



Fuivo Ecardi

The Vanishing Jaguar Lord of the Mexican Jungles

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The clear winter nights in the jungles of southeastern Mexico are surprisingly cold. This morning, the wet cold wakes me. In the little cot where I spent the night, the sounds of the jungle are with me. The darkness is intense and my eyes take a while to get used to it and see—or guess at—strange forms. At the nearby water hole I can hear an animal drinking; maybe it's a badger. An owl shrieks relentlessly. It's two in the morning. I arrived at the camp a week ago to continue a study on the ecology and conservation of the jaguar in the jungles of the state of Campeche. Tonight my exhaustion makes me feel like the project began centuries ago.



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The still vast jungle of Campeche is one of the last refuges for many species of Mexico's tropical flora and fauna. To protect a part of this patrimony of humanity, in 1989 the federal government issued a decree creating the Calakmul Biosphere Reserve covering 723,185 hectares. This land, where 1,600 species of vascular plants and 550 species of vertebrates have been documented, still holds considerable populations of species

like the elegant eagle (*Spizaetus ornatus*), the tapir (*Tapirus bairdii*), the white-lipped wild boar (*Tayassu pecari*) and the jaguar (*Panthera onca*), which have disappeared in most of the rest of Mexico.

From the top of the Calakmul pyramid, the jungle's immensity is a joy to the eye. Its inaccessibility, the lack of a permanent water supply and the existence of illnesses like malaria have all contributed to the species' relative preservation despite the last two decades of activities by loggers, rubber tappers and hunters. The tropical climate makes for an average annual temperature of 25°C, from 1,000 to 1,500 mm of rain a year and a clearly defined rainy season between June and November. Calakmul is part of what remains of the huge tropical forest

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north of Panama, from south of Cancún in the states of Quintana Roo and Campeche to Belize and northeastern Guatemala. The region is known as the Mayan jungle and covers more than two million hectares.

At three-thirty in the morning, just when I am getting back to sleep, our assistant comes to wake me. As I leave the tent, I wonder at the clear sky and its countless stars, the light of which has taken thousands, if not hundreds of thousands of years to reach us. I'm ready for my field work. In my knapsack I have my binoculars, cameras, my global positioning system, a bottle of water and some pieces of candy. The other members of the group include the guides, Pancho Zavala and Javier Díaz; Cuauhtémoc Chávez, a doctoral student; Antonio Rivera, an expert jaguar trapper; Carlos Manterola from United for Conservation, one of the project sponsors; and Steve Winter, a photographer with the National Geographic Society. We have a long day ahead of us, and we quickly down a frugal breakfast of coffee and cookies. The trucks are ready. Our pack of dogs is led by Sombra (whose name means "Shadow"), a bitch of undefined lineage, who seems anxious to start the difficult run in the jungle. One of the dogs has barked all night, as though he could sense the presence of a jaguar. Just after four in the morning, we start off on the only dirt road that goes into the jungle and begin our search for the jaguar.

Jaguars are among the most attractive and charismatic species of animals in the Americas, revered by the Mayas and Aztecs as powerful, mysterious deities. Until the beginning of this century, they ranged over vast expanses of land, from the holm oak forests and arid bush of Arizona and

New Mexico in the southern United States to the province of Misiones in northern Argentina. Unfortunately, the destruction of their habitat and indiscriminate hunting have eradicated them in many areas, to the point that the entire species has practically disappeared from the United States and El Salvador and is endangered in many other countries like Argentina, Mexico, Costa Rica, Ecuador and Panama.

A fundamental problem for establishing appropriate strategies for the conservation and management of the jaguar population is the lack of detailed studies about its ecology. It is actually one of the



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world's least known feline species. We know very little about its habits. How does it use its environment? What territory is required to sustain a single individual? Is there a difference in the territory needed by males and females? What population density is there? What is their social organization like? When do jaguars reproduce? What are their main prey? These are just some of the questions we want to answer with our study.

