

# THE DIAN FOSSEY Gorilla Journal

Fall 2018

Daily Protection | Scientific Research | Educating Conservationists | Helping Communities

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## Scientific Research

# Gorillas: There's always more to learn....



With more than 50 years of research and one of the largest databases on any wild animal, we're still studying and learning more every day.

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

*Although the* Fossey Fund is well known for our daily, on-the-ground efforts protecting gorillas in Africa, we actually started as — and remain to this day — a scientific organization.

Dian Fossey herself was brought to Africa to study the gorillas, by famed archeologist Dr. Louis Leakey, and today, more than 50 years later, we have one of the world's largest databases on any wild animal and a growing number of research studies underway and in publication.

Every two years, our staff joins others who study primates at the International Primate Society Congress, to show off some of our work. In August, we had 11 attendees presenting at the biannual conference, held this time in Kenya, on a wide range of topics.

In this *Gorilla Journal* you can learn about some of those scientists (pages 6-8), as well as about gorilla behavior (pages 2-3).

We're also starting a multi-part series about one of the major, historic gorilla groups we've followed for all of its 25 years ("Life with Pablo Gorillas" on page 4-5). Although silverback Pablo started this historic group, he ceded leadership to silverback Cantsbee after one year, and Cantsbee then became the longest-reigning silverback monitored, leading the group to reach a record 65 members. Cantsbee, who was first seen and named by Dian Fossey, was followed and studied throughout his long life, until he died in 2017. And the story of this group now continues under new leadership.

Studying gorillas is never dull and we've come to understand that there is ALWAYS even more to learn. After 50 years, they still surprise us every day. ■

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*The Gorilla Journal* is a publication of the Dian Fossey Gorilla Fund® International, 800 Cherokee Ave., SE, Atlanta, GA 30315-1440, 1-800-851-0203.

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# From chest beats to grooming, to slapping the ground, we study it all

*The mountain gorillas we've studied* for more than 50 years in Rwanda have shown us many behaviors over the years, and the Fossey Fund's researchers have captured them all in our long-term database, from iconic displays like chest beating, to slapping the ground, smashing vegetation, grooming, displacements, play-

ing, vocalizations, and more.

Each of these behaviors is fascinating to study and our researchers have gathered enough information over the years to have a good understanding of what they mean.

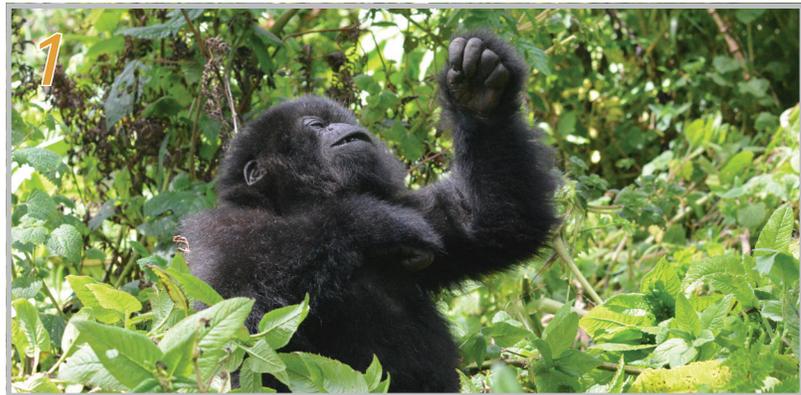
**Here is a look at some of the most interesting physical behaviors:**

## 1 Umutware chest beats

Gorillas of all ages can engage in a type of display known as chest beating, and here young Umutware is practicing the move at the young age of only 2 years.

Chest beating is an important communication tool used by the gorillas, both for display of power to others and to be heard from a distance by other gorilla groups. Chest beating by silverbacks may follow a series of hooting vocalizations.

Since Umutware is so young here, however, his chest beating is considered to be playful practice, rather than an antagonistic act toward other gorillas.



## 2 Mafunzo displays by hitting the ground

Silverback Mafunzo formed his group in 2014, after spending two years as a solitary male.

Here he is about to hit the ground with great force, because he can hear another gorilla group nearby.

By hitting the ground, he is showing off his strength to any intruders and also signaling his group to move away from the outsiders.

This is also a type of display behavior, within an aggressive context, such as sending a warning to other gorillas.



## 3 Nzeli grooms Ubuhamya

Many gorilla behaviors are gentle and denote bonding or affiliation with another, such as grooming. In this photo, 32-year-old Nzeli grooms her





## Gorilla Behavior 101

daughter, 8-year-old Ubuhamya.

Although Ubuhamya is fully independent and just about ready to become a mother herself, grooming enhances their bond, as Nzeli picks through her daughter's hair, removing dry skin, dirt, insects or other undesirable elements. Gorillas can also engage in self grooming.

