

# Chapter 4

## Representation and Signification of Primates in Maya-Q'eqchi' Cosmovision and Implications for Their Conservation in Northwestern Guatemala



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### 4.1 Introduction

Indigenous peoples from different cultures worldwide have established historical relationships with primates that have special representations and meanings (Ellwanger et al. 2015; Fuentes 2012; Riley 2010; Lee and Priston 2005). The pre-Columbian Mayan civilization reached its greatest development and splendor in the territory of Guatemala and southeastern Mexico (Sharer 2003). Currently, most Guatemalans descend from Mayans. There are 22 Mayan ethnic groups that share a similar cosmovision, with nature as the main cornerstone (García et al. 2009; UNESCO 1996). Mayan cosmovision is the set of values, beliefs, and ways of analyzing and interpreting the reality and the universe from the existence and collective experience of the ancient and current Mayan people (Matul and Cabrera 2007a). All the elements that exist in nature and the universe have life in the Mayan cosmology that are intrinsically linked and complement each other (García et al. 2009). Each natural element (water, air, soil, plants, animals) is integrated and represented in the cosmovision, practices, customs, and everyday life of Mayan people (Matul and Cabrera 2007a, b). Primates, in particular, have acquired special meanings and important roles that have prevailed over time (Baker 2013).

The pre-Hispanic Mayan civilization lived alongside primates of three taxonomic genera (*Alouatta palliata*, *Alouatta pigra*, *Ateles geoffroyi*, *Cebus capucinus*), and their close links are widely represented in archaeological records and ancient written and graphical sources (Rice and South 2015; Baker 2013; Fuentes 2012). The *Popol Wuj* (“Council Book” or “Community Book” in Maya-K’iche’ language) is the most important ancestral Mayan book. According to Sam (2008), its narratives make a transition between the mythology and history of Mayan people

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that explains the origin of the world, civilizations, and several natural phenomena, where primates have special roles and meanings as human ancestors. The manuscript shares how earth first appeared between the waters, and then, the Creators felt the need to be called by their names and be worshipped. For this, they created animals that populated all mountains and valleys. However, animals could not speak to name and adore them, so they proceeded to create people to fulfill this purpose. There were three instances of human creations (made from clay, wood, or corn), but only the last, made from corn, could acknowledge and worship their Creators (Sam 2008).

During the second creation, the one that would have given birth to “wood humans,” the resemblance between monkeys and people is explained by stating that primates are thought to be the ancestors or “elder brothers” of “corn humans”: “*Jun Junajpu* fathered two sons: *Jun B’atz’* and *Jun Chowen*. They were great sages, they had great knowledge, they were fortune-tellers on the face of the earth, of good character and manners. They taught the arts of being flutists, singers, writers, painters, sculptors of jade and silver...” (Sam 2008).

In this narrative, the relationship of the brothers’ names with primates stands out: *Jun* means one or first; *B’atz’* means howler monkey in almost all Mayan languages, and *Chowen* also means monkey, as well as artist and craftsman but in Ch’ol Mayan or Yucateco language (Akkeren 2012; Sam 2008). The origin and special meaning of primates in the Mayan cosmovision from ancestral to modern times are that of “the fathers” of all arts and are widely represented in dances, music, paintings, and writings, among others (Fig. 4.1a, c).

Many archaeological records also show that primates were important characters within Mayan mythology and society. Epigraphists and iconographers claim that howler monkeys predominate in the portrayals of monkey-man scribes in Late Classic funerary pottery that represent *Jun B’atz’* and *Jun Chowen* (Rice and South 2015). Numerous examples of the representation of monkeys also appear in altars and carvings of bone, shells, and jade. Several characters with primate features are represented in pots as artists that carve, write, or paint. Their features resemble spider monkeys and howler monkeys. Figure 4.2 shows different pre-Hispanic archaeological pieces (vessels, figurines, axe, and stamp with carved or engraved drawings) that have primates as their main image.

