

Chapter 15

Medicinal Uses of *Melipona beecheii* Honey, by the Ancient Maya

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La mayor gloria que al secreto oficio de la abeja se da, a la qual los discretos deven imitar, es que todas las cosas por ella tocadas convierte en mejor de lo que son.

(La Celestina, Fernando de Rojas)

The greatest glory that is given to the secret craft of the bee, which those that are prudent must imitate, is that all things touched by it are converted into something better than they are.

(La Celestina, Fernando de Rojas)

15.1 Introduction

In the Yucatan peninsula, the bee *Melipona beecheii* was named “cab” or “kab” in the Mayan language. It was considered of such importance by the Mayan people that, after a long process of appropriation, the bees were deified and named “xunan cab,” or “xunan kab.” The word “xunan” means principal lady (Barrera Vázquez 1980). With this word, we perceive that the bees were docile, gentle, well born, belonging to the lineage, and, because of this last quality, direct descendants of the Mayan gods. Thus, the deity, “Ah mucen kab,” was granted to the native stingless bees, so that he would take care of their nests and hives, due to the delicacy required in all the breeding and collecting activities. “Hobones” is the Mayan name for the traditional nests of bees, built within the hollow trunks of certain tropical trees that the meliponas found in the forest during their reproductive phase, and then colonized.

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Within the family lands, the bees received protection from many natural enemies that did not dare to come close to the hives to feed on the sweet honey that the bees produced, destroying the hives and killing the larvae and adults. Also benefiting from the closeness of the hives, the Mayan families that had lodged the nests had easy access to the products that the stingless bees manufactured, honey, cerumen, and pollen, and to the benefits they provided.

The melipona honey was an especially coveted product, valued for its medicinal properties and for its ritual importance in the elaboration of beverages used in religious ceremonies. This is documented in the manuscripts carefully preserved throughout the difficult centuries of Colonial domination. The anonymous texts that deal with medical practices, the “Ritual de los Bacabes” (Arzápalo Marín 1987), the “Recetario de Indios en Lengua Maya” (Roys 1976), and the “Libros del Judío” (Barrera and Barrera Vásquez 1983), include a great number of healing incantations and prescriptions for the preparation of remedies based on the honey of the native bee *M. beecheii*, which could be used either alone, as the main ingredient, or as a vehicle for other healing products.

Many years before the Spanish conquest, honey and cerumen were important products exported to other regions of Mesoamerica, Central America, and the Caribbean. We find mention of this trade in the manuscripts known as “Relaciones Histórico-Geográficas de la Gobernación de Yucatán.” This translation of quotes was made respecting the style used in the manuscripts:

In these provinces there are not mines of any type. The profit they give are some cotton sheets and wax and honey, that is the land's trade, and in order to be valuable, they are taken to Mexico, Honduras and other parts. (Garza et al. 1983)

From a thriving industry and trade that survived three centuries of colonial exploitation, meliponiculture is now on the verge of extinction. The activity has suffered from the current economical and social pressures experienced by the Maya people and from the introduction of *Apis mellifera*. Apiculture with that bee has become a very important agroindustry in the Yucatan peninsula. It is probable that due to the medicinal properties and ritual use of the honey and other products of the native bees, meliponiculture continued in practice in a reduced scale in the backyards of Mayan homes and has barely survived.

Studies carried out by bacteriologists have proven that the honey of *Melipona beecheii* has high levels of *Bacillus* that inhibit pathogenic bacterial growth (Quezada Euán 2005; Catzin Ventura et al. 2009). This fact may contribute to its medicinal action, as well as a higher acidity compared with the honey of *Apis mellifera* (Vit et al. 2004). The hydrogen peroxide, an antibiotic found in all honeys, acts as an hypotonic medium that, dehydrates microbes or inhibits their growth (Menezes et al., Chap. 10 in present book).

