Many Species of remarkable Wasp Nests

Santa Ana, Candelaria, along highway from Senahu to Teleman

Photos by Javier Archila and by Norma Cho
March 17, 2025
Text by Nicholas Hellmuth

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

June 2025

Introduction

The first week of March 2025, a reconnaissance field trip was accomplished by Senaida Ba, Franklin Xol, Byron Pacay and local Q'eqchi' Maya guides to find, document, and photograph wasp nests of wasps that made edible honey. So many of honey wasp nests were found, that a second field trip was initiated for March 17-March 20, with lead photographer Javier Archila and with Nicholas Hellmuth to experience these honey wasp nests in-person. This field trip also found so many honey wasp nests—plus of course lots of other wasps that don't make honey—that we are issuing multiple FLAAR Reports. The present photo album shows nests found on March 17th. Other nests found this same day had golden wasps so beautiful that we have separate FLAAR Reports on each of these nests. The present photo album is on several of the wasp nests found on Monday, March 17th.

Monday, March 17, 2025

Panal 1: Aldea Candelaria. 9:47am

This wasp hive was very high, so none of our iPhone cameras could record it adequately, other than show the photo team with their tripod and the tall tree in front of them. Around the base of the tree were short bean plants, starting to grow after the maize had been harvested. When the local Maya harvest the corn cobs they bend the top of the stalk over—to remind themselves that this stalk has nothing left to harvest. The area was quite clear so it was easy to walk around without walking on the bean plants. All this was directly on the side of the highway from Senahu to Teleman.

Norma Cho is an inquisitive photographer in macro-mode with a Google Pixel or iPhone camera. She and her husband, Byron Pacay, have many years of experience doing closeup photography of insects in Alta Verapaz. Here in Panal 1 area she very quickly noticed that individual wasps were wandering around on top of the ground-level leaves of the bean plants. We estimate that these are the wasps were those that built the nest high in the nearby trees.

Panal 1,
Aldea Candelaria, March 17, 2025 along highway from Teleman to Senahu, Alta Verapaz.

Photo by Javier Archila with Sony 200-600mm telephoto zoom lens.

As soon as a kind person can donate funds to FLAAR so we can purchase a 400-800mm lens, then we can show more detail (because to identify the wasp genus and species you have to be able to see individual wasps).

Fig. 1.

Cropped and processed by Nicholas Hellmuth in RAW format from RAW photo (Sony .ARW) by Javier Archila.

Fig. 2.

10:04am,
March 17, 2025

Wasps on bean leaves, I estimate they are harvesting plant parts to take back to their nearby nests.

Fig. 3, a and b.

Fig. 4, a and b.

These views should allow a wasp entomologist to recognize what genus and species this is.

Closer view by Norma Cho of wasps on leaves of bean plants. iPhone 15 Pro Max, cropped and processed in RAW format even though the actual photos were taken in only JPG format.

10:04am, March 17, 2025.

Fig. 5, a.

b

c

These different views should make it easier for an Hymenopterist, wasp (and bees, ants, etc.) entomologist, to be able to suggest which species of Genus *Polybia* these wasps are.