The *Popol Wuj* also tells how *Jun B’atz’* and *Jun Chowen* are human relatives who became monkeys; in the beginning, they were created as people, but their laziness, disobedience, and envy toward their other twin brothers (*Junajpu* and *Ixbalamke*) led to their conversion to monkeys or “habitants of the trees”: “...Go to catch birds -said *Junajpu* and *Ixbalamke*- and when *Jun B’atz’* and *Jun Chowen* climbed the tree, it began to grow and they could no longer descend”, “...their brothers shouted: Untie the girdle of your pants, bind your lower belly and stretch them as if they were tails behind you! And when they did, the girdles became tails and they took on the appearance of spider monkeys. Immediately they went over trees and into the woods screaming and swinging among the branches” (Sam 2008). Then the twins’ grandmother tried to make them human again, but when they returned and listened to music, they began dancing; this caused the grandmother to laugh out loud, but it scared *Jun B’atz’* and *Jun Chowen* and made them return to the



**Fig. 4.1** (a) Giant kite showing an indigenous girl hugging a traditional monkey mask in Sumpango, Sacatepequez, Guatemala. These kites are specially made to fly during the “Day of the Dead” traditional celebration and honor communication between modern Mayan people and their ancestors. (b) Monkey character performing the “Dance of the Spider Monkeys” during a special Q’eqchi’ Mayan festivity in Coban, Alta Verapaz, Guatemala. (c) Two traditional primate garments used in Q’eqchi’ Mayan dances, which remind and honor brothers *Jun B’atz’* and *Jun Chowen* from the *Popol Wuj*. (d) Primate dancer characters during performance of *Xajleb’ Kej* (Dance of the Deer) at a Q’eqchi’ Mayan community

forests where they still remain. This narrative explicitly expresses the close kinship relationship between humans and primates in Mayan cosmivision, because people made of wood became monkeys (*k’oy*), and their descendants are howler and spider monkeys that currently live in forests (Fig. 4.3).

Generally, primate conservation efforts worldwide have focused on carrying out demographic, ethological, and ecological research without considering the beliefs, perceptions, tolerance, and use that local people have toward these species (Burton and Carroll 2005; Lee and Priston 2005). Guatemala is no exception, and primate conservation has focused on strict protection efforts inside legally protected areas without considering the sociocultural context in which they are immersed. There are no studies about the perception of primates among present-day Maya or on their relationships with primates that also address the implications and contributions to



**Fig. 4.2** (a) Pre-Columbian Mayan vessels and figurine (b) with spider monkey representations, Late Classic Period (600–900 CE), Petén, Guatemala. (c) Basalt image of spider monkey sitting on a bench and primate-shaped axe (d) used in traditional rituals associated with the Mayan ball game, Classic Period (250–900 CE), Central Highlands of Guatemala. (e) Zoomorphic primate stamp used for impressions on surfaces, body decoration, commerce, and social distinction symbols, Classic Period (250–900 CE), Central Highlands of Guatemala (La Ruta Maya Conservation Foundation 2013a, b)



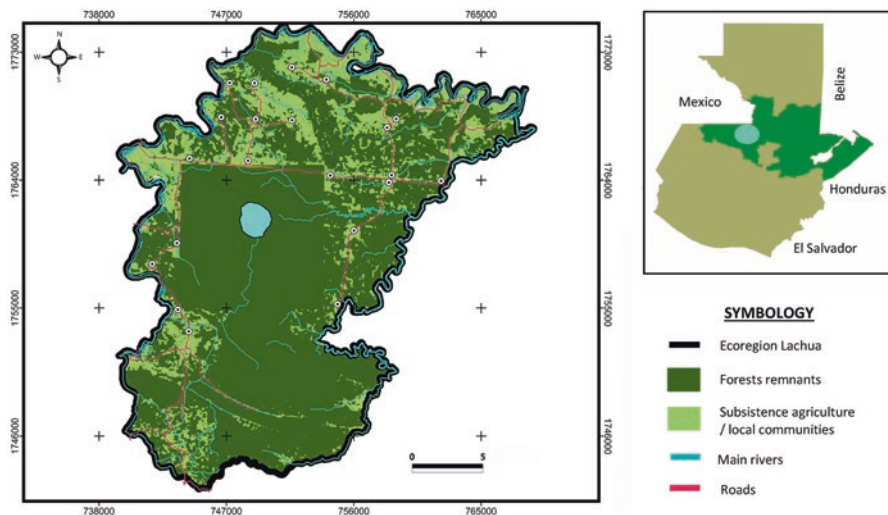
**Fig. 4.3** Two adult spider monkey males (*Ateles geoffroyi vellerosus*) resting at the Temple of the Great Jaguar in the Mayan city of Tikal, Petén, Guatemala

