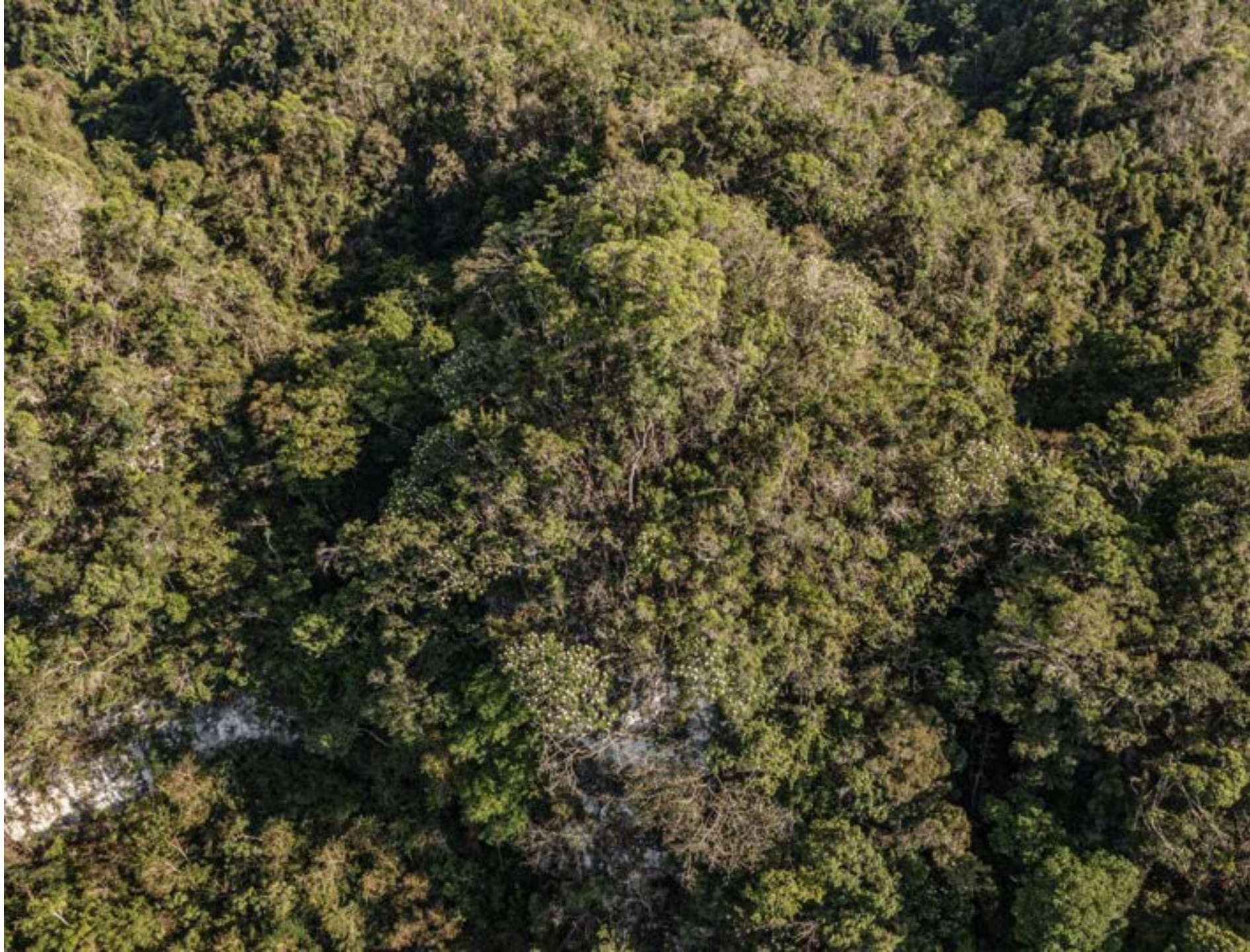
The first drone pilot that we hired a decade ago had hobby drones, with wide-angle lenses. These are great for hobbists and for bikers and hikers on family holidays. But Go-Pro drones are inadequate for botanical and ecological documentation. So we bought a DJI Mavic 2 Pro several years ago. Then when the Mavic 3 came out we have been using that for several years. But higher resolution and better telephoto camera are needed so we hope a kind soul can donate to FLAAR so we can have a Mavic 4 Pro drone for year 2026 field trips.

We also need software for multi-spectral mapping to show how many areas have each plant species.



