

Wasps (and also Bees) as Pollinators of
wild Poinsettia Flowers, *Euphorbia pulcherrima*, Rabinal, Baja Verapaz, Guatemala



Poinsettias Have Nectar in a Nectar Gland, physically Separate from the actual Flowers

Photographs and Text: Nicholas Hellmuth

Introduction to Wasps working hard in Nectar Glands on Poinsettia flowers, *Euphorbia pulcherrima*

We all know that bees are helpful pollinators and thus deserve to be protected (meaning not spraying insecticide all over them and not tearing down their nests). But wasps are also helpful pollinators and thus equally deserve to be protected. Yes, most people understandably don't like insects and hate wasps. But the wasps that visit flowers are pollinating them—just like bees and friendly butterflies and hummingbirds. Bats are also common pollinators in Guatemala, especially of *Ceiba pentandra* trees.

Plus, many genera and species of wasps in Guatemala and surrounding countries make edible honey! Yes, edible honey. Plus, the nests of honey wasps are edible. YES! you can eat the nest! Most honey wasps do not attack.

We do not yet have the assistance of a wasp entomologist to identify the genus and species of the wasp in this FLAAR Reports but none of these wasps attacked me as I was photographing it with a 200mm tele-macro lens on a Nikon D5.

The wasp and bee that are pollinating the flower here are on a poinsettia plant, *Euphorbia pulcherrima*, in Rabinal, Baja Verapaz. I estimate this was in a cemetery since cemeteries throughout Guatemala have hundreds of trees, shrubs, and other flowering plants.

The first goal of this FLAAR Reports is to show the world that wasps are active and helpful pollinators. The second goal is to make these photos available to students and entomologists in Guatemala and around the world. We have the photos in horizontal layout so you can utilize this PDF as a lecture in your classes. Plus horizontal layout allows showing more details.

The teams at
FLAAR (USA)
and FLAAR
Mesoamerica
(Guatemala)
have been
accomplishing
field work to
study flora
and fauna of
Guatemala for
many
decades.

During 2025
many of our
field trips have
been to find,
photography,
document,
and publish
the many
species of
wasps that
make edible
honey. So I
thought it
would be
helpful to also
show lots of
other wasps of
Guatemala.



Obviously each different part of Guatemala will have different pollinators. And the location and time of day will result in different pollinators. During the half hour that I was photographing the pollinators on this poinsettia plant, only wasps and bees were seen. But at other hours and in other locations obviously more pollinators are likely.



All the photographs in this FLAAR Reports are with a Nikon D5 with Nikkor 200mm tele-macro lens. Since obviously I do not want to get too close to these wasps, I used a 200mm lens instead of a 100mm or closer macro lens such as 60mm or 50mm.

All these photos are from November 1, 2016, Rabinal, Baja Verapaz, Guatemala.

All the photos are in the FLAAR Digital Photo Archive of Flora, Fauna and Bio-diverse Ecosystems of Guatemala. If a substantial donation comes our way we would obviously like to make these photos available on-line in a database. But in the meantime we publish as many as possible in high-resolution photos in PPTx format but as a PDF so the file size can be sent as an attachment.





The red “leaves” or “petals” are neither—they are the bract. Another good example of bright colored bracts to attract pollinators are the orange bracts on *Heliconia* species (common in the wild in the departamentos de Izapal and Alta Veracruz, Guatemala and occasionally in Peten and elsewhere. The FLAAR Ethnobotanical Research Garden in Zona 15, Guatemala City, has three or four species of *Heliconia*, named platanillo in Guatemala.

Rare opportunity
to capture a view
of this wasp in
flight.



Here you can see the position of the multiple legs and body as this wasp flies.







Notice that none of the wasps in all these photos are focused on the flowers—all these wasps have their mouth down inside the horizontal entrance to the nectar gland. A nectar gland is the “attachment” to the side of each cyathium (out of which the vertical flowers rise).













The mouth of the wasp is down inside the nectar gland.









Remarkable (and atypical) structure of poinsettia flowers, with the reservoir of nectar waiting for each pollinator to arrive .



