



**DIAN FOSSEY  
GORILLA FUND**

# Gorilla Journal

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## Beyond gorillas We are all connected

By Tara Stoinski, Ph.D.  
President and CEO/  
Chief Scientific Officer

**We often get asked** why we, as a gorilla conservation organization, pay so much attention to species beyond just the gorillas, from golden monkeys to birds, amphibians, trees and even entire ecosystems such as wetlands, as well as other aspects of biodiversity.

Gorillas are part of a complex ecosystem and they rely on the health of that ecosystem to survive. But what we know from our long-term studies is that gorillas are not very good sentinels for the overall health of their forest home. That is because they have traits that make them more adaptable than many other species, such as their intelligence and their broad, flexible diet.

To really understand how well the forests are doing, we need to be studying more than just the gorillas. Much of our biodiversity work focuses on what we call indicator species – those that are highly sensitive to changes in an overall ecosystem. So amphibians, insects, birds and even some key plants, like bamboo, provide us with important data on how the forest is faring.

We also study species and systems that provide critical ecosystem services. Birds, for example, are important pollinators of the plants that gorillas eat, while wetlands are key sources of water



**The golden monkey, near left, is among the many species that live with the gorillas. All play critical roles in their ecosystem.**



**Birds and frogs, above, are good indicators of the overall health of the forest – better than the more adaptable gorillas!**

for these plants.

Finally, we study biodiversity because, as a scientific organization, we are curious to discover more about the natural world. And, as a conservation organization, we care about the future of all species and know that they all play a critical role in their own special ways, maintaining the integrity of these amazing ecosystems.

So whether you look at biodiversity from the viewpoint of helping gorilla conservation or at gorilla conservation from the viewpoint of sustaining biodiversity, the outcome is the same. All aspects are connected in some way and keeping whole ecosystems intact is critical. *See details about our biodiversity studies on page 4.*

In that regard, the more we study, learn and understand, the better – for gorillas, for ecosystems, for the planet, for us. ■



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**Adopted Isaro, left, now lives happily in Musilikale's group, page 8.**



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# Gorilla adoptions: Where are they now?



By Veronica Vecellio  
Gorilla Program Senior Advisor

**The Fossey Fund's long-time** gorilla adoption program is an important way for supporters to sustain our daily gorilla protection and related conservation activities, and to get to know the individual mountain gorillas that we monitor. Since we observe these gorilla families closely every day, we are able to give adopters a window into their lives, through detailed profiles as well as unique photographs and video clips.

Also, with our 55 years of data on six generations of gorillas, we can reconstruct the lineage of each gorilla and describe his or her ancestors and background.

We initiated our symbolic adoption program more than 20 years ago, and while some of the gorillas featured have since died, many are still alive and well, though they are now at different stages of their lives.

Watching the gorillas over many years is a wonderful process of continuous discovery. It's also a

great joy to watch young gorillas grow up and make choices about their lives, sometimes becoming great leaders and role models, wonderful mothers, or just teaching us more about gorilla life.

We know that many of our adopters feel the same way and look forward to updates about their gorillas. Adopter and long-time donor Calvin Wulf, for example, discovered our adoption program in 2008 after watching a documentary on the gorillas. "My heart was filled with joy watching and reading about infant gorillas," he says. "I wanted to adopt one right away."

He happened to adopt Segasira, who was just a youngster at the time, and has kept up with Segasira's life since then through updates in our adoption program as well as our website and in the *Gorilla Journal*. Now that Segasira is a leading silverback, Wulf says he is looking forward to being a "gorilla grandfather!" ■

**Inshuti, the oldest silverback we monitor, is back to a solitary life.**

## **Inshuti** A varied history

Inshuti, who was born in 1988, was one of the first gorillas available for adoption. This was in 2002, when he was a silverback in the historic Shinda group.

Inshuti's genetic lineage links his story way back to one of the gorilla families studied by Dian Fossey starting in 1967, which she called Group 5. When this group finally split in 1993, young Inshuti followed silverback Shinda in forming the new group.

As he grew up, Inshuti became ambitious but since he was not able to gain dominance of the group, he chose a solitary life beginning in 2003. This allowed him to seek opportunities to form his own group one day, which he eventually did. Inshuti led his group for seven years, creating bonds with females and siring his own offspring.

However, following a complicated series of events, he ended up alone again in 2014 and remains a solitary silverback to this day.

But our field staff see him in the forest from time to time, since he still ranges in the same area. He is currently the oldest silverback we monitor, at 35 years of age.

