Abejas nativas, señoras de la miel. Patrimonio cultural en el estado de Campeche

Native bees, honey ladies. Cultural heritage in the State of Campeche

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Resumen

La meliponicultura maya (cultivo de abejas nativas), es una práctica precolombina que subsiste en ciertas comunidades del estado de Campeche, pero que lamentablemente se encuentra en grave riesgo de desaparecer. El presente trabajo, basado en la observación de esta práctica en dichas comunidades, pretende difundir el estatus actual de esta tradición cultural en la entidad, y describirla como Patrimonio Cultural Inmaterial de acuerdo con los criterios de la UNESCO. Esto es, reconocerla como una práctica que nos sitúa como miembros de un grupo o comunidad. Se proponen humildemente algunos mecanismos de acción que contribuyan a su supervivencia.

Palabras clave: patrimonio cultural inmaterial, meliponicultura maya.

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Abstract

The mayan beekeeping (cultivation of native bees), is a practice pre-Columbian that remains in certain communities of the State of Campeche, but that unfortunately is is in serious risk of disappearing. This work, based on the observation of this practice in these communities, seeks to disseminate the current status of this cultural tradition in the State, and describe it as Intangible Cultural Heritage according to UNESCO criteria. That is, to recognize it as a practice that places us as members of a group or community. We humbly propose some mechanisms of action that contribute to their survival.

Key words: intangible cultural heritage, maya meliponicultura.

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Introduction

One of the manifestations of the Mayan culture that remain to the present day and complies within the concept of PCI[3] is the one that refers to the traditional culture of the bee Xunaán kab[4] (*Melipona Beecheii-Benetth*).

The management of the different species of native stingless bees developed by the Maya and the use of their products are part of a valuable and complex construction which, because of its cultural importance, it can be equated with other examples of the intangible cultural heritage of Mexico. We refer to the indigenous festivity dedicated to the dead or the *pirekua*, traditional song of the Purépecha, while they represent traditions that extend in space and time and who have social, economic, political and religious implications. Specifically, the Mayan system of breeding the Xunaán kab and exploitation of their

[3] Immaterial or intangible cultural heritage.

[4] Xunaán kab in Mayan language means Lady bee or honey Lady. This bee has been called also Kolel kab, Yik' il kab and Pol kab**.** The maya term kab, which has at least three meanings: bee, honey and ground, It is written by some authors with "c" (cab) and by others with "k" (kab), this last form is used throughout this work.

products, has led to an accumulation of alluding to the natural world concepts that make it a case of exceptional worth as ethnobiological knowledge[5] and as Mexico biocultural heritage.

Unlike the cases of the archaeological heritage of the maya area and the traditional knowledge of native flora and fauna, breeding the *Melipona beecheii* has been practiced throughout history without interruption for over two thousand years, is alive and is a means of identity to the Mayans. On the other hand, if we only take into account the ecological importance of this species of melipona in terms of their pollination function, in response to the restoration and conservation of the local flora of the Yucatán peninsula, that is, from the perspective of the natural heritage, we can say that its value exceeds without a doubt the other cases of fauna well known, like the Macaw (*Ara macao*), the quetzal (*Pharocachrus mocinno*) or pink the Caribbean Flamingo (*Phoenicopterus ruber*), examples in the book *Natural Heritage of Mexico. One hundred success stories*, published by CONABIO[6] (Carabias, 2010, q.v. 52-54-62). *In contrast, the existence of the "Mayan Bee" is little known in Mexico and its cultivation is not recognized as a valuable native cultural practice, despite the fact that this bee was counted pets of pre-hispanic times* (Sotelo, Álvarez, and Guerrero, 2012, p. 302). In addition, in the traditional Mayan communities still concur in the Xunaán kab a series of voices, beliefs, stories, practices, rites and imaginaries that placed it in the scope of the sacred (Hirose, 2003, p. 143). Perhaps the sacredness attributed to this species of bee and its products, explains the survival of ancestral techniques of cultivation by a few people.