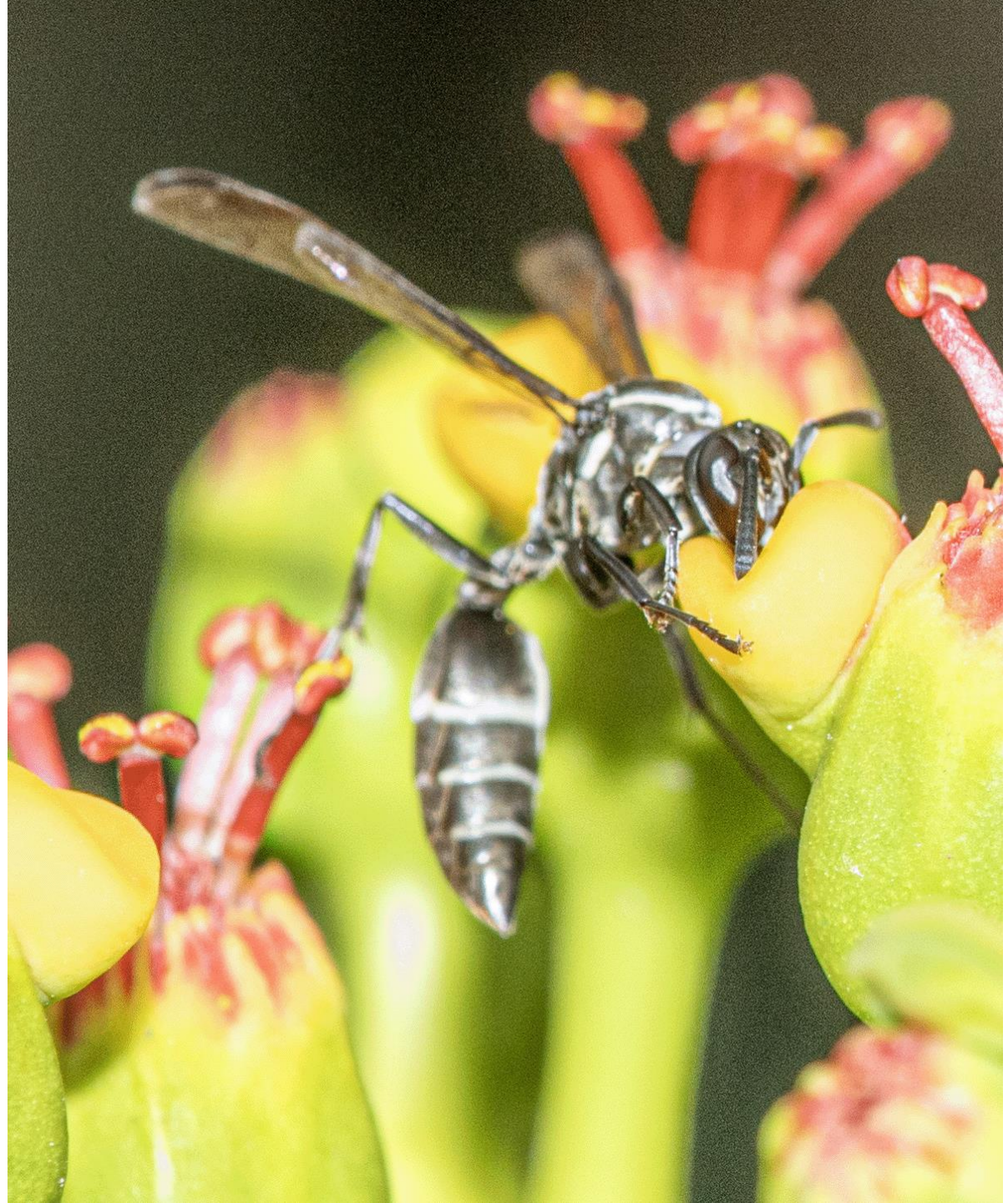




Yum, yum, yum, the wasps obviously love to slurp up the nectar.

It really helps the wasp to have so many legs.

The pollen is on top of the stamens that stick up straight or diagonally.





Slurp, slurp, slurp. The wasp has its mouth down inside the nectar gland. The wasp has its wings up, ready to fly away when it has gobbled up lots of enticing nectar.

