

Beautiful Yellow Wasps, *Agelaia areata*



Gregarious Paper Wasp, Avispa de Cavidades Aérea, Departamento de Alta Verapaz, Guatemala

Photos by Norma Cho Cu and Javier Archila, March 17, 2025

Text by Nicholas Hellmuth, Panal 3c

Panal 4c: Santa Ana Candelaria, Municipio de Senahu, Departamento de Alta Verapaz, 11:47-11:55am

My favorite wasps are those with lots of yellow and/or lots of golden color. Parallel to the highway from Senahu downhill to Telemán the team noticed several different wasp nests, so we parked the FLAAR Mesoamerica 4x4 VW Amarok double-cabin pickup truck and dedicated time to photograph the multiple wasps of many different genera and species. This pickup truck can hold five of our team. The local guides usually come on their own motorcycle (we cover the cost of gasoline). The pickup truck is needed to carry all the photography equipment, drone, plus all the backpacks of the five team members (we don't usually bring suitcases on a field trip).

Since the *Agelaia areata* wasp is not very common in the areas where we have been finding and studying dozens of wasp nests, I wanted to devote a complete FLAAR Report just for this Gregarious Paper Wasp, Avispa de Cavidades Aérea. Another reason for having this separate FLAAR Report is because Norma Cho Cu took lots of excellent close-up photos and Javier Archila also took great photos. So if we had included all these in the FLAAR Reports on March 17th, that file would be too many Megabytes to send as an easy attachment.

The genus species name of *Agelaia areata* is a suggestion by Norma Cho. I tentatively agree—but best for a wasp entomologist to provide their agreement or their acute knowledge that this is actually a different species. Plus, there seem to be two different wasps on this nest—one with light green eyes and the other with dark brown (black) eyes.

On the final summary page I list where *Agelaia areata* has been found by other biologists and listed on Portal de Biodiversidad de Guatemala.

Panal 4c: Santa Ana Candelaria, Municipio de Senahu, Departamento de Alta Verapaz, 11:47-11:55am



This is the wasp with the dark brown-black eye.



Panal 4c, Santa Ana Candelaria.

11:55am.

Photo by Javier Archila with 90mm Sony macro lens,
FE 90mm F2.8 Macro G OSS.

All the following photos were taken by Norma Cho
with the FLAAR iPhone 15 Pro Max, while Javier was
photographing another nest a few meters away. So
Norma's photos are about 10 minutes before those
of Javier of the same nest.

The pattern of black on the thorax here is the same
as on photos of *Agelaia areata* on the Internet.





Photographs of *Agelaia areata* wasps show them all with vertical oval light green eye. But these photos are for Ecuador, so I would not be surprised if the size and shape of the eye is slightly different down south in Guatemala.

(<https://ecuador.inaturalist.org/taxa/266261-Agelaia-areata>).

The giant eye of the wasp at the right is dark brown/black. And the design on the top and front of its head is not the same as the head of the wasp at the left. Is one male and the other female? Or a worker?



The eyes of the wasp at the left are light green, oval (horizontal). The eyes of the other wasp are round and black.

This is the first time I have seen two wasps on the same nest that have different size, shape, and color of their eyes.

The only other time I have seen a second wasp species on a nest is when the second species is robbing pupae to take away and eat.

But here on Panal 3c, neither of these two wasps are eating larvae and neither are fighting one another.





This is the wasp with the light green eyes. This is cropped and rotated by Hellmuth from the RAW file of Norma Cho on the following page.

To see the inside of this nest you need to look up. There are several probable pupae but all the other cells are empty. Does that mean they have already matured?

If I understand it correctly, a queen wasp starts the nest herself and lays eggs so there are workers to help build the rest of the nest for her. Is one of these two wasps the queen (with different eyes than the possible worker?).



Green eye on wasp at the left, brown or black eye on wasp at the right. One cell is almost round, each cell is slightly different size and shape.

I love to study wasps because of course as an archaeologist then ethno-historian on Cholti-Lacandon Maya culture, then an iconographer for decades, I have never studied ecology or biology at a university. But during field trips over several decades, I can learn about plants and animals by being in front of them.



I hope this side view (of the wasp at the right) can help a wasp entomologist to recognize the genus and species.

The cells are identical in some rows but are much longer in the third row.



This wasp has a very long abdomen.

I hope the design of brown-black on yellow background on the thorax can help a wasp entomologist. When you put any of these photos into Google Images you get so many different species—most of which are not the same whatsoever.





The row of cells to the right of this wasp are the ones that are of irregular size and shape.



Or is it reflection that makes the eye of one of these wasps look light green? The wasp at the top left has a horizontal/diagonal brown or black eye.

The wasp at the bottom has a light green eye.

Each has an indentation of yellow into the area of the eye—so neither eye has a completely oval shape.





This eye is definitely not brown or black. This is an enlargement of the wasp at the bottom of the nest on the photo on the following page. Here you can see the indentation of yellow down into the top of the eye.

To see the wasp better I rotated it and cropped to the wasp on the previous page.



This is the wasp with dark-brown/
black eyes.

Our two field trips were in March.
Perhaps April and then May would
be a good time for future wasp
research in year 2026 and 2027.

It rains too much in June to
accomplish photography or launch a
drone outside.



The same wasp with large brown eyes.



I conclude this photo album of wasps on Panal 3C with a closer view at the wasps each with totally different color of the eye. And in this view, curiously, neither has a visible indentation across the top of the eye.