We will make a brief review of some ideas that the Mayans had about the diseases, the literature where we find notes on how this honey was used as medicine, and will indicate the ways in which the Pre-Hispanic Indians used honey as well as the bee nests and brood. Finally, a description of the maladies cured with honey and its application by the “ah dzaco'ob,” general medics of ancient times, will be given.

15.2 Mayan Ideas of Disease

For the Mayan people, a disease was a serious state of physical, mental, and spiritual alteration. The sick person suffered physically in an intense way, and presented mental alterations and emotional or spiritual unsteadiness. A sick man or woman was defenseless and incapable to carry out his or her everyday labors and personal, familiar, and social duties. In the emblematic book of Mayan medicine, the “Ritual de los Bacabes” (Arzápalo Marín 1987), we find that for these people, the diseases were supernatural beings, with origins in a remote mythical time, born to a mother and father in a “temazcal,” the traditional steam bath, located in a selected spot of the sacred geography. They also possessed clothes, pieces of gold jewelry, and symbols, which provided them with character.

Human beings fell sick for a number of reasons; most of these had to do with the supernatural world and beings. A man that was negligent, cruel, or naughty with his family or neighbors, or with defenseless people such as youngsters or elders, was prone to anger the gods and to receive their punishment in the form of a sickness.

Dangerous places such as caves, rivers, water springs, lakes, and the forest were abodes of great energy that could affect man in a negative way. The men that dared go into these places were either owners of enough power to arrest the energy that prevailed, or carried out rituals to appease the supernatural beings and forces that prowled there.

If a person was at fault during the rituals that were due to the deities, he or she could also be chastised with a disease. The gods of Mesoamerican religions were capricious creatures that would equally bestow great luck or the worst of fortunes, pain, and maladies on a human being, despite his or her good conduct and respect to his or her obligations to them.

These were the main causes of disease and, as we proceed through the texts to see how the honey of *Melipona beecheii* helped to cure many of them, we will recognize a few of these ideas that persisted in spite of years of cultural repression during the Colonial period. More information regarding these subjects can be found in López Austin (1980) and Ocampo Rosales (2005).

Why was the honey endowed with such power to cure? For the Mayans, the energy was a force called “kinam,” whose various meanings are (1) strength, robustness, rigor, and fortitude; (2) virtue, as in the stones, or herbs, etc.; and (3) venom or poison from animals, or pain caused by the poison or the ulcer, and that which is very painful (Ciudad Real 2001).

It is probable that the Maya word “kinam” derives from the word “kin,” sun, which might indicate that for these people, a certain kind of power was like that of the sun, or provided from it, thus being especially strong.

The Mayans considered that the sun’s power concentrated in the plants’ reproductive organ, the flower, in the form of a sweet liquid, the nectar. That strength or energy was transmitted to the bee and from the insect to the honey. That is why “kab,” honey, was so powerful that it was even considered as a sacred food, used in rituals.

15.3 Traditional Literature on the Use of *Melipona beecheii* Honey for Medicinal Purposes

In the Mayan literature, written in Latin characters, that has been preserved, there are a few texts that comprise medical aspects of great importance. In some, the health of Mayan populations and their unfortunate contact with the epidemics brought by the Spanish conquerors were recollected, as well as the years when the conditions were most severe. In others, the illnesses were described with their name in Mayan and, occasionally, the translation for this name was provided in Spanish. We also find very complete lists of plants, their medicinal properties, and their use against different maladies.

The main purpose that the Mayan specialists had in writing these texts was the preservation of the part of their culture that dealt with the recovery of health and the prescriptions by means of which the patients were treated. Obviously, in most of these books, the ritual parts, fundamental in the treatment carried out by the “ah dzac,” and which had a deep religious background, were scarcely mentioned. To demonstrate this omission, the important collection of prayers and invocations gathered in the “Ritual de los Bacabes” (Arzápalo Marín 1987) is a complete manual of the rituals by means of which the Mayan doctors healed their sick. Characteristic of this manuscript is the use of a language that was only known to the initiated, and the description of complicated ceremonies. Here, the use of honey to heal certain diseases is recorded, but the examples are few. It is in the collection of manuscripts known as “Libro del Judío” (Barrera and Barrera Vásquez 1983) where the Mayan informants wrote widely about the use of honey as a powerful healing agent.

