



What lenses to use for Botanical Photography? (Plants, Flowers, and Landscapes)



Comparing single-shot capture with
multi-shot GigaPan capture
photographing Ceiba trees in Guatemala



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Introduction

Millions of photographers enjoy photographing flowers; other millions love to do landscape and panoramic photography. But photographing a single tree, and capturing the entire tree, can be a challenge if you can't back up and get a wide view from far away.

To photograph flowers, you would use a normal lens or any variety of macro lenses. For panoramic photography there are endless combinations of lenses especially if you have a pano head for your tripod (so you can stitch adjacent overlapping photographs with your software, such as Adobe Photoshop).



Here are photographs of flowers; normal view with Canon EF 100mm f/2.8 Macro USM Lens with Canon EOS-1Ds Mark III.



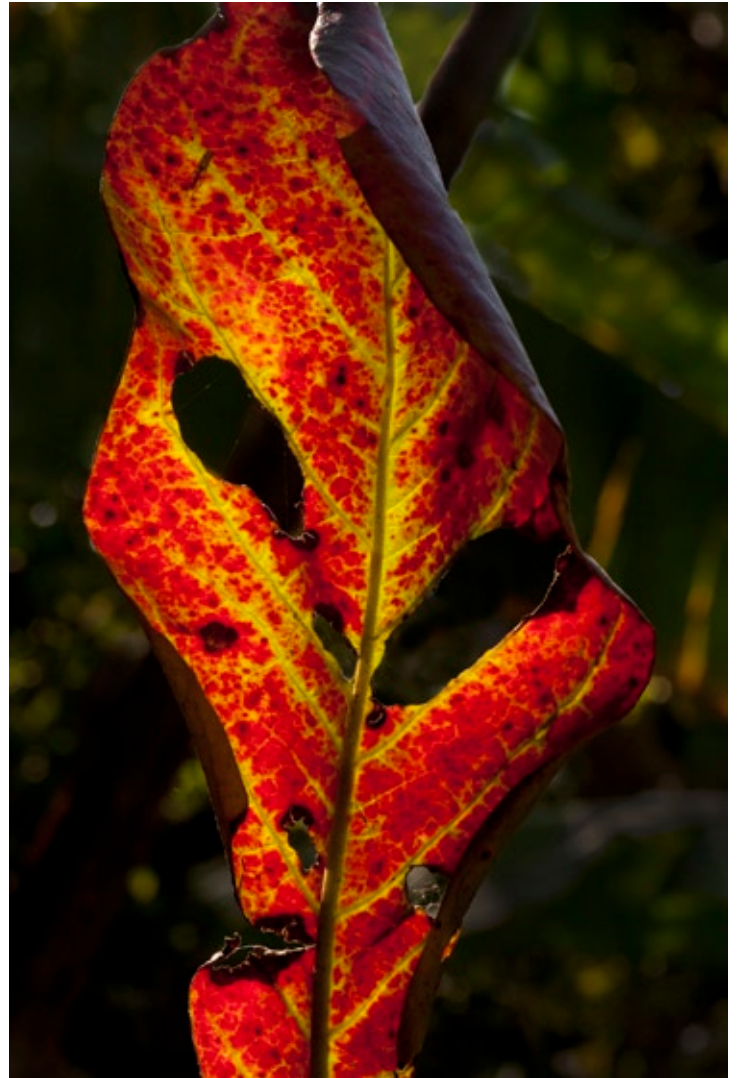
Photograph with 100mm f/2.8 Macro USM Lens on a Canon EOS-1Ds Mark III. At FLAAR Mesoamerica garden.



Photograph with 100mm f/2.8 Macro USM Lens with a Canon EOS-1Ds Mark III. At FLAAR Mesoamerica garden.



The photos are taken at FLAAR Mesoamerica garden with 100mm f/2.8 Macro USM Lens on a Canon EOS-1Ds Mark III. At FLAAR Mesoamerica garden.



This photograph has been worked on with photoshop CS5 for correction and can be used for fine art giclee prints.

But what if the position of the plant, flower, or tree does not allow you to utilize normal lenses? What if the tree is high enough so a normal panoramic tripod can capture the width but nowhere near all the height?



Here is a photograph with a Hasselblad camera, Zeiss 50mm wide-angle lens, and Phase One P25+ digital back. Notice that there is no way to photograph the extreme height of this tree unless we were to back up 50 yards away! This tree is as tall as an apartment building.

So in this digital camera lens evaluation we take a real-life situation: the need for a botanical photographic record of a single tree but in a space so limited that it was not possible to back up far enough to get a normal photograph. So we resorted to extreme wide angle.