the conservation of these species and their habitat. However, some researchers have recently documented that human communities living in close proximity to primates establish strong biological, ecological, and cultural links with them (Kansky et al. 2016; Ellwanger et al. 2015; Campbell-Smith et al. 2010; Nijman and Nekaris 2010). These studies also show that people's beliefs and attitudes toward primates have a considerable impact (positive or negative) on their survival and conservation (Rocha and Fortes 2015; Costa et al. 2013; Nungshi and Radhakrishna 2013; Khatun et al. 2012; Chauhan and Pirta 2010; Hill and Webber 2010).

Currently, three species of nonhuman primates (*Alouatta pigra*, *Alouatta palliata palliata*, *Ateles geoffroyi vellerosus*) coexist in protected areas and territories of many Mayan communities in northern Guatemala (Rosales-Meda and Hermes 2018; CONAP 2008). Most of these communities are Q'eqchi' Mayan, and their territory overlaps with the most biodiversity-rich and high conservation priority tropical rainforests of the country. This chapter addresses the representation and signification of primates in Q'eqchi' Mayan culture and cosmovision and its positive implications for the conservation of *A. pigra* and *A. geoffroyi vellerosus* in northwestern Guatemala.

## 4.2 Study Area

The Ancestral Rainforest Landscape (ARL) is comprised of tropical forests, mountains, wetlands, agroecosystems, and human communities (mainly Q'eqchi' Mayan) of four departments of Guatemala (northern portions of the departments of Quiché and Alta Verapaz, southern portion of Peten, and the whole department of Izabal) (Rosales-Meda and Hermes 2018; Fig. 4.4). At a biogeographical level, this region



**Fig. 4.4** Geographic location of the Ramsar Wetland Ecoregion Lachua in the context of the Ancestral Rainforest Landscape, northwestern Guatemala

played a crucial role as a Pleistocene refuge to maintain the country's existing biodiversity and now has one of the highest levels of endemism and species diversity (Rosales-Meda et al. 2010; Gerald and Leyden 2007; Knapp and Davidse 2007). Within the Q'eqchi' Mayan cultural-spiritual level, the distinctive hills and valleys of this landscape have a fundamental representation within their current and historical cosmovision, because their *Tzuul Taq'a* supreme deity ("hill-valley") lives and is honored in these forested mountains (Haste and De Ceuster 2001; Fig. 4.5a). Historically, the region was also inhabited by the ancient Mayan civilization, and it is common to find archaeological sites, mounds, clay pots, and other ceramic pieces from its legacy, as well as distinctive family surnames of Mayan ancestral lineage in local communities (Akkeren 2012; Rosales-Meda 2003).

The Ecoregion Lachua (535 km<sup>2</sup>) is a Ramsar wetland located in the ARL's northwest and has been our location of work since 2002. This high-biodiversity landscape includes the Laguna Lachua National Park (143 km<sup>2</sup>), 49 Q'eqchi' Mayan communities, and indigenous forest reserves (INAB/UICN 2010; Fig. 4.4). The region was heavily affected by Guatemala's 36-year civil war, and most local people



**Fig. 4.5** (a) Panoramic view of sacred highlands and valleys of the Ancestral Rainforest Landscape, Guatemala. (b) Forested mountains and wetlands in Ecoregion Lachua, Guatemala

are victims who survived this conflict and their descendants. Despite this war, communities have resisted the historical processes of colonization and war by keeping their language, culture, and traditions alive (Haste and De Ceuster 2001). Ancestral Mayan authorities are being reconstituted after a long period of postwar absence, and elders are again occupying political positions, as they did in the past. The community economy is based on subsistence agriculture (mainly corn, *Zea mays*, and beans, *Phaseolus vulgaris*), the production of forest-shaded cardamom (*Elettaria cardamomum*), and cacao (*Theobroma cacao*) crops and seasonal fruits (INAB/UICN 2010). These activities are complemented by the use and consumption of some timber and non-timber forest products (Rosales-Meda and Hermes 2010).