To understand this survival, it is necessary to present data that allow us to identify this expression from pre-Hispanic times. Some archaeological evidence (Flores and Perez, 2002, p. 429) and documentaries allow us to state that this is an ancient practice, so this would be a current phenomenon of long duration (Sotelo, Alvarez, and Guerrero, p. 303).

[5] La Etnobiología tiene a su cargo el estudio de la utilización de las plantas y animales en una región cualquiera, por un grupo humano definido que lo habita o viene a ella para obtenerlos (Maldonado-Koerdell, 1979, p. 2).

[6] Comisión Nacional para el Conocimiento y Uso de la Biodiversidad.

The aim of this work is to characterize the traditional culture of the Melipona beecheii by the Maya in the state of Campeche, to place it in the context of the approaches set out by the UNESCO[7] for the safeguarding of intangible cultural heritage. We hypothesize that this practice is part of biocultural heritage of Mexico. UNESCO recognizes that leads the intellectual discussion related to the PCI terminology, member countries have been adopting (Ahmad, 2006, p. 292).

To develop research implement a mixed methodology was conducted in three phases: conceptual, another document review and the third of factual research. In the first stage the development of the concept of intangible cultural heritage is exposed. The second phase looked at the search and literature review related to the Mayan culture meliponicultura or traditional bee Xunaan kab, for which various sources were reviewed. The third phase of the research refers to field work, which resulted in the lifting of the first census meliponiculture practitioners in the state of Campeche.[8]

PCI development concept, first stage

We reiterate, since UNESCO is the agency in recent years has provided the conceptual framework with which defined the PCI, we decided to approach our subject from this framework.

The formal concept of Intangible Cultural Heritage has its origin within international conventions sponsored by UNESCO, an international organization founded after the Second World War, with the aim of contributing to peace through the promotion and development of education and culture. Thirteen countries, including Mexico, joined to form the organization in 1946; currently it includes 191 nations (UNESCO, 2009).

[7] Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura.

[8] En los estados vecinos de Quintana Roo y Yucatán ya se han realizado censos similares, publicados en: *Extintion of Melipona beecheii and traditional beekeeping in the Yucatán peninsula*. Villanueva, R., Roubik, D., & Collí, W. (June de 2005). *Bee Word , 86(2)*; *Producción tradicional de miel: abejas nativas sin aguijón (trigonas y meliponas*). Biodiversidad y Desarrollo Humano en Yucatán, pp. 382-384, Durán García, Rafael y Martha Méndez González (eds.) Mérida, Yucatán. Consejo Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), Centro de Investigación Científica de Yucatán A.C. y SEDMUA, 2009.

UNESCO, as legally responsible for protecting the cultural heritage of the peoples (Marcos, 2004, p. 932) has defined and expanded this concept in its development, ranging from objects to ideas organ, from the historical and artistic until relevant forms of life and culture, and from the material to the intangible.

In the evolution of the concept, we identify three stages:

1) Initial: when UNESCO is constituted and raised its original objectives, as well as the first approaches concerning cultural issues (1946- 1970).

2) transition, a period of definition and establishment of cultural policies in the world and in Mexico (1970-1990).

3) consolidation and definition of PCI (1990-2000).

In 1947 formed within UNESCO's Commission on Social Sciences, which referred to the Directorate agency studies that addressed, among other things, the particular characteristics of the different cultures in the world and the concept that these were then themselves and others.

At the convention of the organization, held in 1972 in Mexico City, it is introduced for the first time explicitly reflect already floating in the academic environment. It was to conceive the material elements of cultural heritage as carriers of knowledge, a practice and a set of collective representations that gave identity to the people (Millan, 2004, p. 59).

PCI UNESCO means "the practices, representations, expressions, knowledge and techniques -together with the instruments, objects, artefacts and cultural spaces associated therewith that communities, groups and, in some cases, individuals recognize as part of their cultural heritage "(Pérez, 2004, p. 26).

PCI expression as such is a sensitive issue because it involves the relationships within communities, rural and urban, and between them and their governments. Decide which cultural expressions and manifestations belong to this heritage is a field of dispute and

negotiation between the various social and cultural groups that make up a nation or a community.