The situation: not enough space to back far enough way; can't use regular lens

Our goal is to photograph an entire ceiba tree. This species, *Ceiba pentandra*, can produce the largest tree in all of Central America. Fortunately this specimen in the back yard is a "baby;" it is less than eight years old. So it is only about two storeys high at this young age. I have had it about three or four years. I purchased it at a nursery.





Planting the Ceiba tree at FLAAR Mesoamerica garden.



I probably could have gotten away with a 19mm lens, but 14mm prime lens is what I have, so this is what I used.



Ceiba pentandra cut out in photoshop CS5, photograph with the Canon EF 14mm f/2.8L USM Wide Angle Lens.



Nicholas Helmuth, photographing Ceiba tree at FLAAR Mesoamerica garden, with the Canon EF 14mm f/2.8L USM Wide Angle Lens.



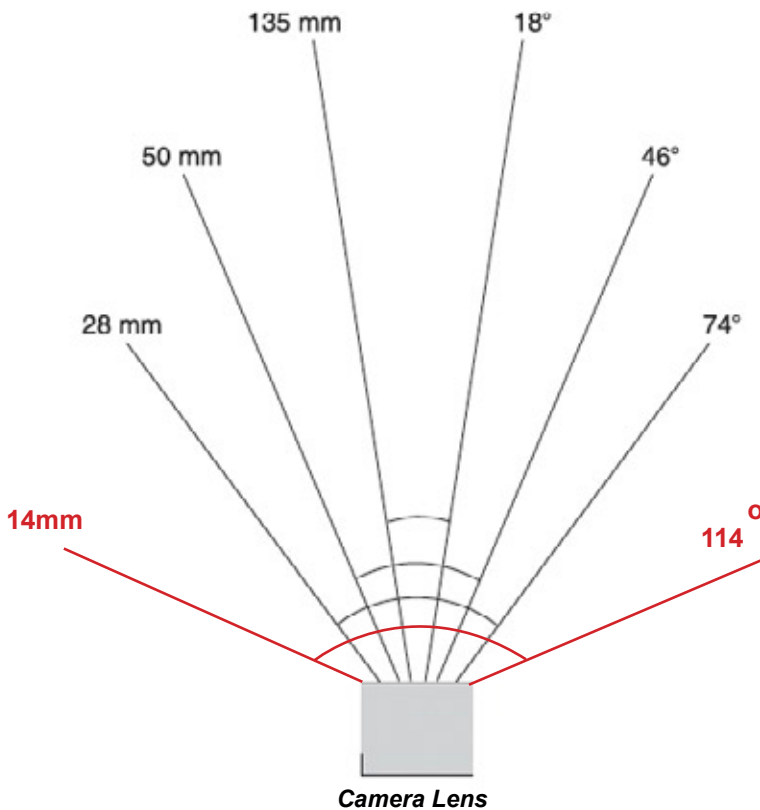
Photograph set up for *Ceiba pentandra* tree at FLAAR Mesoamerica garden. Two tripods to hold the Savage studio blue background paper.



Canon EOS1-Ds MarkIII with 14mm Canon lens attached photographing the *Ceiba pentandra* at FLAAR Mesoamerica garden.



Canon EF 14mm f/2.8L USM Wide Angle Lens



Canon EF 14mm f/2.8L USM Wide Angle lens has a wide angle view of 114 °

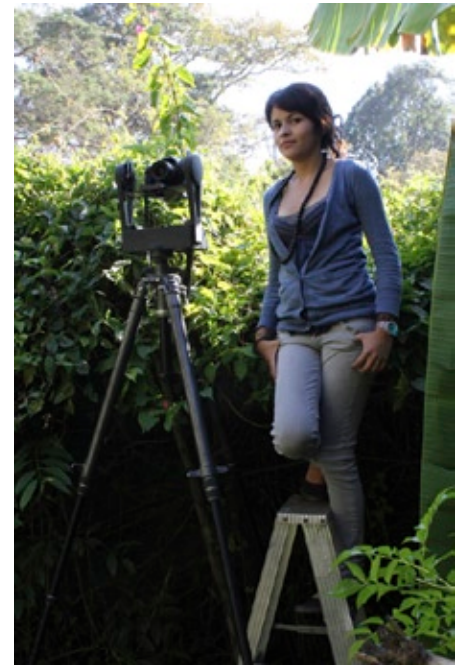
In this diagram you can see a comparison from different focal lens.

Langford Michael.

2000. Basic Photography. Focal Press. 79-80

Comparison between using an ultra wide-angle lens and using a GigaPan

Sofia Monzon set up the GigaPan to take a photograph of the same young ceiba tree. The GigaPan is a motorized robotic tripod head.