The “Libro del Judío” is a complex, detailed, and long compilation of several manuscripts that was accomplished by an Italian physician, Ricardo Ossado, who lived in the Yucatan Peninsula during the eighteenth century. Probably due to an acute professional curiosity, a considerable knowledge of medicine and the vegetation of the region, the Jew, as Ricardo Ossado was nicknamed, used the “ah dzaco’ob,” general doctors, as informants and translators to compile many prescriptions to cure several diseases that were common among the Mayan population. His knowledge of the maladies is clear in this minute register of medical practices of the time. The manuscripts were named after the village where they were recovered and because of their characteristics, we consider that they are copies of prescriptions that were handed down from teacher to disciple since remote times; many exhibit a clear Pre-Hispanic tradition. From this extensive corpus, we extracted those prescriptions in which honey is one of the main ingredients incorporated to act effectively against an illness, particularly, virgin honey, taken directly from the honey pots inside the hives or “hobones,” named “hobnil cab,” honey of “hobon.”

15.4 Preparation of Prescriptions

The honey of the meliponas was used for its effectiveness as a curative product, and for its religious and mythical powers. Due to its properties, honey was used to treat all kinds of diseases, prepared and dosed adequately, but always as a principal ingredient,

capable of restoring a patient's lost balance. Honey appears in the prescriptions as the fundamental curative element, added to plants that were macerated, cooked, roasted, or burnt to ashes. Honey was rubbed or anointed alone, or with plants to form a paste or a liquid that was applied over the sick member, skin bruises, ulcers, wounds, on the eyes, inside the ear, or covering the region of the organ to be treated. The "ah dzac" is also advised to use the nests of certain bees or wasps to cure certain illnesses. The way it was done was to burn down the nest of the insect, extract the larvae from it, grind them, and administer all with the ashes in the form of a beverage (Roys 1976).

In the case of burnt skin, honey was applied alone. It is also used in many of the prescriptions as basis of anti-inflammatory liquids or ointments. For "chuchup calil," swollen neck:

You take the *Malachra palmata* (Malvaceae), mallows and honey. Let them be mashed and let him drink it. Or else let him drink milk and cinnamon mixed to honey, and let a little of it be applied wherever the swelling is. (Roys 1976)

15.5 Diseases Treated with Honey of *Melipona beecheii*

In order to make the copious information of the medicinal properties of the melipona honey more comprehensible, we will use a classification of diseases according to the organs that were affected. In these prescriptions, honey, "kab," was used to cure diseases of respiratory, digestive, circulatory, and immunological systems. It was also used as a remedy for maladies of the sensory organs, such as the skin, eyes, ears, mouth, tongue, gums, and teeth. An important part of the literature is dedicated to a group of diseases that were named fevers which due to their high incidence, importance, and negative effects, were considered as a unit in their particular classification by the Mayans. Another part refers to those illnesses typical of the Mayan worldview, with defined traits and supernatural etiology that are called syndromes of cultural filiation. In these regions characterized by a high biodiversity, another important application of honey was as a remedy against the stings and bites of scorpions, spiders, tarantulas, bugs, ants, and venomous serpents (Barrera and Barrera Vásquez 1983).

15.5.1 "Cold" Diseases

In the Mayan classification of diseases, an important part is dedicated to those considered cold diseases, sent by gods or entities that inhabited the cold, dark, damp portion of the Mayan universe—the underworld. The gods and forces that inhabited this place exhibited traits that reflected their surroundings. They were cold, damp, and dark.