During the second part of the decade of the nineties a group of UNESCO experts proposed more accurately conceptualizing the intangible cultural heritage and have an operational instrument in this area. Until now the idea that you had to preserve traditional cultures it was and that this was achieved through exhibitions, museums, records and inventories; and no doubt that wonderful work was done in that regard, as the file of traditional cultural practices of Pakistan in 1996 (Arizpe, 2009, p. 51).

It was held in Turin, Italy in the new millennium, in 2001, the International Round Table PCI, in which the aim of providing a working definition of intangible cultural heritage was established; and determine the scope and elements that should be protected by an international legal instrument.

The highlight of this long process, over half a century, presented at a meeting in Paris in 2003, in which the Convention for the Safeguarding of PCI was signed. One of the most important results of this meeting is that there areas through which the PCI manifests were established, without this meaning that at any time the list can not be expanded or modified. The following briefly explain each of the areas set:

1) Oral traditions and expressions
2) Performing arts
3) social practices, rituals and festive events
4) Knowledge concerning nature and the universe
5) Traditional craftsmanship

Maya meliponicultura in previous studies. Second stage

As it has been said at this stage was conducted the literature review related to the Mayan culture meliponicultura or traditional bee Xunaan kab. We go to different sources: (1) texts written by monks and chroniclers of the period novohispano[9]; (2) ethnographic studies of the Yucatan Peninsula in the century XX[10]; e (3) Recent research that mentions the relationship between the current Mayan with this species of bees.[11]

> It is important to note that most of these works address the issue from a biological and productive angle, reinforcing our determination to develop this research from the perspective of cultural heritage, because, with few exceptions, so recent generally not They recognize the knowledge that support the Mayan biocultural heritage.
>
> According to the literature, meliponiculture represents a common tradition of the Maya, especially those of the Yucatan Peninsula, from pre-Hispanic times. In this research we decided to focus on the state of Campeche.

We have located the Mayan system of management of native stingless bees, also concidas as meliponas in the fourth level of the CPI (concerning nature and the universe knowledge) while it would be possible to include it in others, as outlined below. The Maya have traditionally cultivated several species of these bees, in order to get their products, honey and wax (González y Araujo, 2005: 6); (Villanueva et al., 2005, p. 6). Of the 17 species of meliponas in the Yucatan Peninsula (Ayala, 1999, p. 128), they preferred the Melipona beecheii, which named Xunaan kab (Figure 1).

[9] *Relación de las cosas de Yucatán.* Landa, D. d., 1973. México: Porrúa.
[10] *The Ethnobotany of the Maya.* Roys, R., 1976. Philadelphia: Institute for the study of Human Issues.
[11] *Manual de Meliponicultura Mexicana.* González, J. y Araujo, C., 2005. Mérida, Yucatán; *Crianza y Manejo de la Abeja Xunancab en la Península de Yucatán.* Villanueva, R., Buchmann, S., James, A. y Roubik, D., 2005. Chetumal, Quintana Roo. ECOSUR; La salud de la tierra: el orden natural en el ceremonial y las prácticas de sanación de un médico tradicional maya". Hirose, J., 2003. Mérida, Yucatán: Tesis de maestría; Ceremonia del Wahil Kol en la comunidad de Ich Ek, Campeche; identidad y patrimonio cultural de los mayas peninsulares. Carbajal, M. y Huicochea, L., 2010 en: *Patrimonio Biocultural de Campeche.* Campeche(Campeche) ECOSUR.

Imagen 1. La abeja *Xunaán kab* custodiando la entrada de la colmena (*jobón*).

Foto: E.Negrín

In addition to being a productive activity, meliponiculture contains a wealth of knowledge and traditional knowledge. From the Mayan world view, the essential value of the Xunaan kab and its products, rather than nutritional or economic, is symbolic order.

We place this cultural expression in the first field of PCI, concerning knowledge concerning nature and the universe (4), as has been said, because it implies also knowledge about biology, etiology and cultivation techniques of Melipona itself beecheii. Those who practice this traditional activity, known not only the external morphology of the Xunaan kab, but the structure of the nests and differentiated functions of insects in beehives, visiting blooms and cycles of the colonies. also recognize the moments to harvest honey and wax, as well as the maturity of the nests to "divide".

