

## Indigenous women record age-old knowledge of bees in Colombia's Amazon

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- *A team of Indigenous Yucuna women in the Colombian Amazon are rescuing and documenting the remaining oral knowledge on bees and their roles in the ecosystem, along with the traditional classification system of diverse bee species.*
- *With the help of nine elders, they are documenting and sketching tales and songs to gather bee names, characteristics, behaviors, roles in their crop fields and the places where bees build beehives.*
- *Biologists part of a bee inventory program and the women from the reserve are working to compare each other's findings on bee species in the Indigenous territory, where researchers say bees are better protected than other regions of Colombia.*
- *Some of the traditional tales and knowledge are even surprising to the women documenting it; they say the details and scientific information will be shared with the communities and local schools to raise awareness on the importance of protecting bees.*

Je'chu, a god, first created [bees](#) so that their wax would cure the world.

So goes the spiritual testament of the Yucuna [Indigenous peoples](#) of Colombia.

"He is our god and creator — our grandfather," narrates Carmenza Yucuna Rivas, leader of the Miriti-Parana Indigenous Reserve in Colombia, located in the Amazon Rainforest.

"And he created bees because there had to be a species protecting life."



A Melipona stingless bee. Image courtesy of Conservation International Colombia.

Therefore, during rituals, elders take a small piece of the beehive and, with the permission of its tiny inhabitants, they conjure an invocation over it.

They then light it on fire so the emerging smoke blowing in the wind covers humanity, protecting us and helping us live well.

This smoke is a sign of the harmony and peace that keeps nature balanced, according to their religious beliefs.

“Wind is the biggest connection between the beehive and nature, as it helps expand this knowledge and wisdom,” says Carmenza.

“Beehives also help regulate the climate, drive sickness away, give us the opportunity to create *chakras* [food gardens typically using an [agroforestry](#) model with diverse plant species] and make them productive. They let us have something to cultivate or extract from nature in the first place.”

To rescue and document the remaining oral knowledge of the origin of bees in their culture and their importance to their ecosystems and territory, Carmenza is leading research about these species with 36 women from the 12 communities part of the Indigenous reserve.

“For thousands of years, they’ve been sacred species in our culture but no one had done this exploration,” says Carmenza.

“We got interested in investigating the biodiversity we have as the bee species provide many ecosystem services and help conserve biodiversity.”



Carmenza Yucuna Rivas during conversations with the team of women researchers.  
Image courtesy of Conservation International Colombia.

Since the second half of 2020, Carmenza and her colleagues have been going to each of the communities and speaking to elders to gather information, such as tales and songs that talk of the origin of the bees.

They also draw to document the information. Each of them has taken the task of sketching the stories on paper to describe the insects.

Their aim is to classify the bees according to the cultural system of the Yucuna-Matapí, Tanimuca-Letuama, and Tuyuca-Macuna peoples, including their names, characteristics, and the places where they build the beehives.

## The classification of bees

Carmenza describes one by one the most relevant bees in the territory.

The *munumunú* are the *Melipona*, that is, the bees that produce honey; the *mapa* or *mapachara* are the ones that produce the wax that is used for healing and rituals; the *mapakayuna* are small and live next to the crops to guarantee their productivity; and the *jiñuna* “are a great species,” says Carmenza.

They live in the Yavarí coconut trees on the river shore where they build huge yellow beehives.



A munumunú bee, one of the species the women drew.  
Image courtesy of Conservation International Colombia.

“There are three researchers in each community. Their main activity is to sit down with the elders — who have the knowledge — to listen to them and ask about the origin of the bees,” says Carmenza.

“The women collect the information, then they write and draw to work on the bee classification system: how many bees there are, their colors and their sizes.”

Carmenza says that even with the research process and its results, the findings and daily learnings keep surprising them.

“The women are really astonished because bees are such small animals in our territory but there wasn’t attention given to their care and [the women] didn’t know the tales,” says Carmenza.

“This [effort] gave [stories] a new life. Now, they tell their children that bees shouldn’t be touched, that they are sacred because they were purposefully created since the beginning, and that they help humanity and nature — which is very important to us culturally.”