Recently, the construction of mega highways, agroindustry expansion, and proliferation of evangelical churches have generated a heterogeneous and complex socioeconomic context. However, many important traditional elements persist in the representation and appropriation of their territory. These are expressed, claimed, and safeguarded through sociocultural practices and interactions with nature (Rosales-Meda and Hermes 2010; Haste and De Ceuster 2001). Nature plays an essential role in guiding individual and community life, because the conception and way of understanding the world and the divine is intimately related to all of nature's elements (Rosales-Meda and Hermes 2013). Throughout the landscape, there are many mountains, caves, primary and secondary forest remnants, rivers, and lagoons that are sacred sites for local communities (Fig. 4.5a, b). In them, distinctive ceremonies, rituals, and festivities of Q'eqchi' Mayan cosmovision are frequently practiced in which each representative natural element is acknowledged, thanked, and honored. These traditional spiritual practices also constitute powerful symbols of cultural resistance, social unity, and ancestral communion. Some ceremonies include a certain degree of syncretism with the catholic religion, but the influence of evangelical religion is increasing and imposing prohibitions to these important cultural and spiritual practices. Transculturation, youth migration to cities and the United States, and megaprojects (oil palm, livestock, oil extraction, large hydroelectric dams) also represent strong threats for traditional livelihoods, culture, and cosmovision of local communities and their biodiversity.

### 4.3 Primates and Our Participatory Conservation Work

In 2002, we began demographic, ecological, behavioral, and ethnobiological investigations of both threatened primates that coexist with Q'eqchi' Mayan communities in the Ecoregion Lachua landscape: *Alouatta pigra* (black howler monkey, Mayan monkey, saraguat, *B'atz'* in local language) and *Ateles geoffroyi vellerosus* (spider monkey, mico, *Max* in local language) (Hermes and Rosales-Meda 2011; Rosales-Meda et al. 2008; Rosales-Meda 2003). The black howler monkey is an endemic species of northern Guatemala, Belize, and the Yucatan Peninsula in Mexico. Individuals have large bodies and a mainly folivorous diet, which causes their metabolism and movement to be slow and sporadic. They also have an ana-

tomical peculiarity, an elongated hyoid bone, that acts as a voice resonator and amplifier, allowing them to emit strong and characteristic vocalizations to communicate (Mittermeier 2013; Fig. 4.7a). The spider monkey is a more sensitive and vulnerable species because its diet consists almost exclusively of fruit. They have thin bodies with a bulging abdomen and long limbs and a fast metabolism. They brachiate moving with great agility and grace traveling great distances through the forest in search of food (Mittermeier 2013; Fig. 4.8a).

As part of our long-term work, we have carried out 231 semi-structured and mutually agreed-upon interviews to deeply understand local people's relationships with primates, their ecological-cultural links, perceptions, attitudes, and their implications for conservation. Interviews were conducted during three different periods: 2002–2005 ( $n = 104$ ), 2010–2012 ( $n = 45$ ), and 2013–2016 ( $n = 82$ ). Interviews considered “Elements of the Code of Ethics and Guidelines for Anthropological Research” (Laird and Posey 2002), which are based on the principles of research ethics, equity, respect, and prior informed consent and guided by participatory research-action processes (Ander-Egg 2003). In Q'eqchi' Mayan culture, men have more knowledge about forest and wildlife, because they work in the field, plant, hunt, and make decisions regarding the use and management of land. For this reason, interviewees were adult men (ages 24–87) from 27 local communities, including farmers, park rangers, elders, community leaders, ancestral authorities, and spiritual guides.

During these 15 years, we have also shared casual conversations with our Q'eqchi' Mayan neighbors and friends, participated in traditional ceremonies and celebrations, and held private consultations about pre-Hispanic Mayan history. This has allowed us to obtain a more holistic appreciation of what primates mean and represent to the communities with whom we live and work. We have overlapped and complemented this knowledge with results of our long-term ecological research with primates to evaluate how the population distribution and conservation status of both species is related to the perception, culture, and cosmovision of Q'eqchi' Mayan communities.