Many of the respiratory maladies were considered cold diseases. To cure the white phlegm, whose symptoms make us suspect tuberculosis, the elements of the prescription included expectorants like pepper (Piperaceae, a recent import from the

Old World), chilli *Capsicum annuum* (Solanaceae), and tobacco *Nicotiana tabacum*, *N. rustica* (Solanaceae). In this particular case, as well as in other prescriptions, it is clear that the ingredients were prepared searching for a balance between the intrinsic qualities of the disease and the properties of the remedies. The phlegm disease was cold and the constituents of the medicine were hot.

Honey was a hot product due to its origin and properties, and this made it especially valuable to treat the problems that women experienced before, during, and after giving birth. In this situation, the parturient was in an extremely cold and dangerous state, because she had come close to death and to the underworld; consequently, she was invaded by the negative forces and spirits that dwelled in this place. Honey was used to expel the placenta, “kal ybin”:

The remedy is honey heated with a little sugar, not much, roasted, powdered and stirred thoroughly into the hot honey. Let it be given to drink to the patient. It will be good to put immediately the blood of a chicken in it, the blood from the leg of the chicken. When for two days the after-birth may be retarded in part, administer the other remedy for the after-birth, grated “chaya” *Cnidocolus chayamansa*, with horse-dung and honey and chilli *Capsicum annuum*. Let it be drunk warm. (Roys 1976)

In this prescription, we observe the addition of an element that is hot in its very nature, the blood, to counteract the placenta’s coldness and promote its detachment. Its second part seems elaborated under the dictations of the “medicine of filth,” typical of the knowledge of medieval physicians, medical procedures that had probably been brought to New Spain by the doctors that emigrated from the Spanish territories in Europe and had become popular in America or the American continent. It also involves the use of two plants that originated in this continent, “chaya” *Cnidocolus chayamansa* (Euphorbiaceae) and chilli *Capsicum annuum* (Solanaceae).

In another prescription, honey was rubbed on the woman’s abdomen before birth and was also taken as a beverage. To this day, in the Mexican states of Campeche and Yucatán, women who are attended during labor by traditional midwives also receive this treatment before giving birth. The midwife anoints honey over the woman’s stomach to help increase the contractions, to correct the position of the child, and to protect both from the coldness of the labor. This is accompanied by other rituals in which help is summoned from supernatural beings to make the labor short and the delivery successful (González-Acereto et al. 2011).

In the manuscript called “Manuscrito de Chan Cah,” recovered from the so-called Maya village, the compiler refers to a problem of the placenta in a few lines, unfortunately incomplete:

When the unhealthy afterbirth is retained by the woman _____ the afterbirth that is tangled his _____ put honey on them. (Grupo Dzibil 1982)

In the group of diseases that came from the cold places of the universe, a dangerous case of heart failure, “chibal puczik,” heart pain, is treated with the integration of three different constituents in the prescription, which are all hot remedies: honey, anise *Pimpinella anisum* (Apiaceae), and wine. They were mixed and placed on a piece of cloth and while still hot applied over the region of the heart. The mixture was probably used as an effort to reanimate this organ in case of heart failure.

We believe that due to the seriousness of this disease, this prescription is one of the longest and most complex.

Three or four different remedies are provided to apply in case of “chibal puczik.” We have to consider, in addition the inclusion of European elements such as anise and wine and their use in Mayan medicine. We only quote the part in which “kab,” honey, is used:

Or else you burn honey with roasted anise, (mix) with wine and put it on a cloth like a thick cake baked in hot ashes. Then you bind it on the heart, hot... (Roys 1976).