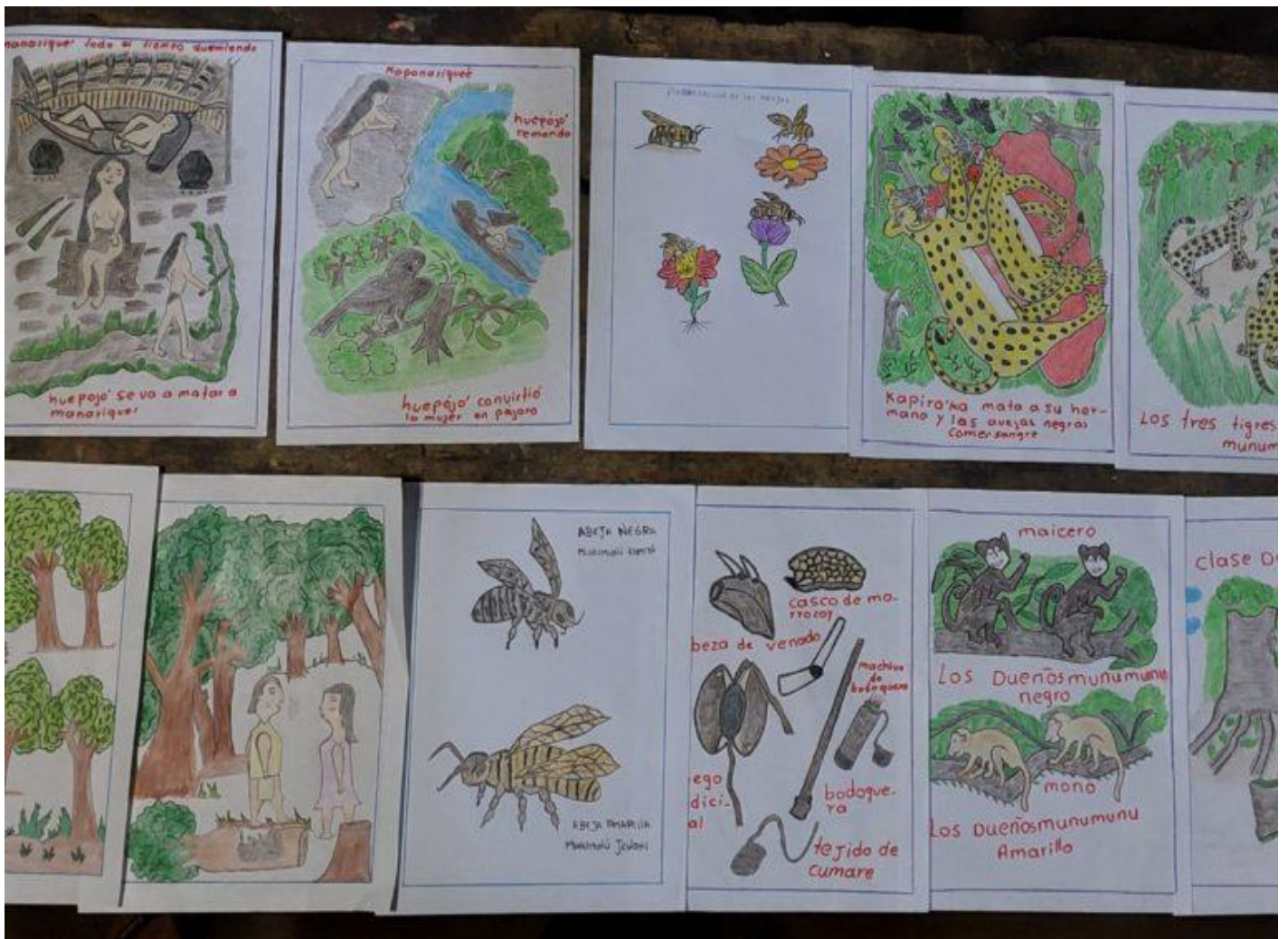
The information that Carmenza Yucuna and her colleagues have collected, with stories, songs, illustrations, and scientific information, will be part of a brochure that will be edited and printed in Spanish and Yucuna language to be distributed in the community and, especially, in the schools that are part of the reserve.

“We’ll take all this knowledge to schools so that teachers can share it with the kids and show them the tales, the drawings, and the classifications and talk about the value of bees in culture. But also, so that they know that bees aren’t beings without importance,” says Carmenza.