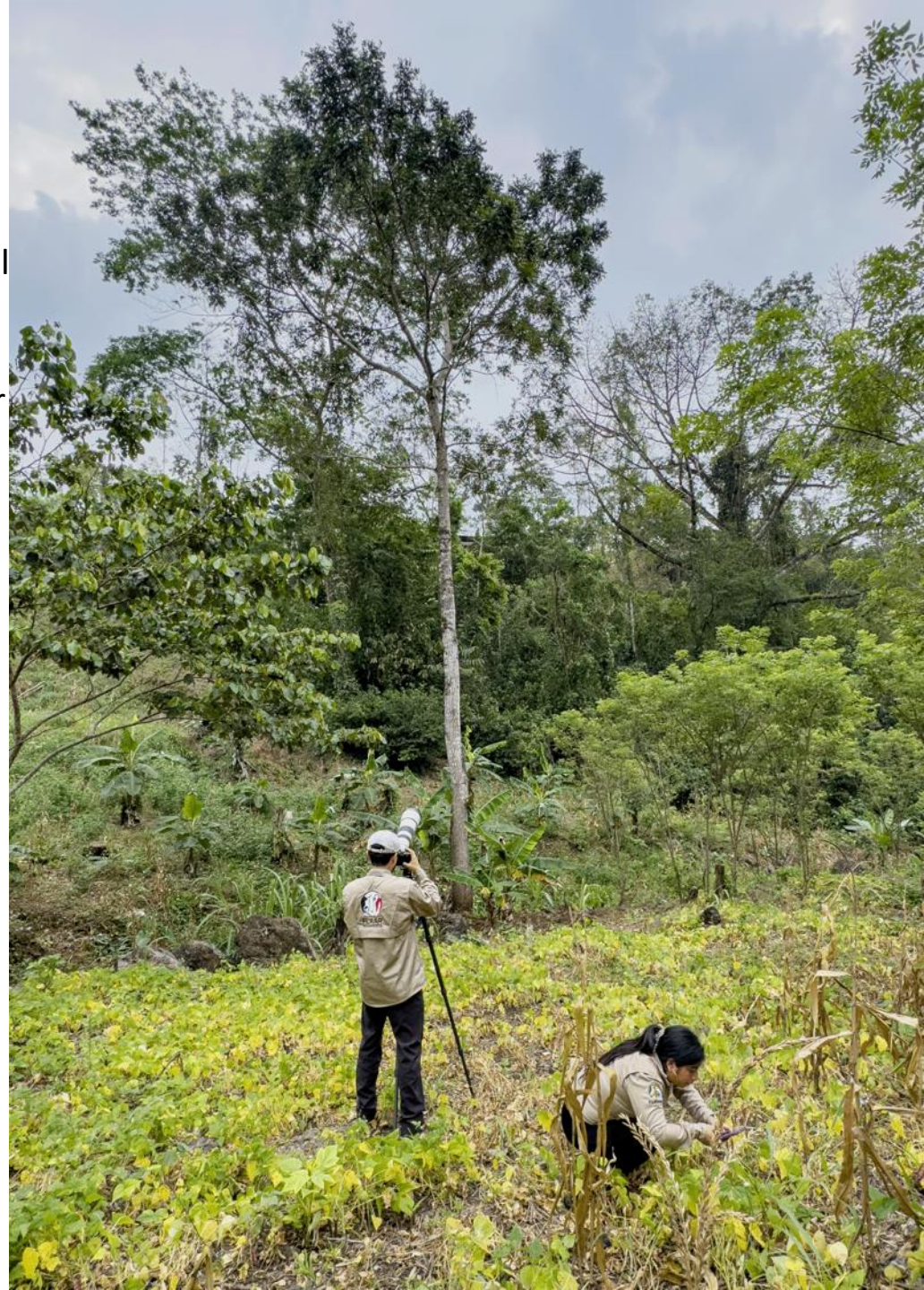
While Javier Archila is using 200-600mm telephoto zoom lens for his Sony camera, Norma is using a telephone camera to take close-up photos of the wasp on the ground.

I estimate that this wasp is gathering plant material to construct its paper wasp nest.

Mason wasp, *Euodynerus leucomela*, is very similar but our wasp has curved yellow band on thorax—not straight. Google Images fails completely—for every close-up photo it says *Polybia diguetana* or *Polybia occidentalis*—but both of these have different design on their thorax.

So I estimate it is Genus *Polybia* but prefer for an Hymenopterist to comment on species.

Fig. 6, a and b.



Panal 2a, Aldea Palin, road to Panzos, arriba, 10:25am

At 10:30 am we turned east onto the narrow gravel road towards Panzos. After about a kilometer or so we arrived at a wasp nest hanging from a vine, literally. It was on the edge of a rocky tree-covered hill. Javier Archila took photos with telephoto lens. Then the local guide suggested that we could achieve significantly better photos to help identify the wasp species if we lowered the nest so we could do close-up macro with a macro lens on the Sony camera. So Manolo climbed up the base of the cliff and was able to grab about half a meter of the vine. He was able to hold on to the vine and with the vine bring down the whole nest.