Moreover, it is known that the meliponicultura is a factor contributing to balance and maintain the ecosystem in which it develops. The pollinator activity stingless bees is directly related to the evolutionary process of the characteristic natural flora of the Yucatan

Peninsula, because it encourages conservation and dispersal of germplasm of plant resources in the forests of the region (Gonzalez et al., 2010, p. 2). Between bees and plant communities, a relationship of interdependence is established, the first products require the latter to survive and these, in turn, need the pollinating action of bees to reproduce.

The second area of PCI that relates to the Mayan meliponicultura is the reference to social practices, rituals and festive events (3), usually associated with the life cycle of the communities, the agricultural calendar, the succession of seasons or other temporary systems. In the case of traditional meliponicultura there is a clear relationship between harvesting honey and corn; that is, jobs are linked in the meliponary the family garden with Mayan milpa. Around both cultures specific rituals and ceremonies periodically (Hirose, 2003, pp. 88-100), which can be classified as rituals of firsts, known as U Hanli kol (the corn meal) and U Hanli kab (food are made the bees). It is noteworthy that some traditional knowledge and associated symbols have managed to persist over time despite adverse conditions, as they are transmitted through rituals and sometimes reinterpreted as mechanisms of resistance to cultural domination (Faust, 1998a, p. 608). While honey of native bees has been a particularly coveted and sought after for its therapeutic product, its greatest importance lies not in those attributed medicinal properties, but in its essential use practically in various Mayan ceremonies, as a fundamental component of balché. It is called the traditional drink par excellence, whose first references date back to the stage after the Spanish conquest (Landa, 1973; De la Garza, 1983 (II), p. 39).

Even today it is common to observe the use of this beverage in ceremonies related to agriculture performed in the Mayan indigenous communities (Carbajal and Huicochea, 2010, p. 94). the case of a Mayan priest who also offered cacao with these drinks (Gabriel, 2004, p. 422) is documented. An interesting fact in connection with the above is in the field notes of Betty Faust (1998b, p. 67), in which it is mentioned that the ritual drink used is no longer the balché but rum.

A third area of PCI which has links with the Mayan meliponicultura is referred to oral traditions and expressions (1).

From the lexical perspective, it is clear cultural importance of the management of native bees for the Maya, especially the Xunaan kab, in contrast to the terms used for other animals, which were hunted or fished, but not cultivated. Cristina Alvarez says that through dictionaries of Yucatec Maya, nine major categories in which more than 150 terms are part referring to the cultivation of bees (Alvarez, 1980, pp. 275-278), including recognized :

1) Fundar hives
2) Neuter hives
3) Leave hives
4) Handling wax
5) Care apiary
6) Specialists in the management of hives and cycles
7) utensils and instruments used in the cultivation of bees
8) Pests and predators of hives
9) Theft of hives, honey and wax.

In addition, there is the descriptive nomenclature of the different species of native bees, wasps and bumblebees (the Maya classified generically as bees). There are more than 70 used for Melipona beecheii terms that allude to their appearance, their parties, their caste, their life cycle, the structure of the hive and even blooms they prefer.
Moreover, in the collective imagination of the different Mayan groups, there are many stories concerning the origin of the world and bees, as a previous creation to humanity. Among the Maya of Quintana Roo, various myths of origin realize associated with these insects, while pointing to honey as a sacred product, sacredness comparable with blood and rain (Jong, 1999, pp. Number 317 318).

The constant production of wax and honey among the Maya involves not only knowledge of native bees and their environment, but also efficient technical developments that have enabled them to have in the backyard with a defined area to cultivate the *Melipona beecheii.*[12] This aspect allows meliponiculture locate in the area (5) of the PCI -referente-

[12] *Najil kab*, casa de las abejas, cuya descripción se encuentra en páginas posteriores.

traditional techniques as it is a complex and specialized process that includes knowledge of biological and ecological but also technical. The development of *jobones*[13] can handle individually each colony, review, harvesting, drying and divide. It is also important to place and protect the jobones in the house, in a domestic environment, in the garden or on the site.