Inshuti is now much calmer, quite different than when he was younger, more aggressive and facing a lot of stress. So it may be that being solitary isn't a bad choice for him at this point in his life. ■





## Ubwuzu

**Now challenging his brother for dominance**

Ubwuzu was just 3 years old (*shown at right with silverback Cantsbee*) when he was available in our adoption program in 2008.

Now, at age 18, he still lives in his natal group (Pablo group) but has a completely different role. Of course, he has also changed dramatically, and is now a very large silverback in peak physical condition (*see middle photo*).

Surprisingly, in late 2022, Ubwuzu started challenging his brother, the much-older dominant silverback Gicurasi, who seems to be withdrawing from his role and may yield dominance to the younger and stronger Ubwuzu.

Ubwuzu is a son of the late great silverback leader Cantsbee, so he has quite a legacy to carry on, as did Gicurasi. Cantsbee still holds the record of the longest leadership ever recorded — 20 years!

We are really excited to follow Ubwuzu now, and see if he can create his own special legacy. ■



**Above, young Ubwuzu with father Cantsbee.**



**At left, Ubwuzu today.**

## Segasira

**Doing well leading new group**

Now a dominant silverback, Segasira was in our adoption program in 2007–2008. As a son of the legendary silverback Titus, who died in 2009, he then spent many years in a group with two other sons of Titus.

They all shared leadership, though Segasira seemed to be at the lower end of the hierarchy. This was quite an unusual scenario, especially since for a long time there was only one adult female in the group.

In 2022, when the silverback in another group died, Segasira used the opportunity to form his own group with their members. He has since been doing well in his new role and the group welcomed its first infant in February of this year.

This is a promising sign and we look forward to continued growth of the group, with the presence of four females. ■



**Segasira now leads a promising new group.**

*See Adoptions, page 8*



# Biodiversity studies connect gorilla conservation with a healthier planet

**Gorillas live in complex** forest habitats that include many important species, all of which are connected in some way to the overall health of their ecosystem.

The Fossey Fund has been actively monitoring and studying many aspects of this biodiversity for more than 20 years, and we're adding new projects all the time, with the help of our own scientists, as well as interns and students in Africa.

Our philosophy is that the more we know, the more effective we can be in conservation — for gorillas and their critical forest homes.

Deo Tuyisingize, Ph.D., who manages our biodiversity research programs, initiated several of our biodiversity projects after starting with the Fossey Fund in 2004. Now he oversees a wide range of topics that we study, from golden monkeys to bamboo to wetlands.

“It’s important that we monitor the broader biodiversity in the region to understand the health of the forests and ultimately of the gorillas,” says Dr. Deo. “Our stud-

## From golden monkeys to bamboo

ies have already yielded lots of important information but there is still so much to learn.”

And it’s important to look at these biodiverse regions where the gorillas live because there are so many unique species and many opportunities to learn new things about ecology, says Yntze van der Hoek, Ph.D., Fossey Fund senior biodiversity researcher.

“We are also trying to ask big questions in the realm of biodiversity here, such as whether birds shift their ranges due to climate change or what the species distributions and conservation challenges will be in the future,” adds Dr. van der Hoek.

### Our biodiversity studies

The following is a look at a selection of our current biodiversity studies, some of which have been ongoing for decades while others are quite new. Many have been published in scientific journals and are now informing additional research and conservation efforts directly.

### Golden monkeys *The ‘other’ primate in Volcanoes National Park*

Dr. Deo has led our golden monkey research since 2004, when he arrived at the Fossey Fund as a University of Rwanda student to do his senior thesis work. “I was on my way back from seeing gorillas in the field for the first time when I saw the beautiful golden monkeys, learning later that they were the only other primate species in the park and also endangered.”

Dr. Deo and the researchers he has helped to train now provide daily observations on golden monkey groups in Rwanda, helping us learn about their lives and conservation needs. In the process, they have also identified and



**Dr. Deo** initiated our ongoing golden monkey research as a student in 2004.

named more than 400 individual monkeys.

Using research from nearly 20 years of study, Dr. Deo also led

the creation of the first-ever golden monkey conservation action plan, which has just been published by the International Union for the Conservation of Nature (IUCN) and involves an international collaboration of conservationists, park authorities, scientists and local communities.

### Bamboo phenology *A key food for gorillas and golden monkeys*

Another one of our long-term biodiversity efforts focuses on bamboo. Bamboo shoots are a favorite food of the mountain gorillas we monitor in Rwanda, as well as golden monkeys, buffalo and elephants. These shoots are produced during the two





rainy seasons each year, so that's when we do our semi-annual bamboo data collection work. We record the number and growth rate of bamboo shoots, the number of mature bamboo plants, how many have been eaten and climatic conditions.

