



FLAAR  
MESOAMÉRICA

# HELICONIA

## GOLDEN DWARF HELICONIA

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*Heliconia aurantiaca*

Livingston,  
Izabal, Guatemala

NICHOLAS **HELLMUTH**

# HELICONIA

## GOLDEN DWARF HELICONIA



JUNE 2020



## CREDITS

The helpful individuals listed below are all part of the FLAAR Mesoamerica research and field work team. The office research team, webmaster, and web designers are additional individuals in the main office in Guatemala City. Since each report is a different plant or animal, the individuals who assist in preparing the bibliography, species identification and botanical information category are, not the same for each report.

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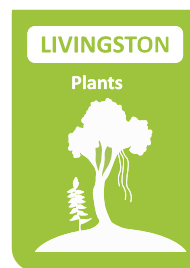
Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 16:55. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIK-KOR 200mm IF-ED Macro. Settings: 1/200 sec; f/10; ISO 2,000.

### TITLE PAGE PHOTOGRAPH *Heliconia aurantiaca* Ghiesbr.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 13, 2020, 13:07. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: AF-S VR Micro-Nikkor 105mm IF-ED. Settings: 1/250 sec; f/8; ISO 5,000.



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*Heliconia aurantiaca* Ghiesbr.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 10:16. Reserva Natural Tapón Creek, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: AF-S VR Micro-Nikkor 105mm. Settings: 1/250 sec; f/10; ISO 3,200.

## INTRODUCTION TO *HELICONIA AURANTICA* OF MUNICIPIO DE LIVINGSTON

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Our goals in Municipio de Livingston are to:

- Make list of all useful (utilitarian) native local plants.
- Make lists of all edible healthy local native plants.
- Make a list of all plants that will help attract tourists for eco-tourism.
- Make a list of all plants that deserve to be protected (protect their ecosystem and the physical plants).

*Heliconia* leaves can be used to replace plastic (for wrapping). *Heliconia* leaves can be used to making tamales. *Heliconia* leaves of some species can replace tin for roof thatch. And *Heliconia* plants definitely have good potential to attract eco-tourists. We have not yet found any book on *Heliconia* that lists *Heliconia* for Izabal (except the antiquated 1952 Flora of Guatemala). Also, no recent article or report is dedicated to discussing all the *Heliconia* species for Izabal. So we are dedicated to finding, photographing, documenting, and publishing *all the Heliconia species* that we found in our first two field trips (February 2020 and March 2020), before Coronavirus closed Guatemala circa March 15th.



*Heliconia aurantiaca* Ghiesbr. Family Heliconiaceae.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 10:16. Reserva Natural Tapón Creek, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: AF-S VR Micro-Nikkor 105mm. Settings: 1/250 sec; f/10; ISO 3,200.

We found lots of species of *Heliconia* in moist areas of southern Izabal in 2017 (before the Municipio de Livingston project began in February 2020). We have found four species of *Heliconia* during the first field trips in 2020. The present report covers *Heliconia aurantiaca*, one of the three species we found in route from the central town of Livingston to Aldea Plan Grande Tatin, and then along the trail from this aldea to Cueva del Tigre. In addition to documenting *Heliconia aurantiaca*, the present report of FLAAR Mesoamerica is an example of our style of tabulating what plants are found in all the areas around where we are planning research. By knowing what has been found north, south, east, and west of where we will be working in Izabal, we can predict and estimate what *Heliconia* species we should be looking for.

If a *Heliconia* species is found in southern Belize, it is probably findable in nearby northern Izabal. If a *Heliconia* species is found in Peten it may be findable in Izabal. At the same time we do research on every article, monograph, and reliable web pages that document flora of Izabal to tabulate what *Heliconia* species have been found in other municipios of Izabal; if any *Heliconia* is found in Morales (to the south) or El Estor (to the west), then it should be findable in Municipio de Livingston also. This is a hallmark of my library research: tabulating plants to help suggest what we can find. The pages that follow are to show all the research that allows us to prepare the tabulations to predict what *Heliconia* we should be looking for when we can return to field work in October onward.



***Heliconia aurantiaca***. "Golden Dwarf Heliconia" is the common name for this flower in English.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 13, 2020, 16:57. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/160 sec; f/9; ISO 1,280.

## SYNONYMS FOR ***HELICONIA AURANTIACA***

- *Bihai aurantiaca* (Ghiesbr. ex Lem.) Griggs
- *Bihai choconiana* (S.Watson) Griggs
- *Heliconia brevispatha* Hook.
- *Heliconia choconiana* S.Watson

## FULL BOTANICAL NAME

- *Heliconia aurantiaca* Ghiesbr. ex Lem. is the accepted name.

[www.theplantlist.org/tpl1.1/record/kew-248299](http://www.theplantlist.org/tpl1.1/record/kew-248299).

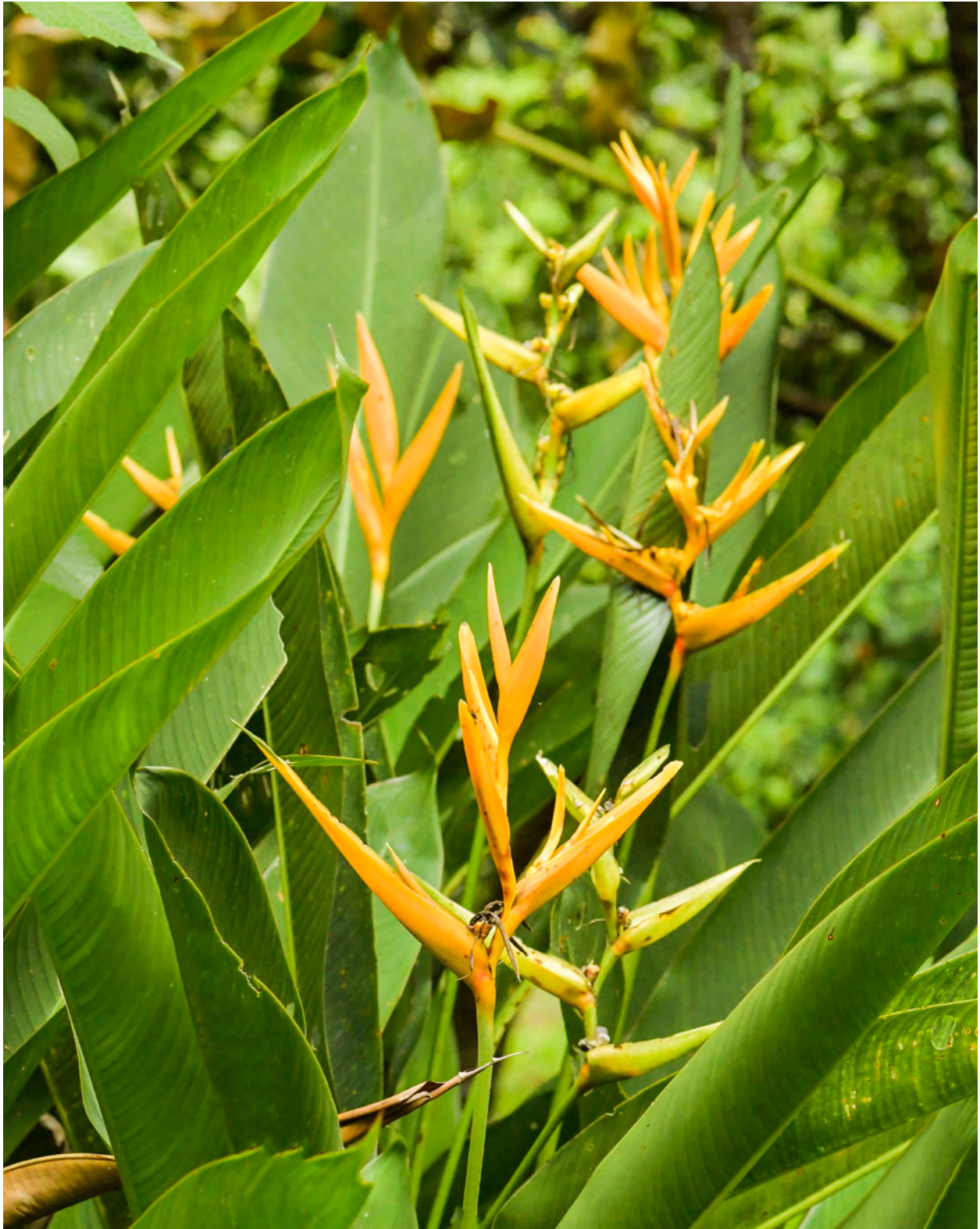


***Heliconia aurantiaca***. Family Heliconiaceae.

Photo by: Senaida Ba, FLAAR Mesoamerica, Mar. 12, 2020, 10:15. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/10; ISO 640.





***Heliconia aurantiaca***. Heliconia flowers beauty is related to the name of a Greek mountain, Helicon, which was the place where muses gathered.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 13:17. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/8; ISO 3,200.

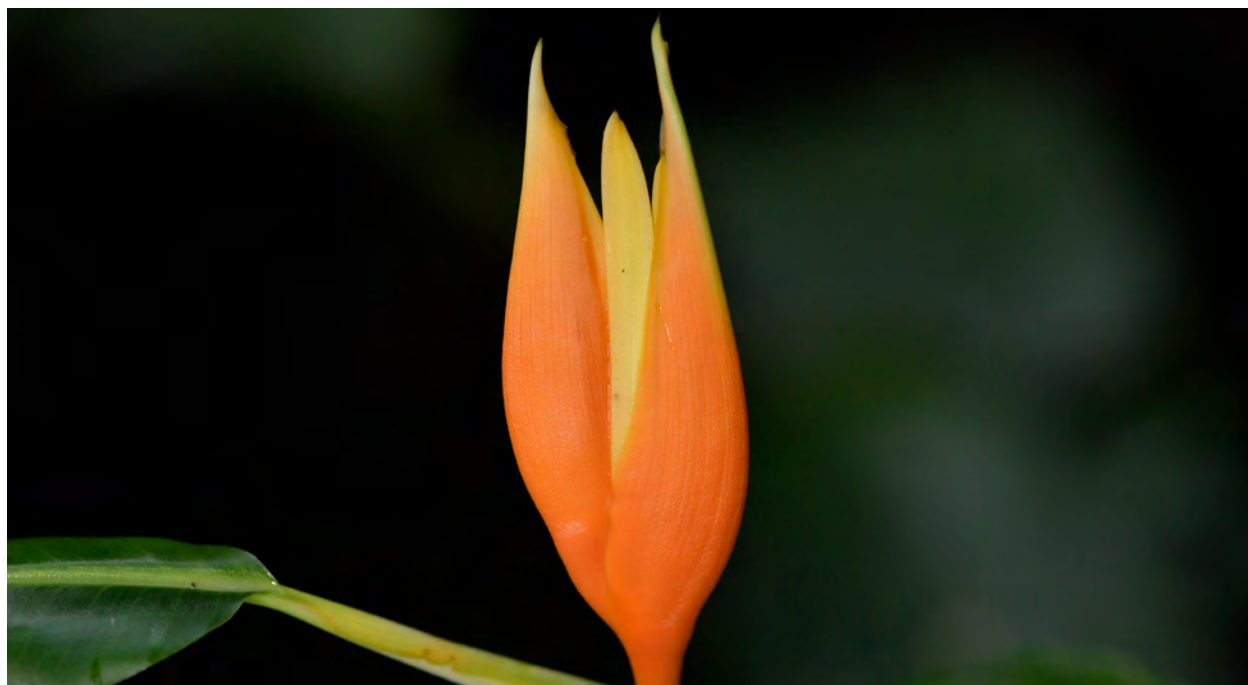
## WHERE ELSE HAS *HELICONIA AURANTIACA* BEEN FOUND IN MUNICIPIO OF LIVINGSTON?