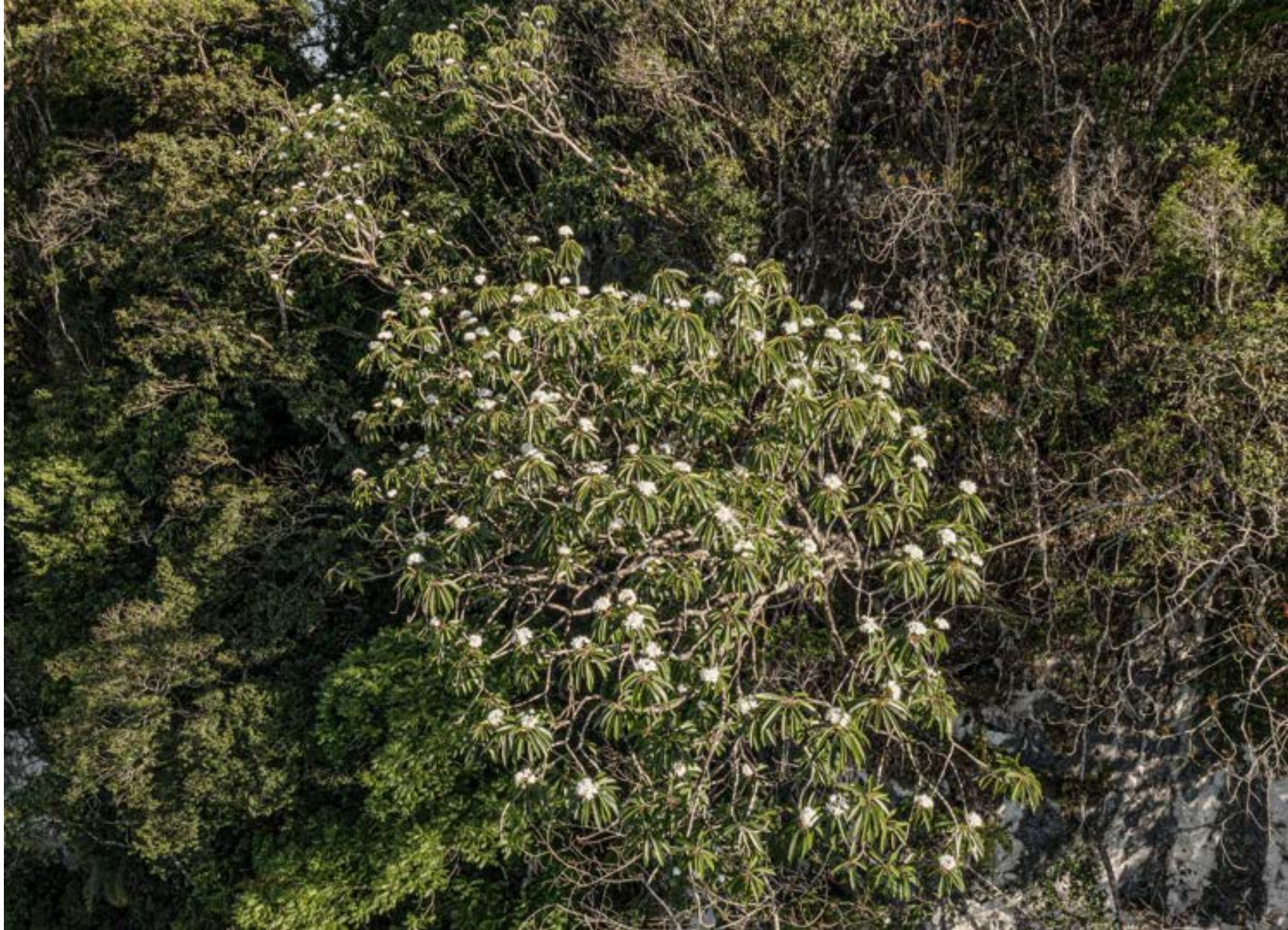
Looking straight down you can see that the Frangipani shrubs / small trees are growing primarily on the cliffs but also on top of this limestone hill.

Plumaria is full capable of growing on flat areas but these areas get slashed-and-burned for milpa agriculture or bulldozed to make cattle fields. So the remaining *Plumeria* are on cliffs or atop hills where the forests are not destroyed.



There are two ways to get this closer view: one of course is to use a telephoto lens on the drone. Downside of telephoto on a drone is that resolution is not as good as flying your drone closer to the flowers (as here).

That said, the Flor de Mayo flowers are blowing in the wind and the air from the drone propellers (when it gets close) make the plant move even more. So on a future trip we would want to bring our Nikon camera and 800mm prime telephoto lens to achieve getting closeup photos of individual flowers. Closeup photos help because the size of the yellow area in the center of the flower varies depending on what part of Guatemala you are in. So for returning here in 2026 it is essential to have a Sony FE 400-800mm F6.3-8 G OSS lens. We already have the Sony camera but not this helpful lens.