Among the indications given in “El Libro del Judío” to treat heart diseases, we find the following:

“Chiople” *Eupatorium hemipteropodum* (Asteraceae), “xhóch” *Ricinus communis* (Euphorbiaceae), green tobacco *Nicotiana tabacum* (Solanaceae). An infusion of these three herbs is sweetened [with honey] and you imbibe two spoonfuls, every three hours, and it is very effective to cure heart disease and palpitations of this organ; it is taken for three, six or nine days, continually, and you will be cured. (Barrera and Barrera Vásquez 1983)

15.5.2 Fevers and “Hot” Diseases

In all ancient texts on the subject of medicine, fevers are amply cited. We now know that a fever is an abnormally high body temperature, symptom of infection, autoimmune disease, intoxication, and parasitosis, but even now they are considered as a group, and, in the Mesoamerican world they were known as “hot” diseases. According to the Mayan worldview, these illnesses were sent by gods, beings, or forces that belonged to the hot, dry, luminous part of the universe, the supranatural world, above the terrestrial stratum. These beings possessed a very powerful constitution that could damage humans in a severe way.

In some of the prescriptions to treat these maladies, we do not fully understand the nature of the products that are required. For nocturnal fever, “akab chacuil,” the “ah dzac” recommends administration of “hobnil haa,” “hobon water,” with “kanle-cay,” dodder, *Cuscuta americana* (Convolvulaceae) in a tepid bath so that the fever disappears (Roys 1976). At present, it is difficult for us to know exactly what the doctor means by “hobnil haa.” In the hives of *Melipona beecheii*, there are small water reservoirs collected by the bees that are probably utilized, amongst other uses, to regulate the hive temperature (Quezada Euán 2005). It could be that the “hobnil haa” required was, alternatively, waste liquid from the hive, but its quantity is minimal. Perhaps the empty “hobones” or logs were used to collect “virgin” water, that is, the rain gathered in the forest and that had never been touched by human hand. This water was profusely used in rituals and treatments by the Mayan priests. It is also possible that the “ah dzac” referred to the “kab,” honey, in a metaphorical way whose meaning still remains obscure to us.

In these books, certain children’s diseases are mentioned repeatedly: for example, nocturnal fevers, convulsions, and shivers, which bring to our attention the fact that

children were more likely to catch maladies and were defenseless against a great many of them.

Honey was used for several diseases that had fevers as symptoms. For example, in the case of a skin eruption accompanied by fever, “u chacuil hobonte kak,” three herbs, lemon juice, and fresh honey were integrated to prepare a beverage for the patient (Roys 1976).

15.5.3 *Syndromes of Cultural Origin*

The name of syndromes of cultural origin has been given to particular diseases that still exist in indigenous communities, related to their ancient medical traditions by Carlos Zolla and his investigative team (Mellado Campos et al. 1994). The Mesoamerican cultures believed in the existence of a complex collection of diseases that were due to the direct action of the deities or other forces, such as an evil wind. The sick person lost one or several faculties like the ability of speech. They had a sad, anguished heart, “okom puczikal.” They suffered from dizziness or vertigo and consequently were exposed to the danger of falling during a journey; they had pain in the legs, or walker’s tiredness and many others. Some of these patients were treated with a variety of plants integrated with the honey.

Found in sixteenth-century dictionaries, this group of diseases, “tamcaz,” translated as frenzy, madness, could probably be epileptic seizures. Antonio de Ciudad Real, the Franciscan friar who collected thousands of terms to compile the first “calepino” Maya-Spanish dictionary, registers for “tamcaz”: stiffness or numbness, epilepsy or frenzy, that strikes dumb and deaf those who suffer tamcaz (Ciudad Real 2001). The Chan Cah manuscript records a remedy for this illness consisting of a mixture of the root of “kulche” *Cedrela mexicana* (Meliaceae) and the root of “cat” *Parmentiera edulis* (Solanaceae), water, and honey (Grupo Dzibil 1982).