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As soon as the herbaria of the Guatemalan universities are open again, we will try to learn where *Heliconia aurantiaca* has been found in Izabal. In the Neotropical Flora data base there is only one lonely *Heliconia aurantiaca* in the entire database:

Guatemala, Izabal, 3 km N of Highway CA-9 on unmarked dirt road joining CA-9 at Km 269. Collection from mountainous rainforest area on N-facing slope, 15.52 -88.81, 110m

This suggests that FLAAR Mesoamerica has found more *Heliconia aurantiaca* in three field trips than found in the recent half century? Highly unlikely, so surely there are more of this plant in other databases that we have not yet entered. But on the following pages are photographs of where we have found lots of this *Heliconia*.



*Heliconia aurantiaca* Ghiesbr. Family Heliconiaceae.

Photo by: Alejandra Gutiérrez, FLAAR Mesoamerica, Mar. 12, 2020, 9:55. Reserva Natural Tapón Creek, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/10; ISO 160.

## HELICONIA LISTED BY STANDLEY AND RECORD FOR BELIZE (1936)

On page 95, just the list below. No description of habitat or anything. And in that era not all plant names were always in italics; and often the species name was capitalized.

*HELICONIA* L.

*Heliconia acuminata* Rich.

*Heliconia aurantiaca* Ghiesbr.

*Heliconia Bihai* L. Fairview, Schipp S414.

*Heliconia Champneiana* Griggs. Stann Creek Valley, Schipp.

*Heliconia Mariae* Hook. Fairview, Schipp S413.

*Heliconia pendula* Wawra.

This list for Belize has been significantly improved by later botanists. Nowadays *Heliconia Champneiana* is a synonym of *Heliconia bourgaeana* Petersen.

[www.theplantlist.org/tpl1.1/record/kew-248322](http://www.theplantlist.org/tpl1.1/record/kew-248322)



***Heliconia aurantiaca***. Family Heliconiaceae.

Photo by: Senaida Ba, FLAAR Mesoamerica, Mar. 12, 2020, 9:50. Reserva Natural Tapón Creek, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/9; ISO 1,280.

## WHERE ELSE HAS *HELICONIA AURANTIACA* BEEN FOUND IN IZABAL?

*Heliconia subulata* Ruiz & Pavon for both Cerro San Gil and Chocón Machacas (Barrios 2003: no pagination in the pdf). Since this report is on that area (on both sides of El Golfete) it does not include plants around the Rio Sarstoon, also spelled Río Sarstún. We photographed *Heliconia aurantiaca* along the path to Cueva del Tigre (Hellmuth 2020). This area was very moist that week and it rained a lot those days we visited Aldea Plan Grande Tatín.

Quan and Morales list only three species for Parque Nacional Río Dulce:

*Heliconia bihai* L.

*Heliconia psittacorum* L.

*Heliconia* sp. (means they saw the plant with no flower so did not identify the species).

(Quan and Morales 2004: 130)

Most are different species than we found inland. So, if you add what they found “near the river” and what we found far inland, this is a helpful total *Heliconia* list for the Municipio de Livingston. In southern Izabal, guided by Alejandro Sagone, we found lots of a *Heliconia* in very wet terrain around Macho Creek and Finca El Cimarrón, in 2017 (flowering in August).

*Heliconia champneiana* is now a synonym for accepted name *H. bourgaeana*

*Heliconia imbricata*

*Heliconia mariae*

*Heliconia wagneriana*

## WHERE HAS *HELICONIA AURANTIACA* **BEEN FOUND IN PETÉN?**

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Not one single *Heliconia* listed by Bestelmeyer and Alonso for the wetlands of Río San Pedro and Laguna del Tigre (2000). I can't believe there are zero species there. We found one species in Parque Nacional Yaxha, Nakum y Naranjo and estimate there should be at least one more (and possibly two more).

Lundell did not identify many *Heliconia* in the dry areas that he worked in up to 1937. Actually, Standley and Steyermark did a better job listing *Heliconia* for Petén (1952). No one, nowhere that I am yet aware of, has undertaken a serious study dedicated to finding and identifying all *Heliconia* of Petén. Just imagine how many should be in the wetlands of Río San Pedro and all those swamps on both sides. Besides, we have never noticed very many around the wetlands of Monterrico.



***Heliconia aurantiaca***. "Golden Dwarf Heliconia" is the common name for this flower in English.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, March. 12, 2020, 16:55. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: AF-S VR Micro-Nikkor 105mm IF-ED. Settings: 1/200 sec; f/10; ISO 2,000.

## WHERE HAS *HELICONIA AURANTIACA* BEEN FOUND IN ALTA VERAPAZ?

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FLAAR Mesoamerica has found *Heliconia dielsiana* in Alta Verapaz with the help of Senaida Ba.

*Heliconia marthiasiae* in Alta Verapaz in several ecosystems  
(usually on steep hillsides)

*Heliconia spissa* in Alta Verapaz, near tañil wetlands areas.

*Heliconia stricta*

*Heliconia tortuosa*

We have done field trips several times each year through remote mountain areas of Alta Verapaz for over eight years.

## WHERE ELSE HAS *HELICONIA AURANTIACA* BEEN FOUND IN GUATEMALA?

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*Heliconia latispatha* and *Heliconia psittacorum* are in Biosfera Sierra de las Minas.

(Suchini 2000: Anexo 5).



***Heliconia aurantiaca* Ghiesbr.**

Photo by: Senaida Ba, FLAAR Mesoamerica, Mar. 12, 2020, 10:15. Finca EL Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/200 sec; f/10; ISO 2,000.



*Heliconia aurantiaca.*

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 13:05. Finca El Cimarrón, Municipio de Livingston, Izabal.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/8; ISO 5,000.



***Heliconia aurantiaca***. Family Heliconiaceae

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 14:19. Finca EL Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/60 sec; f/8; ISO 280.

## ***HELICONIA AURANTIACA*** ***IN BELIZE***

The western border of Belize is mostly Petén. The southern border of Belize is Izabal. Many of the flowering plants of Belize can usually be found in adjacent parts of Guatemala. So, let's see how many species of *Heliconia* have been found in Belize (since there is not yet any comprehensive botanical research focused on *Heliconia* of Petén or of Izabal, or even of Alta Verapaz).

Four species have been listed for Bladen Nature Reserve, Maya Mountains.

*Heliconiaceae*

*Heliconia aurantiaca* Ghiesbr.

*Heliconia hirsuta* L.

*Heliconia latispatha* Benth.

*Heliconia spissa* Griggs

(Bridgewater et al. 2006: 297).

So *Heliconia aurantiaca* that we found in Izabal is also documented for the Bladen Nature Reserve, Maya Mountains.

(Iremonger et al. 1995: 48).

Another common moist area plant that forms small colonies is the yellow-flowered *Heliconia aurantiaca* (Heliconiaceae)

(Parker et al. 1993: 19).

*Heliconia wagnerianum* is also found in this part of Belize

(Parker et al. 1993: 19).



Jan Meerman (n.d.) provides a helpful, well organized list of all *Heliconia* native to Belize, with one nice photograph of the flowers of each:

- Heliconia aurantiaca* Ghiesbr.
- Heliconia bourgaeana* Peterson
- Heliconia collinsiana* Griggs
- Heliconia latispatha* Benth.
- Heliconia librata* Griggs.
- Heliconia spissa* Griggs
- Heliconia vaginalis mathiasiae* (Daniels & Stiles) L. Anderson
- Heliconia wagneriana* Petersen
- Heliconia cf. tortuosa* Griggs
- Heliconia* unidentified species

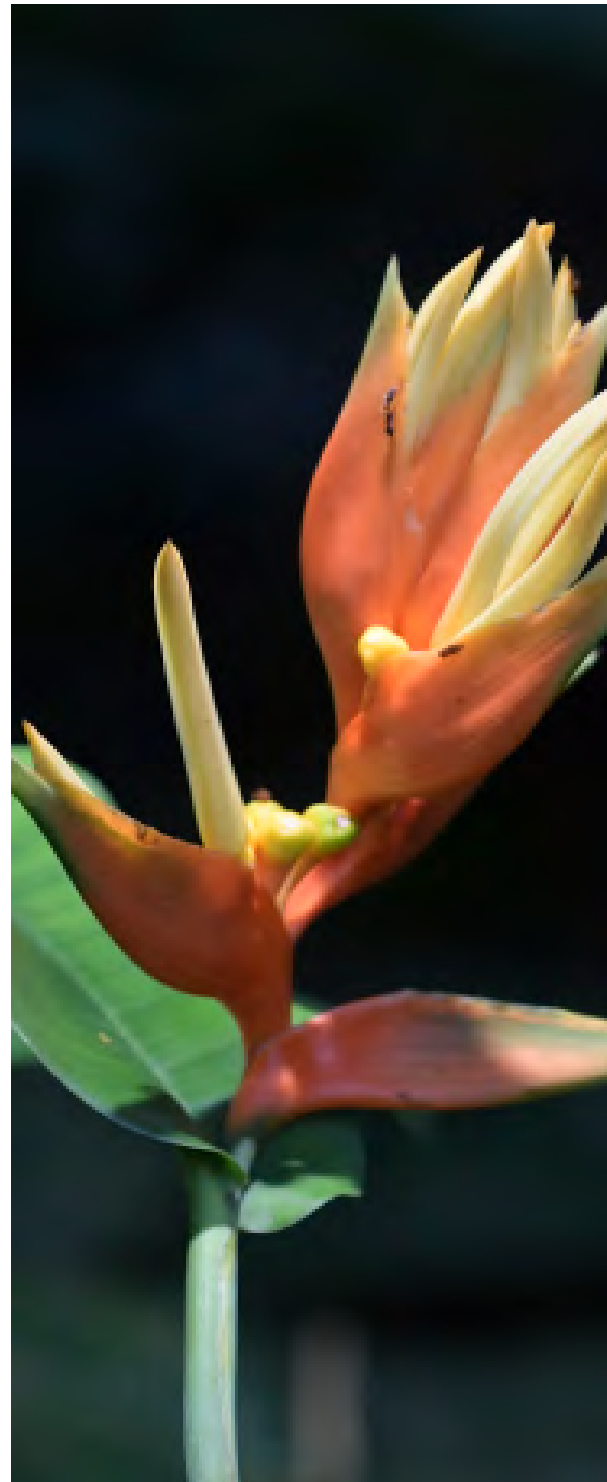
If you combine the list of Standley and Record of 1936 with the list of Meerman (circa 2002 to 2004) you can add

- Heliconia acuminata* A. Rich.
- Heliconia bihai* (L.) L.
- Heliconia pendula* Wawra



So, about 12 species of *Heliconia* across Belize. That is more than Campeche plus Quintana Roo (in botanical lists, Yucatan state itself has zero, but even so, there are more *Heliconia* species listed for Belize than for the entire Peninsula of Yucatan. The "Peninsula" includes Campeche and Quintana Roo.

Chiapas has 15 species!



***Heliconia aurantiaca*.** "Golden Dwarf Heliconia" is the common name for this flower in English.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 17:07. Finca El Cimarrón, Municipio de Livingston, Izabal, Guatemala.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/160 sec; f/9; ISO 5000.

## HELICONIA AURANTIACA AND A DOZEN OTHER HELICONIA IN CHIAPAS



***Heliconia aurantiaca*.**

Photo by: Senaida Ba, FLAAR Mesoamerica, Mar. 13, 2020, 13:18. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D810. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/320 sec; f/14; ISO 800.

Only two species listed for one of the Lacandón areas of Chiapas.

