

The Lacandon Jungle Bulwark of Biodiversity

Osiris Gaona*
Rodrigo A. Medellín**



Photo: Elsie Montiel

Mexico's great biodiversity is due partially to its wealth in tropical flora and fauna. The Lacandon Jungle, the Guatemalan Petén and the south of the Yucatán Peninsula cover more than 3 million hectares of one of the world's most diverse ecosystems: the humid tropical jungle. The Lacandon Jungle originally covered about 1.5 million hectares between the Chiapas Highlands and the Usumacinta and Tulijá Rivers. Today, more than 500,000 hectares of jungle are still connected to the Guatemalan Petén.

THE DIVERSITY OF THE LACANDON JUNGLE

The region's topography is rugged, with many rivers, mountains, lagoons and flood plains. More than 4,300 species of plants exist here, between 15 percent and 20 percent of Mexico's total in an area that covers less than 1 percent of the country's territory. Almost all kinds of vegetation that exist in Mexico can be found in the Lacandon Jungle, from humid tropical jungle to oak and pine forests, and even open savannahs and wetlands. In Las Cañadas, giant trees up to 80 meters high can still be found. This part of the jungle has suffered the most from unplanned use of resources, destroying what was probably the richest and most diverse part of the Lacandon Jungle.

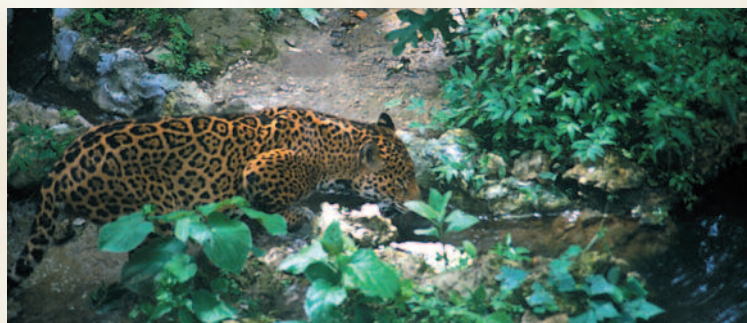
Here we find ecosystems akin to the Amazons because, given the con-



The Lacandon Jungle originally covered about 1.5 million hectares between the Chiapas Highlands and the Usumacinta and Tulijá Rivers. Photo: Elsie Montiel

nection of the humid jungles from the Amazons to the north of the Isthmus of Panama, over several thousand years jungle species have migrated and distributed themselves throughout the region. The Isthmus of Panama rose above sea level, dividing the Pacific Ocean from the Atlantic about 3 million years ago. This made it possible for Amazonian species to continue their colonization northward and for North American species to colonize South America at the same time. This caused many changes in both fauna: many species became extinct because they could not

compete with the new invaders, and others found fertile ground for expanding and even diversifying into new species. The cats, peccaries, camels, skunks, tapirs, pocket mice and many others invaded from the north, and the armadillos, anteaters, monkeys, opossums, sloths and several groups of rodents came in from the south. Many other groups, such as the toxodonts, the giant sloths, mammoths, glyptodonts and horses became extinct in the last 2 million years. This is why we find many species today that in Mexico exist only in the Lacandon Jungle but that fur-



There are still significant numbers of jaguars in the Lacandon Jungle. Banks of the Lacantún River. Photo: Rodrigo Medellín

* Coordinator of projects for Dr. Medellín with more than 10 years experience in ecology and mammal conservation.

** Researcher at the UNAM Institute of Ecology, with 30 years experience in ecology and conservation, 20 years specifically in the Lacandon Jungle.

ther south are more widespread. This is the case of the naked-tail armadillo, the brown four-eyed opossum, several kinds of bat, the red macaw, the giant potoo, many other birds and some reptiles. We could say, then, that the Lacandon Jungle is a Mexican extension of the Amazon Jungle.

Home to the most diverse mammalian fauna in Mexico, one of the most varied of the Americas, at least 117 species of mammals have been recorded in the region. Thus, there are 70 different species of bats, more than in any other region of the country. Five of the six different species of Mexican cats can also be found here: the *tigrillo*, the ocelot, the jaguarondi or South American wild cat, the mountain lion and the jaguar still live in the jungle in significant numbers.