With respect to a malady where the patient fell, we might speculate over its multiple causes. It could be a simple faint or swoon, or a complication of a cardiovascular disease, epilepsy, or a diabetic coma. There are several entries that refer to this disorder, in which the “ah dzac” specified multiple symptoms. In one of the prescriptions, the doctor referred to a blood movement in the bowels, the sick person fell, and spitted or vomited blood. These symptoms remind us of a gastric ulcer. The prescription was integrated with a handful of “xucul”: leaves, stem, and root of purslane (imported from the Old World with the Spanish conquest), *Portulaca oleracea* (Portulacaceae), that were boiled with one-third drachma of honey. It was left to cool, sugar was added, and it was administered to the patient at sunrise, under abstinence, for 3 or 4 days (Roys 1976).

15.5.4 *Maladies of the Digestive Tract*

Several diseases of the digestive tract were treated with honey. In the first place, diarrhea with severe colic, named “u lom tokil hubnak” with “othcehil,” was treated with the tender tips of the cualote tree *Guazuma polybotrya* (Malvaceae) and green

leaves of “taamaay” *Zuelania roussoviae* (Salicaceae), “ixim-che” *Casearia nitida* (Salicaceae), “muloch” *Triumfetta semitriloba* (Malvaceae, Tilioideae), and “buhumkak” *Cordia geraschanthoides* (Boraginaceae) ground and dissolved in a “tumin,” Mayan measure, of hot honey. The liquid was left to cool and was given as a drink although it could provoke vomiting or colic (Roys 1976).

A prescription to treat dysentery, “kik choch,” bloody diarrhea, appears in the “Ritual de los Bacabes.” Honey extracted from the logs was added to the plants required for this medicinal beverage (Arzápalo Marín 1987).

Not only honey had the strength called “kinam” that the Mayans imagined came from the energy that the sun bestowed upon the earth’s creatures and plants. For other digestive diseases, an indication was given to the specialist to use bees’ or wasps’ nests. For yellow stools and spasms, or colic, the nest of a wasp, “kanal,” was boiled with some plants. This prescription is an example of sympathetic medicine in which color is fundamental. The malady’s signs were yellow, and so were the wasps and their nests. The plants required for the remedy were also yellow, thus having an additional healing power, which could depend on the color division of the Mayan universe (Roys 1976).

Another prescription to treat dysentery required burning a nest of “kan-kub,” a bee, taking the larvae, grinding them, and mixing all to administer as a beverage, with honey (Roys 1976). To cure diarrhea, the “ah dzac” could use:

“Lucal”. Residue that is collected in the honey pots or in the hive and dissolved in water cures diarrhea, even chronic ones. (Barrera and Barrera Vásquez 1983)

To eliminate intestinal worms, honey was also applied in an effective enema:

Take milk and honey and vinegar and apply to the rectum (or lower abdomen). It will draw them out immediately. (Roys 1976)

One of the most important ritual drinks that the Maya manufactured was “balché.” This beverage was prepared with water, honey, and the bark of the tree called “balché” *Lonchocarpus longistylus* (Fabaceae, Faboideae), which were mixed and left to ferment for 2 days. The beverage was used by all the members of the Mayan society, according to the ritual that was being enacted. Only children were sometimes exempted from its drinking. Balché was used like a very good purgative, to promote health, strength, and longevity (Garza 1987).

The Catholic priests tried to ban the production and use of this beverage mainly because of its close connection with the idolatrous rituals that the Mayans still had fresh in their memories. To this day, balché is commonly drunk in all the Yucatán peninsula.

15.5.5 Diseases of the Sensory Organs

In the past, honey was used against ear and eye infections and it is still used by the Mayan traditional specialists called “ah men” or “h men” to heal these ailments. In the literature, we find a prescription to use plants like *Hibiscus tubiflorus* (Malvaceae) “tupkin,” hibiscus, sorrel, or black mustard *Brassica nigra*, another European import

(Brassicaceae), whose leaves were roasted and introduced in the ear. If it did not get better, the specialist suggested the use of a ripe, red chilli, without seeds. The doctor took a small quantity of honey directly from the “hobon” and added water. Both substances were put into the chilli that was roasted over hot ashes. When the liquid was tepid, it had to be squeezed into the ear (Roys 1976).

