

BATS in Maya Art

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Photo by Jose O. Cajas



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Overview of bats

Bats are the only nocturnal mammals that can fly. They live around different ecosystems across the entire globe; they can live in hollow logs, rock crevices, abandoned houses, and other sites, but are generally associated with caves, where they live in colonies of thousands and even millions of individuals.

Despite having nocturnal habits, bats have different periods of activity throughout the night: an active period in the early hours and rest periods in which food is digested. Some have sense of well-developed view, while others are highly developed using a system called *echolocation*.

It is a radar system in which they emit sounds in high frequency -that is inaudible to humans- into objects that collide with their prey, and they are echoed in his/her ears, forming a three dimensional image of objects. With this kind of system, they can fly in total darkness, which helps them calculate the distances of objects avoiding crashing on them and not the location of their prey. Some have a membrane in the nose to aide in the reception of sounds to run more flights.



Bat in Candelaria Cave. Photo by Eduardo Sacayon.

The head's shape of a bat is determined according to their dietry habits, and these can be nectar feeding, insectivorous, frugivorous, carnivorous, omnivorous and hematophagous. Of the nearly one thousand species of bats discovered so far, only three of them are hematophagous. Among them, the species *Desmodus rotundus*, *Diphylla eucaudata* and *Diaemous youngii* belong to the family Phyllostomidae. Most species in this family feed on fruits, pollen, nectar and insects. This family also has another 160 species that inhabit only in the tropics of America and in the subtropics. Of these 160 species, there are found around 60 in Guatemala.

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It was from hematophagous species that have infringed fear; also several cultural groups have created myths about the bat's behavior. Vampire bats can live in groups of up to 40 individuals, in spaces from 0 to 3600 meters above sea level in Central and South America. They eat approximately every 76 hours, due to the simplicity of their stomachs and nutritious food; it contains all the blood they can get, sugar, minerals, proteins, fats, vitamins, etc.

Importance

Besides being part of several food chains, bats can fulfill various functions that are essential to the balance of ecosystems. The insectivorous bats help controlling the plagues of insects, since an alone colony of bats can consume an approximate

The bats generally are associated with caves. In the Popol Vuh, the caves are the house of bats or Camazots, the bat killer. Photo by Jaime Leonardo, FLAAR Mesoamerica, copyright 2009.

of a million insects during one night, which turns out to be very charitable for the agriculture.

Bats that eat fruits function as seed dispersers, as they digest the fruit and defecate the seeds are dispersed in different regions. When the seeds go through the process of digestion, this increases their ability to germinate, which helps the reproduction of certain plant species in different kinds of forest areas.

Also the bats that look for the nectar of plants are consider as pollinators, since they have to put his/ her head inside the flowers, they get impregnated with pollen and leave it on other flowers giving step to the pollination process. Between bats and plants there is a symbiotic relation; bats need flowers for their nectar as food, and the plants need the bats to be able to reproduce themselves. Bats can only pollinate some species of plants, since there exists several botanical species that have night habits, and only open their flowers in the night. Without the bats they might not be pollinated and this would limit his process of reproduction. Some of these plants are: maguey (Agave spp.), various species of cactus (de la familia Cactaceae), and other plants like pitahya (Hylocereus undatus), zapote (Casimiro edulis), ceiba trees (Ceiba pentandra L.), morros (Crescentia sujete L.) and many more.



The bats in the Pre-Hispanic art

The habitants of pre-Hispanic times had a great cultural value to certain species of flora, fauna and other natural features that were part of their religious beliefs, deities, myths, ceremonies, and worldview. The bats were part of these cosmogony elements. This is because of their nocturnal habits, and that they are also associated with caves and the darkness. Therefore, they are considered beings of darkness, and are also associated with the deities of death and night. Bats are known as "zotz" in several maya languages, nahuatl, and tzinacan; "bigidiri zini" (butterfly meat) in zapotec language; "ticuchi léhle" in mixtec; and "thut" in huastec (Muñoz, 2006).

Their distribution is very broad and populations were abundant during the pre-Hispanic and colonial times. To this refers Ximénez (1722) in the natural history of the kingdom of Guatemala:

"This plague is in all the land, although there are parts where you can find more than others, they are the same as those in Spain, only that the ones you find here have a tip of flesh and are big, like medium chickens. They also differ in that the ones found here bite fruits and eat them, they chew and suck their juice and leave the skin of those fruits that are fibrous. These animals can also bite people and beasts, and the ones from Spain don't do that".

The bats are associated with the other characters and crocodile modeled in clay, photographed with permission of Popol Vuh Museum, Guatemala. Photo by Nicholas Hellmuth, FLAAR Photo 1978) (Recinos; 1947): Archive.

Bats appear in various elements of the cultural groups that inhabited the pre-Hispanic Mesoamerica region. It is very common to find them in several artistic forms, like stone sculptures, ceramics, figurines, murals, codices, etc. In the Popol Vuh you can find several mythological beings and many animals that are part of the Mesoamerican fauna. In some areas, bats are listed as being in the dark, closely related to death and Xibalba, the underworld. The underworld is associated with the caves, which are considered an entrance to the underworld and into the darkness, guided by spirits and deities of death, disease, water and fertility.