I have eaten yummy nectar of *Ceiba pentandra* flowers, but since some flowers are toxic I don't recommend taste-testing the nectar of flowers of other plants.





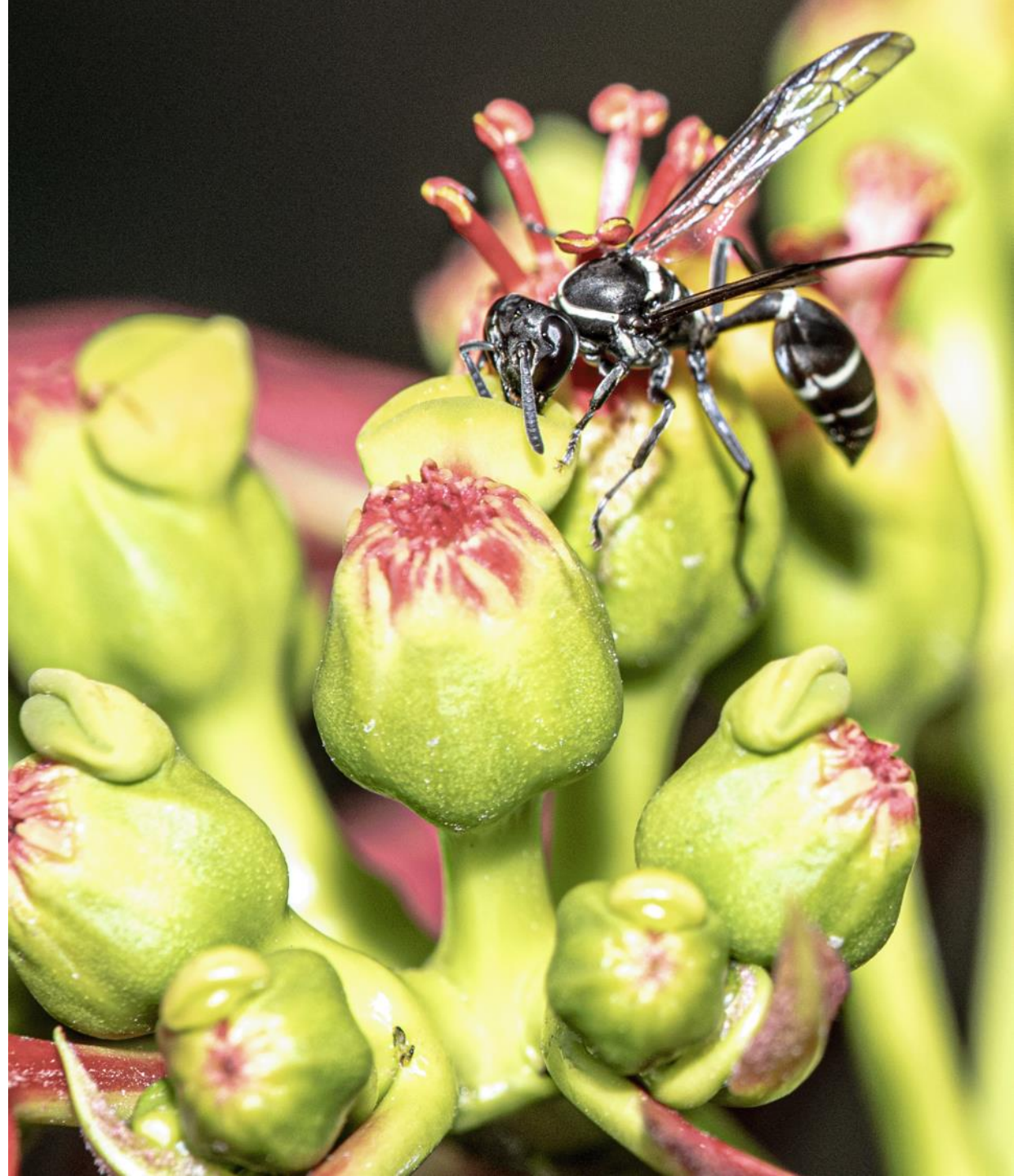








The wasp is using all its legs for support. His abdomen is pointed down diagonally.





