

PINEAPPLES



Did the Aztec and Maya really have the Pineapple before the Arrival of the Spaniards?



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December 2018**

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Really have the Pineapple ?
Before the Arrival of the Spaniards?



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INTRODUCTION TO THE PINEAPPLE QUESTION

In early September 2018, while working together with the park rangers (Parque Nacional Yaxha Nakum Naranjo), I was led on a hike deep into the seasonally wet and seasonally very dry scrub forests between Yaxha and Nakum. I was shown a remarkable fruit that looked at first like a “wild Mayan pineapple.” Yes, *Aechmea magdalenae* is obviously a visual relative to the yummy and nutritious pineapple fruit. Both are of the same bromeliad plant family. But there is no wild ancestor of the *Ananas* in Guatemala; there is only *Aechmea magdalenae*, which is a different genus. I have not yet found any claim of any pre-Columbian *Ananas* anywhere in Aztec areas of Mexico or the Mayan areas of Mesoamerica.

But finding the “pineapple relative” deep in the Parque Nacional Yaxha Nakum Naranjo, reminded me that Cyrus Lundell was uncertain that the Classic Maya knew of the pineapple. And J. Eric S. Thompson clearly stated that because there is no Mayan word for pineapple, he doubted the Mayan people knew of this plant whatsoever before the Spanish brought literally scores of edible plants from lower

Central America, from South America, and especially from the Caribbean (where pineapple was clearly pre-Columbian for sure).

In other words, Columbus finding the pineapple on the Island of Guadalupe is absolutely no proof, botanical or ethnohistorical, that the pineapple was native to Mexico and Guatemala. However most food historians, and especially notable food historian Sophie Coe, all appear to accept the pineapple as fully prehispanic in Mesoamerica (1994: 41).

I bet 99% of the web sites on the plants eaten by the Maya and by the Aztec include the pineapple (but lots of these sites also include the peanut and potato, which were more likely than the pineapple, but still not totally convincing, since both are native far far south). And how many web sites say the Maya and Aztec had the mango? (hint, the same web sites that say the Maya and Aztec had pineapples).

REOPENING AN OPEN QUESTION: THE PINEAPPLE

The fruits of *Aechmea magdalenae* immediately remind you of the top of a pineapple. No surprise, since *Aechmea magdalenae* is a relative of the pineapple. However *Ananas comosus* (L.) Merrill, the commercial pineapple, may not have been known to the Maya before the Spanish conquest; for example there is rarely a Maya name recorded for the fruit. The species is grown today throughout the region for centuries (Lundell 1938) but is not yet anywhere documented as being present before the arrival of the Spaniards.

ARE PINEAPPLES SHOWN ON THE CASCAJAL BLOCK (OLMEC)?

Pineapples are claimed to be pictured on the 1000 BC incised Olmec serpentine slab named the Cascajal Block.

A few archaeologists suggest this slab is a fake. I have seen thousands of fakes:

fake Olmec and Maya fake sculptures, ceramics, jades, etc. However to me this brick-sized slab has no symptoms of being an immediately obvious fake (more than 50% of fakes are copied from well known art). Other fakes are in clumsy style: the style here is not clumsy. I have never had this Olmec work of art in front of me; it really helps make a decision in-person. But I would not immediately label it as an obviously forgery. I suggest that geologists and other experts study what tools incised it, etc. In other words, I accept this Olmec inscription as most likely authentic, but I would definitely question whether the Olmec had pineapples or whether the symbols really are specifically pineapples.

So even estimating that the Cascajal Block is authentic, epigraphers will need a better interpretation than “pineapple” for one of the symbols, since it is highly unlikely that the Olmec, or later Maya, had the pineapple. And even more unlikely that if they did, their pineapples were the size and shape of modern genetically engineered size and shape from plantations in Hawaii (the origin of the original pineapple is South America).

Sophie Coe seems to suggest that the pineapple had arrived in Mexico and Mayan areas before Columbus (S. Coe 1994: 41). She is a respected researcher on food of the Americas and it is her book which first induced me to include the pineapple as part of the Mayan foods before the Spaniards. But as I did more botanical research, I simply did not find botanical or ethnohistorical or archaeological documentation that absolutely convinced me that the pineapple had reached the Aztec and Maya.

The Cholti Lacandon Maya did have Pineapples by the 1690's

Part of the problem is that some foods introduced by the Spaniards in the early 1500's rapidly spread throughout Mesoamerica. So by 150 years later, most Mayan village had them. Here is a comment from (if I remember correctly, circa 1690's).

