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COP16: A work of art to protect the Amazon's environmental DNA



These are the orbs into which they inserted environmental DNA found in the jungles near Leticia.

FOTO: SLStudio

A project with the indigenous Uitotos has made it possible to identify the genetic sequences of 7,000 species. Spaniard Solimán López uses art and biotechnology to make them visible.

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Two indigenous children run excitedly around a tree in the middle of the dense Amazon jungle, 11 kilometers from Leticia. Minutes earlier, they had studied the tree in detail as they tried to hang 16 globes wrapped in brown sacks and tied with a natural fiber that seemed unbreakable. The trunk showed signs of at least a hundred years of existence, and its thick bark showed the **evolutionary regeneration** it had undergone.

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-Why don't we put it up a little higher? - says one of them to the Spanish artist Solimán López.

The 43-year-old shakes his head slightly as he holds the fiber in his hands. It's a positive signal. The children immediately grab the tree and climb it. They climbed at least another ten meters without trembling. With almost perfect synchronicity, they tie what looks like a chain to the top of the tree.

-There are the apples! -shouts the other.

At first glance, the spheres do not attract much attention, lost in the green and brown colors of the ecosystem. But inside they contain valuable information about the natural wealth that exists in every square meter of what is considered the lungs of the world.

(Ingrese al especial: [Cubrimiento de la COP16 de biodiversidad en Cali](#))



Solimán López, Spanish artist, in the Amazon jungle

FOTO: SLStudio

The objects, painted with white lines on the outside, contain **environmental DNA** samples collected over an eight-kilometer area. The stored information reveals that approximately **7,000 species** have been present in this defined area.

This chain of spheres is part of Capside, an artwork that condenses memories of the rainforest, community culture, and biotechnology.

The result was sponsored by **Brigitte Baptiste, rector of EAN University**, and falls under the umbrella of Ananeco, a project born from the Barcú Art Platform (Bogotá, Art and Culture), which seeks to generate positive impact in several indigenous and biodiverse territories of the Colombian Amazon. "Ananeco means a home for everyone, where there is no discrimination," explains Lina Castañeda, the project's director.

On the day of the expedition to Leticia, near the Brazilian border, Don Gilberto Bártenes, one of the leaders of the Uitotos, said a phrase that struck everyone: "In this place, we are an ecosystem with nature and not different, as they believe in the cities."

Solimán, Lina and members of the Bios Laboratory were on the trip. The reserve was crowded to receive them. It was night and they had to cross wooden bridges that are usually used when the river is high. In the middle was a two-story thatched house. "The center of thought," recalls the Spanish artist. **The heart of the indigenous.**

Every day they awoke with the first rays of the sun. The dawn passed almost silently. Only the murmur of the men's mameando and the soft laughter of the children could be heard. They put on their rubber boots and ate some manioc and tucupi before leaving. Then the grandparents asked permission from the jungle and went deep into the forest.

The mission was to collect samples of four environmental elements from four trees: the roots, the soil, the bark, and the air. **For the latter, they used a drone, strapped a grid with a saline solution to it, and lifted it above the canopy.** "For this, we worked with the 500-year-old cascúo (sic.) matamatacas; tanimboca, zurbal and rubber," says Gilberto.

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Environmental DNA Sampling in the Amazon

FOTO: SLStudio

A living being, no matter how small, can leave a trace of its existence. Particles of secretions, excretions, hairs, and cell replacements remain in the environment, and most of them store genetic information. This is called environmental DNA.

The samples were sent to a laboratory in Manizales for analysis. **The result: genetic sequences from species ranging from protists and bacteria to fungi, mammals, reptiles, amphibians, birds and arthropods.**

The project became an exchange of knowledge. "It is passionate science, as Humboldt always recommended," says Brigitte Baptiste. For example, the indigenous grandparents explained how the territory was structured, what animals and species lived there, and in turn learned how to protect each ecosystem. "This helped us understand that we need to strengthen the trees and reforest the riverbanks. Planting a tree is like planting a life," says Gilberto.

The boy who helped hang the spheres was not wrong. "They are sculptures made of copar and syringa. **They are a photograph of the Amazon, of biodiversity, and they are like Adam's apples,**" explains Solimán.

He adds: "We made a hole and inserted the environmental DNA found in each of the samples. Then we wrapped them in bark envelopes. I refer to Adam because it is the metaphor that we cannot fall back into sin, but we can stop the destruction of ecosystems."



Casilla Naira's family, in Amazonas

FOTO: SLStudio

The artwork is the third in a series that focuses on water and aims to raise awareness of humanity's negative impact on the planet. Soliman first traveled to the Norwegian Arctic and buried a collagen ear he created and inserted a document he called the Earthman Manifesto.

This document is a critical text about the future of humanity. **"If the earth ceases to be the earth, we earthlings will cease to be earthlings and become aliens on our own planet,"** says the Spanish artist.

He then went to the Chimborazo volcano in Ecuador, one of the highest places on the planet, and developed a project about space debris and how extremophilic bacteria can help recycle electronic materials.

"Solimán found that showing through art not only the Western version, but one of the indigenous versions of the Amazonian peoples, shows us that cultural constructions about biodiversity can have commonalities," Baptiste reflects.

[COP16 en Cali](#) | [Vea el resumen del cuarto día de la cumbre de biodiversidad que se ha tomado el Valle del Cauca](#)



Capsids work with Amazonian environmental DNA.

FOTO: SLStudio

In this sense, artistic creation seeks to be transcendent. And that is why, together with the Uitotos, they have created the Pineal Museum to exhibit the creations they have developed. In addition, Solimán López, who has been a specialist in the use of **biotechnology** in the development of works for a decade, has invented a large sculpture that will move in art circuits around the world (the first will be in Abu Dhabi).

"We amplified the genetic material and encapsulated it in borosilicate tubes used in laboratories. I created a cube that looks like a fence protecting a seemingly empty interior. **There is a kind of barrier to say that the invisible, in this case environmental DNA, which is the literal representation of biodiversity, gives meaning to the world and must be respected,**" the artist explains.

As part of COP16, on Friday, October 25, a document will be signed that will make the Amazon's environmental DNA visible, so that it can be given a legal or juridical figure. Among other things, the document calls for it to be recognized as biocultural heritage and for strategies to be developed to protect it from biopiracy. It also proposes a global legislative initiative to guarantee its conservation.

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Editor's note: This text is an artificially intelligent English translation of the original Spanish version, which can be found [here](#). Any comment, please write to berdav@eltiempo.com

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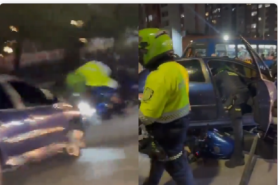
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