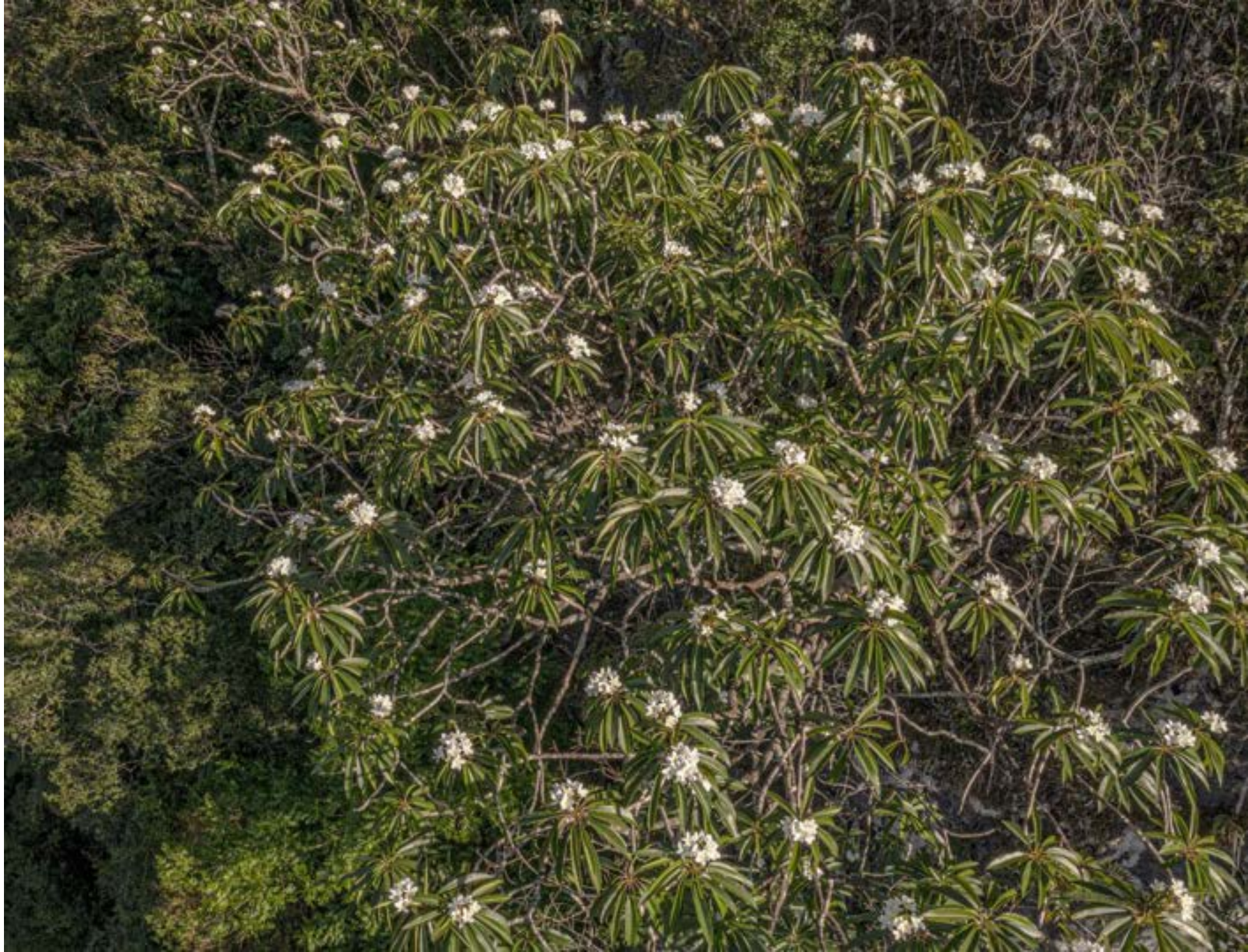


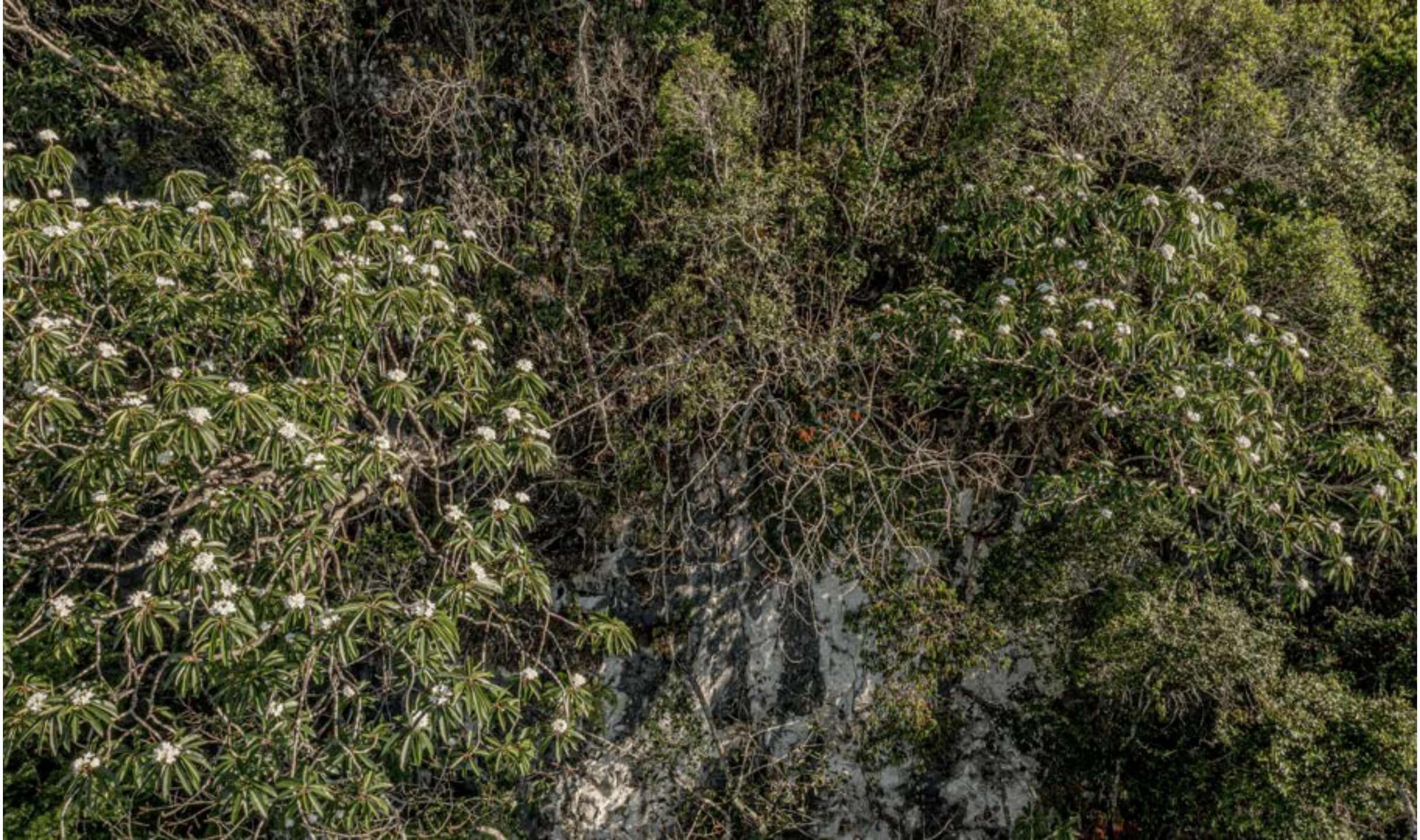
Slightly closer view with the drone. But since the main part of the flower petals are sheer white and the surrounding area is dark green or shadows, to capture the size, shape, yellow center of the flower you need an 800 mm lens on a tripod.

The karst mountains here cross Verapaz and adjacent Izabal, so next year (2026) we want to drive also to the Izabal area to see if Plumeria trees also grow there.

If you are a botanist or plant enthusiast and can contribute funding for a one-week field trip after Easter 2026 and can help us get the Mavic 4 Pro drone and combo accessories plus the 800 mm Sony lens you can have the experience of your lifetime with us.

A 4x4 double-cabin pickup truck is essential for carrying the team and the equipment. We have experience accomplishing field trips since 1970- so more than half a century.