"... on the 21st of April . . .we silently entered the milpas in which we did not find anybody at all, although there were signs in them that the Lacandones were around in them, because we found the cleared areas burned ready to plant, and we found some very fresh signs of the Lacandones. In these milpas Your Lordship found a great quantity of maize closed in storage bins with nice houses, perhaps . . . and a great quantity of root crops for eating such as camotes and other similar things, and beans and peppers and pineapples and platanos and other fruits. Your Lordship had us chop down and destroy all of these...." (Hellmuth 1977).

But these same Mayan fields and house gardens also had sugar cane and platanos: neither of these are pre-Columbian whatsoever: both were introduced by the Spanish and the Maya were so happy to have these easy to grow crops that they spread inland faster than the Spanish

(since the Maya trade routes were very effective even during the disruption of the Spanish conquest).

"...They found all the houses had been left full of provisions of maize, beans, many turkeys, enough chickens, some cotton, pots, fiat bowls, well made comales, very curious weaving instruments of the women, many blow guns with the little net bags of pellets and their sockets for molding them made of turkey long bone, axes of stone, chisels and mallets of stone, and other things of rational people.

Their little dogs were found to be very skinny. And there were many tame macaws. At 5 o'clock in the afternoon, after having flown around, they came to roost on the ridge poles of all the houses, forming a delightfully beautiful landscape of various deep red colored clusters of flowers.

There are in the same town fruit trees, of platano, zapotes, jocotes, anonas of hot lands, guanabanas, trees of round gourds, some achiote trees, very sweet pineapples; and of all this they also have in their milpas and in them much camote, ayote, chayote, yuca, beans, and sweet sugar cane, and in some parts lemons." (Hellmuth 1977).

Hmmm, so they had sugar cane and lemons. They why are the pineapples native and not sugar cane and lemons??

ONE GLIMMER OF HOPE FOR PINEAPPLE ENTHUSIASTS

A pineapple is clearly pictured in the 15th century Catholic church murals of Malinalco (Peterson 1993: page 95, Fig. 83). Yes, this is a Catholic church, not an Aztec palace or temple or pyramid. Nonetheless, the iconographic content of the Paradise segment of the Malinalco murals is one of the six most important murals in all of Mesoamerica. Here is my suggestion for the other five:

1. Bonampak is the most renowned (though by now scenes on vases, bowls, plates and other murals show over 50% of what is in the Bonampak murals). Still, Bonampak Maya murals are considered the most important.

2. San Bartolo murals, Peten, Guatemala, show a relationship with Popol Vuh and with heritage of Olmec facial shapes and features that is awesome.

3. Teotihuacan murals, as a whole, are crucial, albeit stylized (but that's what's the Teotihuacan style and content).

4. Chichen Itza murals, especially the sea scene.

5. Cacaxtla murals

If you made a list of all other pre-Columbian murals of Mesoamerica you may have additional favorites. But my point is that the Malinalco murals are rarely cited by Mayanists (myself included).

- Yet the monkeys with cacao immediately reminds you of dozens of Late Classic Lowland Maya vases with dancing monkeys often with cacao.

- A “fleur de lis” flower is present on dozens of Mayan vases (a flower of relatives of *Ceiba pentandra*; this *Ceiba* itself does not have those flowers but *Pachira aquatica*, *Ceiba aesculifolia*, and *Pseudobombax ellipticum* do).

- 4-petaled flowers are common in Teotihuacan art and especially in Tepeu 2 Maya ceramic art of Peten.

- Waterbirds occur in Classic Maya art especially in Tepeu 1 and Tepeu 2, but also as lid handles of Early Classic tetrapods or basal flange bowls.

So the “generic Mesoamerican” aspects, in addition to the Post Classic Central Mexican aspects amaze me as a student of iconography of the Maya for over half a century.

So, individuals who wish to place the pineapple in the pre-Columbian diet can now cite the Malinalco murals courtesy to the present FLAAR report. But until I find pineapples in codices, in Sahagún, and in the other pictorial inventories of Aztec art. I will update my list that once included pineapple in list of edible Mayan foods with a list of doubts.

WHAT WOULD HELP TO CONVINCE ME THAT PINEAPPLES WERE KNOWN TO THE MAYA?

Why are no pineapples shown by Sahagun for the Aztec? Sahagun was in the Aztec area decades after the conquest and I have not yet found a pineapple in his monumental opus (unless, being human, I missed it). Sahagun listed most notable plants. If there is not one single pineapple in Sahagun's multiple volumes, that pretty well provides the answer. And, if pineapples are found there, then why did Bernal Diaz del Castillo and Cortez not comment on seeing or hearing about pineapples in the giant imperial Aztec market of Tenochitlan?