This species of wasp rarely attacks unless they really feel threatened. Since we were not hitting the nest and were gently move it, all the wasps stayed either inside or on the surface. Manolo brought the nest to a low branch of a shrub where all the team could not only photograph it with close-up lenses, but could illuminate it with the various kinds of lighting that we have: multiple flash units (we have up to six units that can fire simultaneously but only about three were necessary here). We also have ProPhoto lighting—one of the best portable lighting equipment in the world. We can say that because it is significantly better than the Swiss brand that we had bought at Photikina trade show in Germany—but the Swiss brand did not perform adequately and even after they repaired it, the equipment still failed. So we bought ProPhoto and it was definitely better.

Another advantage of bringing the nest down to eye-level was that Javier could photograph the entrance tube. So the photos captioned 2a are when the wasp nest was high up in the vine on the edge of a cliff—and named 2b when the same wasp nest was down at eye level.

Panal 2a,
Aldea Palen,

March 17, 2025,
photo by Javier
Archila.

Fig. 7.

Fig. 8.

Panal 2b, Aldea Palin, road to Panzos, further on, 10:35am

Fig. 9.

Hundreds and hundreds of wasps and this is only half of the outside of the nest. So altogether, surely over a thousand… or more.

This nest is hanging from a vine, not from a tree branch or twig.

Fig. 10, a and b.

Notable that the nest is wrapped around the vine from the top and then the vine comes out of the middle of the nest.

Why the wasps leave that leaf on the right side of the nest is a good question.

Fig. 11.

The “rows” of cells in the honeycomb seem occasionally irregular.

Fig. 13.

Fig. 14.

Panal 3, Santa Ana, Candelaria, Alta Verapaz, 11:28am

Often these nests are so high above that there is no way to take a closeup view. But at least with this photo you can see the columnar shape of this nest. And you can clearly see that the top of the nest is wrapped around a horizontal twig, so not pendant from just an attachment of the nest.

Fig. 15.

Since the wasps are black and the nest is dull white it’s a challenge to expose the black wasps without over-exposing the nest. If you had Capture One processing software you would probably do a better job.

Fig. 16.

Panal 4a: Santa Ana, Candelaria 11:44am

This wasp nest was found about 3 meters above ground level, on a rock cliff facing the highway.

The reconnaissance team found and photographed this same nest on March 5th, and is shown in the separate FLAAR Reports on nests of that day.

Fig. 17.

Fig. 18. This nest has a very small entrance-exit hole.

Panal 4b:
Santa Ana,
Candelaria
11:47am

Five yellow wasps with a lot of black were working to construct this young nest.

In June if often rains every day, so March was a good month to do outside photography.

Fig. 19.

Panal 4b, 11:47am.

We have not often found these brown wasps elsewhere.

Fig. 20.

11:47am, March 17, 2025.

Photo by Javier Archila with FE 200-600mm F5.6-6.3 G OSS lens zoomed to 493mm.

Cropped and processed in RAW format by Nicholas Hellmuth. As a result you can literally see into several of the cells and notice their pattern.

Not all these cells are identical shape whatsoever. Several are round to oval—not all are totally hexagonal!

The same day, same time, same location was Panal 4c, but since those gorgeous yellow wasps were also photographed by Norma Cho, we have enough of Panal 4c to make a separate FLAAR Reports.

We have also moved Panel 4d to become a separate FLAAR Reports because there are photos both from Javier and from Norma.

Fig. 21.

Wasp 4e, on the Ground, Digging a Hole, 12:26pm

The photo in iNaturalist.org shows *Bicyrtes variegatus* as looking the same, so this is what I suggest. As usual with lots of wasps that we are finding, it is not yet in Portal de Biodiversidad de Guatemala. iNaturalist.org for Mexico shows it throughout Mexico, Belize, Honduras and El Salvador, so no surprise it could be found in Guatemala.
https://ecuador.inaturalist.org/taxa/773592-Bicyrtes-variegatus
https://mexico.inaturalist.org/taxa/773592-Bicyrtes-variegatus

Surely wasp entomologists have found this in Guatemala, but either way, if our estimated genus species of *Bicyrtes variegatus* is correct, FLAAR Mesoamerica again has helped entomologists and students with our field work.