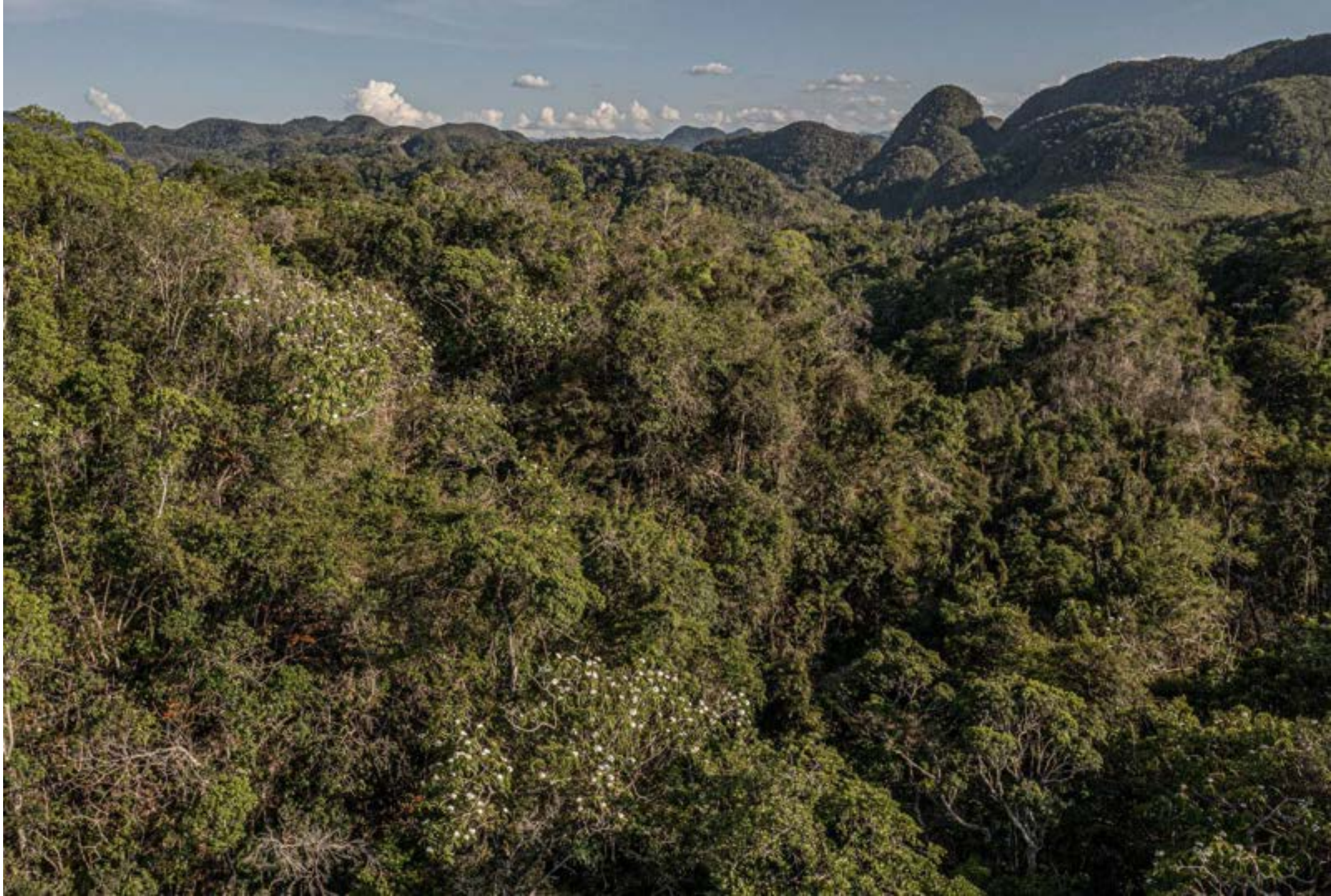




Along the horizon you can see the dome-shaped “karst mountain peaks” that are in a chain of over a hundred kilometers crossing Alta Verapaz and Izabal, Guatemala. When you drive through these hundreds of individual domed mountains it’s literally like going through the floating karst mountains of planet Pandora of that popular movie.

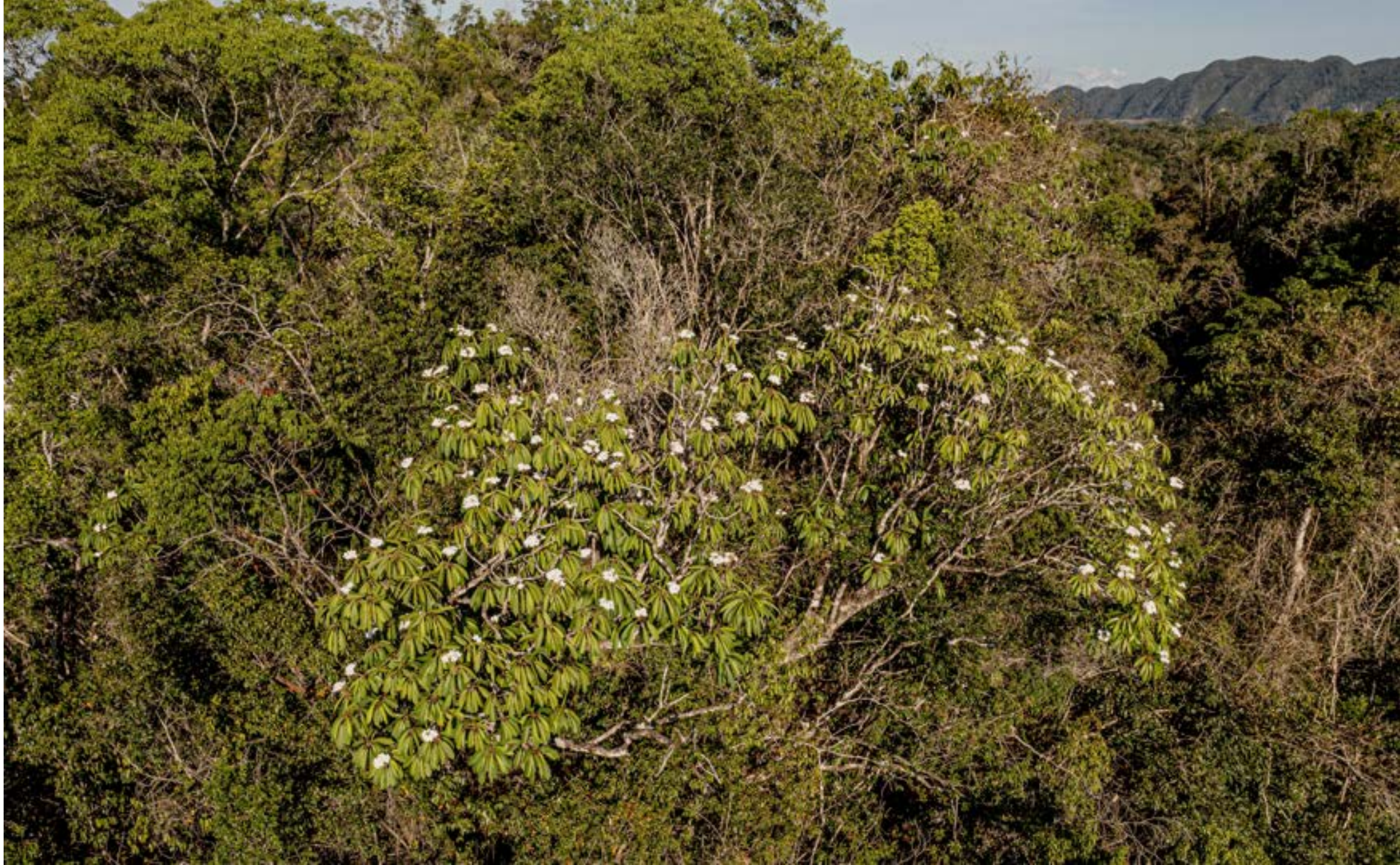
Our team speaks the local Mayan languages and we have been criss-crossing Verapaz and adjacent Izapa for many years.