## 4.4 Representation and Signification of Primates in Maya-Q'eqchi' Culture and Cosmovision

### 4.4.1 Origin of Primates

To explain the origin of primates, 89% of people interviewed ( $n = 206$ ) quoted the *Popol Wuj*. Their narratives had some variants in the names of the protagonists and/or characters, because they were partially forgotten or mixed by previous generations by the influence of Spanish culture, war, or religions. All had a strong link with Mayan cosmovision recognizing primates as ancestors and close relatives. Most interviewees agreed that primates are the older siblings of people and the first men. Primates are also seen as reminder for people to show good behaviors in life so as



to not receive punishment by the Creator and Maker (*Tzuul Taq'a*, God, *Yhave*, or other names that are now conferred to the universal Creator energy) (Cao, Macz, Pop, Seel, Xe and Xo pers comm. 2012).

#### 4.4.2 *Family Lineages, Surnames, and Proper Names*

Currently, surnames such as *B'atz'* and *Chowen* (and some of their variants) are maintained in Q'eqchi' Mayan families from the north, center, and southeast regions of Alta Verapaz. Both surnames come from ancient Mayan royal lineages that have a long history and relationship with trade and wealth since pre-Hispanic times and are also remembered as lineages of influential families in early colonial times (Akkeren 2012). The meaning and importance of the surname *Chowen* are explained by analyzing the name of Cancuen archaeological site located in northern Alta Verapaz. This was a center of craftsmen who carved jade, and it is believed that its name derives from *Kan Chowen* (*kan* means sky) or "monkey of the sky." To this day, it is common to find archaeological pieces with representations of spider and howler monkeys in these regions (Akkeren 2012). In our study area and neighboring regions, the surname *Max* inspired by spider monkeys is also common. Likewise, families respectful of Q'eqchi' Mayan cosmovision give their sons the name *B'atz'* in honor of primates and the *nahual* that represents them in nature.

#### 4.4.3 *Sacred Mayan Calendar and the Nahual B'atz'*

Q'eqchi' Mayan elders, spiritual guides, and ancestral authorities told us about the special spiritual representation and signification of primates by making deep connections with their cosmovision to explain how they are present in the sacred energies and cycles of nature that guide people's lives at individual, family, and community levels.

The Mayan calendar called *Cholq'ij* (sacred calendar) is used by Mayan people to keep track of time, making a close link between human life and nature (Sac 2007). This cyclical calendar has 260 days with 13 periods of 20 days (*nahuales*, which means "energies" in Q'eqchi' Mayan) each, which indicate what type of energy prevails in each day and what actions are favorable to focus on and carry out with success (García et al. 2009). The *nahual B'atz'* marks the beginning of the 20-day count and is the energy that represents and honors primates in general (Barrios 2004). Elders explain that the energy of this day favors the beginning of any process or plan to be successful and enduring. "As spiritual guides, on a *B'atz'* day, we perform ceremonies so that a marriage, the construction of a house, or a new business is good and long-lasting...also when assuming the position of being a spiritual guide or an authority, we seek this special energy to do it in the best way possible..." (Chocooj pers. comm.) "..."Because the *B'atz'* day is the first, is the oldest



**Fig. 4.6** (a) Traditional Maya-Q'eqchi' ceremony called *Mayejak* where each of the 20 *nahuales* or *sacred energies* is acknowledged, thanked, besought, and honored. (b) Young self-taught Q'eqchi' Mayan painter born with the energy of *nahual B'atz'* sharing the process of creating his artwork inspired on the region's nature and wildlife. (c) Q'eqchi' Mayan elder and artist sharing an ancestral monkey story while showing a monkey's head made from coconut

(referring to the elder brothers mentioned in the *Popol Wuj*), is the beginning, the authority, and command...on this day, we encounter the best harmony between the positive and negative..." (Xo pers. comm.). "...On the *B'atz'* day, we can also ask that our family or community problems are solved with good communication, for our crop's well-being, and the protection of all artists" (Toc pers. comm.; Fig. 4.6a). "In Q'eqchi' Mayan cosmivision, monkeys are our strength, our support, the common well-being...in a ceremony, their spirit visits us through the sacred fire and express for good or bad the things we think, feel, or do in our lives; that is why, in our days, we have a great responsibility to take care of them and to thank for the life of monkeys because of their broad meaning in our lives; they are our grandfathers and grandmothers" (Chocooj pers. comm.). Elders also shared that "through the birth date of each person, their talents and abilities can be known" (Xo pers. comm.). People born in the *B'atz'* day and *energy* have special talents and skills as "communicators and artists; they stand out in music, singing, dancing, painting, sculpture, literature, pottery, and/or weaving; they can also be good birth attendants, inventors, and nature lovers" (Toc pers. comm.; Fig. 4.6b).