Meliponiculture also involves the manufacture and use of various instruments related to the management of hives and their products: tools for the development of jobones; which they are specifically used to harvest honey and wax; they serve to prepare honey, preserve and package it; to prepare food and drink; to melt the wax and form the marquetas; to store and weigh honey. There are also tools to use honey and wax for practical purposes. And of course, the use of both products offerings.

Today, in Campeche usually honey Xunaan kab is harvested twice a year, prior to the onset of rains and near the end of the same period; but if the year is not good, only one harvest is done. This can be in a variable date in April, May or late October. Each beekeeper decides independently the best time to do so; it must be emphasized that it is increasingly common for a single crop of honey a year is made, and most of the time consumption is reserved for parties of "dead", in early November.

To perform the harvest, they serve a number of indicators of both JOBON as the environment. When a hive is ready to be harvested, honey begins to drain at the ends, through covers. In addition, blooms and rains, before taking the decision to open the jobones to harvest the honey are valued.

Census meliponicultors in Campeche, third phase

This phase of the research refers to field work, which focused on the lifting of the first census meliponiculture practitioners in the state of Campeche. To carry out this census, two moments were contemplated:

1. Detection via meliponicultors requested information to educational institutions as well as agencies and government agencies.
2. Fieldwork. Meliponicultors interviews from a questionnaire guide.

[13] El *jobón* es un tronco ahuecado que los mayas han utilizado como colmena, cuya descripción detallada aparece en páginas posteriores.

The results obtained in the detection phase led to the three northern municipalities of the state, precisely those bordering the state of Yucatan: Calkiní, Hecelchakán and Hopelchén. This facilitated the fieldwork phase, for which a questionnaire that included the following questions were designed:

1. What began in the practice of meliponicultura?
2. How many jobones have and how did you get?
3. How many times a year the harvest?
4. What makes honey harvesting (and if applicable, with wax)?
5. Do you know any ceremony or ritual related to meliponicultura ?, What is it? and / or how is it?
6. Have you practiced or practice some ceremony or ritual, how did it?

Thus, a focal point of this work are current cases where the Maya farmers cultivate traditional Campeche way Xunaán kab.

In the state of Campeche we recorded a total 41personas, who live in rural communities in the municipalities of Calkiní, Hecelchakán and Hopelchén. Calkiní is that the largest number of meliponicultors, with 31.

The total log consists meliponicultors 17 and 24 independent grouped into two companies:

- Meliponicultors Society of the Church of Pucnachén, Calkiní (18).
- • Kollel kab, consists of six local women meliponicultoras Ich Ek, Hopelchén.

Speaking of the participation of women in meliponiculture is necessary to comment that it is a fact that seems contradictory. On the one hand it could be conceived as the activity itself or suitable for women because, according to the literature reviewed, the cultivation of melipones usually develops in the adjacent solar home-room. However, all, both historical and ethnographic, sources consulted mentioned only "Indians" or "indigenous" when meliponícolas activities and rituals are described without reference to women.

A review of similar surveys conducted recently in neighboring states, shows that in Quintana Roo women do not participate in meliponiculture, because not listed in the

register (Villanueva, Roubik and Collí, 2005, p. 36); Yucatan 22% of all registered meliponicultors corresponds female (Gonzalez Quezada, 2009, p. 384) and Campeche that percentage rises to 27%.

The total number of meliponicultors detected in the communities in the state of Campeche, 41, is much lower than those recorded in the neighboring states of the Peninsula Quintana Roo, Yucatan 120 and 153. It should be clarified that in all cases, the results are partial, because the census did not cover the entire state area: in the state of Quintana Roo 150 communities in more than 50 inhabitants, located in the so-called "Mayan zone" of the entity visited area. In the case of the east Yucatan (Valladolid) and the coastal area west of the covered entity. In our study, although not the full state of Campeche is included, which, together with the difference in time (2005 and 2010-11) determine that the information presented is not definitive, but it is an important indicator for the presence of this activity in the state.

According to the way in which the meliponicultors said they obtained their jobones, it is clear that in most cases has been through inheritance (35), usually the father or grandfather, but sometimes the husband or father Husband or wife, indicating the transmission of tradition between generations. A minimum of cases (six) have acquired their jobones.