After several hours walk, we still haven't found any trace of a jaguar. About six in the morning, the first rays of sunlight tell us the dawn is coming. As the day goes on, the jungle comes to life. The warbling of the birds surrounds us; particularly noticeable is the song of the chachalacas. Pancho stops. He has found a fresh track that looks like a jaguar's. We quickly let the dogs out. Sombra runs around in circles trying to find the scent. Suddenly her howling tells us she has found it, and she dashes off madly, running through the jungle with the other dogs at her heels howling in unison. My heart



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seem to jump out of my chest with its pounding. Javier flies after the dogs, trying to keep as close as possible to make sure they don't get lost or the great cat doesn't hurt them. We try to keep up with them, but after a few minutes, we are left far behind. Their ever more distant baying is our only guide and we move forward slowly. Fortunately, there are few *nauyacas* (poisonous snakes whose bite under these circumstances could be deadly).

We walk more than three exhausting hours. When everything seems to indicate that we've lost the dogs, we hear them bellowing in the distance. They've stopped running. They've driven a cat up a tree!

Twenty minutes later, when we finally catch up to them, Javier meets us with a broad grin. We have an enormous male jaguar! Cuauhtémoc prepares the tranquilizer rifle and in a few minutes, we have the jaguar on the ground.

We put drops in his eyes to protect them and cover his face with a clean cloth. We measure his body, weigh him and take

give us the answers to some of the questions we posed at the beginning of our study.

Our technique for trapping the jaguars has been very successful. So far, we have trapped eight jaguars and four pumas, giving them names that, for Mexico, are exotic, like Shoe, Mitcha, Ron and Tony.

We have already learned that the jaguar in Calakmul is mainly a nocturnal animal; they rest most of the day in the shade of a tree or a cave. Their main prey are peccaries and *temazate* deer, although they do feed occasionally on other mammals like *coatíes*, armadillos and *tepezcuintles*. We

population of from between 241 and 482 jaguars in the whole reserve. One direct implication of this information is that the reserve, despite its enormity, is barely sufficient to maintain a viable jaguar population. An appropriate strategy for long-term conservation of the species in the area, then, would include protection against illegal hunting and of its habitat, both inside and outside the reserves. This means that the jungle outside the reserve must be appropriately managed to the benefit of local residents and to prevent the destruction of the reserve. Protected biological corridors should also be set up to connect the Maya region reserves in Mexico, Belize and Guatemala. The total jaguar population comes to several thousand, enough to reproduce itself in the long run with no problem.

Crouched in the shade of an immense ceiba tree, we watch the jaguar in silence, in wonder. His deep mysterious yellow eyes watch us closely. He has slowly recovered from the anesthetic. Very carefully, he listens, sniffs, watches. We may well be the first human beings he has ever seen. He tries to understand what's going on. The dogs have been led off a good while ago now. Their baying can be heard far off in the distance. Suddenly, he gets up, completely recovered from the anesthetic, and jumps over a large fallen tree trunk without making a sound even on the dried leaves. Imposing, he gives us a final look before disappearing, majestic, into the jungle. It's a scene that would be hard to forget. At that point I ask myself about his future, and I can't even imagine the world without this and many other endangered species. Their survival is up to us, and our own survival depends, paradoxically, on theirs. ■■■



blood samples, making sure of his sex and general physical condition. We constantly monitor his heartbeat for possible negative effects of the anesthetic. When we're done, we put a radio around his neck that will allow us to follow his wanderings for the next two years. The necklace has a transmitter that emits a signal that will tell us the animal's position. Our continual monitoring of the jaguar's position from horseback, trucks or planes and on foot will

also know that the jaguar requires from 30 to 59 square kilometers to survive, truly a large expanse of land. In Belize, Venezuela and Brazil, other researchers have documented a range between 15 and 72 square kilometers. The females usually need less territory than the males, who need twice as much or more. Because the areas partially overlap, the density of jaguar in Calakmul is one every 15 to 30 square kilometers. This makes for a total