The Candelaria area also has great caves open to the public.



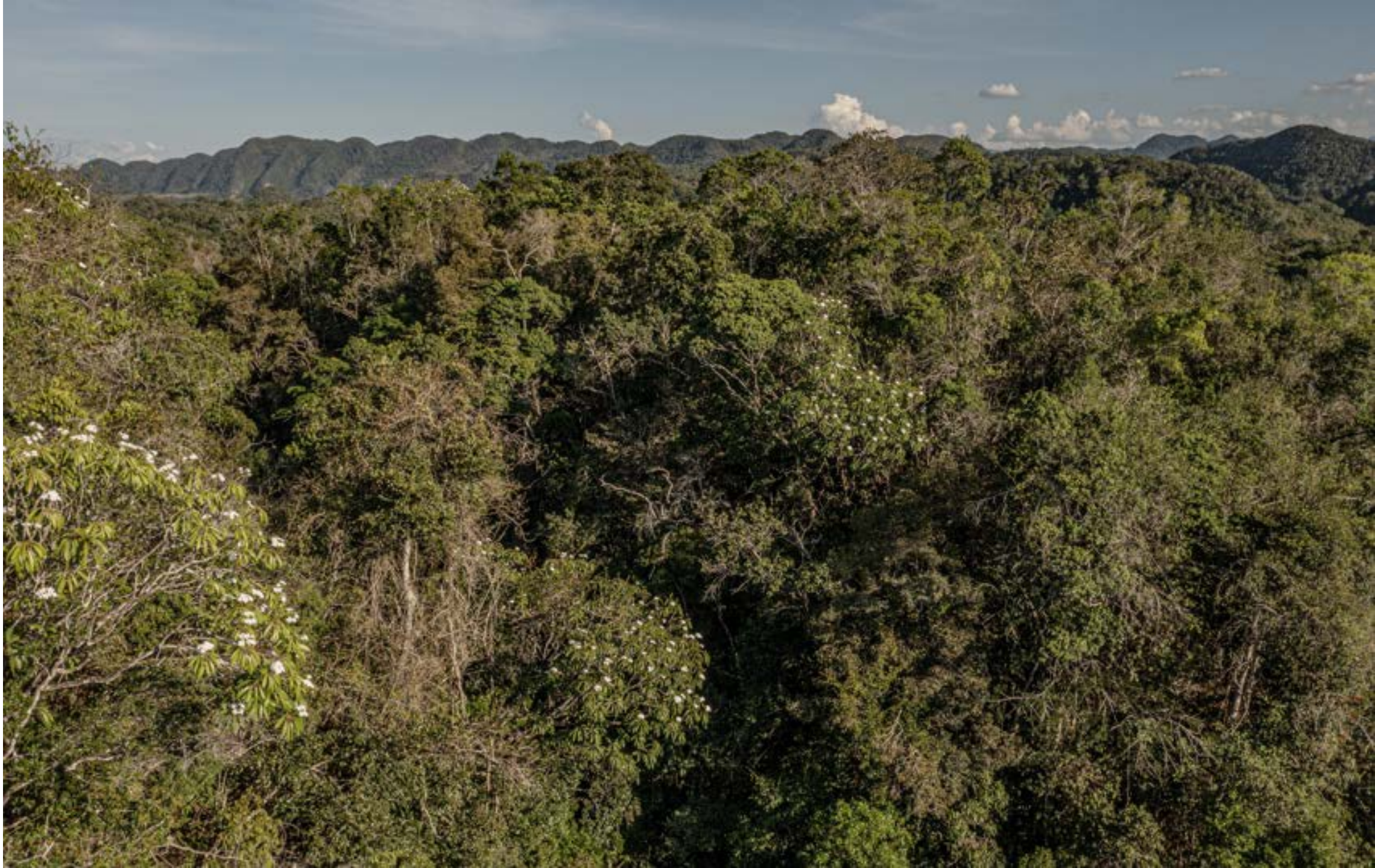
The range of karst mountains is visible in the upper right corner. The Flor de Mayo flowers show you where the *Plumeria* tree is.

There are other areas of Guatemala where you can see and experience these flowers up close.