The Lacandon Jungle manages to preserve endangered species in an extraordinary and still effective manner. This means that if we lose it, the risk to these species will also significantly increase. Among the endangered species are the jaguar, the tapir, the spider monkey, the *senso* or white-lipped boar and the river otter. At least 345 species of birds live in the Lacandon Jungle, one-third of all the species to be found in Mexico (an amazing feat if we consider that it covers only one percent of the country's territory). Some endangered animals have found in the Lacandon Jungle their last refuge for survival: for example, the scarlet macaw, the harpy eagle, the black hawk eagle, the king vulture, the giant potoo and the hoco pheasant. Amphibians and reptiles are also plentiful and diverse, with 80 species, three of which are endangered: the river crocodile, the swamp crocodile and the white tortoise.



Photo: Elsie Montiel

The jungle has its own natural mechanism for regenerating itself. It can overcome intensive agricultural use, but livestock will always be its death sentence.



Photo: Elsie Montiel

ENVIRONMENTAL SERVICES
IN THE LACANDON
JUNGLE

The extensive, complex forest cover of 1.5 million hectares provided an extraordinarily important environmental service for the entire South of Mexico. Above all, it constituted an exceptional “rain factory” that captured and

breathed millions of liters of water through its vegetation. This stabilizes the climate, making the region rainy. Unfortunately, due to the severe deforestation of an increasing portion of the jungle, this function has declined. For that reason, in 1999, the city of Villahermosa suffered one of the most severe floods in its history: the copious rains both in the Lacandon Jungle and downriver along the Usumacinta were not absorbed by the “sponge” that the humid tropical jungles had previously functioned as, sucking up the excess water into their foliage and vegetation-covered soil. The jungle also uses the rainfall little by little, giving life to the vegetation and the fauna. Thus, when there is no forest cover, the rainfall creates increasingly powerful torrents of water that sweep away everything in their path, destroy the scant naked topsoil remaining after deforestation and cause floods, mud slides and the destruction of agricultural and urban areas.

The area's flora and fauna provide important ecological services for the region's environmental and socio-economic processes. For example, wood like mahogany, red cedar and many others are part of the wealth of the jungle that, if well managed, could yield moderate wealth in the long term to many local inhabitants instead of being irrationally destroyed in a few decades for the

Dozens of frugivorous species spread millions of seeds, favoring the jungle's regeneration.
Photo: Rodrigo Medellín

benefit of the few. Hunting of some of the animals whose flesh is used for human consumption, like the agouti paca and the *temazate* or brocket deer, could also be subject to a long-term management and conservation plan, but because of lack of planning or incentives, many local inhabitants do not hesitate to pull the trigger to bag another piece of game, whether it is a beneficial animal necessary for their lives or not. This destruction without greater benefit or thought is causing very severe reductions in animal populations vital for the functioning of the jungle ecosystem.

The jungle, for its part, has its own natural mechanisms for regenerating itself. For example, animals, mainly bats and birds, disseminate seeds, so that when the jungle is deforested, pioneer plants begin restoration immediately. A few years after a process of deforestation, the area might be covered with dense secondary vegetation that in a few decades would once again give rise to a full-blown jungle with all its elements and benefits. However, most frequently, once an area has been deforested, it is used for cultivation. This process could also be overcome: even after the soil had become too depleted to render another crop, the jungle would be able to regenerate itself. But, after agriculture, the land is used for livestock, which is a real death sentence for the jungle. Cattle eat or trample on all the new sprigs of pioneer plants that the jungle regenerates through the seeds disseminated every night by thousands of bats. What is left is a degraded grazing ground that leaves increasingly sterile stretches of land in which only a few blades of grass grow on the red, naked lateritic soil, heralding the death of the ecosystem. In the end, not even cattle can survive in these places.

THE CONSERVATION OF THE LACANDON JUNGLE

The protection of the Lacandon Jungle and its resources should be the highest priority of the federal, state and municipal governments. However, it has been used as an escape valve for solving land ownership problems in other parts of Mexico. Situated on a conflictive border, vulnerable to the incursion of Central American guerrilla fighters, it has been used to cushion national security problems by fostering colonization without a plan for sustainable development. Finally, the poverty that this process created culminated with the emergence of the most important rebel movement in the second half of the twentieth century, the Zapatista National Liberation Army (EZLN), the self-styled spokesperson for the demands of part of the local population. All of Mexico heard, then, of the injustices and poverty that afflicted the region, but the destruction of the jungle continued. Today, irregular settlements exist inside the protected areas and social conflicts are intensifying as environmental problems become more and more severe, affecting increasing numbers of Mexicans.

Different non-governmental organizations have undertaken efforts to protect the jungle. Unfortunately, because of the lack of communication and political manipulation, they have hurled accusations at each other, forgetting that all the groups work for the conservation of the jungle and to benefit all Mexicans. The fact

Amphibians and reptiles are still plentiful and diverse.
Photo: Rodrigo Medellín

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