*Heliconia aurantiaca* Griggs

*Heliconia librata* Griggs

*Heliconia aurantiaca* Griggs, considered only an herbácea; use: alfa, forraje. *Heliconia librata* is taller so is listed as an arbusto. (Levy et al. 2006: 97).

The karstic Reserva de la Biosfera Selva El Ocote has three species:

*Heliconia latisphata* (sic), Bijagua, should be *Heliconia latispatha*

*Heliconia schiedeana*, Platanillo

*Heliconia* sp (unidentified)

But, six species are listed in the Yaxchilan archaeological park area (which is more than I would expect since the Petén is on the other side of the river and does not have abundance of species listed). Here are the species for Yaxchilan: so clearly a lot more to find in Petén.

*Heliconia adflexa* Standl.

*Heliconia aurantiaca* Ghiesbr.

*Heliconia latispatha* Benth.

*Heliconia psittacorum* L.f.

*Heliconia spissa* Griggs

*Heliconia vaginalis* Benth.

(Meave et al. 2008: 66-67).

Unfortunately, no mention of which species grows in which habitat. There are several streams around Palenque area of Chiapas, yet even with this water there are a frankly surprising number of species there (seven):

*Heliconia adflexa* (Griggs) Standl

*Heliconia aurantiaca* Ghiesbr.

*Heliconia bihai* (L.) L.

*Heliconia librata* Griggs,

*Heliconia schiedeana* Klotzsch,

*Heliconia subulata* Ruiz & Pav

*Heliconia vaginalis* Benth

(Gomez et al. 2015: 576-577).

If there are seven species around Palenque, I would expect lots of spaces around the lakes, rivers, lagoons, creeks and wetlands of the east-west series of a dozen lakes across central Peten and even more *Heliconia* around the lakes, lagoons, rivers, creeks, and wetlands around Río San Pedro. But so far have not yet found any botanist focused on *Heliconia* making lists for any area of Petén (or for Izabal or Alta Verapaz).



***Heliconia aurantiaca***. *Heliconia* flowers beauty is related to the name of a Greek mountain, Helicon, which was the place where muses gathered.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 16:58. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/9; ISO 3,200.

EIGHT species of *Heliconia* were found in another part of the Lacandón area of Chiapas; the Chajul part:

MEAVE ET AL. 2008 FOR YAXCHILAN PART OF LACANDÓN AREA	FOR CHAJUL PART OF LACANDÓN AREA SANTOS ET AL. 2009	VILLASEÑOR FOR ALL CHIAPAS (ALL ARE ACCEPTED NAMES)
<i>Heliconia adflexa</i>		<i>Heliconia adflexa</i>
<i>Heliconia aurantiaca</i>	<i>Heliconia aurantiaca</i>	<i>Heliconia aurantiaca</i>
	<i>H. champneiana</i> is a synonym of <i>H. bourgaeana</i>	<i>Heliconia bourgaeana</i>
	<i>Heliconia collinsiana</i> Griggs var. <i>collinsiana</i>	<i>Heliconia collinsiana</i>
		<i>Heliconia dielsiana</i>
<i>Heliconia latispatha</i>	<i>Heliconia latispatha</i>	<i>Heliconia latispatha</i>
	<i>Heliconia librata</i>	<i>Heliconia librata</i>
<i>Heliconia psittacorum</i>		<i>Heliconia psittacorum</i>
		<i>Heliconia schiedeana</i>
<i>Heliconia spissa</i>	<i>Heliconia spissa</i>	<i>Heliconia spissa</i>
		<i>Heliconia subulata</i>
		<i>Heliconia uxpanapensis</i>
<i>Heliconia vaginalis</i>	<i>Heliconia vaginalis</i>	<i>Heliconia vaginalis</i>
	<i>Heliconia wagneriana</i>	<i>Heliconia wagneriana</i>

Since plant names are changed by botanists every several years, will be necessary to make sure that all these *Heliconia* names in the tabulation above are accepted (and that none are synonyms).



***Heliconia aurantiaca* Ghiesbr.**

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 8:57 am. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/24 sec; f/1.8; ISO 112.

## *HELICONIA AURANTIACA* IN TABASCO

Tabasco is a wetland heaven on earth for plants and waterbirds. You will find potentially more species of *Heliconia* here than in most other wet areas of Mesoamerica. Thus, I am surprised that Chiapas (so far) has several more species of *Heliconia* than Tabasco. Nonetheless, Tabasco has more than Campeche, Quintana Roo, and Yucatan put together (Yucatan itself, in theory, has nonnative *Heliconia*). That said, there is no *Heliconia aurantiaca* in this botanist's list for Tabasco.

### HELICONIACEAE

*Heliconia bihai* L.

*Heliconia bourgeana* O. G. Peters

*Heliconia collinsiana* Griggs

*Heliconia latispatha* Benth.

*Heliconia llbrata* Griggs

*Heliconia psittacorum* L.

*Heliconia schiedeana* Klotzsch

*Heliconia spissa* Griggs

*Heliconia subulata* Ruiz et Pav.

*Heliconia vaginalis* Benth

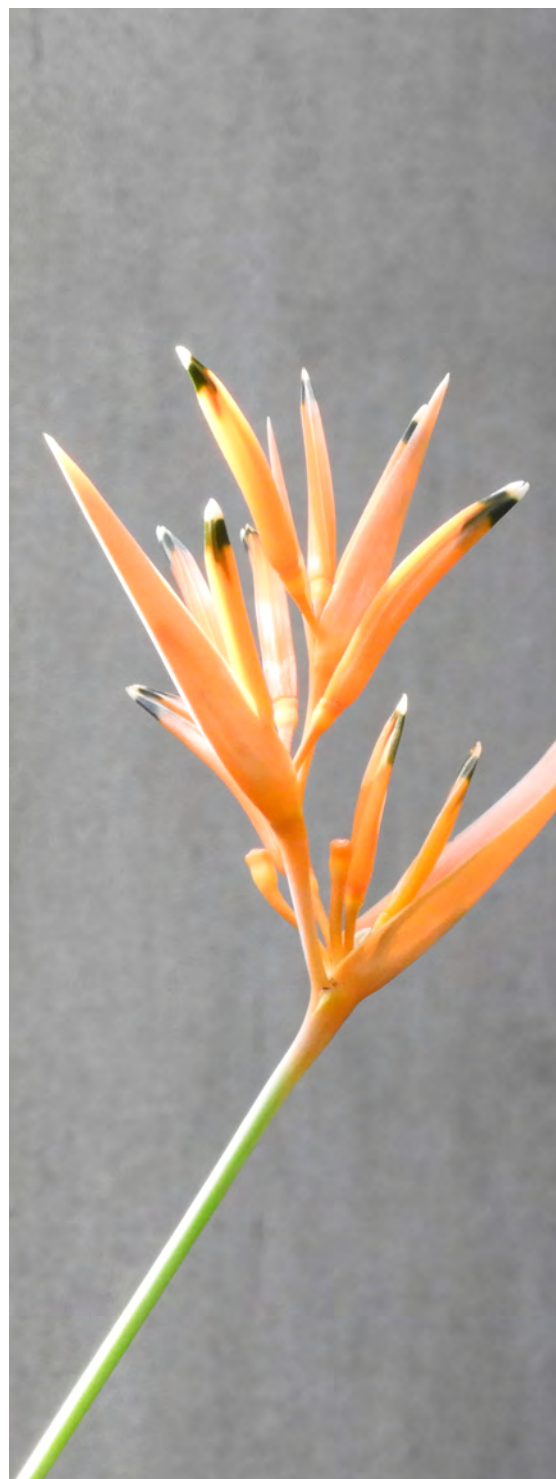
*Heliconia vaginalis* Benth. subsp. *Marthiasiae*

(Daniels et Stiles) L. Anders.

(Bueno et al. 2005: 106).

*Heliconia vaginalis* Benth. subsp. *Marthiasiae* is the old name (synonym) for what today botanists call *Heliconia marthiasiae* G.S.Daniels & F.G.Stiles.

[www.theplantlist.org/tpl1.1/record/kew-248647](http://www.theplantlist.org/tpl1.1/record/kew-248647)



***Heliconia aurantiaca***. Family Heliconiaceae.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 14:23. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/60 sec; f/8; ISO 280.

We need to find databases for Mexican herbaria to find where *Heliconia aurantiaca* has been found in Tabasco, since surely it is there. And, lo and behold, *Heliconia aurantiaca* is indeed listed for Tabasco in another database.

This is precisely what we have found: no article, no report, nothing dated to the 1950's-1990's, and nothing dated from 2000 through 2018 has the information that is needed. Only the databases have the information and seemingly NONE of them are used, or cited by botanical articles: as though a professor is only allowed to use the peer-reviewed journal articles of their colleagues (I was a professor for decades and I refused to be caught in this trap; I almost never wrote for peer-reviewed journal articles for two reasons: first, it wasted one to two years for the "review." And 2nd, there were always cliques that wanted their viewpoints promoted and did not want articles that suggested something totally new, totally different, or WORSE, something that contradicted their own opinion. So I prefer to publish in our own system, since we have close to a quarter of a million readers on our network of educational web sites. These are not social media followers (I am too old fashioned for that). I prefer to have actual readers.



***Heliconia aurantiaca.***

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 9:03. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/24 sec; f/10; ISO 2,000.

## *HELICONIA AURANTIACA* **IN CAMPECHE**

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One list for the Calakmul area of southern Campeche lists only *Heliconia uxpanapensis* (Mexico 2013: 15). Comparable for even more moist areas of central Petén: nowhere near as many species of *Heliconia* as Izabal and Alta Verapaz because *Heliconia* prefer moist areas.

In a comprehensive discussion of Biodiversidad en Campeche only one single species of heliconia is mentioned: *Heliconia latispatatha*, on river shore wet areas

(Gutiérrez 2010:157).



***Heliconia aurantiaca.***

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 8:57. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/24 sec; f/1.8; ISO 112.



## ***HELICONIA AURANTIACA* IN VERACRUZ, MEXICO**

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One of the more thorough studies specifically of *Heliconia* of any "estado" of Mexico is for Veracruz (Gutiérrez 2000). Although there are no color photographs at least there are full-page scientific illustrations of some of the species. With a publication date of two decades ago, one or two names would today be different.

Would be helpful to see a year 2021 edition of *Heliconia* of Veracruz based both on fresh field work as well as herbaria specimens. The helpful year 2000 edition is citing primarily Standley and Steyermark for Guatemala and Kress 1984, also for Central America. With Flora of Guatemala as the basis of the list, there are not many species listed that are not present already documented for Guatemala.

What is needed is a fresh new field work to create advances for *Heliconia* of Quintana Roo and *Heliconia* of Campeche.



***Heliconia aurantiaca***. "Golden Dwarf Heliconia" is the common name for this flower in English.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 13, 2020, 16:57. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/160 sec; f/9; ISO 1,280.

## SUMMARY: *HELICONIA* **SPECIES IN MEXICO**

- Heliconia adflexa* (Griggs) Standl. **CHIS**, CDMX, MEX, OAX, VER  
*Heliconia aurantiaca* Ghiesbr. ex Lem. **CHIS, TAB**  
*Heliconia bihai* L. **CHIS**, GRO, OAX, PUE, **TAB**, VER  
*Heliconia bourgaeana* Petersen CAM, **CHIS**, OAX, PUE, **TAB**, VER  
*Heliconia collinsiana* Griggs CAM, **CHIS**, OAX, **TAB**, VER  
*Heliconia dielsiana* Loes. **CHIS**  
*Heliconia latispatha* Benth. CAM, **CHIS**, GRO, HGO, OAX, QRO, QROO, SLP,  
**TAB**, VER  
*Heliconia librata* Griggs **CHIS**, OAX, **TAB**, VER  
*Heliconia lophocarpa* G.S. Daniels & F.G. Stiles OAX  
*\*Heliconia mooreana* R.R. Sm. COL, GRO, JAL, NAY  
*Heliconia psittacorum* L. f. **CHIS**, OAX, TAB  
*Heliconia rostrata* Ruiz & Pav. **CHIS**, OAX (generally considered not native)  
*Heliconia schiedeana* Klotzsch **CHIS**, OAX, PUE, QRO, SLP, **TAB**, TAMS, VER  
*Heliconia spissa* Griggs **CHIS**, COL, JAL, OAX, **TAB**, VER  
*Heliconia subulata* Ruiz & Pav. **CHIS, TAB**, VER  
*Heliconia tortuosa* Griggs OAX, VER  
*\*Heliconia uxpanapensis* Gutiérrez-Báez CAM, **CHIS**, OAX, VER  
*Heliconia vaginalis* Benth. **CHIS**, OAX, **TAB**, VER  
*\*Heliconia wagneriana* Peterson **CHIS**

(Villaseñor 2016: 768).