Here the wasp has to raise his abdomen.



At last a bee arrives. This is a giant bee, definitely not one of the tiny stingless bees that are also common in Guatemala.







The wasp at the right is slurping up nectar from the nectar gland. The wasp at the top is trying to decide what to do as it observes the bee.

So far none of the photos show the bee's head down into the nectar gland, but surely that's what it will do—just like the wasps.



Now that the bee has moved to the right,
the wasp at the top right has moved over
to the nectar gland.

Both wasps have their wings up diagonally.
The bee has its wings out horizontally.









Lots more wasps here than bees, but that will probably vary by month and by what flowers are available that month.

The Nikon D5 with 200mm Nikon (Nikkor) lens did a good job capturing a view of these two wasps in 2016 (cropped and processed by Hellmuth).

My camera of choice from 1961 (photographing in Palenque for my high school thesis that won first prize) was a Leica camera. I used the same camera 12 months as student intern at Tikal in 1965. Then I upgraded to Hasselblad thanks to a donation. I also used 4x5 Linhof and 8x10inch Linhof Cameras in the decades of film. When the digital era arrived I switched to Nikon since Leica and Kodak were stuck in 35mm film. Canon was not yet a #1 product for the digital era. Then I upgraded to Phase One, the absolute best medium-format digital camera. Today we have Nikon, Canon, and Sony digital cameras because each of our photographers prefers one of these brands.

Sony is currently the best digital camera but Nikon and Canon have also jumped into mirrorless digital cameras so are still viable alternatives. Since I know the Nikon controls and options, I stick with that, but today in 2025 an iPhone 15 Pro Max is quicker and better than most "35mm cameras" (except for telephoto).



The wasps are not sucking nectar from any of the flowers—on a poinsettia plant all the nectar is in a nectar gland, a separate part of the plant, adjacent to the flowers.



Wasp slurping up nectar from the nectar gland. His abdomen is on top of the multiple separate flowers—but their pollen does not seem to have come out yet.

Since I have never studied botany or zoology -- I majored in Architectural Sciences and after 12 months as a student intern at Tikal I switched to archaeology (in most universities this is in its Dept. of Anthropology).

I learn about plants (and that wasps are pollinators) by visiting each plant in-person up close. And I learned about nectar glands while looking at these photos.

My goal is to share the photos of FLAAR field trips so that students and the interested general public can see what I have learned and would like to share.



Concluding Comments

Since poinsettia flowers are popular around the world there are hundreds of botanical reports and thousands of web pages. 99% of the poinsettia flowers that we see are from the supermarket during Christmas holidays—most of these probably originated in Mexico. But wild poinsettia plant can be found in remote parts of Guatemala, such as ravines in Jalapa and elsewhere.

We have a coloring book for children that you can download at no cost:

https://www.mayantoons.org/PDF/Poinsettia_Mayan_comic_book_characters_preview_AP_dec_2016_to_web_8.5x11.pdf

But this is mainly to document that poinsettia plants are also native to Guatemala. This coloring book needs to be updated to show the nectar gland and to show both wasps and bees pollinating the plant. Plus show which are the tiny flowers—and that the giant red “petals” are really the bract, that supports the 20 or so areas (cyathia plural, cyathium, singular) of tiny flowers. To learn about the botanical names for each part Google poinsettia, parts of the flowers, nectar glands.

Most web pages list bees and beetles—not many web pages mention or show wasps as pollinators (an exception is Wikipedia). This lack of mention of wasps is precisely why we are showing wasp pollinators in FLAAR Reports. Fortunately wasps are occasionally mentioned (<https://treasurecoastnatives.wordpress.com/2021/10/29/wild-poinsettias-wasps-and-faux-wasps/>) but there is no complete PDF as a photo album—just a rare snapshot.

The nectar glands are known to most botanists and scientists studying pollination, but I doubt there is any report that shows as many pages of high-resolution photos of wasps actually with their mouths down inside the nectar glands. This is one of the many goals of the field work, library research, and publications of FLAAR (USA) and FLAAR Mesoamerica (Guatemala)—to share what we have learned and to make LOTS of photos available to scholars, students, and the interested general public.