

THE STORY OF MAY, A COURAGEOUS DWARF LEMUR

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October 27, 2001 started as a normal day. I had spent the afternoon and evening searching for lemurs in forest fragments in the Tsinjoarivo region of Madagascar's eastern rainforest, as I had been doing for almost two months as part of my research.

I was just beginning to think that I was getting used to the routine and was already making plans to pack up camp and head home to New York in four days' time. What I found at camp when I returned that night, however, was an unexpected surprise.

Jean-Luc Raharison, my Malagasy collaborator, and Edmond Razandrakoto, our local guide, had brought a female dwarf lemur (the species' scientific name is *Cheirogaleus major*) back to camp with them.

This is not normal practice when one is conducting a census of endangered primates in the wild. Whenever we are lucky enough to find a group, we usually keep quiet, keep our distance, and try to record as much data as we can before the animals flee.

A fire gone out of control

However, Jean-Luc and Edmond had a very good reason for capturing the animal, as she had been severely burned in an uncontrolled fire that was burning through one of the forest patches we were studying.

The lemur's hands and feet were so badly burned that many of her fingers and toes were missing altogether, and those that were left were nothing but bone.

We supposed that the unfortunate animal must have been resting in a tree hole (dwarf lemurs are nocturnal and sleep during the day), when the fire burned through the tree's root system and caused it to fall. The poor animal must have been hurled into burning leaf litter and badly burned her hands and feet clambering to get away.

Although I have been studying primates in the wild since 1999, it had always been from a distance – I had never taken care of one before. Field primatologists generally take a "hands-off" approach to the animals we study, except in special circumstances like radio-collaring animals to track their movements.

However, it appeared that I had little choice this time. The lemur had clearly lost her ability to climb trees and therefore couldn't reach the fruits high up in the rainforest canopy that make up her diet. She would also be easy prey for any hungry carnivores that could find her on the ground, such as the "fossa" *Cryptoprocta ferox* or ring-tailed mongoose *Galidia elegans*.

It seemed unlikely that she would survive without our help. When Jean-Luc and Edmond found her, she was limping along the ground looking for fallen fruits to eat.

Madagascar - home to 48 unique primates under threat

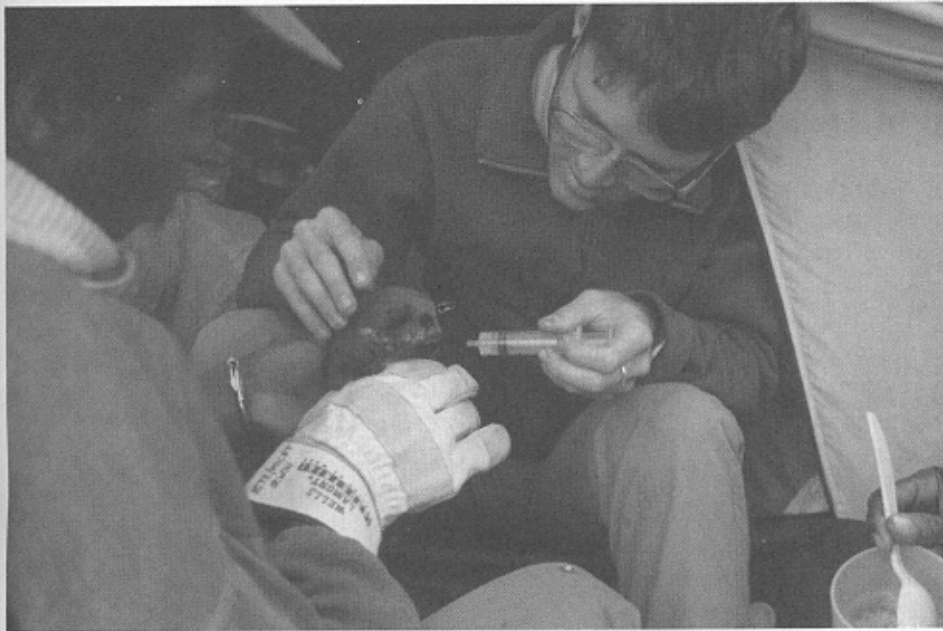
Madagascar's primary forests are currently home to about 48 unique primate species found nowhere else on earth. We say "about" 48 because scientists are continually finding new species. Fifteen years ago, the general consensus was around 30!

These 48 species can be further divided into 64 "taxa," including all recognized subspecies and variants. This high diversity makes Madagascar one of the top three countries in the world in terms of primate diversity (along with Indonesia and Brazil), and it is hands-down the number one country in terms of uniqueness – every one of Madagascar's primates is found nowhere else.

Sadly, 30 of these primate taxa (almost half of them) are currently classified as endangered or critically endangered by



May



Mitch and Edmond feeding May

the International Union for the Conservation of Nature (IUCN).

We have already lost an additional 17 species that we now know only from fossils. Many of these species have gone extinct in the short time since humans arrived on the island.

No other region in the world has lost as many primate species in historic times, and this alarming trend is showing no signs of slowing down.

Most scientists agree that one of the major causes of these extinctions, and the primary reason so many species are endangered today, is habitat loss.

Since humans colonized the ecologically naive island approximately 2000 years ago, the natural forests have been decimated. The Malagasy people have been remarkably efficient at converting primary forest into farmland, and later into grassland.

An analysis of 1985 satellite images by Glen Green and Robert Sussman of Washington University indicated that only 34 percent of the original eastern rainforest still exists, and the unique forests of the west, north, and south have suffered similar losses.

The situation in the central high plateau is even more tragic. Although fossil sites tell us that large forest-dwelling primates once inhabited Madagascar's central mountainous region, this part

of the island is today devoid of forest, except for a few patches mostly concentrated along rivers.