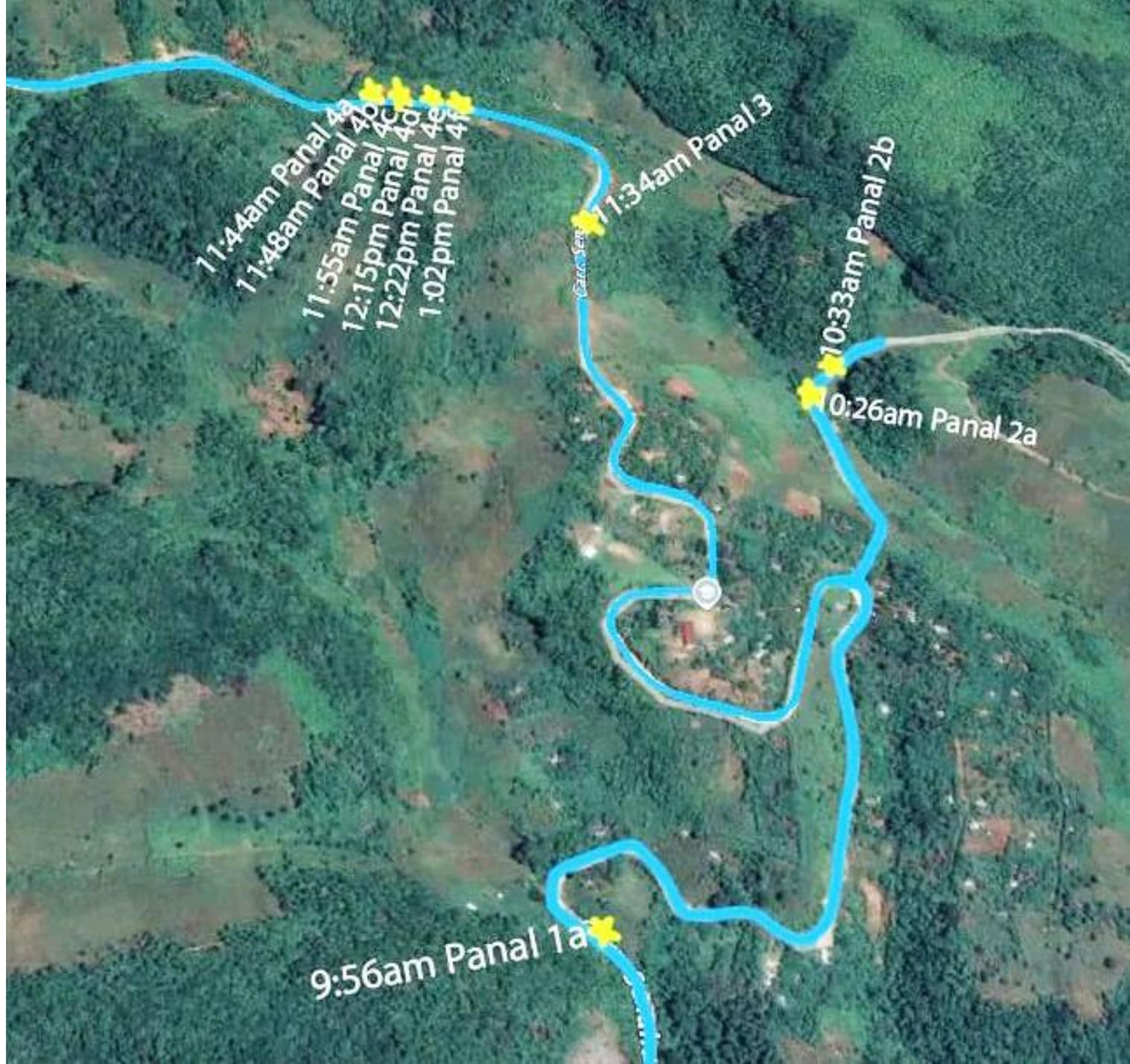


In the Portal de Biodiversidad de Guatemala, the wasp *Agelaia areata* is frequently documented for the Departamento de Guatemala. There are also a few in Santa Rosa, Solola, Sacatepéquez, Chimaltenango—but none are listed for Alta Verapaz. So, if our suggestion that one of these wasps is *Agelaia areata* is correct, we have the first documentation for Alta Verapaz, plus one of the best corpuses of photographs of these *Agelaia areata* wasps starting their nest.

Since it takes time for each photographer to complete their photography, the time on the map is just a generic time. The actual minute of each photograph will be different.

In the following photo we show the complete route of March 17th, from the town of Senahu, south, on the highway to Teleman. But all the wasp nests were in the mountain area, not down in the valley.

Crop from the map of Byron Pacay with his text and route placed on top of Google Earth Pro satellite view. Google Earth Pro is slightly better than the normal Google Earth, but you need to download the access on-line (at no cost).



RECORRIDO MARZO 17, 2025

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.



Google Earth

Image © 2025 Maxar Technologies

Image © 2025 CNES / Airbus

900 m

Acknowledgements

The field trip of mid-March included Senaida Ba as organizer since she and her husband Franklin Xol live in Senahu. Both were also on the reconnaissance field trip of the first week of March.

Byron Pacay was the driver and assistant in loading and unloading all the photo equipment. He also prepares all the maps to show where we found and photographed each wasp nest.

Norma Cho Cu organizes all the photography equipment, organizes charging all the batteries and helps in all aspects of preparation for each field trip.

Javier Archila was lead photographer. He is also a drone pilot and aerial photographer but we could not achieve better photos with a zoom lens or macro lens on a Sony camera on a tripod, so we did not use either our Mavic 2 Pro or Mavic 3 drone.

Nicholas Hellmuth organizes the focus of each field trip and participated in this wasp nest research trip of mid-March.

Vivian Hurtado is research project manager for FLAAR Mesoamerica. She works from her home office and from the office of FLAAR Mesoamerica.

If you are a wasp entomologist, please contact Vivian Hurtado via email: flaar-mesoamerica@flaar.org You can write in English or in español. Please include Sergio Jerez, botany-zoology@flaar.org