report

Ceará's Invisible Serpent

Surucucu pico-de-jaca or fire-mesh is captured in the Baturité massif. UFC researcher is investigating whether the largest venomous snake in Latin America is endangered in Ceará

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venomous snakes in Brazil, the surucucu-pico-de-jaca (*Lachesis muta rhombeata*). The fire-mesh, as it is also known in Ceará, was found by residents of a farm in the Maciço de Baturité and collected last November by a team of biologists headed by Master's student Thabata Cavalcante dos Santos, 27. The snake, with high ability to camouflage, it can become almost invisible in a forest even with its 4 meters in length.

The fire-mesh harvested in the humid forest of Baturité is still a young male and measures five feet in size. The last captures of the snake, according to data from the Regional Center for Ophiology at the Federal University of Ceará (Nurof/UFC), took place in 1999 and 2017 following calls from the community to remove the animal from private properties.

"Until now, we did not have any research aimed at understanding the surucucu that only occurs in Ceará in the Serra de Baturité. We only had the description of the animal's occurrence in 1999, made by Professor Diva Borges-Nojosa and Professor Lima-Verde", says Thabata Cavalcante, Master's student at the UFC's Program for Systematics, Use and Conservation of Biodiversity.

There are two subspecies of Surucucus in Brazil, Lachesis muta muta with distribution to the Amazon and Lachesis muta rhombeata with endemic occurrence in the Atlantic Forest.

In addition to its rarity due to its highly modified coloration in its natural habitat, the snake has a low population density. And, according to Thabata Cavalcante, the success of the animal's reproduction "is totally dependent on the preservation of habitats".

Egg laying and brood births are directly related to "the (sustainable) use of the soil, the changes made to the environment and even the climate and the occurrence of rainfall", points out the biologist.

Thabata Cavalcante is investigating the conservation status of the surucucu-pico-jaca in Ceará to find out whether or not the species will enter the list of endangered fauna in Ceará's territory. In October 2018, the State Secretariat for the Environment (Sema) and other institutions began research to prepare the Red List of local Fauna.

The scientist explains that there are two subspecies of surucucus in Brazil, *Lachesis muta muta* with distribution to the Amazon and *Lachesis muta rhombeata*endemic in the Atlantic Forest. The same found in the forest of Baturité.

Recently, scientific studies have joined the two subspecies in the same group, that of Lachesis muta. And they agreed to distribute the Amazon to the Atlantic Forest.

"vulnerability status".

The research on the conservation status of the surucucu pico-de-jaca, developed at UFC, is also linked to the Natural History Museum of Ceará Professor Dias da Rocha da Uece

However, according to the Brazilian Institute for the Environment and Renewable Natural Resources (Ibama), *Lachesis muta* is not in danger of disappearing. The controversy gained more scientific relevance when the state of Espírito Santo placed it on the List of Endangered Species and, also, with the degree of vulnerability in the environment there.

"There is this debate within biology and my job is to collect data to assess the conservation of the surucucu-pico-de-jaca within Ceará. So that we can put it (or discard it) on the list of endangered Ceará fauna" from disappearing from the biomes, says Thabata Cavalcante. The research on the conservation status of the surucucu pico-de-jaca, developed at the UFC, is also linked to the Professor Dias da Rocha Museum of Natural History of the State University of Ceará (Uece).

The Red List of Fauna of Ceará is being prepared by researchers from Sema, from the Ceará Foundation for Support to Scientific and Technological Development (Fucap), from UFC, from Uece, from the Rural University of Pernambuco and by the Association for Research and Preservation of Aquatic Ecosystems (Aquasis).

A SURUCUCU DE BATURITÉ

Scientific name: Surucucu pico-de-jaca, mesh-de-fire, surucutinga

Popular name: Lachesis muta rhombeata

Habitat in Ceará: Maciço de Baturité (Ceará), distant 172.6 km from Fortaleza

Size: It can reach 4 meters. It is the largest venomous snake in Latin America

Conservation status: Vulnerable to the International Union for Conservation of Nature (IUCN). Not threatened for IBAMA

Food: Mammals, amphibians, slugs, birds and other animals

Found from Ceará: 1999, 2017 and 2021

Capture: 11/10/2021, on a site in the Baturité massif. The team spread posters of "wanted" the jackfruit surucucu, on social networks. The snake was taken to the Nurof/UFC

Days/Uece. Funded by the Doppel Store.

Researcher: Thabata Cavalcante dos Santos – biologist and Master's student at the Program for Systematics, Use and Conservation of Biodiversity at UFC. No research grant. Supervised by Professor Hugo Fernandes and co-supervised by Rodrigo Gonzalez

Team: John Andrade, Robério Freire-Filho and Lídia Silva

Soltura: After data collection, released in an environmental protection area, with no housing nearby

Surucucu accident rate is low

In addition to research on the conservation status of the jackfruit surucucu (*Lachesis muta rhombeata*) in Ceará, the research by biologist and master's student Thabata Cavalcante dos Santos, 27, should contribute to the public health system in Baturité.

According to the scientist, in hospitals in the municipality and in the surrounding cities, "there is no antivenom, only in Fortaleza. It is one of the great demands there, because in Ceará the animal only occurs in the Serra de Baturité and there is not even an antidote close by", says the researcher from the Systematics, Use and Conservation of Biodiversity Program at the Federal University of Ceará (UFC) .