When there was pain in the eyes, the medicinal treatment was:

It is good also to take fresh honey from the hive and the tender tips of the *Carica papaya* (Caricaceae), covered with banana leaves and cooked, add a little salt, then wrap it in cotton-wool and squeeze it into the eye. (Roys 1976)

Some of the most notorious symptoms of a great number of hot diseases are rashes, spots, pustules, and abscesses on the skin. In the documents that support this investigation, a very serious disease called “ek pedz kak,” smallpox, is mentioned. The prescription indicates:

There is also black confluent smallpox “ek pedz kak”. This is the remedy, the blossom and the leaf and the outside of the red *Plumeria rubra* (Apocynaceae), frangipani. Let these all be roasted, then you mash them and you add a little honey from the hive, raw honey. Then you heat it to just the right temperature and you give it to drink to anyone who has this eruption, in order that it may put an end to the burning and the throbbing. (Roys 1976)

In another case of infectious rash, “canal kak,” the informant registered the months and years when the disease appeared and the symptoms as well as the remedies. The word “kak” means fire and “kak cimil,” fire, disease, smallpox in general (Ciudad Real 2001). Contagious skin eruptions were treated with an emetic drink made up with crushed fresh leaves of *Bravaisia tubiflora* (Acanthaceae) “ek-huleb”; the *Croton niveus* (Euphorbiaceae) croton “chuy-che”; the *Zuelania roussoviae* (Salicaceae), “taamaay”; the *Castilla elastica* (Moraceae) rubber tree; the *Alvaradoa amorphoides* (Picramniaceae) “besinikche”, Sapindales stub [sic]; and the *Leucaena glauca* (Fabaceae, Mimosoideae) “uaxim”, white leadtree and mixed with honey (Roys 1976).

To cure skin burns, “chuhul,” the injuries had to be covered with honey: “... let it be anointed with honey fresh from the hive, immediately” (Roys 1976). The prescription is long and complex, but honey was the first product that was used to treat these accidents.

15.6 Conclusions

In Yucatan, the Mayan traditional doctors, “ah dzaco’ob,” used honey produced by the stingless bee, *Melipona beecheii*, as a medicinal product of great importance. This fact was rigorously registered in the Colonial chronicles that deal with traditional Mayan medicine. But the complete information on which the practice of these specialists was based gradually disappeared under the pressure of the Spanish culture that was imposed on the native people. The prescriptions lost Pre-Hispanic tradition, and the use of honey was modified from being a curative element of great

power or *kinam*, elaborated by deities, to being used only to sweeten the remedies. Reading the prescriptions that were compiled by Ricardo Ossado and comparing them with the invocations of “El Ritual de los Bacabes” (Arzápalo Marín 1987), we realize the loss of medical, ritual, and religious information that the former underwent. It is also clear that many “traditional remedies” in fact included plants introduced by the Europeans to the Mayans.

There are a number of reasons to support the extensive use of this bee’s honey to treat a great number of diseases: first, its unequivocal properties, considering its antimicrobial capacity; second, the “kinam” of its origin that makes it a hot product, gift of long forgotten gods; and third, the fact that it is a natural product, with almost null toxicity on the human organism. Much research remains to be done on the medicinal properties of “kab,” based on the ancient texts.

The prescriptions reviewed above were quoted as they were written to provide insight into the logical structure of Mayan thought regarding the power of honey as medicine—ideas that led to its extensive use for the many diseases against which human applications of honey were effective. They may also instruct us regarding the Mayan worldview, an issue of great complexity and interest.

Efforts seeking to inform present-day tropical people on the existence and importance of the native stingless bees are very valuable. Let this work be an open invitation to learn more about the native stingless bees of America, their honey stored in pots, the people that have protected them for centuries, and the countries which they inhabit.

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