#### 4.4.4 Art

On commemorative days, celebrations, and festivities, local communities perform and enjoy the most common and important ceremonial dance of Q'eqchi' Mayan culture which is called *Xajleb' Kej* (deer dance). This traditional dance has been known since pre-Hispanic times and is currently presented with some adaptations about the Spanish invasion. This dance is very popular and revalorizes the harmonious relationship between people and wild animals. Spider monkeys have a special

role recognized as playful characters that cause joy among observers and hark back to the story of the twin brothers' conversion into primates (García et al. 2009; Fig. 4.1d). In Alta Verapaz, another traditional dance called "Dance of the Monkeys" ("Danza de los monos y los micos" in Spanish) is performed at the beginning of August (Fig. 4.1b). This dance has been documented since 1872 in the town of San Pedro Carchá, where the surname *Chowen* is very common (Akkeren 2012). In our study area, artists also often draw, carve, and sculpt images with primate representations for special occasions and decoration (Fig. 4.6c).

#### 4.4.5 Language

The word *b'atz'* is embedded as a code in the verbal communication of Q'eqchi' Mayan communities from the ARL. It is a keyword of everyday language whose symbolism and meaning is directly related to playing, fun, joy, and creativity, which is of high relevance for community interaction, social cohesion, and involvement. Examples of some words of daily and frequent use that derive from it are *b'atz'uul* (toy), *b'atz'unel* (player), *b'atz'unk* (play), *b'atz'unlenk* (play around), and *b'atz'unleb'aal* (place to play), among others (Misti and Xol pers. comm.).

#### 4.4.6 Uses and Attitudes

Most people have very positive perceptions and attitudes toward both primates and consider them good animals that provide direct benefits to their lives and lands. In the interviews, 94% ( $n = 217$ ) of the people expressed that howler monkeys "called the rain" (meaning that they make rain fall) with their vocalizations. Elders and spiritual guides explain that "*b'atz'* are very special animals because they can see when our lands are too dry and begin to pray to Tzuul Taq'a; then the rain falls which is good for us all..." (Jucub pers. comm.). "Howlers are important because they have the right word to invoke the Creator and Maker for rain, and their requests are answered; they are our witnesses before *Tzuul Taq'a*. That is why, we must be grateful for their existence, and it is our responsibility as humans to respect them so that they always live" (Toc pers. comm.). These wise phrases summarize and reflect most interviewees' perception of howler monkeys as communicators and intermediaries needed for *Tzuul Taq'a* to send rain to their lands, because in many occasions he does not listen to people due to their faults, but monkeys are indeed heard, and thanks to them, people can receive the benefits of rainfall in their crops (Fig. 4.7c).

Other uses and benefits also frequently reported for howlers are they inform the hours of day through their vocalizations, they "decorate" (embellish) their lands, they help in pruning and sprouting of trees that provide shade to their crops, and they can be attractive for tourism. Seventy-one percent ( $n = 164$ ) stated they feel "happy" because the howler monkeys use and move thru the trees of their forested



**Fig. 4.7** (a) Adult male howler monkey (*Alouatta pigra*) feeding in community lands, Ecoregion Lachua, Guatemala. (b) Adult female and baby howler monkeys (*Alouatta pigra*) feeding in secondary-growth community forest, Ecoregion Lachua, Guatemala. (c) Adult male howler monkey (*Alouatta pigra*) vocalizing and “calling the rain” as perceived by local people in community lands, Ecoregion Lachua, Guatemala. (d) Adult female and baby howler monkey (*Alouatta pigra*) feeding in community lands, Ecoregion Lachua, Guatemala. (e) Adult male howler monkey (*Alouatta pigra*) feeding in secondary-growth community forest in the Ecoregion Lachua, Guatemala

lands with cardamom and cacao crops. Forty-three percent ( $n = 99$ ) of the people interviewed indicated that they have voluntarily left fragments of secondary forest on their lands so that howlers can live and reproduce (Fig. 4.7b, d).