The distribution by age group shows that most state meliponicultors (18) are persons over 51 years; I could anticipate lack of continuity of activity by recent generations, and according to those interviewed do not seem to be interested in continuing the practice of cultivating bees or less in their ceremonies. Most respondents have children and even grandchildren some of them, who generally have decided to emigrate from their community in search of job opportunities that do not have in their hometowns. Of those who remain, there are those who have completed certain studies and pursue the development of other technical or professional activity; the least, those who decide to stay close to their parents and / or grandparents and also participate in field activities, show no interest in knowing let alone care for melipones. The few who have done so also have the other bees (Italian, now

Africanized) and generally prefer they produce more and thus offer better economic dividends.

In relation to language or language spoken by the meliponicultors the state, the census showed information that suggests a marked conservation of the Mayan language, because although only a small percentage was recorded as speakers of the language (four), the highest percentage he said speak both Spanish and Maya (26).

As regards ritual and ceremonial aspects, only six of those interviewed said they knew any of these and only five showed any practice. The latter agreed to mention the ceremony U Hanli kab, which offer zaca, one of the sacred drinks after harvest. It is notable that none of the respondents mentioned the other sacred drink par excellence, balché, it cited as the most traditional and widely mentioned in the Spanish chronicles and relations on the subject. One might expect that these offerings will no longer be part of the ritual of harvesting honey, but were not even mentioned, so its current inferred ignorance among most practitioners. It is a factor of change in the Mayan Meliponiculture

Perhaps one of the most important results of the census survey practiced, is the one that has to do with the need expressed by meliponicultors to train as a means to enhance the development of the activity and maintain their practice. In some cases the interviewees emphasized this concern because said to have inherited the jobones and even have seen their parents or grandparents develop the activity, but do not know specifics about handling bees, how to perform the division, which refers to the formation of new hives (jobones) when the bee population requires it. Only in four cases respondents said the procedure to divide, two of them are people with older and coincidentally are also also those who only speak the Mayan language: Alvaro Chim Naal (Pucnachén, Calkiní), and Martiniano Huchin Canul (Tankuché, Calkiní).

Meliponiculture: intangible cultural heritage

The three stages of work allow us to present a profile of the present conditions in the chosen meliponiculture folksy geographic region, and character of intangible cultural heritage.

Methodological purposes, we recognize three fundamental tangibles:

a) The soap. In the bush, kab Xunan nests in hollow trunks or branches; Maya, in their culture, recreated this natural environment. Hollow stems having on average 60 cm long and 30 cm in diameter; the wooden cylinder has worked walls of at least 4 cm thick. They make trunk in the center of a circular hole about 1.5 cm in diameter and 4 cm in length that will be used to access bees. The ends of the cylinder are sealed with wooden covers the measure. These parts intended to house the hives jobones name is given. It is a simple and efficient technological development, adapted to the interior structure of the nest of Melipona beecheii, which facilitates both breeding and exploitation of hives, because while it protects and preserves the hive with wide walls of hardwoods, you It provides access hole narrow and long which makes it safer. The JOBON also makes it easier for beekeepers harvest of products by allowing them to remove covers (Figure 2).

Imagen 2. Luis Alfonso Perera Tun con sus *jobones* (Chunkanán, Calkiní).

Foto: E. Negrín

The wood used most frequently to produce soaps comes from trees like ya'axniik (Vitex gaumeri Greenm), tzalam (Lysiloma latisiliqua A. Gray ex Sauvalle), pich or guanacaste (Enterolobium cyclocarpum (Jacq.) Griseb.) Chakah (Bursera simaruba (L.) Sarg.), cedar (Cedrela sp) and sapodilla (Manilkara sp). They say those who produce them, which are timber species that bees themselves choose to nest in the bush, and also say they prefer hardwoods, as they resist more over time. jobones news that have been used for over a hundred years have. Some beekeepers say that now there are trees with suitable diameter to produce the jobones, because to do so requires having an age over 50 years; therefore they turn to younger trees and, therefore, of diameters less than 30 cm. At jobones they are often inscribed a cross over the access hole of bees. Other lines also inscribed over the entrance of the hive are circles, squares, quincunces and letters. The practical functions of these designs are two: determine the location of the top of the hive if during harvest or the division of hives there is any doubt, and individualize each colony.