Sofia Monzon with the gigapan preparing to do a panoramic photography.



Photography by Sofia Monzon with Gigapan Epic Pro.

Other examples of using the Canon EF 14mm f/2.8L USM Wide Angle Lens to photograph ceiba trees.

We acquired this lens during December 2010 and took it to Petén to photograph mature ceiba trees. Here are some examples that we found near the highway as we were driving from Flores to Sayaxche.



Photographs with Canon EF 14mm f/2.8L USM Wide Angle Lens.



FLAAR Reports, is interested in photographing the Ceiba spines for evaluating the relation with ancient Mayan archaeology vases and incense burners. Incense burner from La Ruta Maya Conservation Foundation.



Incense Burner from Lake Atitlán *Museo Popol Vuh Universidad Francisco Marroquín .*



Incense Burner *Museo Popol Vuh Universidad Francisco Marroquín, Guatemala.*

Here are also a few other examples along the Arroyo Petex Batun, a tributary of the Rio de la Pasion that goes up to Lake Petex Batun. It rained that day so we did not get as far as the lake itself.



Although this is not a Ceiba tree, it shows the need for ultra wide-angle lenses inside the rain forest. Here you need a GigaPan to photography upwards! Canon EF 14mm f/2.8L USM Wide Angle Lens, near Sayaxche, Peten, Guatemala



Photographs of the Ceiba pentandra taken with Canon 14mm lens at Sayaxche Petén Guatemala.



Photographs of the *Ceiba pentandra* with Canon EF 14mm f/2.8L USM Wide Angle Lens in the road to Sayaxche Petén Guatemala.

Acknowledgements

Our goal is not just to take photographs but to print them for exhibits. We aspire to have a future exhibit on the ceiba tree. In order to exhibit these photographs we will need to print them. So we also evaluate wide-format inkjet printers.

Since we wish to have high quality photographs to send to a top quality wide-format inkjet printer, we evaluate the cameras, lenses, tripods to hold the camera. Then we evaluate printers, inks, and the media to print on. We publish all the results of our evaluations so that other botanists can see which cameras and printers they can use for their botanical gardens.

Our Canon camera equipment and printers we tend to obtain from Parrot Digigraphic. If you get things low-bid from a box pusher (Amazon.com is one good example) you don't get to speak with a person who knows anything about cameras or printers. So if you wish to understand the difference between an Epson, an HP, and a Canon printer, Parrot Digigraphic can help you. Plus they can explain the difference between medium format and 35mm DSLR cameras, since they offer Hasselblad in addition to Canon cameras. You can contact them at info@ParrotColor.com

We thank Hoodman USA for the RAW CompactFlash memory cards which we use in our Phase One, Canon, and Nikon cameras. You can contact Hoodman via Toll Free (800) 818-3946 (U.S. Only), from elsewhere in the world you can reach them at +1 (310) 222-8608 (Torrance, California time zone), Fax (310) 222-8623, sales@hoodmanusa.com

Since FLAAR is dedicated to professional quality photography in archaeology, ethnography, ethno-botany, ethno-zoology, and geology, as well as macro, pano, landscape, architectural and fine art photography, we have many Canon cameras, many Nikon cameras, GigaPan, Hasselblad, and several large format Cambo cameras plus we just added a Silvestri 6x9 format camera (all digital). Thus we need a tripod for each camera.

Since each camera is different size, shape and application, it helps when each tripod is ideal for the camera and kind of location where we are photographing (studio or outside in swamps). We appreciate the tripods from both Gitzo and Manfrotto, as well as pertinent tripod heads, courtesy of Bogan Imaging.

You can see the Gitzo and Manfrotto tripods at Photokina, Photo Plus (Photo East in New York) and other professional photography equipment expos. Telephone: (201) 818-9500; Fax: (201) 818-9177;

E-mail: info@manfrottodistribution.us

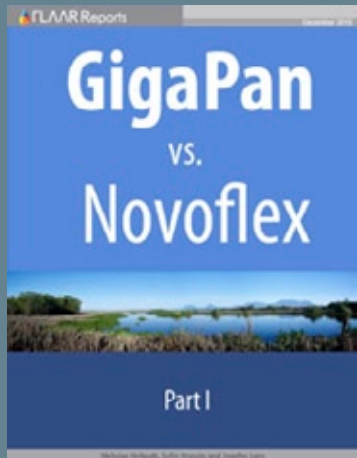


16GB Hoodman Compact Flash memory card.



Nicholas Hellmuth and FLAAR staff preparing to photograph the Ceiba pentandra at FLAAR Mesoamerica garden, with Gitzo and Manfrotto tripods, holding the Hoodman compact flash memory cards.

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