Ninety-one percent ( $n = 210$ ) of the interviewed people expressed that benefits they receive from spider monkeys (*max*) are the “fun,” excitement, and entertainment they feel with their acting that seems human. “Spider monkeys are like us; that’s why they deserve our respect...they help and care for each other and heal their bodies with tree leaves, as persons do” (Xo pers. comm.). “I like it a lot when I see spider monkeys moving through my land; they are funny, and I laugh seeing them; they do the same things we do...they are very intelligent because they are our older brothers” (Caal pers. comm.). Other uses and benefits reported for spider monkeys are that they “decorate” (embellish) the forest, spread the seeds of trees so that the forest stays alive, and may also be attractive for future tourism (Fig. 4.8b, c).

Ninety-eight percent ( $n = 226$ ) of the people interviewed indicated that they have no problem with either primate species being on their land, and they think that it is good to take care of them because “they cause no harm.” This contrasts with the perception they have about other wild animals such as collared peccary, raccoon, coati, and parrots that feed from their crops causing economic damage; wild cats, tayra, and opossums that kill farmyard animals; and snakes that can harm people.



**Fig. 4.8** (a) Adult male spider monkey (*Ateles geoffroyi vellerosus*) in sacred forested mountains, Ecoregion Lachua, Guatemala. (b) Adult spider monkeys playfully interacting and showing similar human behaviors as perceived by local people, Ecoregion Lachua, Guatemala. (c) Spider monkey (*Ateles geoffroyi vellerosus*) making gestures that facilitate anthropogenic relations, feelings, and empathy toward primates, Ecoregion Lachua, Guatemala

#### 4.5 Implications for Primate and Habitat Conservation

From 2002 to date, our participatory conservation work and long-term living and sharing with Q'eqchi' Mayan communities have allowed us to deeply understand how their culture and cosmovision has different codes, symbolisms, spiritual interactions, and sociocultural practices that have directly contributed to primate conservation over time. Both primates are sacred and respected as ancestors and close relatives of people. They are powerful symbols of cultural resistance and identity whose physical existence honors their Mayan origin and allows them to maintain close bonds with their creators and ancestors. The *Nahual* and *B'atz'* energy in the sacred Mayan calendar allows the ancestral connection and guidance with several fundamental aspects of their modern individual and collective lives. Also, people born on *B'atz'* day have special life purposes that are guided and protected by the energy of primates who are their guardians in nature. This spiritual bond makes them guardians of their counterparts, and therefore, they have the responsibility to protect them and ensure that they are not harmed, which fosters primate survival from generation to generation. Local people have a strong identification and empathy toward these species, recognizing and appreciating in them feelings, behaviors, and faculties of great resemblance and relevance for human life (Figs. 4.7 and 4.8). Particularly, howler monkeys are perceived as communicators, intermediaries, and necessary mediators between *Tzuul Taq'a* and people to send the rain needed for their crops to thrive, which means they play an essential role in the subsistence and finances of families and communities. Spider monkeys are strongly linked to artistic, ludic, and recreational processes that are very important for the expression and revalorization of the Mayan cosmovision, traditional coexistence, and Q'eqchi' Mayan community's interactions and engagement.

Local people's representation and signification of primates and their perception as harmless animals jointly represent cultural values and ethical codes embedded in the

Q'eqchi' Mayan collective unconscious that have been crucial for primate survival, limiting their hunting and favoring habitat conservation throughout the landscape. Through our participatory ecological monitoring and community-based wildlife management programs, we have extensively documented how all of this translates into key values, attitudes, and actions that synergistically support, promote, and directly benefit the primate and habitat conservation at the community and regional level.

In 15 years, we have not registered hunting incidents of primates for food or medicine, due to the anthropomorphic perception that local people have about them. Frequently, we have registered the presence of *A. pigra* troops (including females with offspring) feeding on trees available in home and community plots without any aggression or discomfort from family owners (Fig. 4.7). On the contrary, local people say they are happy that monkeys come so close to their homes. The capture of monkeys for illegal trade and pets is not common in our study area. From 2002 to date, we heard of only two incidents of death of *A. pigra* males that were recorded after teenagers wounded them with slingshots. Only five individuals (three infants and one adult female of *A. pigra*; one adult female of *A. g. vellerosus*) were registered as pets in homes and were cared for and fed as if they were human.