Recent studies have raised hives using "intermediate technology hinged" instead of jobones, in order to facilitate opening and reviewing more regularly. These new hives also allow better hygiene when harvested honey and wax (González , 2008, p. 76).

a) *Najil kab*, house bees. When more than four youths in the eaves of houses, the Maya developed an apiary in the backyard (Sotelo, Alvarez and Guerrero, 2012, pp. 300-301). It is a shed, like a traditional Mayan house, bounded by four wooden posts and roofed with palm guano. They installed inside a simple wooden sticks shelf, tilted; profile view, forms a sort of "X". The jobones are placed in an orderly, symmetrical, forming rows and columns, with the front facing south, because the ends are oriented on an east-west. As the number of jobones, they are arranged on the north side of the shelf. The oldest hives are located at the bottom, and the most recent, superimposed (Figure 3).

Imagen 3. Meliponario de la sociedad de la Iglesia de Pucnachén, Calkiní.

Foto: E. Negrín

b) kab Xunan products: honey and wax.

With regard to intangible elements, we distinguish four.

a) Self-classification of bees:

Ejool (*Cepahlotrigona sexmenie*)

Sacxik (*Fresiomellitta nigra*)

Kantsak (*Scaptotrigona pectoralis*)

Choch (*Partamona bilineata*)

Uscab (*Plebeya frontalis*)

b) The myths of origin of bees, hives and honey

During the development of field research (whose results are discussed in subsequent pages) in the community of Chunkanán, municipality of Calkiní, one of the traditional beekeepers, Luis Alfonso Perera Tun, he said that "when a person of the people died, the meliponicultors were cut tips of the leaves of henequen, form crosses with them and place them in each of the jobones they had. If this was not done, they risked their bees were. " This belief is one of the latest examples still in force in the Maya thought about the close link between bees and men.

c) beliefs about the characteristics of bees and practical qualities of their products

Healing Properties: in some recipes the component "virgin honey," which certainly refers to the newly extracted honey and bee nests and wasp themselves are also mentioned as an ingredient for the cure of diseases such as dysentery mentioned; it recommended taking the nest, burn, take the young, grind them and manage drink (Roys, 1976, p. 60).

d) The ritual practices carried around bees, hives and crops, such as U Hanli kab already mentioned.

Conclusions

Practiced census data allow the following conclusions:

1) The small number of registered practitioners represents a wake-up call that is consistent with the approach of the specialists who have placed meliponiculture endangered (Quezada, May and Gonzalez, 2001, pp 160-167;. Villanueva, Roubik and Collí , 2005, pp. 35-41). It is very likely that these are the last records of this ancient practice in the state of Campeche.

2) The total of those registered live in rural communities located only three of the 11 municipalities in the state, geographically located in the adjoining state of Yucatan area, showing the reduced focus of this expression.

3) The participation of women is minimal meliponiculture entity, barely registered 11 a total of 41 practitioners.

4) Most registered meliponicultors are people over 51 years and the lack of interest in continuing practice by recent generations, it reinforces the concern about the imminent extinction of it.

UNESCO says that to stay alive, intangible cultural heritage must be relevant to your community, continuously recreated and transmitted from one generation to the next. Since safeguarding the heritage, and in this case meliponiculture does not mean fix it or fosilizarlo in a "pure" or "primitive" way, we think that it is possible to provide assistance to the Maya meliponicultors through various measures:

- Provide courses to encourage the construction of soaps (traditional hives) and hinged intermediate technology.
- Develop workshops to disseminate the management of stingless bees in the same jobones and boxes (intermediate technology hinged).
- Disseminate technical meliponicultors feeding alternatives to bees.
- Promote the creation of channels to market honey and wax melipones.
- Implement programs that support the participation of women in this activity.
- Design a legislation aimed to establish protected areas where the natural habitat of the melipones is preserved.

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