“They care for us without realizing it. They, through the pollination of trees and flora, help the world breathe.”



Bee researchers. Image courtesy of Conservation International Colombia.



Illustrations that are part of the bee project. Drawings from the cultural bee research. Image courtesy of Conservation International Colombia.

## Bees are for life

According to the bee inventory that Conservation International developed through the Amazonía Verde program — where Carmenza and her colleagues are also interns — the researchers have detected 23 species of native stingless bees.

Marta Isabel Romo, a biologist with Conservation International specializing in meliponiculture — the breeding and management of stingless bees — says the diversity of species in the Colombian Amazon is much higher.

“The Amazonian Institute for Scientific Research, [SINCHI](#), in charge of carrying out biodiversity studies and inventories of flora and fauna, has established that there could be around 150 species of bees in the Colombian Amazon,” says Romo.

“Of these, previous estimates say that 47 species could be stingless bees and that nine of these are used for meliponiculture in the region. Similarly, there are around 400 plants traditionally used for food,” says Romo.



Stingless bee on a flower. Image courtesy of Carmenza Yucuna Rivas.

Now, the team of biologists and the women from the reserve work to compare each other’s findings and determine the scientific name of the bees found in each of the communities so they can be used next to their common Indigenous names.

Romo says bees provide ecosystem services; some of them are even seed dispersers, and she explains that pollination is considered to be the second-most important biologic process of nature after photosynthesis, even if for many people it’s not very tangible or visible.

However, Indigenous people know that bees are essential for life, says Carmenza.

Chakras, for example, the small crops installed in the backyards of houses for family consumption of foods like banana, yuca, and yam, are regularly visited by bee species that pollinate them and contribute to their reproduction.

“We monitor them and see the activities they develop in the chakras,” says Carmenza.

“The bees are partial to certain crop products and we are investigating why they arrive and how important they are to the chakras.”



Beehive. Image courtesy of Conservation International Colombia.

Carmenza and her colleagues have spent all this time mapping bees: where they are, how far they are from the community, and what routes they take if they cross the river.

“Now, in the village, people tell me ‘Carmenza, we are going to conserve the bees, we want to breed them and produce honey for medicinal use, for food, and we are going to do research on how to make honey.’ We are in the middle of that process; the process of betting on conservation.”

A new step for the women of Miriti-Parana, as soon as they feel ready for it, says Romo, is working on technical boxes for honey production.

By doing this, the transfer of small parts of the nests from the forest could create a long-term use of what the bees produce.

Marta Isabel Romo adds that traditional knowledge of Amazonian Indigenous people is precisely what has kept bees better protected than in other regions of Colombia.

“This is because of cultural management of the chakras, where people don’t use [agrochemical](#) products that damage wildlife,” says Romo.

“The cultural aspects of maintaining chakras don’t threaten the lives of bee species, but rather complement it.”

Erwin Palacios, the director of participatory strategies for the conservation of biodiversity at Conservation International and leader of Amazonía Verde in Colombia, says that one of the project’s fundamental objectives is to show the role that Indigenous people and other local communities in the Amazon play in the protection of the region.

And women are a key component that deserves special attention, he says.

“We consider that women play a fundamental role in conservation with a perspective different from that of men, and that, historically, they haven’t received enough attention or resources to make them stronger,” says Palacios.

Although there aren’t many threats to bee populations in the Indigenous reserve, Palacios says Colombia’s bees are facing significant risks.



Elders helping the research group. Image courtesy of Conservation International Colombia.

“When we talk about losing a forest, what people think initially is that trees are lost. But at the same time, fauna is disappearing, and we never think of the hundreds and thousands of [Melipona] beehives that we lose,” says Palacios. “We also have a big problem with [illegal coca crops](#) to produce [cocaine](#).

The thing that governments have wanted to control for at least 20 years, with the spread of these crops, is the spraying of glyphosate, which is basically a poison that affects water, plants, humans, and the presence of beings like bees in the forest.”

“Nature cannot be destroyed because that destroys everything for Indigenous [people],” Carmenza says.

“In the Indigenous world, everything has an owner and everything is scared. No matter how small, biodiversity is sacred.”



Carmenza Yucuna (center), along with researchers and an elder identifying a beehive. Image courtesy of Conservation International Colombia.