Cortez witnessed the Aztec markets and food decades before Sahagun. Why do they not feature pineapples in their discussion of foods they have never seen before?

Are pineapples mentioned for the royal gardens of the Aztec emperor? The Aztec emperors brought exotic plants from all of Mesoamerica to their gardens. If there is not one single pineapple, this again is, sorry, rather clear documentation of lack of pineapple ANYWHERE that the Aztecs had long distance trade routes with (which is most of Mesoamerica, deep into Central America, far south of Guatemala).

Why are no pineapples mentioned by Bishop Landa for the Yucatec Maya? Did Andres de Avendaño mention pineapples on his visit to the center of Peten?

CONTINUED PROBLEMS WITH THE PINEAPPLE BEING PRE-COLUMBIAN:

A good example of misinformation all over the Internet

Because so many books included the pineapple in the Mesoamerican diet, I too believed the pineapple had reached the Mayan areas before the arrival of the Spanish. But in recent years, after lots more research, I would not accept the pineapple whatsoever as a food of the Classic Mayan people unless pollen could be found at a date before the Spanish arrived.

Even a web site connected with a university (UC Irvine), has comparable misinformation that the mango were cultivated, insinuating these are pre-Columbian. This sentence also includes the pineapple: *“Surrounding the ceremonial center are fields of crops serving as the agricultural base for the area. Corn, beans, and squash formed the foundation of agriculture in Mesoamerica. Peppers, potatoes, sweet potatoes, tomatoes, cacao (chocolate), peanuts, beans, squash, avocado, vanilla, and many fruits such as pineapple, papaw, and mango, were also cultivated.”*

<http://lib.uci.edu/sites/all/exhibits/meso/mesolandscape2.html>

Papaw is gringo slang for papaya (*Carica papaya*) though in 54 years in Mesoamerica I have never heard anyone,

even tourists, calling this a papaw. But the web site is correct: papaya is pre-hispanic (especially the wild papaya, though it is debated whether the wild species is eaten by people).

Peppers, sweet potatoes (camote), many kinds of tomatoes, cacao (two species), lots of kinds of beans, multiple sizes, shapes and colors of squash, several sizes, shapes, and species of avocado, and at least five or more species of wild vanilla orchid vines are all correctly listed in this university web site for Maya agriculture (we have found wild vanilla vines in an area of Alta Verapaz nowhere mentioned in any botanical peer-reviewed journal article). Plus we have found wild vanilla orchid vines between Yaxha and Nakum (vanilla is already documented by others for Tikal and El Mirador).

But, unfortunately for the list, the “Irish” potato comes from South America (especially Peru), as does the peanut (which grows underground). However there are wild relatives in Mexico and Guatemala (Dressler 1953: 147). I would not tend to promote the potato nor peanut but I would accept if botanist can document them (Azurdia, for example). But the pineapple is not as convincing.

WHAT IS ACCEPTABLE PROOF THAT THE PINEAPPLE GOT TO THE MAYA AND AZTEC BEFORE THE SPANIARDS?

If the Ceren village project of El Salvador finds pineapple plants buried under the lava of the volcanic eruption over a thousand years ago, this is proof the Maya or their close neighbors had pineapple.

Bishop Landa did his research among the Maya of Yucatan half a century after the Spanish conquest of the Aztec. If there is no mention of pineapple in his book, this definitely raises a question. So far the Cholti Maya use of the pineapple was not mentioned until the 1690's, though I eagerly would accept information from other ethnohistorians on earlier dates of earlier Spanish visitors who saw pineapple earlier.

If Bernal Diaz del Castillo and Hernan Cortez saw pineapples in the Tenochitlan market or on the dinner table of the Aztec emperor, this is the needed proof.

And equally, if Bernardo de Sahagun did not picture pineapple in his documents of Aztec plants, this is the most damaging documentation of the undocumented claim of pineapples among the Aztec and Maya merely because Columbus found pineapples on Guadalupe Island.

Plus, is the pineapple mentioned and pictured in Juan Badiano and Martin de la Cruz's book of the 1500's????

There are also no pineapples pictured in

the Maya codices, Aztec codices, or Mixtec codices (or if they are, I will be glad to retract this statement). As for "pineapples" in the Olmec plaque, that will require pollen analysis from a Tabasco or Veracruz or Guerrero swamp to convince me that the Olmecs had pineapples.