Through this work we have noticed a decline in bamboo shoot regeneration, which has considerable implications for the many species that rely on it for food. For example, our studies have found that golden monkeys give birth during the bamboo shoot season, presumably to ensure that females have enough energy for lactation. We are now trying to determine if the changes in bamboo production are a result of climate change or whether they are tied to the natural dynamics of the species.

## Wetlands

### *An early indicator*

Wetlands provide habitat for a wide diversity of species. "If these wetlands are drying out, it will heavily affect the gorilla's habitat through the loss of key species like pollinators," says Dr. Deo.

Population declines have already been reported for some threatened and endemic species that are known to inhabit these wetlands, such as the Grauer's swamp warbler and the Karisimbi tree frog, all unique to these areas. It is suspected that other special-



**In the DR Congo, our biodiversity trackers like Nyongo, above, camp for weeks in the forest.**

ized organisms may also be declining, so we conduct routine monitoring of species in these areas.

Recently, we examined the pollination biology of several plant species in high-elevation wetlands of Volcanoes National Park. This work was led by Donath Nkurikiyimana, who started with us as a university student, then served as a profes-



**Forest wetlands house many important species.**

sional intern and now is a research assistant in the biodiversity program. His findings showed that bees and flies both play an important role in the pollination of several plant species, but that further study is needed to understand the complex plant-pollinator networks that exist here.

Another example is a recently published study led by University of Rwanda student Diogene Tuyizere, which showed that some of the wetlands are being encroached upon by other plants that are shifting their distributions upward, likely from climate change.

## Bird monitoring

### *'Canaries in the coal mine'*

"Understanding which factors determine where birds live is important if we want to keep track of future changes to the environment and to predict which species are particularly vulnerable to climate change and other human-induced disturbances," says Dr. van der Hoek, who has led our work to see if birds are shifting the elevations where they live due to rising temperatures, and how temperature, precipitation and habitat availability are affecting their distribution.

"By monitoring changes in their habitat, we can help ensure healthy ecosystems in which birds – and other

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species such as gorillas — can thrive. Because of their role as pollinators, understanding birds is key to preserving these gorilla habitats that are so critical to the overall health of the planet,” he adds.

“We found that more than 70 bird species now occur way above the elevations where they were supposed to be most common,” says Dr. Van der Hoek. “We actually found some birds at elevations of as much as 1,000 meters, or 3,300 feet, above anything previous records show. That is pretty extreme,” he says.

“Birds respond more rapidly than large mammals to the impacts of climate change, so studying birds helps us flag possible changes in the health of the ecosystems.”

### **Insects and trees** *Keeping the soil and gorillas healthy*

Two of our newest studies are being led by our professional interns. Aime Bruce Ngenzi Nzeyimana’s study is aimed at assessing the distribution and diversity of invertebrates found in soil and leaf litter. These tiny animals are critically important to ecosystem health and perform a variety of functions, such as water storage and nutrient recycling, keeping the soil healthy and protecting plant growth.

Intern Emile Mugabo recently started a study on the regeneration of the *Prunus africana* tree, also known as the African cherry tree.



**Birds** are good early indicators of climate issues.

This is a large evergreen tree whose fruits are favored by the mountain gorillas. Dian Fossey even mentioned their fondness for this seasonal fruit in her book *Gorillas*



**Our interns** are assessing the status of soil insects.

*in the Mist*, after noticing the gorillas climbing high in the trees to find the small fruits during the tree’s brief fruiting season. However, this tree is also vulnerable to demand

from human populations for medicinal and other uses.

“Since we have planted many young *Prunus africana* trees at our campus, I felt inspired to give a hand to its conservation through scientific research, because there were no studies about it in Volcanoes National Park,” says Mugabo.

### **Large herbivores/ mammals**

#### *Do they benefit from gorilla conservation, too?*

Although gorillas have been the primary focus of most of our past conservation efforts, other species should ideally benefit as well, something we call an ‘umbrella function,’” notes Dr. Van der Hoek.

So, to test whether populations of other large mammals — such as buffalo, antelope and elephants — experience positive trends that mirror the recent recovery of the mountain gorilla population, Fossey Fund scientists have worked for the last few years to estimate the numbers of these species that share the gorillas’ ecosystem.