### 4 Abasore plays with Kundurwanda

Four-year-old male Abasore is engaged in play behavior here with Kundurwanda, who is a few months younger.

They live in the large Pablo's group, where they are lucky to have a number of youngsters to play with.

Play behavior can involve wrestling, chasing, or even mock-biting with another, though an individual can also engage in self play.

### 5 Twibuke aggresses Ikaze

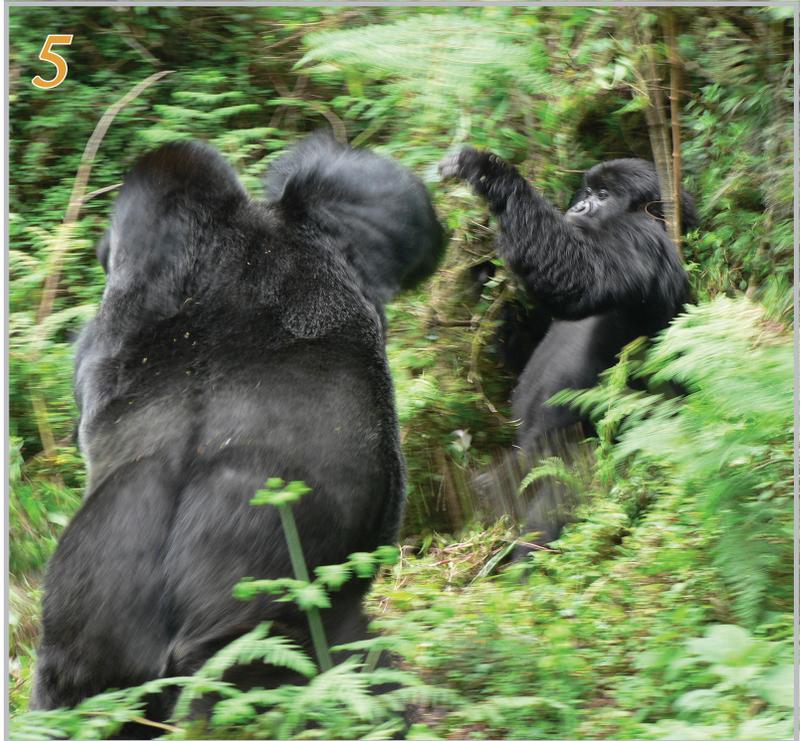
Here, young adult male Twibuke engages in physically aggressive activity with young female Ikaze.

Aggression can take place in different contexts, ranging from competition for dominance over a group to fighting over smaller issues like access to food or space.

### 6 Resting is a behavior too!

Whether the gorillas are in physical contact or not, resting is also a behavior that our researchers record, since it's an important part of daily life in gorilla groups, as they alternate between traveling while searching for food, and resting periods, where they may engage in other behaviors.

Even the proximity of one gorilla to others as they rest is something we record, because it gives us important information on social bonds and hierarchy among them. ■



# Gorilla group Pablo reaches 25th year, and continues its historic saga

*This is the first in a series* of articles that will chronicle the lives of the gorillas in a legendary mountain gorilla group named after former silverback Pablo. This group has existed since 1993 and is named after a silverback that Dian Fossey studied starting in 1974.

Pablo was the group's leader for only one year, however, before yielding dominance to another historic silverback – Cantsbee. But the group never lost cohesion and remains together to this day, with various offspring, newcomers and other leaders along the way.

Since it is quite large and once reached the largest size ever recorded – 65 members – Pablo group also has an interesting and well-documented history, and remains fascinating to follow every day, as the Fossey Fund trackers and researchers have continued to do for nearly 25 years so far!

## Who is Pablo?

Pablo was born in 1974 and named by Dian Fossey. He lived in what was then called “Group 5” by Fossey, one of the groups she monitored during her pioneering studies. She had a special affection for the young Pablo and wrote in her book, *Gorillas in the Mist*: “Pablo’s sense of frolic was infectious and his outgoing personality freely expanded within his first year, attracting many other immatures to him.”

In 1993, Group 5 split into two new groups, one of which was led by Pablo, and the other by historic silverback Shinda. Pablo ceded leadership of the group to silverback Cantsbee in 1994, but remained well respected within the group. As the group continued to increase in size, Pablo led a small subgroup for short periods of time, but these did not last long.

In July of 2008, the 34-year-old Pablo was missing from his group and despite searching by our best trackers, he could not be found. There had probably been an interaction with another group at some point after our trackers had left for the day, which we deduced by such evidence as flattened vegetation in the area and serious

injuries to the other group’s silverback – Inshuti – who had been nearby.