Most of the primates that lived there are gone forever.

Burning the forest is illegal – but common

The cultural practice of burning, common throughout Madagascar, has greatly accelerated this forest loss. Two types of burning occur in eastern Madagascar.

1) Burning of primary rain-forest

The first consists of cutting down and burning primary rainforest.

Prospective farmers cut down a patch of trees, wait several months until the vegetation has dried, and then set it on fire. The ash from the burned vegetation acts as fertilizer for the poor soils, making the land suitable for agriculture. Within official parks and reserves, this type of burning, called "tavy," is strictly illegal.

However, in forests outside these protected areas, such as Tsinjoarivo, "tavy" is (technically) controlled by the Malagasy Department of Water and Forests. Some people are allowed to clear and burn primary forest, but only with the proper permits.

In the Tsinjoarivo region, we are lucky enough to have a "Chef de Cantonnement

Forestier" (local representative of the water and forest service) named Mr. Elie Ranarison. He cares deeply about nature conservation, and has discontinued the issuance of such permits.

However, clearing and burning of forest still occurs in many areas, either with or without permits. Unfortunately, lack of roads, funding, and infrastructure often prevents forestry officials from enforcing the law in remote areas.

2) Burning of secondary vegetation

The second type of burning is the burning of secondary vegetation. Secondary vegetation is land that once held rainforest, but had previously been cleared to grow crops.

After a plot of land has been farmed for a few seasons, it loses its productivity, at which point the farmer lets it lie fallow for one to five years.

During this time, a dense scrubby brush grows up, and it is this "secondary vegetation" that is burned to further enrich the soil and allow the re-planting of crops.

At my study site in the Tsinjoarivo region, local people don't deliberately burn primary forest, partly due to the efforts of Mr. Ranarison, but burning secondary growth is extremely common, especially in the months of September and October.

Fire leaves a lemur homeless

It was one of these fires that got out of control, spread into the forest, and critically injured the lemur whom I now held in my hands.

We took care of May as best we could. I secretly named her May because "May" (spelled m-a-y but pronounced "my") is the Malagasy word for "burnt".

May refused to eat solid food at first, so we fed her solutions of honey, berries, and banana through a small syringe. Though lethargic, she had bursts of energy and impetuosity – such as nipping our fingers when we were trying to feed her, often drawing blood.

Unfortunately, I only knew her for four days, because the current phase of my study was due to end and I was leaving for home to start data analysis.

I wanted to interpret her insolence as a good sign, but I still left unsure whether or not she would survive. Her body weight was dropping rapidly, as she would take only liquid food. Her survival was going to depend on whether or not she would decide to eat the solid food we were providing.

Edmond takes over May's care

Edmond volunteered to keep May after I had left, and I judged this to be the best solution. As we hadn't planned on capturing animals, we were ill-equipped to transport a lemur for the four hour hike and twelve-hour car ride back to civilization.

In addition, the only zoological park in Antananarivo (Madagascar's capital city) is old and overcrowded, and the lemurs kept there have a notoriously high mortality rate.

Edmond, besides working for me, is a "quartier mobile" (local police officer) in the Tsinjoarivo region. He agreed to keep May at his home in order to educate the local people about lemur conservation.

During our many public-information meetings with the local people, I learned that they knew the lemurs of the region very well, but had no idea that these animals were either unique to Madagascar or highly endangered.

Perhaps people tend to think of the creatures living in their own backyard as common, and take them for granted – much as we North Americans do with squirrels.

Local school systems could play a role in educating local people about Madagascar's endangered animals and plants, but in rural areas such as Tsinjoarivo, most people only receive a few years' worth of schooling.

Need to end uncontrolled burning

I hope that Edmond, with May's help, will help people recognize the uniqueness of their local primates, and take steps to curb such dangerous practices as uncontrolled burning of their forests with its consequent habitat loss.

In a few months, I will be heading

back to Tsinjoarivo to continue studying the ecology of the region's nine lemur species in fragmented and disturbed forests.

Besides dwarf lemurs, the region is currently home to sifakas, bamboo lemurs, brown lemurs, red-bellied lemurs, sportive lemurs, woolly lemurs, mouse lemurs, and aye-ayes.

It is my hope that knowing more about the factors which make certain species more prone to extinction than others will help us in our quest to identify and save species on the brink.

Of course, I won't just be searching for lemurs and recording data. I will continue meeting with the regional government and forestry officials and working towards protecting the Tsinjoarivo forests.

This year I am also going to be taking along with me lots of educational materials, such as lemur books and specially-printed t-shirts.

Finally, by being there to care for and potentially rehabilitate injured primates, I hope that we can help the local people understand how unique the animals in their backyard really are. Hopefully, our compassion for May will lead others to take a more compassionate view of lemurs.

The future

The next few decades will be crucial for conservation in Madagascar. Without

constant monitoring and courage, it seems likely that many of the endangered lemur species could join the ranks of the already-extinct.

Although Madagascar's primates have largely escaped the threats of wildlife trafficking rampant in other parts of the world, the deadly combination of habitat loss and hunting is seriously jeopardizing their future. It is our job as concerned friends of primates to do all we can to preserve these wonderful creatures.

In many ways, May is a symbol of all the lemurs in Madagascar – though injured and threatened by human action, it is human action itself which can save them, if only we have the courage and direction.

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Sadly, I learned recently that May did not survive her injuries. Jean-Luc briefly visited Tsinjoarivo in March 2002, and learned that May survived for about a month after the research team left, and then died of unclear causes.

I hope that our research and conservation programs will reduce the number of uncontrolled fires and prevent other primates from sharing May's sad fate.

Check our "Recommended Reading" section to see how you can learn more about Madagascar and its lemurs.



Deforested mountain slope