CDMX, I assume is Ciudad de Mexico (so, Mexico City).

## *HELICONIA AURANTIACA* **IN HONDURAS**

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*Heliconia Bihai* L. Plate XX. A coarse plant about 2 meters tall, glabrous or nearly so, with large thin green leaves somewhat resembling those of a canna, but larger; inflorescence erect, very thick and heavy, the bracts broad, strongly compressed, closely set, spreading almost at right angles, greenish yellow, spotted and shaded with red, the edges green; fruit pale yellow, becoming bright blue. Frequent in wet thickets; widely distributed in tropical America. This is, I think, the handsomest of all the Central American *Heliconias* with which I am familiar, because of the rich and beautiful coloring of the spikes. Like other species, it usually is called "platanillo" in Central America, and by the West Indians "wild plantain" or "wild banana."

*Heliconia crassa* Griggs. Plate XXI. A comparatively small plant, but sometimes nearly 2 meters high, slender, the stems very leafy throughout their length; leaves sessile or nearly so, small, narrowly oblong, bright green; inflorescence small, the few bracts short, narrow, reddish orange with green tips; flowers cream-colored. Frequent in deep mountain forest; occurring also in Guatemala. Perhaps not different from *H. choconiana* Wats. This species is much less conspicuous than the others, but nevertheless a very attractive plant. It begins to flower in March.

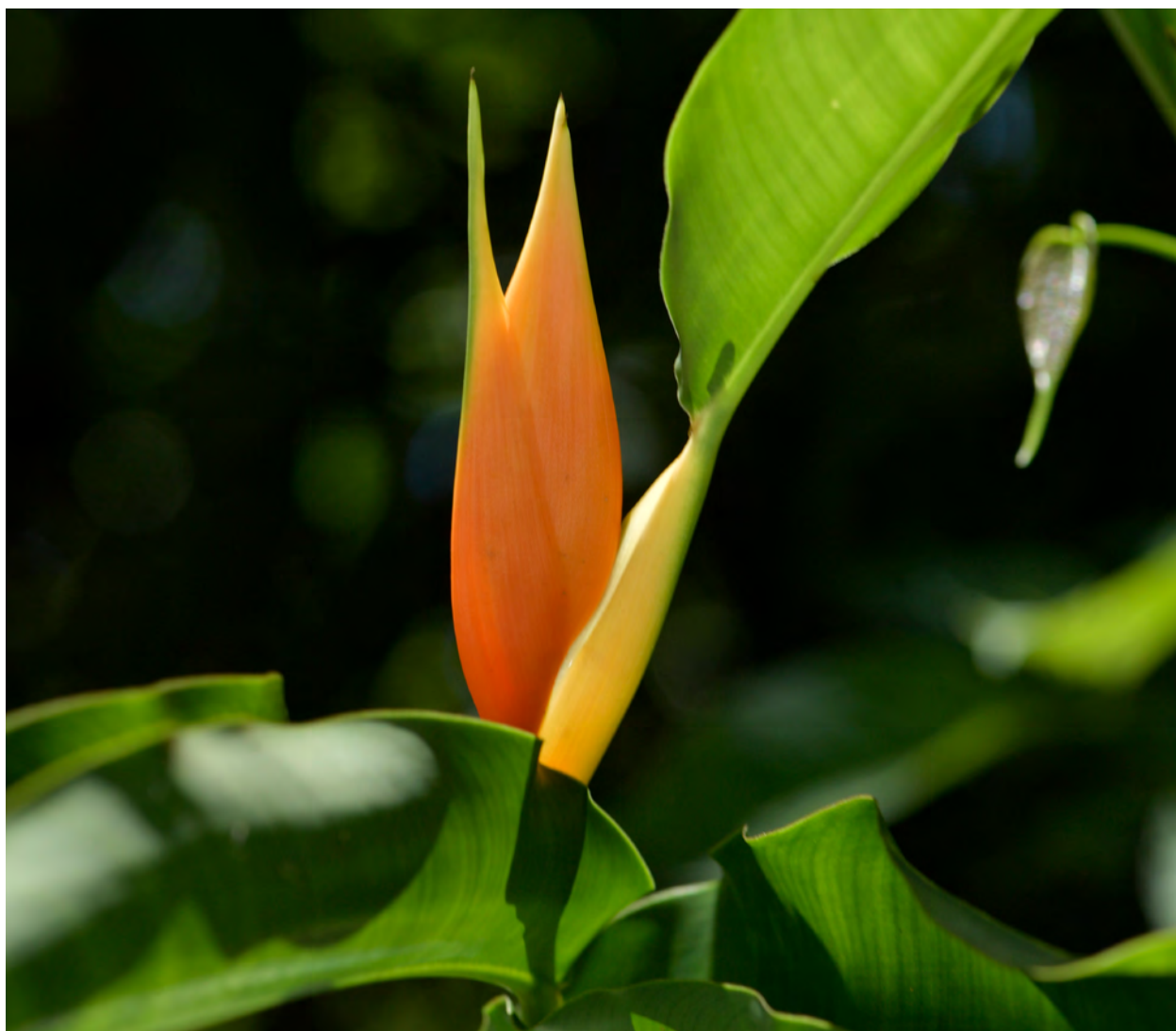
*Heliconia latispatha* Benth. Plants coarse, often 2 meters high, with few leaves, the leaves large and broad, green, thin; inflorescence erect, the bracts narrow, widely spaced, spreading at right angles, long and attenuate, orange-yellow. Common in wet thickets and in forest; a common species of Central America. Called "plata-nillo" and "guacamaya" in Panama. In Salvador sometimes called "cuchillos."

*Heliconia librata* Griggs. Bijaguillo. Plants 2 meters high or less, the large leaves thin and green; inflorescence erect, almost triangular, broadest at the base and rapidly narrowing upward, the bracts long and narrow, closely set, widely spreading, yellow or straw-colored; fruits blue. Occasional in wet mountain forest; growing also in Guatemala.

[Continues on next page]

*Heliconia Mariae* Hook. Bijaguillo. Beefsteak heliconia. Plants very large, usually 3 meters high or more, much like the banana plant in size and habit, with huge leaves; inflorescence very large and pendent, often 60 cm. long or more, narrow, composed of numerous broad, short, closely overlapping bracts, dull deep red. Frequent in wooded swamps near the coast; ranging from Guatemala to Panama. This is the largest of all the Central American Heliconias.

(Standley and Dahlgren 1931:138-139).



***Heliconia aurantiaca***. Heliconia flowers beauty is related to the name of a Greek mountain, Helicon, which was the place where muses gathered.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 9:45. Reserva Natural Tapón Creek, Municipio de Livingston.

Camera: NIKON D5. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/250 sec; f/10; ISO 8,000.

## IN WHAT ECOSYSTEMS CAN YOU FIND NATIVE *HELICONIA AURANTIACA*?

### Popal

El popal es una formación de áreas inundables en ambientes cálidos húmedos, principalmente presente en la Planicie Costera del Golfo. Incluye muchas especies de los tulares de ambientes templados, además de *Calathea spp.*, *Heliconia spp.*, *Leersia spp.*, *Nymphaea blanda*, *Paspalum spp.*, *Phragmites australis*, *Sesbania emerus* y *Thalia geniculata*.

(CONABIO 2013: 37).

"Popal" is a local word in parts of Mexico for a kind of wetland. So far we have not found *Heliconia* blooming in any of the three seasonally inundated savannas of Parque Nacional Yaxha, Nakum y Naranjo (PNYNN). Yet the "Savanna of 3 Fern Species" varies between a bog and a swamp (even at the height of a dry season in a dry year, 2019). Yet *Thalia*, *Calathea* and other wetland species can be found there; but so far no *Heliconia*. So, surely more *Heliconia* can be discovered in PNYNN if more field work is facilitated for the wetlands (which are far from the camps).



You can learn more about the FLAAR Mesoamerica project at Parque Nacional Yaxha, Nakum y Naranjo navigating on our web site:

[www.maya-ethnobotany.org](http://www.maya-ethnobotany.org)

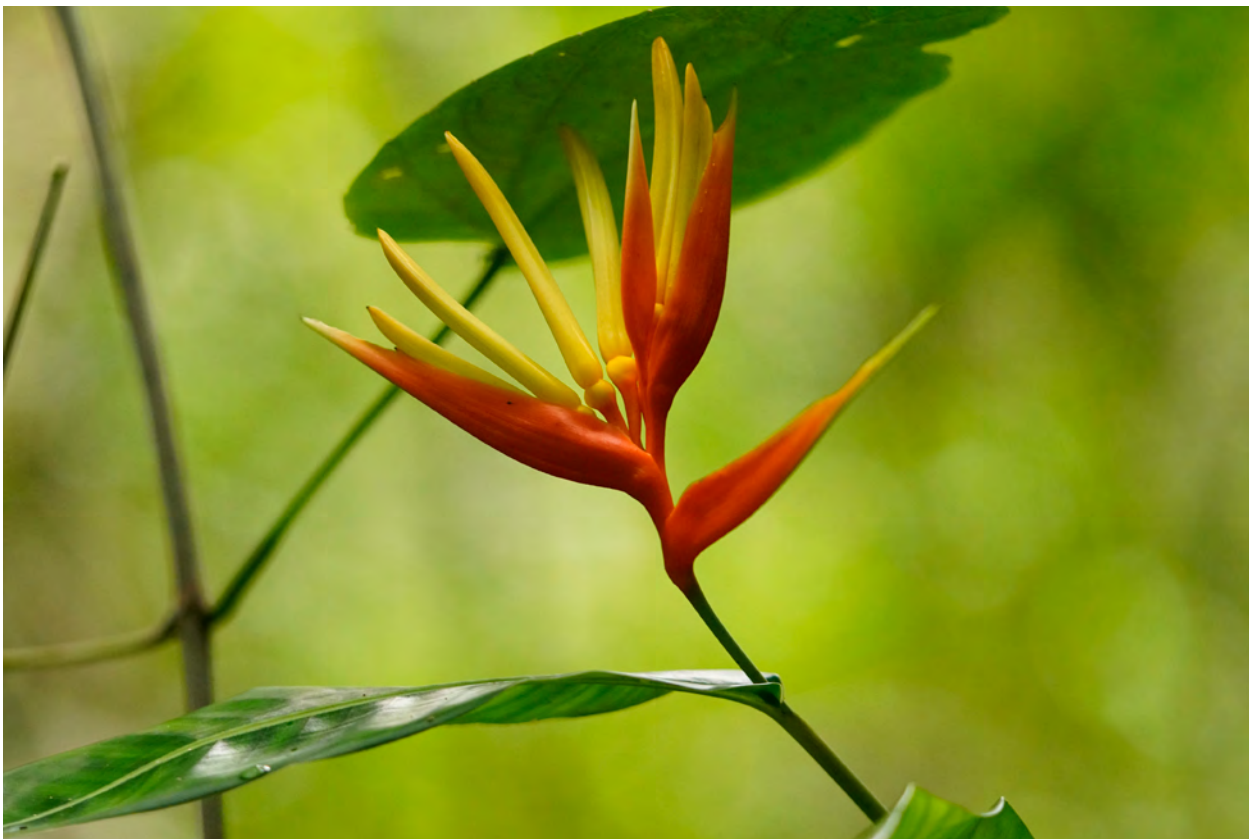
Visiting the page:

[www.flaar-mesoamerica.org/projects-national-park-yaxha-nakum-naranjo/](http://www.flaar-mesoamerica.org/projects-national-park-yaxha-nakum-naranjo/)

## DOES *HELICONIA AURANTIACA* ALSO GROW IN HOME GARDENS?

You find *Heliconia* plants in the gardens of many hotels, haciendas, and other locations throughout Mexico, Guatemala, Belize, Honduras, and into lower Mesoamerica. The most popular garden *Heliconia* is the non-native *H. rostrata*. For kitchen gardens and for having *Heliconia* with leaves large enough for roof thatch, would be species other than the rather mid-sized *Heliconia aurantiaca*.