If the Olmec, Maya, and Aztec all had pineapples, they definitely would have enjoyed them as much as the Maya and Aztec did by the 17th century when they were nearly everywhere that would support their growth.

It would be helpful for comparable fresh botanical and ethnobotanical and ethnohistorical research be devoted to the peanut and the potato, though they do have more wild relatives that maybe parents to relatives, than the pineapple, since *Aechmea magdalenae* of Parque Nacional Yaxha Nakum Naranjo, Peten, Guatemala (and many other parts of Mesoamerica) is a relative, not a parent.

I would not hesitate to potentially accept the peanut and potato, though I feel better when modern botanists such as Cezar Azurdia discuss these plants. He does a good job with *Solanum* species and many other native Mayan plants (Azurdia 2008: 426-427).

His work on potatoes is the kind of research needed on pineapples.

Introductory Bibliography on the Pineapple and comparable questions of origin, such as potato and peanut

AZURDIA, Cesar

2008 Guatemala y su Biodiversidad: un enfoque historico, cultural, biologico y economico. CONAP.

There are several web sites where you can download this;

<https://www.scribd.com/doc/96230201/Libro-Completo-Biodiversidad-de-Guatemala> is one of them.

AZURDIA, Cezar, WILLIAMS, K. A., WILLIAMS, D.E., Van DAMME, V., JARVIS, A. and S. E. CASTAÑO

2011 Atlas Guatemalteco de Parientes Silvestres de las Plantas Cultivadas.

<https://www.ars.usda.gov/northeast-area/beltsville-md-barc/beltsville-agricultural-research-center/n>

BROWN, C. H.

2010 Development of agriculture in prehistoric Mesoamerica: the linguistic evidence. In: Staller J.E., Carrasco M.D. (eds) Pre-Columbian Foodways: interdisciplinary approaches to food, culture, and markets in Mesoamerica. Springer, New York, USA, pp 71–107.

COE, Sophie D.

1994 America's First Cuisines. University of Texas Press. 276 pages.

COLLINS, Julius Lloyd

1948 Pineapples in Ancient America. The Scientific Monthly, Vol. 67, No. 5 (Nov. 1948), pp. 372-277.

Cristopher Columbus saw pineapples in 1493 on the Island of Guadeloupe. This article is excellent, but provides no botanical documentation of the pineapple plant being physically present for the Aztec or Maya. The Spanish were so amazed at the pineapples they found in Panama and South America that they immediately pictured them, and commented on their yummy taste.

So if the Aztec had pineapples, Bernal Diaz del Castillo would have mentioned them, either on the feasting tables of the Aztec emperor, or at

the remarkable market of Tenochitlan.

Same for the Maya: Bishop Landa would have included them in plants used specifically for generations among the Yucatec Maya.

Available on-line at no cost: <https://bhsecglobal.files.wordpress.com/2014/03/pineapples-in-ancient-america1.pdf>

COLLINS, Julius Lloyd

1960 The Pineapple: Botany, Cultivation and Utilization. L. Hill. 294 pages.

DIAZ del Castillo, Bernal

1956 The Discovery and Conquest of Mexico. Translated by A. P. Maudslay. Noonday, New York.

HELLMUTH, Nicholas

1977 Cholti-Lacandon (Chiapas) and Petén Ytzá Agriculture, Settlement Pattern and Population. Pages 421-446, in Social Process in Maya Prehistory Studies in Honour of Sir Eric Thompson. Norman Hammond organizer and editor. Academic Press.

Based on research in the Tozzer Library, Peabody Museum, Harvard plus then years of research in the Archivo General de Centro America (Guatemala City, Zona 1) and an intense month at Archivo General de Indias, Sevilla, Spain, courtesy of a grant from the American Philosophical Society of Philadelphia.

HELLMUTH, Nicholas

2013 Maya Ethnobotany Complete Inventory Fruits, nuts, root crops, grains, construction materials, utilitarian uses, sacred plants, sacred flowers Guatemala, Mexico, Belize, Honduras, El Salvador. 12th edition. FLAAR Reports.

LANDA, Diego de

1941 Landa's Relacion de las Cosas de Yucatan. Translated by A. M. Tozzer. Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. 18, Harvard University, Cambridge, MA.

LIRA, Rafael, CASAS, Alejandro and Jose BLANCAS (editors)

2016 Ethnobotany of Mexico: Interactions of People and Plants in Mesoamerica. Springer.

LUNDELL, Cyrus L.