Fig. 22, a.

b.

Fig. 23.

We hope that these photographs will enable hymenopterists to update lists for “Wasps of Guatemala”.

Photo by Norma Cho Cu, FLAAR Digital Photo Archive of Flora, Fauna and Bio-diverse Ecosystems of Guatemala.

Fig. 24.

Panal 4f: Santa Ana, Candelaria, 1:02pm

El panal estaba en la parte superior de una Piedra de 3 metros, sobre un pequeno arbol. Tenian alas negras con blanco y si eran agreesivas.

This nest was on a thin young tree growing over a stone area 3 meters high. These wasps have black wings but with white ends. These wasps were definitely aggressive.

Fig. 25.

Panal 4f:
Santa Ana, Candelaria,
March 18, 2025,
1:02pm

Fig. 26.

Panal 4f:
Santa Ana, Candelaria,
March 17, 2025,
1:02pm.

On the field trip of March 6th we photographed a nest of the same size and shape, and wrapped around the thin “trunk” of the same young tree species, so was probably the identical nest. That said, the maps for those two days suggest different locations. But clearly the same species as the nest of March 6th.

The parallel ridges on this wasp nest make it easy to recognize the genus of wasps that has this exterior design: *Parachartergus*. But best if a wasp entomologist suggests that species of that genus. The FLAAR Reports for March 6th shows close-up of the wasps.

Fig. 27.

Google Earth Pro with road in blue and names and locations and time found of each wasp nest on March 17, 2025. Drawing by Byron Pacay.

On the following page we show where all these wasp nests are in relation to the town of Senahu, Alta Verapaz, Guatemala.