Although results remain to be formalized, initial insights are positive — it looks like mammals are doing well overall, thereby ensuring the stable continuation of the ecosystem processes they are involved in, such as dispersal of seeds and enhancing vegetation regeneration.

Yet, this also raises new questions for future study, especially to determine whether there will be competition for food and space.





## **Biodiversity on our Ellen campus**

### *Plants, butterflies and more*

Since the building of our new campus in Rwanda, next to the forest where the gorillas live, we have our own ecosystem to study right at our doorstep.

So our biodiversity team members here are studying plant growth to help inform reforestation efforts, monitoring how birds and other wildlife are returning to the campus, and collecting weather data to help understand climatic conditions in the region.

## **Species inventories**

### *Deep in Congo forests*

With the expansion of our conservation efforts to the critically endangered Grauer's gorillas in the Democratic Republic of the Congo, we have also expanded our biodiversity research to cover the lowland forests these gorillas call home.

The Nkuba Conservation Area we helped establish is so remote

that our trackers camp in the forest for weeks at a time. And until now, there has historically been relatively little ecological research here due to logistical challenges and other factors.

Thus, one of our main goals has been to acquire basic data on what species are found in the region, since little is known beyond the large mammals such as gorillas and



**Chimps** in Congo, as seen by our remote cameras.

chimpanzees. Some of the tools we use to increase our knowledge include vegetation plots, camera trapping (motion-activated cameras) and acoustic monitoring, where

species are identified through their vocalizations.

Camera-trap images are especially useful in recording some of the larger mammals living in these forests, including those that are nocturnal.

A multi-year study led by Dr. van der Hoek identified at least 33 larger mammal species living in Nkuba.

At least seven are threatened or endangered species, including chimpanzees, pangolins, and leopards, and ongoing exploration of the forest aims to confirm the presence of a few additional rare species.

“For globally threatened species, it may be crucial to protect relatively undisturbed habitat as refuges,” says Dr. van der Hoek.

That means our work in the Nkuba Conservation Area

serves not only to protect gorillas but many other species, overall ecosystem health, as well as carbon storage that benefits the whole planet by keeping our air cleaner. ■

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**If you are considering the Fossey Fund in your estate plans — or if you've already made arrangements — please let us know** so we can ensure your gift is acknowledged, even if you wish for it to remain anonymous.

**To learn more, visit us at [gorillafund.org/plannedgiving](http://gorillafund.org/plannedgiving) or please contact Beth A. Warner, Chief Philanthropy Officer, at [bwarn@gorillafund.org](mailto:bwarn@gorillafund.org) to let us know your legacy intentions.**



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## Adoptions

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### Kubana

#### A wonderful mother

Kubana was only 3 years old when she was in our adopt program in 2006. Since then she has changed family groups four times, ending up in Kureba's group in 2018. This is a heartwarming group of nine gorillas and Kubana is the mother of a 2-year-old infant female, Mubyeyi.

Kubana is comfortable in her role as a mother and enjoys the company of four other females who also have infants. They all live under the vigilant supervision of dominant silverback Ishavu, who is the last offspring of legendary silverback Pablo.

So, we see Kubana as another legacy story, spanning the generations. ■

**Kubana now, with Mubyeyi, has settled into Kureba's group.**



### Isaro

#### Making history

Isaro, now 24 years old, had just given birth to rare twins when she was in our adoption program in 2018. Unfortunately, it is extremely rare for twins to survive and Isaro's followed that pattern. After their deaths, she decided to move to another group.

Isaro now lives in Musilikale's group, which is a big and stable group, led by the largest of the males we monitor, silverback Musilikale, together with three other big males. Isaro has had two more offspring, with the most recent being born on January 16 of this year. That's a historic date because it also happens to be the date of Dian Fossey's birth!

In addition to this historic connection with Fossey herself, Isaro is a descendant of the famous gorilla Digit, who was Dian Fossey's favorite. After Digit was killed in 1977, Fossey set up the Digit Fund to help support gorilla protection. After her own death, the Digit Fund was renamed the Dian Fossey Gorilla Fund. ■



**Isaro gave birth to twins back in 2018, shown above. This year she gave birth again — on Dian Fossey's birthday!**

## New gorilla and golden monkey adoptions available!

Our symbolic gorilla adoption program now has six new gorillas and, for the first time, a golden monkey can be adopted as well. Whether you are adopting for yourself or giving a gift, your adoption helps ensure their future!

### Each adoption comes with:

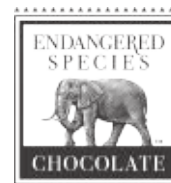
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