1938 Plants probably utilized by the Old Empire Maya of Peten and adjacent Lowlands. Papers of the Michigan Academy of Sciences, Arts, and Letters; vol. 24, pp: 37-56. University of Michigan, Ann Arbor.

McBRYDE, Felix Webster

1945 Cultural and Historical Geography of Southwest Guatemala. Smithsonian Institution, Institute of Social Anthropology, Publication No. 4. Circa 231 pages if you count the dozens of pages of informative photographs.

His comments on the pineapple (page 141) are most politely defined as “open to interpretation.” “perhaps before the Conquest.” So Even Standley is hedging his comments.

And yes, there are “relatives” of the pineapple native throughout Mesoamerica: lots more than just ... *Aechmea karatas* and *Bromelia pinguen* are both edible, both native to Guatemala, and both grow wild (even in and around Parque Nacional Yaxha Nakum Naranjo). But... neither of these is an ancestor of the pineapple.

MORTON, Julia F.

1987 Fruits of Warm Climates. Julia F. Morton, Miami.

Pineapples are covered on pages 18–28.

She claims (with no evidence whatsoever for presence in Mexico...): “Native to southern Brazil and Paraguay (perhaps especially the Parana-Paraguay River) area where wild relatives occur, the pineapple was apparently domesticated by the Indians and carried by them up through South and Central America to Mexico and the West Indies long before the arrival of Europeans. Christopher Columbus and his shipmates saw the pineapple for the first time on the island of Guadeloupe in 1493 and then again in Panama in 1502.”

Not even Morton offers any botanical proof whatsoever. Just because the pineapple was in the West Indies is not proof it was raised by the Aztec or Maya.

Free download: <https://hort.purdue.edu/newcrop/morton/pineapple.html>

PETERSON, Jeanette Favrot

1993 The Paradise Garden Murals of Malinalco Utopia and Empire in Sixteenth-Century Mexico. University of Texas Press. 224 pages.

A healthy sized pineapple is clearly shown in the Malinalco murals (page 95, Fig. 83).

SAHAGUN, Bernardino de

1950-1982 Florentine Codex: General History of the Things of New Spain. Translated by Arthur J. O. Anderson and Charles Dibble. 14 volumes. School of American Research and University of Utah. Santa Fe.

SPOONER, D. M.

2004 Wild Potatoes (*Solanum* section *Petota*; Solanaceae) of North and Central America. *Syst. Bot. Monogr.* 68:1-209.

THOMPSON, J. Eric S.

1930 Ethnology of the Mayas of Southern and Central British Honduras Field Museum of Natural History. Publication 274, Anthropological Series Vol. XVII, No. 2.

TOZZER, Alfred

1907 A Comparative Study of the Mayas and the Lacandones. New York.

TOZZER, Alfred

1907 A Comparative Study of the Mayas and the Lacandones. New York.

WEBSITES MAINLY HAVE TOTALLY UNDOCUMENTED CLAIMS

Just because Columbus found pineapples on the Island of Guadalupe is no proof whatsoever that the Aztec and Maya had the pineapple.

So far I have not found a web site that does anything more than simply claim, with no specific evidence, that the Aztec and Maya had the pineapple.

<https://bhsecglobal.files.wordpress.com/2014/03/pineapples-in-ancient-america1.pdf>

“Surrounding the ceremonial center are fields of crops serving as the agricultural base for the area. Corn, beans, and squash formed the foundation of agriculture in Mesoamerica. Peppers, potatoes, sweet potatoes, tomatoes, cacao (chocolate), peanuts, beans, squash, avocado, vanilla, and many fruits such as pineapple, papaw, and mango, were also cultivated.”

Sorry, the mango is totally and absolutely not a Mayan fruit. Potatoes and pineapple are debated: they were documented for South America but not yet botanically adequately documented for the Aztec and Maya.

<https://en.wikipedia.org/wiki/Pineapple>

“The plant is indigenous to South America and is said to originate from the area between southern Brazil and Paraguay;[2] however, little is known about the origin of the domesticated pineapple (Pickersgill, 1976). MS Bertoni (1919)[27] considered the Paraná–Paraguay River drainages to be the place of origin of *A. comosus*. [28] The natives of southern Brazil and Paraguay spread the pineapple throughout South America, and it eventually reached the Caribbean, Central America, and Mexico, where it was cultivated by the Mayas and the Aztecs.”

Where is the botanical documentation?? Where is pollen documentation that this plant was in the Aztec and Mayan areas before the arrival of the Spaniards?