Even though it is venomous, the largest snake in Latin America is responsible for only 1.4% of snakebites in Brazil. Hardly anyone will be attacked by a fire mesh. However, misinformation and lack of environmental education lead to the indiscriminate killing of snakes.

According to Polianna Lemos, 43, coordinator of the Toxicological Assistance Center at Instituto Dr. José Frota, in 30 years, there were only six cases of bites from the surucu-pico-de-jaca in the hospital. "It's very rare to register," she says. In case of an accident in the region of Baturité, if there is no antidote, the person must be taken to Canindé or Fortaleza. "The superintendencies of the Health Macro-regions of Ceará receive the serum to treat patients bitten by venomous snakes", informs the IJF doctor.

Thabata Cavalcante explains that, as it is a venomous and giant snake, there is fear due to lack of information and strong hunting pressure against the animal in the mountains. "It's a point that I'm studying and working with them, building trust until I understand their demands with the animal in order to be able to approach the research and try to help", projects the biologist.

Against snakes and especially against poisonous snakes, such as the surucucu, there are also myths that prevent people and animals from coexisting. "I have a report of a group that killed around 13 snakes this year alone", reveals the researcher.

when attracted to fire, the surucucu enters the flames and remains alive because it has thick scales that would protect it from dying.

ACCIDENT PREVENTION

- 1. **Polianna Lemos,** coordinator of the Toxicological Assistance Center at Instituto Dr. José Frota, informs that the jackfruit surucucu is not an aggressive animal and has nocturnal habits
- 2. **The doctor says** that the accident usually occurs when the person unknowingly, in hunting or in deforestation approaches the snake's habitat. Mainly in the countryside
- 3. **Garbage** in the vicinity of the house also contributes to snake accidents. Because? Why snakes are attracted to hunt rodents and other prey that frequent the rubble
- 4. **The surucucu** is a rarely seen animal. The person has to be careful where he puts his hand in the woods and needs to dress appropriately for hiking in the woods.
- 5 . According to data from the IJF Nucleus, last year, 81 people sought the hospital because of snake bites. Of these, 79 refer to viperid snakes (venomous)
- 6. **The pit viper (** *Bothrops* **)** appears in 68 occurrences recorded in the IJF, in 2021, followed by rattlesnakes
- 7. **In 2020**, 139 victims were hospitalized at the IJF as a result of snake accidents. In 2019, there were 214 calls
- 8. **There are no** popular recipes for curing snake venom. It is not recommended to use herbs, teas and alcoholic beverages
- 9. It is **also not** advisable to use a tourniquet nor is it advisable to try to suck the venom out of the wound with your mouth. In case of an accident, wash the place with water, soap, keep the victim lying down, hydrated and seek the health unit
- 10. **The IJF** is located at Rua Barão do Rio Branco, 1816, downtown Fortaleza. Phones: 3255.5000/ 0800.250 0880. Website: https://saude.fortaleza.ce.gov.br/images/CEATOX_IJF-compactado.pdf

Source: IJF and O POVO Database

There is misinformation about snakes

To improve conflicts, threats to the surucucu-pico-de-jaca and prevent snakebites, biologist Thabata Cavalcante proposes a strong and long-term environmental education program with residents, rural workers, hikers, firefighters, environmental police and all who are in contact with possible environments for the

The researcher recalls that having training and knowing what to do when encountering the snake is essential. To this end, the public authorities in Baturité and in the Environment Departments of the State and of the municipalities of the Maciço de Baturité need to work with the multiplication of information and distribution of protection material.

When clearing, for example, protective equipment should be used. Always be aware of where to put your hand, where to step, where to sit and also what to do when an accident with a venomous snake occurs.

"I believe in training and disseminating important information. And, also, in having the antivenom closer to the communities of the mountains. Thus, we can improve this relationship and the pursuit of this beautiful, important and representative animal of our Ceará fauna", says Thabata Cavalcante.

Interview

A snake does not need to be attacked

In Ceará, there are 69 species of snakes. Of these, seven are poisonous. The information is from Castiele Holanda, 32, a biologist at the Regional Center for Ophiology at the Federal University of Ceará (Nurof/UFC).

O PEOPLE – How many species of snakes have been described in Ceará?

Castiele Holanda – According to the most recent list of the Brazilian Society of

Herpetology, we have 69 species of snakes listed for Ceará. Seven are venomous,
being two species of true corals, three pit vipers, one rattlesnake and one surucucu.

OP – How should the relationship of coexistence between people and snakes be? **Castiele Holanda** – Snakes, like all wild animals, must be respected by us. Both for the right they have to exist (remembering that it is a crime to mistreat or kill wild animals) and for the benefits they bring to the balance of ecosystems and in the research of new drugs for us humans. Many substances present in snake venoms have medical potential.

OP – What to do when you see a snake?

Castiele Holanda – Snakes or any wild animals must not be handled unnecessarily. Therefore, when sighting on trails and on walks, one should only deviate from them. If you find it inside the house, the most appropriate thing is to call the Fire Department or Environmental Police for the safe removal and subsequent release of the animal.

OP – What has Nurof/UFC been doing to disseminate information? **Castiele Holanda** – Nurof-UFC has been working for almost two decades in environmental education and adequate training of people in Ceará, both to reduce the number of accidents and to raise awareness of the population to preserve this group of animals so poorly regarded by society. We do this through lectures, exhibitions and training courses for schools, colleges, military and healthcare public

by phone: 3366.9801.

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they are good

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