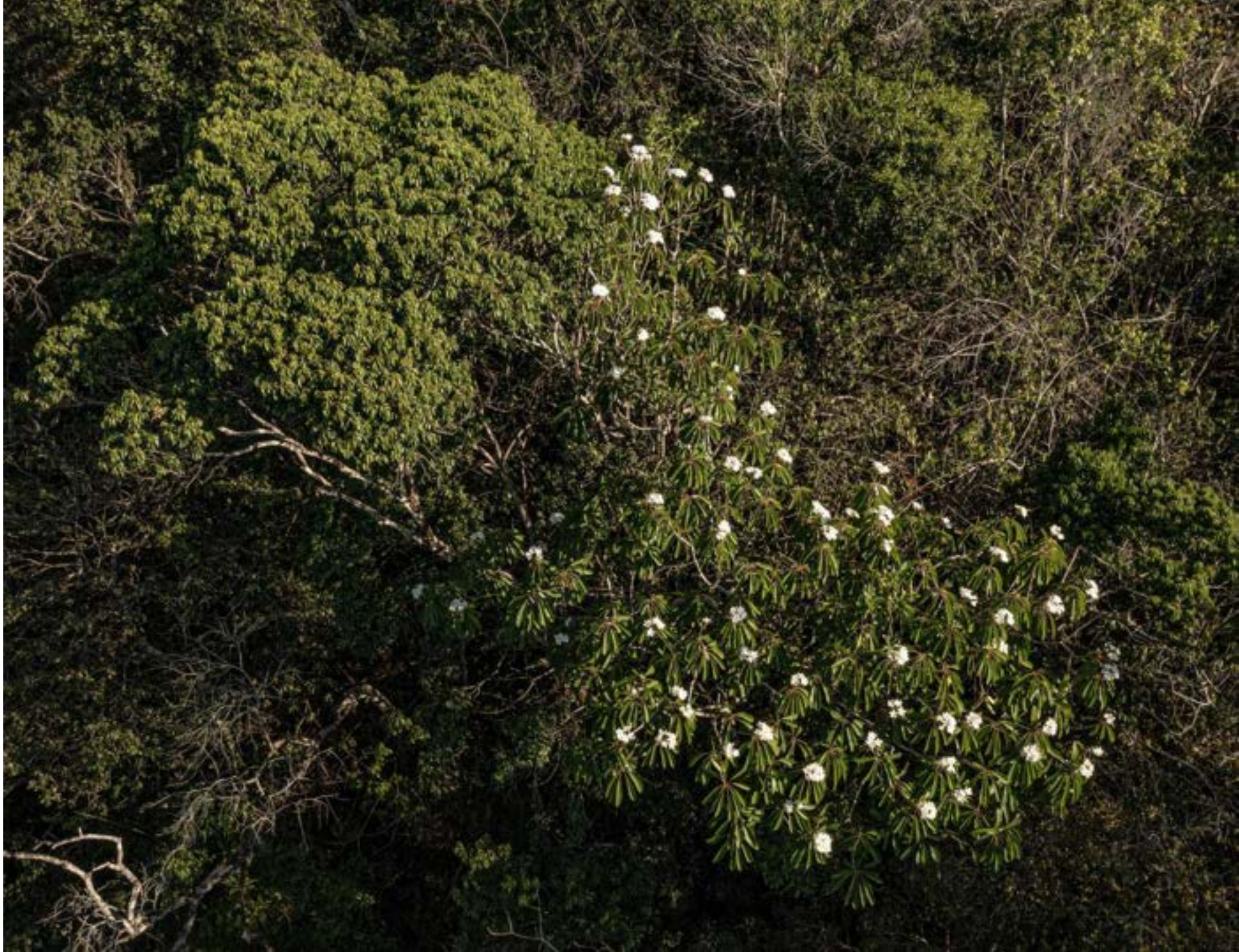


You can see the continuous range of mountains crossing the horizon.

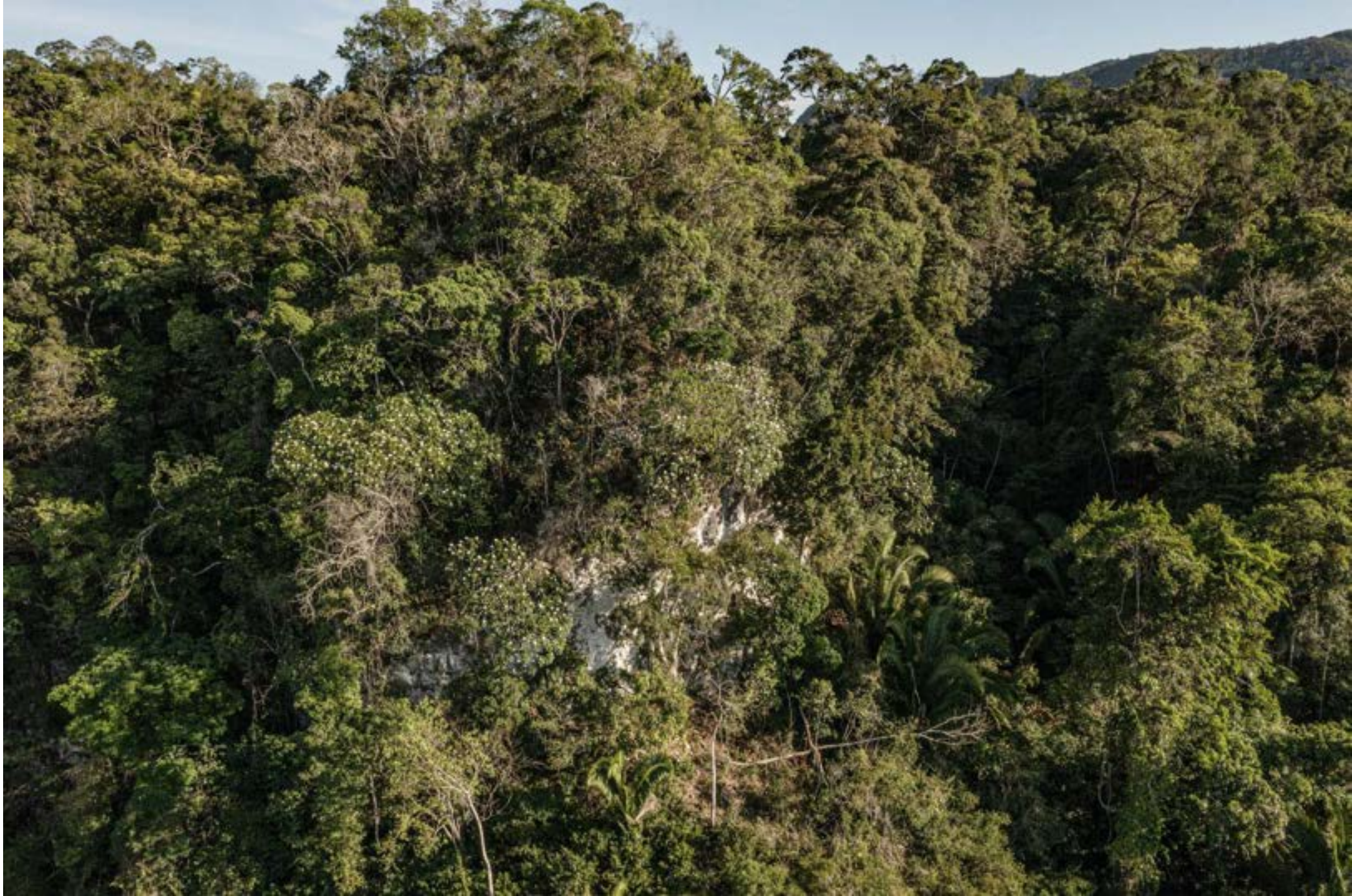
I could live anywhere in the world but I prefer Guatemala in order to see, experience, study, photograph and publish the ecosystems and plants.