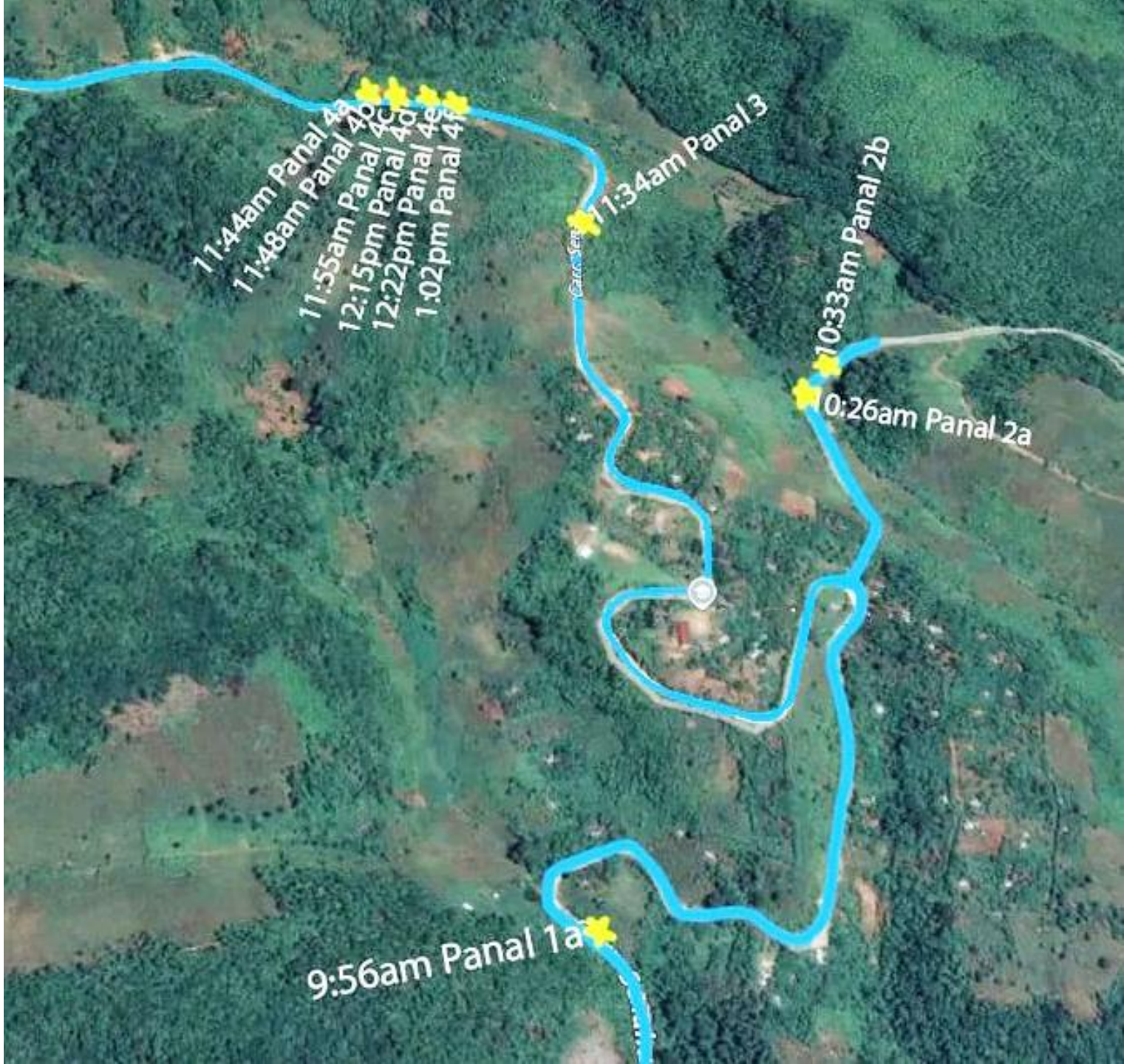


Fig. 28.

Drawing by Byron Pacay on Google Earth Pro satellite view.

The town of Senahu is up at the top left. This is where we spent each night.

Fig. 29.

FLAAR Mesoamerica Field Work Research Team:

Nicholas Hellmuth, field trip concept organizer and photographer
Byron Pacay, helps packing the equipment then is the driver of the project vehicle (while Nicholas drives, then co-pilot).
Norma Cho Cu, organizes all the equipment and packing, and photographer
Senaida Ba Mucu, field trip assistant for over a decade.
Franklin Xol, the husband of Senaida who works in the office and also field trips
Javier Archila, lead photographer, video photographer, and drone pilot (from Coban, Alta Verapaz).
The two children of Senaida and Franklin came in the vehicle from Guatemala City to Senahu; then Fernanda stayed with her paternal grandmother. 10-month old Nicolas came along with her mother Senaida every day of both the pre-trip and the mid-March field trip.

Each day a local Q'eqchi' Maya individual comes along as a helpful guide, Manolo Mucu Chub worked with us the first morning (it began to rain after lunch). He also worked with the team all the following days.

The grandfather of Senaida Ba, Tomas Mucu Choc, assisted us on Wednesday. Domingo Ba Chub also assisted us on Wednesday. We brought a large selection of food for each family that welcomed us to their homes and surrounding property.

Monday March 17, 2025: breakfast at 7 am, where we also pick up almuerzo in tuperware so we can have lunch where and while we are far from any village. We then picked up our Q'eqchi' guide Manolo Mucu Chub, and Byron drove us back south about half-way to Teleman. Since roads through the mountains have no shoulder and rarely anywhere to park off the highway, we wanted to park "going uphill" since the traffic going uphill is much slower.

We are numbering the locations where we the team had found wasp nests on the exploratory field trip about two weeks ago. For the March 17th field trip we start with area 1 at the south.

Panal 1: Aldea Candelaria. 9:47am

Panal 2a: Aldea Palin, road to Panzos, arriba, 10:25am

Panal 2b: same area, brought down lower from a vine, 10:35am

Panal 3: Santa Ana, Candelaria, 11:28am

Panal 4a: Santa Ana, Candelaria, 11:44am

Panal 4b: Santa Ana, Candelaria, 11:47am

Panal 4c: Santa Ana, Candelaria, 11:55am, yellow wasps

Panal 4d, Santa Ana, Candelaria, 12:15pm, in a "cave" between two rocks

Panal 4e: Santa Ana, Candelaria, 12:22pm, solitary wasp

Panal 4f: Santa Ana, Candelaria, 1:02pm, white wings—aggressive