Wind blown Dispersal
Ceiba aesculifolia

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FLAAR Reports

Seed Dispersal
Native, Natural Techniques

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Ceiba aesculifolia compared with Ceiba pentandra

There are lots of Ceiba aesculifolia trees in Progresso and Zacapa, along both sides of CA9 (Guatemala City towards Puerto Barrios). Most ceibas are between km 67 and km 110, indeed there are several areas with dense forests of Ceiba aesculifolia. There are also Ceiba aesculifolia trees visible from the highway from El Rancho northwards, driving from Motagua Valley into the the hills (towards the mountains of Baja Verapaz). You can check technical articles and monographs to learn where else these trees can be found.

Ceiba pentandra are more common in Peten, a few in Alta Verapaz, lots in the Costa Sur, and other parts of Guatemala. These giant trees prefer more humidity than their smaller tougher sibling Ceiba aesculifolia. Some Ceiba aesculifolia trees have no spines whatsoever, and these are not necessarily really old trees. You can see spiny and spineless trees in the same area between km 95 and km 97 (and of course from km 60 onward).

Ceiba aesculifolia seed pod fluff is very white; Ceiba pentandra seed pod fluff can be dark white to almost brownish. Ceiba aesculifolia flowers are thin versions of the awesome flowers of their two relatives: Pachira aquatica and Pseudobombax ellipticum.

Ceiba aesculifolia have dark colored trunks, whether young or old. Ceiba pentandra have green trunks with vertical light patterns when young; darker when older. Ceiba aesculifolia have spines up to 5 cm long; however most spines are 1 to 2 cm. Ceiba pentandra have conical spines 1 to 2 cm long; though I would not be surprised to find spines up to 3 or 4 cm occasionally; but spines of 4 or 5 cm are not common. Some botanists call these prickles.

The pattern of conical spines on both species varies from tree to tree: some have a lot of open space; others have spines covering literally most of the trunk.

Ceiba pentandra can grow to become several centuries old. They generally rot from the inside out and then when they are totally hollow they blow over during heavy storms. We have lots of photos of the rotten inner cores because there is usually a literal doorway at the base of the trunk where you can see inside (see the entire rotted core).

I do not know the longevity of a Ceiba aesculifolia tree. The biggest Ceiba aesculifolia that I know is in the Jardin Botanico, Guatemala City. Here the tree gets much more rain than out in the dry eco-system parallel to the Rio Motagua at the eastern end of Progresso and western end of Zacapa. I have never ever seen a Ceiba aesculifolia tree in the wild this tall.

Canon PowerShot G16, 100-400mm f/8.0, speed 1/200, f /16.0, ISO 80

Some Ceiba aesculifolia trees have abundant spines, but we have found others (parallel to CA9 and Rio Motagua, circa Km 95-96) which have no spines whatsoever on their trunks, even when not a large tree.

Note the candelabra cactus mixed in with the ceiba trees.

Ceiba aesculifolia seedpod has opened onl on the back side (where you can see the kapok fluff getting ready to blow away).

Photo by Sophia Monzon with flash. Jutiapa area, February 4, 2012.

Canon EOS-1Ds Mark III, 100-400mm f/0, speed 1/250, f /8.0, ISO 160

Two Ceiba aesculifolia seed pods before they open. Jutiapa, photo by Sofia Monzon.

Canon EOS-1Ds Mark III, 100-400mm f/0, speed 1/125, f /14, ISO 160

Ceiba aesculifolia seed pods totally open but not much has yet blown away. Notice the candelabra cactus in the background. The white there is not more kapok: the white there is the normal material on these kinds of candelabra cactus.

CA9 (highway from Guatemala through El Rancho towards Puerto Barrios, parallel to Rio Motagua),

NIKON D800E, 60mm f/2.8, speed 1/400, f /13, ISO 320

NIKON D800E, 60mm f/2.8, speed 1/400, f /13, ISO 320

Again the pod has opened more on one side than the side you see in the photo. But already seeds have begun to float away. You can see seeds with kapok all around them getting ready to be the next seed to fly away.

CA9, Km 95-96, parallel to Rio Motagua. Photograph by Nicholas Hellmuth, Nikon, April 21, 2015.

NIKON D800E, 60mm f/13, speed 1/200, f /13, ISO 200

Seed pod is fully open but most of the seeds have not yet been blown away.