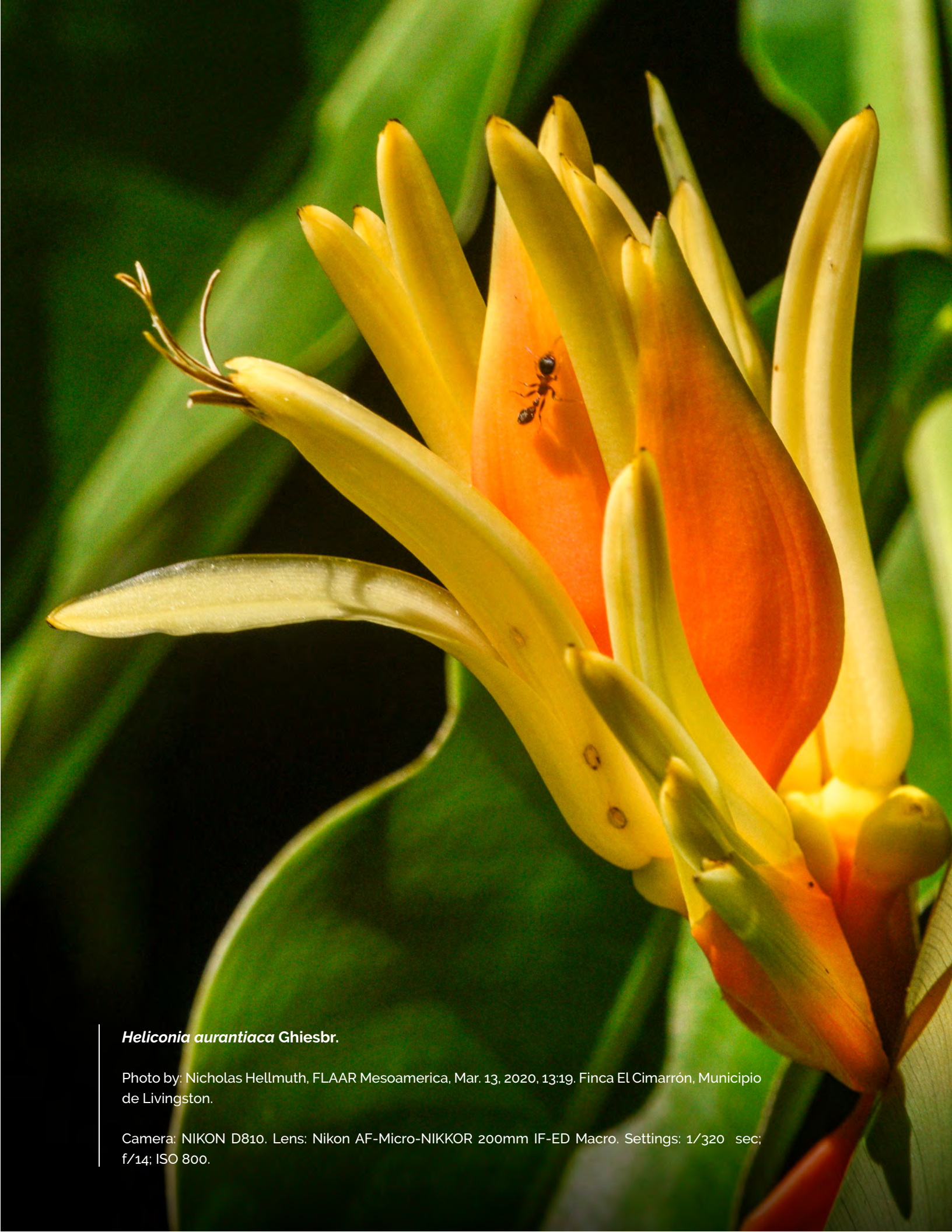
But if you really like local plants (as do many gringos), you will also tend to have *Heliconia aurantiaca* in your garden. For individuals who like to have considerable diversity in their gardens, you can also find *Heliconia aurantiaca* present.



***Heliconia aurantiaca* Ghiesbr.**

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12, 2020, 8:50 am. Finca El Cimarrón, Municipio de Livingston.

Camera: Sony A7R (ILCE-7RM4). Lens: Sony FE 90mm Macro G OSS. Settings: 1/60 sec; f/2.8; ISO 3,200.



*Heliconia aurantiaca* Ghiesbr.

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 13, 2020, 13:19. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D810. Lens: Nikon AF-Micro-NIKKOR 200mm IF-ED Macro. Settings: 1/320 sec; f/14; ISO 800.

## REFERENCES CITED ON AND SUGGEST READING ON *HELICONIA* OF MESOAMERICA

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You can find long bibliographies in most peer-reviewed journals or in monographs. But of course the monographs of the 1990's lack all the material published subsequently. Our bibliography here is intended as a helpful start for students, botanists, and interested lay people to learn more about *Heliconia* of Mesoamerica, especially of Guatemala.

We have a separate generic bibliography on *Heliconia* of Mexico, Guatemala, Belize, and Honduras.

### Most helpful monographs on this plant

There is no monograph other than the half-century old Flora de Guatemala that lists *Heliconia* for Guatemala.

### Most Helpful articles on this plant:

There are no studies that we have yet found of individual species of Guatemala. Rarely is a *Heliconia* given anything but mention in a list.

### Helpful web sites on this plant

[www.backyardnature.net/mexnat/heliconi.htm](http://www.backyardnature.net/mexnat/heliconi.htm).

[www.theplantlist.org/tpl1.1/search?q=Heliconia](http://www.theplantlist.org/tpl1.1/search?q=Heliconia)

Quick, easy, and acceptable botanical list of which are accepted names today and which are synonyms.

#### **ATRAN, Scott, LOIS, Mimena and Edilberto UCAN Ek'**

2004 Plants of the Peten Itza' Maya. Museum of Anthropology, Memoirs, Number 38, University of Michigan. 248 pages.

Very helpful and nice collaboration with local Itza' Maya people. But would help in the future to have a single index that has all Latin, Spanish, and English plant names so that you can find plants more easily.

Not available as a download.



**BALICK, Michael J., NEE, Michael H. and Daniel E. ATHA**

2000 Checklist of the Vascular Plants of Belize: With Common Names and Uses. Memoirs of the New York Botanical Garden Vol. 85. 246 pages.

**BALICK, Michael J. and Rosita ARVIGO**

2015 Messages from the Gods: A Guide to the Useful Plants of Belize. The New York Botanical Garden, Oxford University Press.

Heliconia is mentioned on pages 145 and 146.

**BALTAZAR, B. O. and R. K. A. FIGUEROA**

2009 Flores que atrapan tu Mirada. Estudio de vida de florero y comercial de flores ornamentales de la zona centro del estado de Veracruz. Colegio de Postgraduados, México. 80 Pages.

**BARRIOS Ruíz, Mercedes Violeta** (principal investigator)

2003 Especies de flora endémica y amenazada de la Reserva Protectora de Manantiales Cerro San Gil y Biotopo Chocón Machacas para la Conservación del Manatí, Izabal, Guatemala. Centro de Datos para la Conservación, CDC and CECON. 95 pages.

**BUENO, Joaquín. ALVAREZ, Fernando and Silvia SANTIAGO** (editors)

2000 A Biological Assessment of Laguna del Tigre National Park, Petén, Guatemala. RAP Bulletin of Biological Assessment 16, Conservation International, Washington, DC. 221 pages.

**BREEDLOVE, D. E.**

1986 Flora de Chiapas. Listados Florísticos. México. Vol. 4. Pages.1-246.

**BERRY, Fred and KRESS, W. John**

1991 Heliconia, an identification guide. Smithsonian Institution Press. 334 pages.

Helpful book but definitely not based on much field work in Izabal nor Peten in Guatemala. Nonetheless, has helpful glossary, pages 298ff, and illustrations on pages 12 through 15, Figs 1, 2, 3, and 4.

When I first saw this book I was so happy with seeing so many photographs that I bought six more copies (do donate to local people who facilitated my access to their property in remote areas to study the *Heliconia* there).

The field work of the capable botanical authors was primarily South America. That is why we do field work in Guatemala: to document the flora and fauna here, since most botanical and zoological research is accomplished in Mexico, Costa Rica, Panama, and South America (mainly Colombia and Brazil).

**BRIDGEWATER, S. G. M., HARRIS, D. J., WHITEFOORD, C. MONRO, A. K. PENN, M. G., MONRO, A. K. PENN, M. G., SUTTON, D. A., SAYER, B. ADAMS, B. BALICK, M. J. ATHA, D. H. SOLOMON, J. and B. K. HOLST**

2006 A preliminary Checklist of the Vascular Plants Chiquibul Forest, Belize. *Edinburgh Journal of Botany* 63 (2&3): 269–321 (2006)

Downloadable on the Internet: [www.researchgate.net/publication/231940785\\_A\\_preliminary\\_checklist\\_of\\_the\\_vascular\\_plants\\_of\\_the\\_Chiquibul\\_Forest\\_Belize](http://www.researchgate.net/publication/231940785_A_preliminary_checklist_of_the_vascular_plants_of_the_Chiquibul_Forest_Belize)

**BUENO, Joaquín. ALVAREZ, Fernando and Silvia SANTIAGO** (editors)

2005 Biodiversidad del Estado de Tabasco. CONABIO, UNAM, Mexico. 370 pages.

**CECON**

2015 Proyecto “Dinámica de la regeneración natural de un bosque tropical como fundamento para el desarrollo de estrategias de restauración ecológica en la Reserva de Biosfera Maya”. Informe Final. Centro de Estudios Conservacionistas (CECON)/ Fac. C.C.Q.Q y Farmacia/ USAC. Instituto de Investigaciones Químico biológicas (IIQB)/ Fac. C.C.Q.Q y Farmacia/ USAC. Dirección General de Investigación (DIGI)/ Universidad de San Carlos (USAC)

Found *Heliconia spissa* Griggs (page 90) with helpful photograph (Anexo 11, Fotografía 9). But no mention in what part of Petén this was located.

**CONABIO**

2009 Catálogo taxonómico de especies de México Vol. 1. In Capital Nat. México. México City.:

**CONABIO**

2013 La biodiversidad en Chiapas: Estudio de Estado. Volumen II. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (conabio)/Gobierno del Estado de Chiapas. México. 431 pages.

**COOK, Suzanne**

2016 The forest of the Lacandon Maya: an ethnobotanical guide. Springer. 334 pages.

Sold online: [www.springer.com/la/book/9781461491101](http://www.springer.com/la/book/9781461491101)

**ESCRIU Font, Carolina Elizabeth**

2011 Estudio de mercado para la comercialización de heliconias flores exóticas en floristerías, hoteles y puntos de venta de flores de las zonas 10 y 14 de la ciudad capital de Guatemala. 41 Pages.