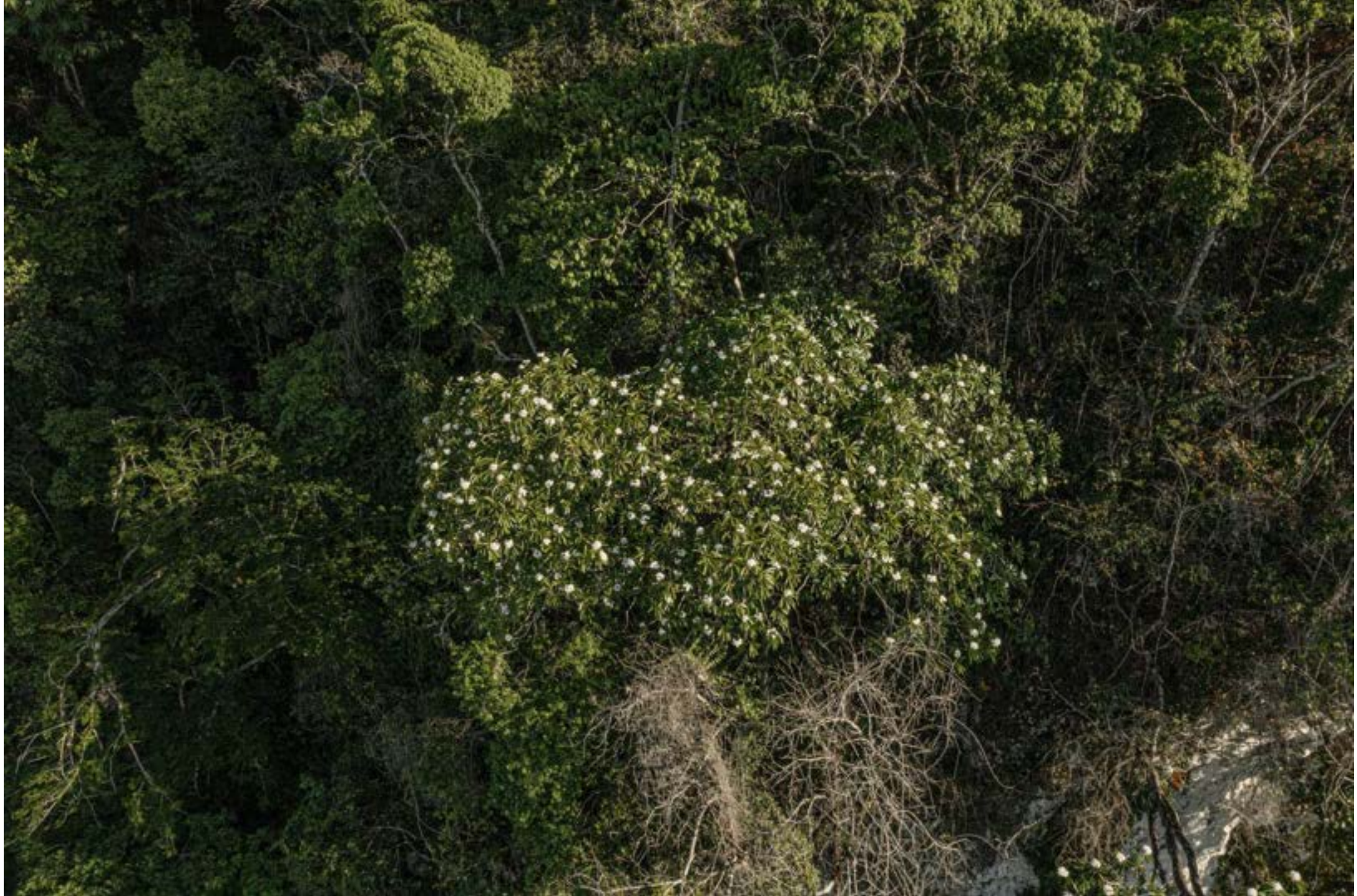


In 2026 we will find LOTS more wild frangipani native to Guatemala.



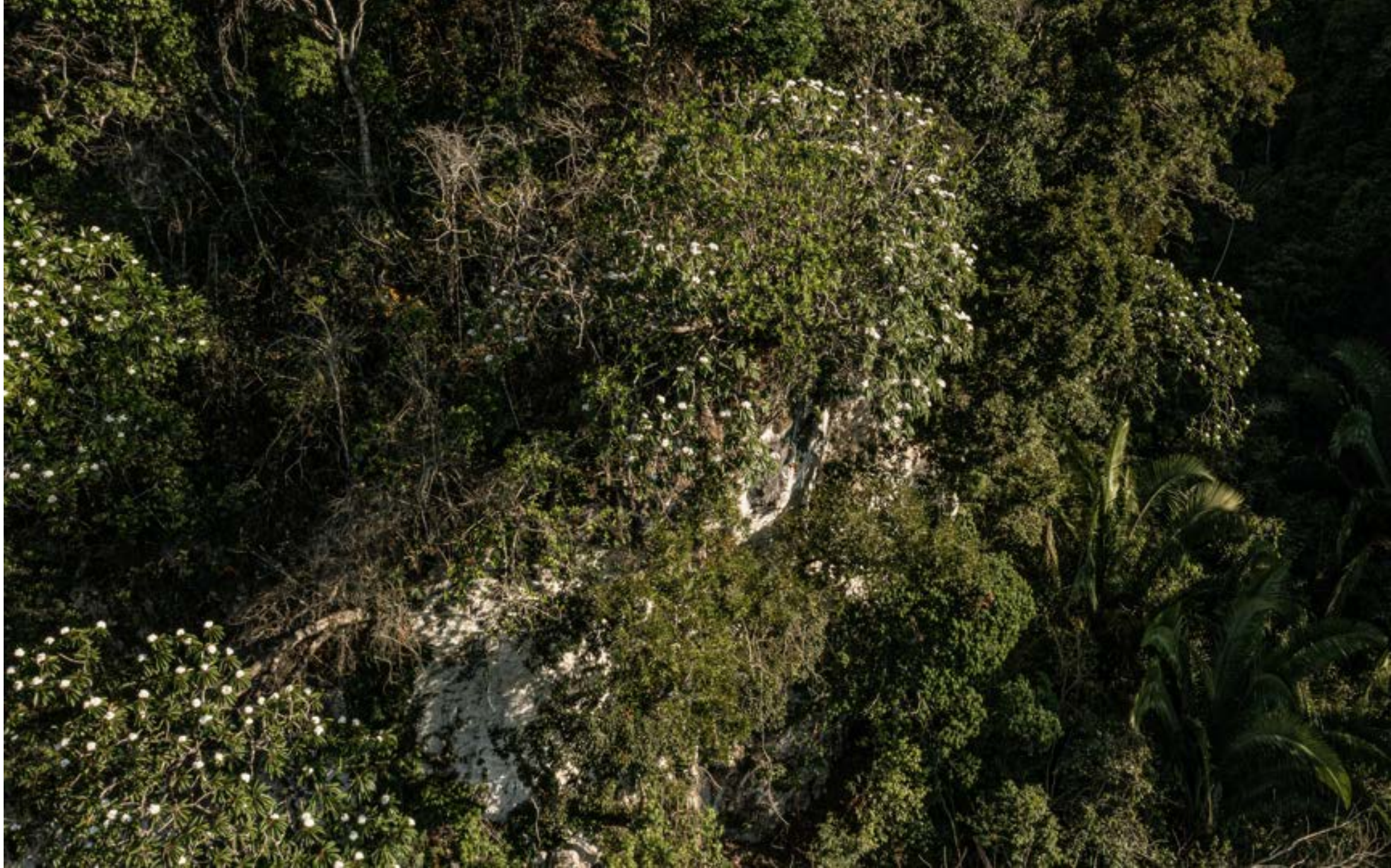
Literally, “*Plumeria* growing out of the karst cliff”.