CA9, Km 95-96, parallel to Rio Motagua. Photograph by Nicholas Hellmuth, Nikon, April 21, 2015.

NIKON D800E, 60mm f/2.8, speed 1/250, f /13, ISO 200

CA9, Km 95-96, parallel to Rio Motagua. Photograph by Nicholas Hellmuth, Nikon, April 21, 2015.

NIKON D800E, 60mm f/-, speed 1/1000, f /13, ISO 320

The seed pod looks rather wet; indeed it must have rained since there are large fresh leaves.

May 1, 2017, Nikon, photograph by Dr Nicholas Hellmuth.

COOLPIX B700, 60mm f/5.5, speed 1/200, f /13, ISO 100

From below, looking up at the bottom of the pod. You can see that this pod is still fluffy with kapok and seeds.

May 1, 2017, Nikon, photograph by Dr Nicholas Hellmuth.

COOLPIX B700, 105.0 mm, speed 1/250, f /7.6, ISO 100

Ceiba aesculifolia kapok seed pods in various stages of opening up.

NIKON D800E, 105.0 mm, speed 1/25, f /16, ISO 500

Ceiba aesculifolia

Ceiba aesculifolia prefers dry areas. The area we know the best is km 95-97, between highway CA9 and the Rio Motagua (about 100 meters from the highway).

Every year we stop at the same location to photograph either the flowers (mid-January through February) or the kapok seed fluff (February through May). Note: flowering and seed dispersal month varies by year depending on rainfall and temperature changes each year.

Which Camera Equipment to Use on Field Trips

We have both Nikon and Canon cameras. These photos are from March 26, 2013. In that year we had a Nikon D800 and a Canon EOS 6D.

Now we use Nikon D810, Nikon D5 (when we need Burst Speed mode and high ISO), and Canon EOS 1DX Mark II. It is a waste of time driving long distances, having important ethnobotanical plants in front of you, but you have only an outdated point-and-shoot camera. That said, the assistants do use a point-and-shoot camera with no tripod to take snapshots of Dr Nicholas at work. But for photographing seed pods, we use only tripod and a good camera with a prime lens. We almost never use a zoom lens.

And for sure we never use a Tamron or comparable low-bid lens. But there are good Sigma lenses nowadays and of course Zeiss lenses for 35mm cameras are still good even though no longer manufactured in Germany (they are made in Japan since several years ago).

On field trips 90% of our photos are taken with a Gitzo tripod and an ancient Arca Swiss tripod head. www.digital-photography.org shows our many years of experience with digital cameras. Before the digital era we used Leica, Hasselblad, Linhof 5x7 and Linhof 8x10 (for architectural photography of Mayan temples, pyramids, palaces, and ballcourts). You can see samples on www.maya-archaeology.org web site.

If I won the lottery, I would prefer a PhaseOne digital system for landscapes, for views of large trees, and for large flowers. But for close-up macro photographs of small flowers or insects, the size of a Nikon or Canon is much more appropriate.

Canon 6D, macro lens, ring flash.

Gitzo tripod with ancient ARCA SWISS Monoball tripod head (about 30 years old and still functional, though admittedly getting a bit used).

Ceiba aesculifolia, CA9, Km 90-96, parallel to Rio Motagua, March 26, 2013.

NIKON D800E, 105.0 mm, speed 1/25, f /16, ISO 500

Canon 6D, macro lens, ring flash.

Gitzo tripod with ancient ARCA SWISS Monoball tripod head (about 30 years old and still functional, though admittedly getting a bit used).

Dr Nicholas has been photographing in Guatemala for many decades (actually over half a century). That is the Rio Motagua in the background.

Sofia Monzon was a photo assistant for several years and is long ago a photographer in her own right. She now works with her husband Estuardo in their own company, doing especially video of events, weddings, etc.

We usually have several cameras and more than just Dr Nicholas doing the photography. The students of Guatemalan universities are excellent photographers. They receive lots of experience and training while they work with the FLAAR team.

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Suggested webpages with photos and information on *Ceiba aesculifolia*

www.tropical.theferns.info/viewtropical.php?id=Ceiba+aesculifolia
Information and photos.

https://ecojardinunam.wordpress.com/2014/09/01/conoce-a-la-pochota-ceiba-aesculifolia/
Information and photos.

www.uaq.mx/FCN/naturaleza/Ceiba%20asecutifolia.php
Information.

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Information.

www.backyardnature.net/yucatan/pochete.htm
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