**ESTRADA Loreto, Feliciano**

2010 Indicadores ecológicos de la zona riparia del río San Pedro, Tabasco, México. MS Thesis, El Colegio de la Frontera Sur. 131 pages.

Downloadable on the Internet:

[https://ecosur.repositorioinstitucional.mx/jspui/bitstream/1017/1656/1/100000050585\\_documento.pdf](https://ecosur.repositorioinstitucional.mx/jspui/bitstream/1017/1656/1/100000050585_documento.pdf)

**GOMEZ-Domínguez, Héctor, PÉREZ-Farrera, Miguel Ángel, ESPINOZA-Jiménez, Josefa Anahí and Mirna Ivette MARQUEZ-Reynoso**

2015 Listado florístico del Parque Nacional Palenque, Chiapas, México. *Botanical Sciences* 93 (3): 559-578, 2015.

Downloadable on the Internet: [www.scielo.org.mx/pdf/bs/v93n3/v93n3a12.pdf](http://www.scielo.org.mx/pdf/bs/v93n3/v93n3a12.pdf)

**GRIGGS, Robert F.**

2009 On some species of Heliconia. Bulletin of the Torrey Botanical Club. Vol. 30, No. 12 Pages 641-664.

**GUTIÉRREZ Báez, Celso**

1996 Heliconiaceae de México, los platanillos. La Ciencia y el Hombre Vol.22 Pages 119-148.

**GUTIÉRREZ Báez, Celso**

2000 Heliconiaceae. Flora de Veracruz Vol. 118. Pages 1-30.  
Very helpful short monograph because many of the Heliconia of Veracruz are also found in Guatemala (but not all are in Standley and Steyermark).

**GUTIÉRREZ Báez, Celso**

2010a Vegetación acuática. pp. 156-162 In; *Biodiversidad en Campeche. Estudio de estado*, (G. L. Villalobos-Zapata and J. Mendoza Vega, Coordinators), Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), Gobierno del Estado de Campeche, Universidad Autónoma de Campeche, El Colegio de la Frontera Sur. México.

**GUTIÉRREZ Báez, Celso**

2010b Estudio taxonómico de la familia arecaceae en el municipio de macuspana, tabasco, méxico. kuxulkab'-tierra viva o naturaleza en voz chontal; volumen 23, no. 47, pp. 5-15. universidad juarez autonoma de tabasco, division académica de ciencias biológicas 2017. Estado de Campeche, Universidad Autónoma de Campeche, El Colegio de la Frontera Sur. México

**HELLMUTH, Nicholas**

2020 Cueva del Tigre, Jaguar Cave, Aldea Plan Grande Tatín, Municipio Livingston, Izabal, Guatemala. FLAAR Mesoamerica.

Lots of *Heliconia* along the road from Livingston to Aldea Plan Grande Tatin and along the trail from that aldea to the cave.

**IRACHETA-Donjuan L., OLIVERA-De Los Santos A., ORTIZ-Curiel S. and P. LÓPEZ- Gómez**

2013 Propagación de heliconias. INIFAP. CIRPAS. Campo Experimental Rosario Izapa. Folleto Técnico Número 30. Tuxtla Chico, Chiapas, México. 29 pages.

Downloadable on the Internet:

[www.academia.edu/11202164/Propagaci%C3%B3n\\_de\\_heliconias](http://www.academia.edu/11202164/Propagaci%C3%B3n_de_heliconias)

**IREMONGER, Susan, LIESNER, Ron and Roger SAYRE**

1995 Plant Records from Natural Forest Communities in the Bladen Nature Reserve, Maya Mountains, Belize Caribbean Journal of Science, Vol. 31, No. 1-2, 30-48, 1995.

**JEREZ, E.**

2007 El cultivo de las Heliconias. Cultivos Tropicales. Vol. 28. No.1. Pages. 29-35.

**KRESS, W. J.**

1984 Systematics of Central American Heliconia. Heliconiaceae. with pendent inflorescences. Journal of the Arnold Arboretum Vol. 65 No. 4, pages 483-485.

**IRACHETA-Don Juan, Leonardo, OLIVERA-De Los Santos, Aida, ORTIZ-Curiel, Simitrio and Pablo LÓPEZ-Gómez**

1984 Systematics of Central American Heliconia. Heliconiaceae. with pendent inflorescences. Journal of the Arnold Arboretum Vol. 65 No. 4, pages 483-485.

Downloadable on the Internet

[www.academia.edu/11202164/Propagaci%C3%B3n\\_de\\_heliconias](http://www.academia.edu/11202164/Propagaci%C3%B3n_de_heliconias)

**LEVY Tacher, Samuel I., Aguirre Rivera, J. Rogelio, García Perez, José D. and María Magdalena Martínez Romero**

2006 Aspectos florísticos de Lacanhá Chansayab, Selva Lacandona, Chiapas *Acta Botánica Mexicana*, núm. 77, octubre, 2006, pp. 69-98. Instituto de Ecología, A.C., Pátzcuaro, México.

**LUNDELL, Cyrus L**

1937 Plants Probably Utilized by the Old Empire Maya of Peten and Adjacent Lowlands. *Papers of the Michigan Academy of Sciences, Arts and Letters* 24, Part I:37-59.

**MARTÍNEZ, E., RAMOS, C. H. and F. CHIANG**

1994 Lista florística de La Lacandona, Chiapas. *Boletín de la Sociedad Botánica de México* 54:99-177.

**MARTÍNEZ, J. N.**

2011 Estado actual y valor de uso etnobotánico de las especies vegetales utilizadas en la industria artesanal alfarera del municipio de Guatajiagua, Morazán El Salvador. Universidad de El Salvador. 54 pages.

Downloadable on the Internet:

<http://ri.ues.edu.sv/8952/1/19200931.pdf>

**MacVEAN, Lucrecia**

2003 Plantas útiles de Peten, Guatemala. Herbario UVAL, Instituto de Investigaciones Universidad del Valle de Guatemala.

**MEAVE, Jorge A., ROMERO-Romero, Marco A., VALLE-Doménech, Andrés, RINCÓN-Gutiérrez, Armando, MARTÍNEZ, Esteban and Clara H. RAMOS**

2008 Plant diversity assessment in the Yaxchilán Natural Monument, Chiapas, México *Boletín de la Sociedad Botánica de México*, núm. 83, 2008, pp. 53-76.

Downloadable on the Internet:

[www.scielo.org.mx/pdf/bsbm/n83/n83a5.pdf](http://www.scielo.org.mx/pdf/bsbm/n83/n83a5.pdf)

**MEERMAN, Jan**

n.d Heliconia's native to Belize. [www.Biological-Diversity.info](http://www.Biological-Diversity.info).

No clear date; but copyright 2002 and "last modified" in 2004.

Downloadable on the Internet:

[http://biological-diversity.info/native\\_heliconia.htm](http://biological-diversity.info/native_heliconia.htm)

**MOLINA Rosito, A.**

1975 Enumeración de las plantas de Honduras. *Ceiba* 19(1): 1-118.

**ORTIZ-Curiel, S., AVENDANO-Arrazate, C. H., OLIVERA-De Los Santos, A., GRAJALES-Solis, M., CANUL-Ku, J., CORTES-Cruz, M. and L. IRACHETA-Donjuan**

2015 *Heliconia L.*: género subutilizado en México. *Agroproductividad* 8:51-59.

Free download:

**ORTIZ Olivas, Diana Karely**

2010 Germinación de semillas de *Heliconia latispatha* Benth, 1844 en Teocelo, Veracruz. Thesis, Xalapa, Veracruz, Mexico. 48 pages.

**OTZOY-Rosales, Mynor Raúl, ESPAÑA-Miranda, Erick Alexander, SOSOF-Vásquez, Jorge Rubén and David Estuardo MORENO-Camey**

2003 Búsqueda, recolección, preservación y establecimiento de un sistema productivo de cultivares de flores tropicales, de la familia heliconiaceae, en el sur occidente de Guatemala. USAC. Guatemala, 58 Pages.

**PARKER, Theodore A., III, HOLST, Bruce K., EMMONS Louise H. and John R. MEYER**

1993 A Biological Assessment of the Columbia River Forest Reserve, Toledo District, Belize. Rapid Assessment Program. Conservation International. RAP Working Papers 3. 82 pages.

**QUAN, Claudia Lorena and Hilda María MORALES**

2004 Plan Maestro 2005-2010 Parque Nacional Río Dulce. CONAP and FONACON. 157 pages.

**SANTOS, Braulio A., LOMBERA, Rafael and Julieta BENITEZ-Malvido**

2009 New records of *Heliconia* (Heliconiaceae) for the region of Chajul, Southern Mexico, and their potential use in biodiversity-friendly cropping systems. *Revista Mexicana de Biodiversidad* 80: 857- 860, 2009

**SELVIN Pérez, Edgar and Miriam Lorena CASTILLO Villeda**

2000 A rapid assessment of avifaunal diversity in aquatic habitats of Laguna del Tigre National Park, Petén, Guatemala. pp. 56-60 In: *A Biological Assessment of Laguna del Tigre National Park, Petén, Guatemala*, B. T. Bestelmeyer and L. E. Alonso (editors). Conservation International

**SMITH, Robert Roy**

1968 A Taxonomic Revision of the Genus *Heliconia* in Middle America. PhD dissertation. University of Florida. 344 pages. Lots of research; two years of work; nicely organized results. But not one single solitary photograph of any real actual live *Heliconia* in its natural habitat. 100% of the photos were dead, dried, shriveled, colorless specimens in herbaria. So yes, he accomplished excellent work.

But let's get out of the basement storage area and into the biodiverse ecosystems of Mesoamerica. I have not yet had time to compare his list for Guatemala with the species we have found, but at least we have photographs of the plants in their natural native real actual habitats. And the local Mayan people tell us how they use some of the species (not all species are used).

**STANDLEY, Paul C. and Samuel J. RECORD**

1936 The Forests and Flora of British Honduras. Field Museum of Natural History. Publication 350, Botanical Series Volume XII. 432 pages plus photographs.

Has only a simple list. No description. Amazing that a plant as large and beautiful (and usable by local people) got such little attention from botanists.

**STANDLEY, Paul C. and B. E. DAHLGREN**

1931 Flora of the Lancetilla Valley, Honduras. Publication 283, Botanical series Volume X. Field Museum of Natural History.

**STANDLEY, Paul C. and Julian A. STEYERMARK**

1952 Flora of Guatemala, Part II, Fieldiana Botany, Volume 24, Part III. Chicago Natural History Museum.

*Heliconia* are on pages 178-191.

**SOSOF V., Jorge R., ALVARADO G., David and Martin S. SANCHEZ C.**

2006 Estudio de la variabilidad de cultivares nativos de flores del género *Heliconia* (Heliconiaceae) provenientes de la región Suroccidental de Guatemala. USAC, Guatemala.

Downloadable on the Internet:

<http://digi.usac.edu.gt/bvirtual/informes/puirna/INF-2006-023.pdf>

**SUCHINI Farfán, Aura Elena** (principal investigator)

2000 Endemismo florístico en el Norte de la Reserva de Biosfera Sierra de las Minas. USAC, CECON.

As often in reports by entities in Mexico and Guatemala, there is no clear date as to when this edition was published. There are other projects with similar names published in 2003. I use the date 2000 as a guesstimate.

**RAMIREZ, Jorge**

2010 Avifauna de Sitios Asociados a la Selva Tropical en la Depresión Central de Chiapas, México. Acta Zoológica Mexicana (nueva serie), vol. 26, num. 3. 539-562 pages.