Xibalba by the Maya, conceived as a duality that is part of the world, the realm of nigh and darkness, inhabited by the gods who give life and death to all beings of the water and land. Hunahpu and Ixbalangue, mythological prominent figures of the Popol Vuh, face various tests imposed by the lords of Xibalba. All these tests must be performed during the path of the underworld, which starts from the entrance of a cave, and then they go across different tests in different room's in Maya Underworld (Xibalba). Sculpture of bat scenarios. One is Zotzi-ha, the home of bats. The following paragraphs explains the events that took place in the house of bats (Goetz & Morley;

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"Then they went into the house of bats. There was nothing but bats inside this house, the house of Camazotz¹, a large animal, whose weapon to kill was like a dry point, and instantly those who came into their presence perished".

"They (the twins) where inside the house, but they sleep inside their blowguns. And they were not bitten by those who were in another Camazotz that came from the sky, and made him come into sight".

"The bats were assembled in council all night, and flew about: "Quilitz, quilitz", they said; so they said all night. They would pressed against the end of one of the blowguns".

"Then Xbalanque said to Huanhpu: "Look you, has it begun already to get light?"

"Maybe so. I am going to see, (Hanahpu) answered. And as he wished very much to look out, when he did a bat flew to his head and with his mouth, the bat cut off Hunahpu's head and his body was decapitated".

"Xbalanque asked again: "has it not yet dawned", but Hanhpu did not move. And remained silent".

"Xbalanque felt concerned and exclaimed: "Unfortunate are we. We are completely undone". The servatanas of the lords of Xibalba went immediately to hand the head of Huanhp in the ball-court by especial order of Hun-Came and Vucub-Came and all the people of Xibalba rejoiced for what had happened to the head of Hunahpu (Popol Vuh)".

This mammal was also the emblem glyph of several cities of the Maya. It can be represented in codex from polychrome pots, vases in Chama style, and several sculptures carved in stone. Generally in all the performances it can be associated with the underworld, the ball game and Hunahpu and Ixbalanque (or Xbalanque).



Killer bat in the Underworld, represented on a Codex Style Maya ceramic. Vessel 53, photo in The Maya Book Of The Dead, by F. Robicsek and M. Hales. Drawing by A. Cajas

¹ Camazotz: Anthropomorphic character, with human body and a head of a bat. It is also known as the God bat.

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Several archeological sites in Mesoamerica have shown its relationship with the bats; a clear demonstration of this relationship can be seen at Copan, Honduras; Zinacantan or Tzinacantan in Chiapas and Zinacantepec, Stete of Mexico. Tzinacatan means instead of bats and nahuatl language; Zinacantepec, "place on the hill of bats". Tzotzil derived from sots'il winik, meaning bat man (Vogt; 1969). They have a bat god, and its place was House of Tzotzil, and the ruling had the title of king of the bat lord (Muñoz; 2006).

Vampire bat sculptures at Copan, Honduras

For the Late Classic period (600-900 A.D.) in the city of Copan there were sculpted several altars and memorials associated with bats. Bats at this site had a strong symbolic charge; an example is the emblem glyph, which clearly shows the nasal sheet that corresponds to a head of the bat family Phyllostomidae.

This site made several sculptures representing bats. In the Structure 20 of Copan, which is now completely destroyed by natural factors, there were several sculptures dedicated to the bat, which were part of the decoration on the facade of the building. The first descriptions and photographic records on the building and its magnificent sculptures were made in 1930 by the Peabody Museum and Carnegie Institution, where they describe a long series of sculptures of the "bat murderer", which originally adorned the exterior of the structure 20 (Fash & Fash; 1989).

William and Barbara Fash (1989) indicated that according to the shape of the building and documentation of the sculptures this could be an analogy with "Zotzi Ha", House of bats of the Popol Vuh.

During 1886, Mudslay recorded fragments that belonged to other sculptures of bats. Tatiana Proskouriakoff also makes reference to the sculptures in the catalog "Album of Maya Architecture", asserting that its function was decorative as they were only carved on the front. In excavations carried out by Barbara and William Fash in several structures associated with structure 20, appeared several other pieces of sculptures that were not linked to bats, but the majority were of this mammal, and have been associated with a security context of the Structure 20. Other reasons related to Structure 20's sculptures, are a series of large scrolls of blood that formed part of the design of the façade of the building (Fash & Fash; 1989).

In the Copan Museum and Popol Vuh Museum, are a three-dimensional sculpture called Qaaw'a Zotz', "Mr. Bat" in Q'eqchi' language. This is a three-dimensional sculpture about 60cm high. It was not found in archaeological context, but its features are quite similar to those of Copan. The image shows up with a band of glyphs on the head with a blade nose, wings spread, a chest and a band on the waist.



Bat head that represents the Copan emblem glyph. Drawing by A. Cajas



The high and imposing structure might have been seen from a long distance. Fash (1989) discussed the possibility that the entrance of the building was the jaw of the giant bat in which it took to enter it. The Mayan calendar has many symbols that refer to certain species of flora and fauna and natural elements, where the bat is also represented as a sign of the month.