Most sheer karst cliffs here have lots of pockets of soil, so the *Plumeria* is not growing from the rock it is thriving in areas with a bit of soil in cracks in the limestone.

Also, no slash-and-burn milpa agriculture on a sheer cliff so these areas are protected.



Are the white Plumeria of Guatemala *Plumeria obtusa* L. or *Plumeria rubra* or another species?

Plumeria obtusa L. for Peten is documented for San Andres, Peten, Dos Lagunas, Ixcanrio, Bajo de Hormiguero, and Tikal Temple IV (biodiversidad.gt/portal….). Thus it would help if a botanist could document what is the species of *Plumeria* atop a Maya temple or palace at Nakum (PNYNN). We show these flowers up-close in a separate FLAAR Reports—almost no yellow in the center of the Nakum area flowers.

You should also search for *Plumeria obtusa* var. *sericifolia* (C. Wright ex Griseb.) Woodson. Since this variety is listed for most of the same places as *Plumeria obtusa* with no variety, I estimate they are often "misidentified" or both are really practically the same but with enough subtle differences that botanists creature a variety.

Plumeria rubra L. is found in Chiquimula, Escuintla, Lake Amatitlan, El Progreso, El Quiche, Baja Verapaz, Izabal, Jutiapa, Quetzaltenango, Retalhuleu, Santa Rosa, Suchitepequez, Zacapa, and Peten (Sayaxche, La Libertad, Santa Elena and San Jose). Biodiversidad.gt has all this helpful information.

Not one single *Plumeria rubra* or *Plumeria obtuse* is listed for Alta Verapaz when you search on https://biodiversidad.gt/portal/collections/search/index.php which suggests that Hellmuth has again found-and-photographed *Plumeria* where no botanist has noticed it before. I would also comment that we have driven the same highway many times each year for the recent decades and never before noticed *Plumeria* on these particular limestone hills, though we have found *Plumeria rubra* on other limestone hills elsewhere in Alta Verapaz in past years. In other words, when dozens of these *Plumeria* trees are flowering it's easy to notice them.

Previous FLAAR Publications on *Plumeria* flowers of Guatemala

HELLMUTH, Nicholas

n.d. a Flor de Mayo Flowers, featuring High Resolution Photography by Nicholas Hellmuth. FLAAR. 38 pages of Plumeria flowers at full page size.

HELLMUTH, Nicholas

n.d. b Yellow Flor de Mayo across Guatemala: Yellow *Plumeria rubra* can be Native but in Gardens, not growing outside a Garden in the Wild. FLAAR.

HELLMUTH, Nicholas

n.d. c Plumeria Flowers in Maya Culture. Medicinal, Flavoring (Spice), Enticing Perfume. FLAAR. 8 pages of gorgeous photos of flowers.

HELLMUTH, Nicholas

2014 Frangipani, Sacred Maya Tree of Guatemala & National Tree of Nicaragua. FLAAR. 9 pages

HELLMUTH, Nicholas

2024a Wild White Flor de Mayo, Frangipani Flowers up close, Highway CA9, Km. 91-92, Km. 96, Bosque Seco, Departamento de El Progreso. FLAAR (USA) and FLAAR Mesoamerica (Guatemala). 7 pages of gorgeous flowers. Available on-line.

HELLMUTH, Nicholas

2024b *Plumeria rubra*, wild, white flowering Flor de Mayo, 1 kilometer above Hydroelectric area, Panzos, Cahabon, Alta Verapaz, Guatemala. *FLAAR Reports*, FLAAR (USA) and FLAAR Mesoamerica (Guatemala). 9 pages.

We have photographed *Plumeria rubra* in another dozen locations throughout Guatemala but would need donations to afford preparing and publishing all those other results from our tons of Megabyte-sized photos totalling multiple Gigabytes of files. We would like to make our photos of every location in Guatemala where we have already found frangipani trees so that botanists and ecologists can know in advance where these areas are for their own further research.

Credits and Acknowledgements

The field trip concept and initial itinerary was initiated by Nicholas Hellmuth. But since we did not expect to find *Plumeria* flowers blooming, this aspect was a surprise.

Norma Estefany Cho and Byron Pacay, FLAAR Mesoamerica, prepare all the photography, drone, and camping equipment, plus assist every day the entire week of the field trip. Byron also drives the VW Amarok—he knows all the roads from years of experience.

Edwin Solares does video and ground photography. He is also very experienced in video editing.

Carlos Elgueta is a professional drone pilot, aerial photographer, and photographer with his Sony camera. He was recommended by Haniel when Haniel himself had other projects so was not available the first week of May.

Vivian Hurtado oversees the organization of all field work and research projects. Since there is not space in the pickup trucks she works from her home office.