The sacred value of the highlands in Q'eqchi' Mayan cosmivision has allowed extensive forest cover to be maintained in community-owned highlands within agroecosystems. This directly benefits habitat and connectivity available for both primate species and is particularly important for spider monkeys due to the high diversity and abundance of fruit resources that exist in these mountains. Many local people have voluntarily protected and allowed growth of secondary forest remnants of different sizes and shapes in their lands so that primates can live, reproduce, and travel. We have verified that they make agricultural decisions regarding which areas to use for slash-and-burn agriculture by considering which secondary forests remnants are inhabited by primate troops, often deciding not to cut them down. They have also planted native fruit trees (Mayan nut, figs, sapote, tamarind, and avocado, among others) so primates may have more food and remain in their lands. We have documented the presence, abundance, reproduction, and use of resources available for both species in these locations and habitats near human communities. In them, most individuals apparently have normal appearance and healthy physical condition (Figs. 4.7 and 4.8).

We consider that ancestral links and values along with the practical benefits perceived from primates have been key to motivate and favor the positive attitudes that prevail toward these species and that habitat protection and enrichment efforts voluntarily emerge, are maintained, and are multiplied by local people.

## 4.6 Final Considerations

In Guatemala, as in most of Latin America, the lack of knowledge and awareness about the representation and signification of primates in the cosmivision of indigenous peoples is widespread among the scientific community and decision-makers.

Their contributions to the conservation of these endangered species and habitats have been underestimated and excluded from most education, conservation, and management policies and strategies at national and regional levels. These represent serious weaknesses in addressing primate conservation, limiting the genuine motivation and positive involvement of many human populations that coexist with these species in biodiverse tropical landscapes.

Our experience in Q'eqchi' Mayan ethnoprimateology and primate conservation was key aspects that inspired us to implement a pioneer Environmental-Cultural Popular Education Program. The program intimately links scientific-biological knowledge of our academic profession with Q'eqchi' Mayan environmental wisdom and ancestral values (Rosales-Meda and Hermes 2013). Since 2008, this program is carried out with children, teenagers, and adults to raise awareness about the holistic importance of nature with the goal that ancestral knowledge, values, and perceptions favorable for conservation are not lost, become revalued, and continue to be practiced by the new generations. This innovative process has been very successful to actively involve local people in the conservation of endangered wildlife and habitats with cultural relevance. Since 2012, the program has also allowed us to analyze and address new political and economic corporate interests that pose serious threats to biodiversity and traditional livelihoods. Through cultural revalorization, it has been possible to establish community and regional strategies and efforts to discourage the sale of indigenous lands and its deforestation to prevent the establishment of monocultures of oil palm and livestock pastures, illegal wildlife trade, and transculturation of local youth.

Considering the great risks and threats currently faced by primates and their habitats, it is important that ethnoprimateology transcends the simple documentation of the traditional knowledge and uses of species, to now help in elucidating ancestral codes, values, and links that act as motors and allies of conservation in the collective unconscious of indigenous people from their wisdom and cosmovision. We hope that the experience shared through this chapter will inspire and motivate other researchers and decision-makers to engage in participatory conservation practices and learn from indigenous peoples' cosmovision to address the conservation of endangered species and landscapes from a more holistic, inclusive, and effective perspective.

**Acknowledgments** We thank our partners and collaborators, the US Fish and Wildlife Service; Whitley Fund for Nature; Conservation, Food & Health Foundation; and Idea Wild, for the long-term support to carry out and strengthen our community-based environmental education, cultural revalorization, ecological monitoring, and wildlife conservation programs. We especially thank our Q'eqchi' Mayan friends, teachers, guides, and neighbors for their trust, wisdom, training, and community living during all these years and for the unconditional support provided to the conservation and management processes we have jointly created for the present and future well-being of communities and Mother Nature in the Ancestral Rainforest Landscape of Guatemala. We are grateful to Ani Youatt Cuevas and Andrea Grosse for the helpful review provided for this manuscript.

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