Bat Sculpture from Copan Museum, Copan Ruinas, Honduras, photographed with permission of IHAH.

Photo by Nicholas Hellmuth, FLAAR Photo Archive.



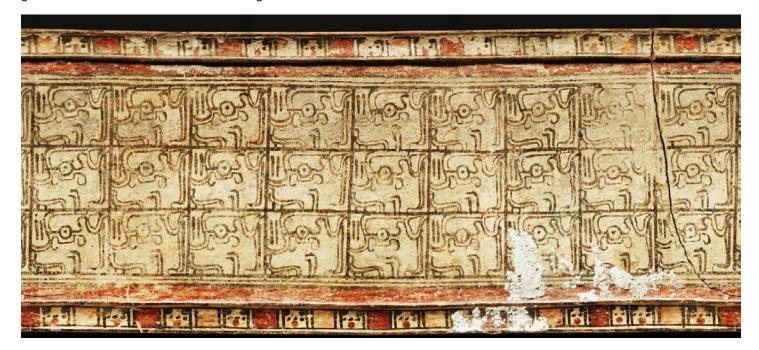
Bats in Pre-Hispanic ceramics

Bats are also very common in Chama pottery, a style characteristic of the Late Classic period. Many of the vessels have no information about the archaeological context in which they were found, but it is known to be produced in an area of the same name, on the Chixoy river, in the departments of Alta Verapaz and Quiche, Guatemala.

Chama style is characterized by yellow or orange with red stripes at the top and bottom, with a variety of scenes of gods, animals and humans. Hieroglyphic inscriptions also show that it could represent a local variant of the Maya writing system (Elin; N.D.). The Camazotz has been identified in several Chama pottery polychrome styles, showing his sharp fangs with red spirals out of his mouth, and sometimes the body is exposed like playing, where you can clearly see that species are male individuals.

In some vessels the bat is represented carrying a wing collar and extending two circles painted in their black wings, and other symbols as Thompson (1954) and Coe (1973) are associating with death and the underworld. It also appears in other ceramic styles of the Highlands, which the ceramic portrays repetitive designs of bat's heads. These representations relate to the mythology of the bat and the Popol Vuh. This kind of events that are historical and mythological are part of the power and legitimacy of the sociopolitical structures of the Maya, in which some species of fauna were part of social groups, families and/or leaders, representing certain symbols that they used. And that is exactly the purpose of the bat in the Early Classic period, where Copan used this creature as their emblem glyph (Reents-Budet; 1994).

In the catalogs of Maya pottery you can see several different sources and styles of Mesoamerican ceramics, with clear grounds on bats and other animals and gods associated with the underworld.



Repetition of bat heads on Maya pottery, Guatemala, Chama Style or other Highland Guatemalan Late Classic style. Digital rollout photo by Nicolas Hellmuth, BetterLight digital rollout system. Copyright FLAAR Photo Archive, 2009.



Bats and other pre-Hispanic cultures of Mesoamerica

Bats were also present in many cultures of Mesoamerica. They were represented in anthropomorphic figures and worship as a deity of the death, earth, and darkness, and also associated with the cult of maize (Muñoz; 2006).

In Monte Alban, Oaxaca, the bat god is associated with fertility and the corn god. On the site there has been found in various representations of clay sculptures, which show Mayan influences, becoming one of the most important gods for zapotecs (Muñoz; 2006). Also, representations of the zapotec art were very different and usually the bat appears with big ears and a crest-shaped leaf. In several archaeological sites in Oaxaca, funerary urns have been found with effigies of bats. One of the most encountered in Oaxaca is a funerary offering found in Monte Alban, dated for the Late Classic period; they found a mask of a bat god, carved on green stone inlaid with shell and slate, which is currently in the Museo Nacional de Antropología in Mexico (Caso; 1982)

For the Aztecs, they also associated the bat with the cult of death and human sacrifice. In the codex Fejérváry-Mayer, page 41, appears an anthropomorphic representation of a bat with a heart in one hand and with the other claims the head of a man beheaded. In the iconography of this scene, several factors are associated with death and the night (Muñoz; 2006).

At several sites in Tabasco, Veracruz, Mexico city and others; they have found different combinations of effigies of bats in an anthropomorphic way, and carved in basalt, marble, jade and more. Besides pottery, figurines, incense burners and funerary urns shaped in clay (Muñoz; 2006).

Thanks to the detailed sculptures and models that were developed by the different civilizations during the pre-Hispanic times, and biological research and distribution made on this mammal, it has been possible to monitor certain species, families and their distribution in Mesoamerica since pre-Hispanic times.



Camazotz are a human-bat represented in Maya pottery, Chama Style or related Highland Guatemalan style. Figure 6.2 in Painting the Maya Universe Royal Ceramics of the Classic Period by D. Reents-Budet.

Drawing by A.Cajas



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Drawing of repeated profile bat heads painted on Maya pottery in a Highland Guatemalan style. Drawing by A.Cajas