**THE GOVERNMENT OF MEXICO FOR INSCRIPTION ON THE WORLD HERITAGE LIST**

2013 Nomination of Ancient Maya City and Protected Tropical Forests of Calakmul, Campeche

Downloadable on the Internet:

<https://whc.unesco.org/uploads/nominations/1061bis.pdf>

**VILLASEÑOR, José Luis**

2016 Checklist of the native vascular plants of Mexico. *Revista Mexicana de Biodiversidad* 87 (2016) 559–902.

Free download on the Internet.

**VOGL, C. R., VOGL-Lukasser, B. and J. CABALLERO**

2002 Homegardens of Maya Migrants in the District of Palenque (Chiapas/Mexico): Implications for Sustainable Rural Development. In: Stepp, J.R., Wyndham, F.S., and R.K. Zarger (eds.). *Ethnobiology and Biocultural Diversity*. Pp: 631 – 647. University of Georgia Press; Athens, Georgia.

**WILSON, Michael**

1972 A Highland Maya People and their Habitat: The Natural History, Demography and Economy K'ekchi' PhD dissertation. 475 pages.

His field work was near San Pedro Carcha, which is now a suburb of Coban, Alta Verapaz. The climate is moist due to moist clouds during many times of the year.

Downloadable on the Internet.



## HELPFUL WEB SITES FOR **ANY AND ALL PLANTS**

There are several web sites that are helpful even though not of a university or botanical garden or government institute. However most popular web sites are copy-and-paste (a polite way of saying that their authors do not work out in the field, or even in a botanical garden). Many of these web sites are click bait (they make money when you buy stuff in the advertisements that are all along the sides and in wide banners also. So we prefer to focus on web sites that have reliable information.

<https://serv.biokic.asu.edu/neotrop/plantae/>

Neotropical Flora data base. To start your search click on this page:

<https://serv.biokic.asu.edu/neotrop/plantae/collections/harvestparams.php>

<http://legacy.tropicos.org/NameSearch.aspx?projectid=3>

This is the main SEARCH page.

<https://plantidtools.fieldmuseum.org/pt/rrc/5582>

SEARCH page, but only for collection of the Field Museum herbarium, Chicago.

<https://fieldguides.fieldmuseum.org/guides?category=37>

These field guides are very helpful. Put in the Country (Guatemala) and you get eight photo albums.

<http://enciclovida.mx>

CONABIO. The video they show on their home page shows a wide range of flowers pollinators, a snake and animals. The videos of the insects are great.

[www.kew.org/science/tropamerica/imagetdatabase/index.html](http://www.kew.org/science/tropamerica/imagetdatabase/index.html)

Kew gardens in the UK is one of several botanical gardens that I have visited (also New York Botanical Gardens and Missouri Botanical Gardens (MOBOT), in St Louis. Also the botanical garden in Singapore and El Jardín Botánico, the open forest botanical garden in Guatemala City).

[www.ThePlantList.org](http://www.ThePlantList.org)

This is the most reliable botanical web site to find synonyms. In the recent year, only one plant had more synonyms on another botanical web site.

## WEB SITES SPECIFICALLY ON ***HELICONIA AURANTIACA***

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[www.backyardnature.net/mexnat/heliconi.htm](http://www.backyardnature.net/mexnat/heliconi.htm)

Botanist Jim Conrad discusses *Heliconia aurantiaca* at Parque Nacional El Rosario, near Sayaxche, Peten.

[www.maya-ethnobotany.org/heliconia-aurantiaca-in-the-ecoalbergue-lagunita-creek.php](http://www.maya-ethnobotany.org/heliconia-aurantiaca-in-the-ecoalbergue-lagunita-creek.php)

FLAAR Mesoamerica note and photo on our finding *Heliconia aurantiaca* at Ecoalbergue Lagunita Creek, not far from Rio Sarstun, in the Caribbean area of Municipio de Livingston, Izabal, Guatemala.

<https://plants.jstor.org/stable/10.5555/al.ap.specimen.k000574244>

Sample in herbarium of Kew, from eastern portions of Vera Paz and Chiquimula, Guatemala.

## WEB SITES OR WEB PAGES ON **THE GENUS *HELICONIA***

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[www.entnemdept.ufl.edu/Frank/heliconiabiota/helbib.htm](http://www.entnemdept.ufl.edu/Frank/heliconiabiota/helbib.htm)

A bibliography of Insects and Other Animals Associated with *Heliconia*

[www.heliconia.org](http://www.heliconia.org)

Heliconia Society International

[www.htbg.com/search.php?family=Heliconiaceae#HEL-010-6-5-037](http://www.htbg.com/search.php?family=Heliconiaceae#HEL-010-6-5-037)

Professional list of *Heliconia* species and in which country they are found.

[www.theplantlist.org/tpl1.1/search?q=Heliconia](http://www.theplantlist.org/tpl1.1/search?q=Heliconia)

Lists every botanical species of *Heliconia* and indicates which is accepted and which is a synonym: all on one single web site. To learn what are all the synonyms of any one species, just click on the species name and you get everything you need for plant names. However these are only plant name lists: no geographical information; for that you need to go to other helpful web pages.



## ACKNOWLEDGEMENTS TO FLAAR MESOAMÉRICA

The reports are a joint production between the field trip team and the in-house office team. So here we wish to cite the full team:

**Flor de Maria Setina** is the office manager, overseeing all the diverse projects around the world (including FLAAR-REPORTS research on advanced wide-format digital inkjet printers, a worldwide project for over 20 years). We also utilize the inkjet prints to produce educational banners to donate to schools.

**Vivian Díaz** environmental engineer, is project manager for flora, fauna projects (field work and resulting reports at a level helpful for botanists, zoologists and ecologists, and for university students). Also coordinates activities at MayanToons, division where educational material for kids is prepared.

**Victor Mendoza** identifies plants, mushrooms, lichen, insects, and arachnids. When his university schedule allows, he also likes to participate in field trips on flora and fauna research.

**Vivian Hurtado** prepares the bibliography for each subject and downloads pertinent research material for our e-library on flora and fauna. All of us use both these downloads plus our in-house library on flora and fauna of Mesoamerica (Mexico through Guatemala into Costa Rica).

**Andrea de la Paz** is a designer who helps prepare the master-plan for aspects of our publications. She is our editorial art director

**Senaida Ba** is photography assistant for many years. She knows the Canon, Nikon and is learning the two new Sony mirrorless cameras. She prepares, packs, sets-up, and helps the photographers before, during, and after each day's field trip.

**Jaqueline Gonzalez** is a designer who puts together the text and photographs to create the actual report (we have several designers at work since we have multiple reports to produce).

**Roxana Leal** is Social Media Manager for flora and fauna research and publications, and MayanToons educational book projects

**Maria Alejandra Gutierrez** is an experienced photographer, especially with the Canon EOS 1D X Mark II camera and 5x macro lens for photographing tiny insects, tiny flowers, and tiny mushrooms. Work during and after a field trip also includes sorting, naming, and processing. And then preparing reports in PDF format.

**David Arrivillaga** is an experienced photographer and is able to handle both Nikon and the newest Sony digital cameras. Work during and after a field trip also includes sorting, naming, and processing. And then preparing reports in PDF format.

**Juan Carlos Hernandez** takes the material that we write and places it into the pertinent modern Internet software to produce our web pages (total network is read by over half a million people around the world).

**Paulo Nuñez** is a webmaster, overlooking the multitude of web sites. Internet SEO changes every year, so we work together to evolve the format of our web sites.

**Valeria Aviles** is an illustrator for MayanToons, the division in charge of educational materials for schools, especially the Q'eqchi' Mayan schools in Alta Verapaz, Q'eqchi' and Petén Itzá Maya in Petén, and the Q'eqchi' Mayan and Garifuna schools in the municipality of Livingston, Izabal.

**Josefina Sequen** is illustrator for MayanToons and also helps prepare illustrations for Social Media posts and for animated videos.

**Rosa Sequen** is also an illustrator for MayanToons and also helps prepare illustrations for Social Media posts and for animated videos.

**Laura Morales** is preparing animated videos in MayanToons style since animated videos are the best way to help school children how to protect the fragile ecosystems and endangered species

**Heidy Alejandra Galindo Setina** joined our design team in August 2020. She likes photography, drawing, painting, and design.

**Maria José Rabanales** she is part of the team for editing photographic reports and educational material of Flora and Fauna since September 2020. She works together with others of the team to prepare the finished pdf editions of the material of the Yaxha, Nakum and Naranjo Project.

**Alejandra Valenzuela**, biology student is now part of Flora y Fauna's photographic report and educational material editing team since September 2020.

**Alexander Gudiel**: designer who join the editorial design team on December 2020. He will combine the text, pictures and maps into the FLAAR Mesoamerica editorial criteria.

## LIVINGSTON: THE CARIBBEAN BIODIVERSITY WONDERLAND OF GUATEMALA

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Izabal, one of the regional departments of Guatemala that offers a variety of recreational activities, is home to numerous nature parks and diverse natural landscapes. There are white sandy beaches a short boat trip away, with tall jungle-covered mountains in the background, and the Mesoamerican Reef System in the Caribbean Sea on the horizon in front of you. Mangrove swamps, seagrass, islands, cenotes, caves, karst geology canyons and streams of crystal clear water abound along the Río Dulce and Lake Izabal coast or inland. All this together makes Livingston one of the destinations for tourists wanting to do bird-watching, explore caves, get healthy exercise hiking through trails in the rainforest. In addition to the incredible flora and fauna that the municipality offers, three different cultures coexist in the ecosystem (Mayan Q'eqchi', Garifuna and Ladinos).

In order to conserve the biodiversity found in the municipality and that continues to be of benefit to the ecosystem, it is necessary to have an updated record of the species that inhabit here and thus be able to detect changes in the species population. Thanks to the efforts of different institutions focused on environmental improvement projects at various sites in Livingston (FUNDAECO working in Río Sarstun, CONAP covering Río Dulce, CECON-USAC in Chocón-Machacas, and ARNPG with more than ten private reserves, among many others) there are records of species of flora, fauna and ecosystems of this municipality of Izabal.

Using this information in the most efficient way and using the potential of digital technology, the database for the municipality can be supplemented with photographic records of flora, fauna, and ecosystems. The FLAAR Mesoamerica team, in cooperation with the municipal authorities, have begun to produce this educational material using the photographic records generated during the cooperation project to account for the flora, fauna and ecosystems that can be seen in Livingston. This will be accomplished in order to provide information to the schools, families and institutions already working to protect the environment.

We hope to attract the attention of professors, botanical garden clubs, orchid and bromeliad societies, students, tourists, experts, explorers, photographers and nature lovers who want to get closer, to marvel at the species of flowering plants, mushrooms and lichen that FLAAR Mesoamerica finds during each field trip each month.





FLAAR Mesoamerica (**Foundation for Latin American Anthropological Research**) is a nonprofit Guatemalan institution founded under the direction and enthusiasm of experienced Biologist Eduardo Sacayón and Dr Nicholas Hellmuth. Dr Hellmuth, a specialist of Classic Mayan iconography and temple-pyramid, palace and ballcourt architecture. Hellmuth's research evolved to focus on edible and utilitarian plants of the biodiverse ecosystems of Guatemala that were available to the Maya of past and present.

The work done at FLAAR Mesoamerica consists of the methodological compilation of facts about nature, flora, fauna, history, and cultures of Mesoamerica. It also includes publishing it to a largest audience, both in Guatemala and around the world. One goal is to promote the country around the world for its diversity of birds, pollinators, mammals, amphibians, reptiles, photogenic flowering and non-flowering Neotropical plants in wetlands, forests, savannas, and other remarkable habitats from bosque seco, monte espinoso, seasonal rain forests to cloud forests.

We have an experienced team specialized in advanced high-resolution digital photography and wide-format inkjet printing. Our in-house graphic designers can produce educational material about nature to donate to school classrooms in remote mountain and rain forest areas. Our Mayan-speaking team facilitates having our educational material in several Mayan languages, and we will be adding material in Garifuna for our project in Municipio de Livingston.

Likewise, our work has arisen from the interest and support of the board directors of FLAAR Mesoamerica, President Flor de María Setina, Vice president María Alejandra Gutiérrez, Secretary Rodrigo Girón, Treasurer Oscar Lambourg, and (Vocal) Elsa Morales.

One of our main objectives at FLAAR Mesoamerica is to increase consciousness about caring and protecting Mesoamerican natural diversity. By utilizing high-resolution photography, we can better showcase the remarkable flora and fauna of Guatemala. These photographs, and the accompanying information, will awake the admiration and desire in those who follow our work. Thus, the FLAAR Mesoamerica teams create educational material about the biodiversity that deserves recognition and protection.

We also are inspired to provide for all our readers plenty of annotated suggestions of lots of other reports, articles, thesis, dissertations, and web sites via our bibliographies of suggested additional reading. Our focus is generate materials that are easy to read, educational, reliable, and visually pleasing by using lots of full-color photographs -just like this report!

Our newest project is to adequate this technical information to help children learn about biodiversity and how to protect endangered species by MayanToons books and educational animated videos. Our illustrated books and animations are made for primary school children and Mayan families in Guatemala to have access to information about the need to protect the fragile ecosystems and flora and fauna throughout this country.

We are open to work with, share, and expand our accomplishments with other organizations, institutions, or companies that share our vision. You can find more of our work throughout the different digital platforms of our directory:

[www.flaar-mesoamerica.org](http://www.flaar-mesoamerica.org)  
[www.digital-photography.org](http://www.digital-photography.org)  
[www.maya-ethnozoology.org](http://www.maya-ethnozoology.org)  
[www.maya-ethnobotany.org](http://www.maya-ethnobotany.org)



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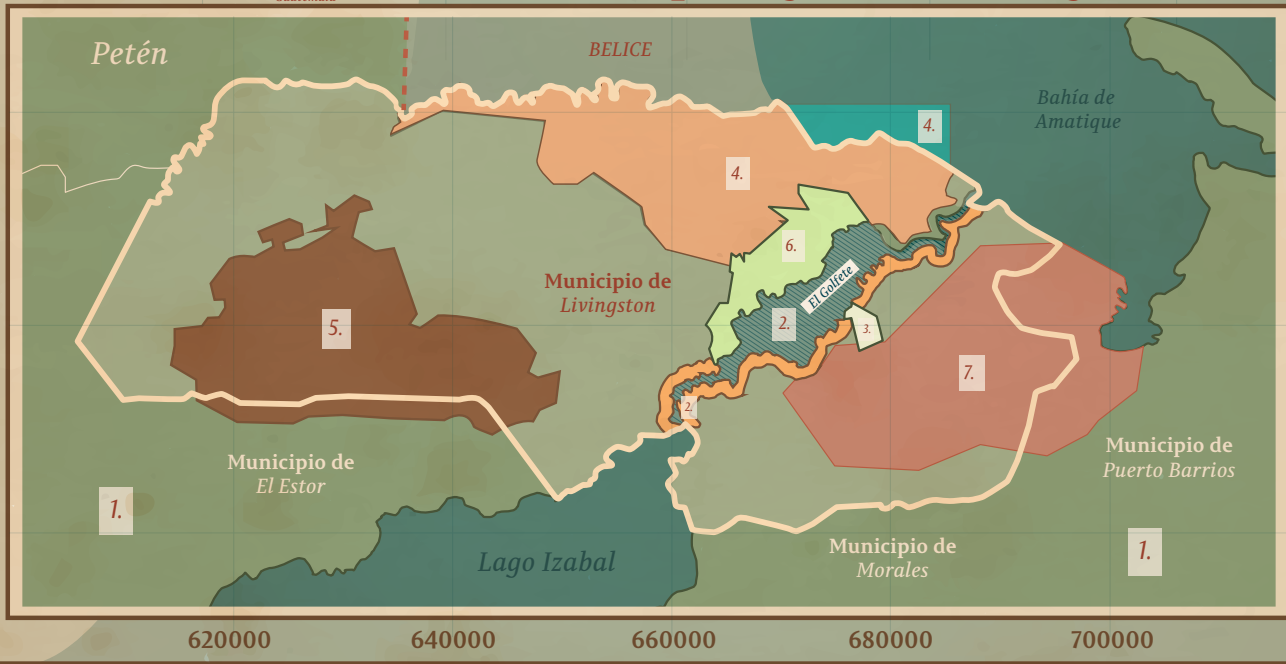
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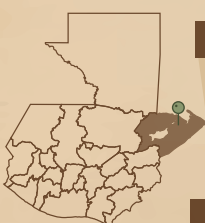
### Áreas naturales protegidas de Livingston



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### Izabal

- 1. Área sin protección
- 2. Parque Nacional Río Dulce
- 3. El Higuerito
- 4. Área de Usos Múltiples Río Sarstún
- 5. Sierra de Santa Cruz
- 6. Biotopo Protegido Chocón Machacas
- 7. Reserva Protectora de Manantiales Cerro San Gil



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Bahía de Amatique

# Aldea Plan Grande Tatin, Livingston

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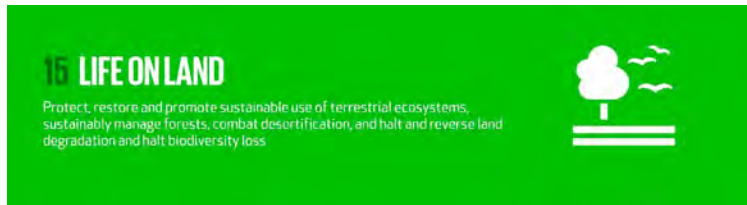
Izabal



- 1. Reserva Protectora de Manantiales Cerro San Gil
- 2. Biotopo Protegido Chocón Machacas
- 3. Área sin protección
- 4. Parque Nacional Río Dulce
- 5. Área de Usos Múltiples Río Sarstún
- Acceso terrestre (dashed red line)
- Acceso de tierra (dashed yellow line)

**Información de referencia:**

- Límites departamentales de Guatemala. (IGN)
- Instituto Geográfico Nacional (IGN) (Hojas 2463 IV y 2463 III)
- Google Map data 2020. Shapes: Sistema Guatemalteco de Áreas Protegidas 2017.
- Cuerpos de agua. Ministerio de Agricultura Ganadería y Alimentación (MAGA)
- Dirección de Análisis Geoespacial del (CONAP), Marzo/2017.



The current Alcalde of Livingston, Mr. Daniel Pinto, together with his team of International Cooperation division, Mr. Edwin Mármod, have set the goal of achieving the municipality development in the years 2020-2024 based on the goals and indicators proposed by the 2030 Agenda for Sustainable Development. From this agenda, FLAAR Mesoamerica will collaborate to achieve Sustainable Development Goal (SDG) number 15 "Life on Land".

Throughout this cooperation project, different materials have been prepared, like this Photo Essay, that helps to collect information on species and different ecosystems: terrestrial, wetlands and fresh water biodiversity. This information would also be useful as part of a strategy to protect threatened species and prevent their extinction. The municipality's goals include to promote the sustainable use, conservation and research of the species of flora and fauna of the terrestrial, wetlands and aquatic shore and coastal ecosystems of the Guatemalan Caribbean. Learn more about this project and the SDG indicators at: <https://flaar-mesoamerica.org/rain-forests-rivers-lakes-bays-ocean-caves-canyons-livingston-the-caribbean-biodiversity-wonderland-of-guatemala/>

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This report may be cited with this information:

Hellmuth, N. (2020) Heliconia, Golden Dwarf Heliconia, *Heliconia aurantiaca*, Livingston, Izabal, Guatemala: FLAAR Mesoamérica

### BACK COVER PHOTOGRAPH *Heliconia aurantiaca*

Photo by: Nicholas Hellmuth, FLAAR Mesoamerica, Mar. 12 2020, 13:17. Finca El Cimarrón, Municipio de Livingston.

Camera: NIKON D5. Lens: Zeiss Makro-Planar 2/100 ZF.2. Settings: 1/250 sec; f/8; ISO 5,000.

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All national parks, nature reserves, and comparable are welcome to have and use our reports at no cost. USAC, UVG, URL, Universidad Rural, INTECAP and other Guatemalan universities, and high schools, and schools, are welcome to post our reports, at no cost.

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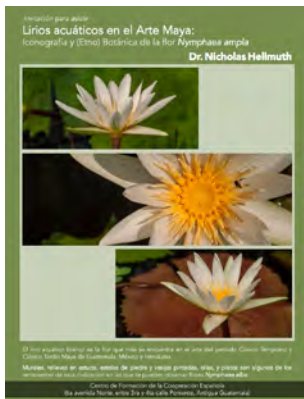
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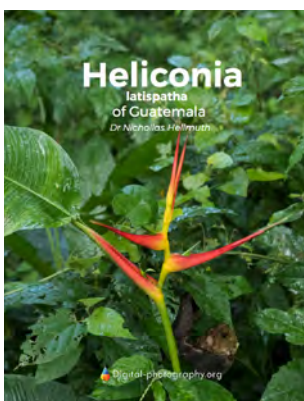
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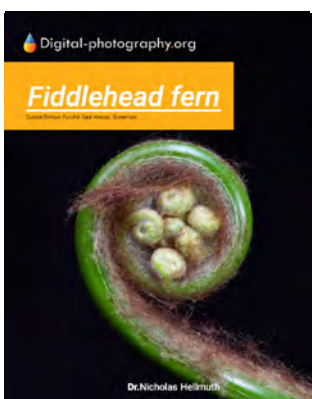
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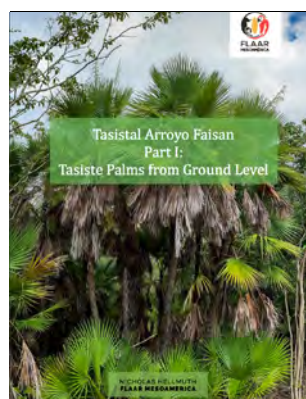
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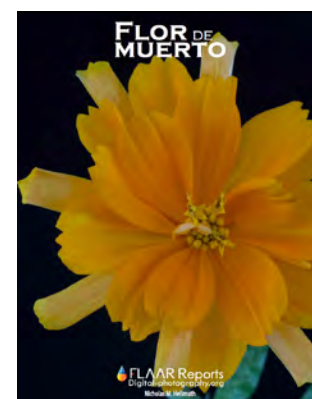
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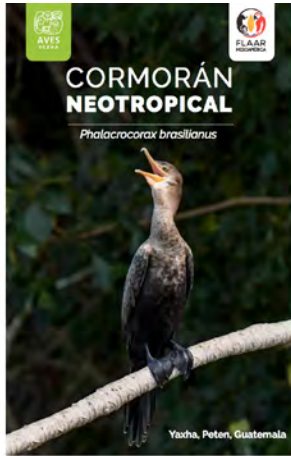
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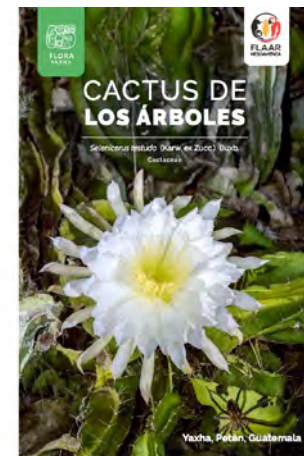
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