## Who else has led Pablo’s group?

For 20 years, the group was led by the historic silverback Cantsbee, who was also first seen and named by Dian Fossey, in 1978. She came up with this name because she had believed that his mother was a male, until she saw her with this newborn. Fossey exclaimed, “It can’t be,” which turned into the name Cantsbee. He was then monitored by the Fossey Fund for his entire life, until he died in 2017 at the elderly age of 38.

Cantsbee was an exceedingly successful group leader, holding the longest reign and siring more offspring than any other gorilla we have monitored. He was known for his strong but gentle leadership and his human observers considered him to be charismatic and very authoritative.

“He rarely initiated conflicts,” says research assistant Didier Abavandimwe. “On the contrary, he used to end conflicts and was very peaceful. I was impressed by his long tenure as a dominant silverback in such a large group. He was an indisputable leader.”

Gorilla protection and monitoring officer Jean Pierre “Samedi” Mucyo recalls one episode when Cantsbee broke up a fight between two other silverbacks.

“I will never forget the day – Aug. 14, 2013,” he says. “When the two younger silverbacks were fighting, Cantsbee made it clear that the fight had to stop, without making any sound or antagonistic behavior. The youngest silverback then laid down with his face on the ground, as if asking for forgiveness. I’ve never seen such a reaction to other gorillas – the authority of Cantsbee was amazing.”

Cantsbee earned his name once again before he died, since he went missing from his group in late 2016 and



**Pablo formed the group in 1993.**





## Life with Pablo Gorillas: Episode One

despite massive searches could not be found, thus leading our staff to conclude he must have died.

Then, a few months later, he showed up suddenly in his group and our staff could hardly believe their eyes!

But his age and afflictions must have caught up with him, because he went missing again a few months later and his partially decomposed body was eventually found and definitively identified.

### Who leads Pablo's group now?

Pablo group is currently led by the 23-year-old silverback Gicurasi, who is a son of Cantsbee. Cantsbee actually helped raise Gicurasi, when the mother left the group while he was still quite young. Our staff observed Gicurasi constantly grooming and playing with the little Gicurasi back then.

When Cantsbee disappeared in 2016-2017, Pablo group split into two, with a younger silverback – 18-year-old Kureba – taking a few members and forming his own group. Gicurasi, who had taken over from Cantsbee, led the larger portion of the group and continues to lead successfully today

### What's going on in Pablo's group now?

Currently the group has 25 members, though there are a few members who have joined or left recently, so this number can go up or down somewhat, as is normal with most gorilla groups.

There are six youngsters of about 5 years old or less in the group, so it's a good group for infant development! In addition to adult and sub-adult females, there are also



two other full-grown silverbacks and several blackbacks (younger adult males) in the group.

This diversity makes the group both interesting and active in terms of behaviors, socializing, playing, births and the wide range of gorilla activities that we observe.

**Pablo's group was led by silverback Cantsbee, left, for 20 years. During his reign the group reached a record high of 65 members!**



**Gicurasi, son of Cantsbee, now leads the group.**

### The next installment

So stay tuned for the next edition of "Life with Pablo Gorillas," where we will report on what some of the individual members are doing.

Will one of the other silverbacks leave and try to form his own group? How many of the younger adult females will give birth? Will any newcomers arrive from other groups?

We'll let you know next time! ■

**Silverback Pablo led the group for only one year after it formed in 1993. He then yielded dominance to the legendary Cantsbee. The group remains cohesive to this day!**

# What we're learning Inside our latest studies

**How do infant** gorillas learn what plants are best to eat? Do the largest male gorillas have an advantage over others? What factors create stress among the gorillas – perhaps higher rainfall or increasing population density – and how can we test this? How can local communities in Congo help save gorillas in unprotected areas?

These are just a few of the scientific questions that Fossey Fund staff, students and scientific partners are currently studying, many of which were presented in August, at the meeting of the International Primatological Society conference held in Kenya.

This conference, held every two years, brings together primatologists from all over the world, to present the latest research and ideas in primatology.

This year, Fossey Fund staff were again very well represented, with 11 staff and several collaborating scientists involved in talks and presentations of a wide variety of research, and attending workshops and symposia.

**Here's a look at some of the latest studies and the researchers behind them:**

## 1 Dr. Winnie Eckardt and measuring stress in 126 mountain gorillas

The critically endangered mountain gorillas we study are subject to a wide variety of potential stressors, resulting from the higher density of groups in their ranging area to climate change.

It may seem impossible to study stress in wild animals, but by measuring the end products of a long stress-response cascade extracted from fecal samples, we are able to do this without disturbing the gorillas.

Researchers collect fecal samples from the gorillas we follow and the rest is done in laboratories.



Preliminary findings indicate that the gorillas are indeed facing elevated stress from certain factors, including increased rainfall and how home ranges are shared with neighboring groups.

Dr. Eckardt is the research manager at our Karisoke Research Center. This long-term study also included Fossey Fund President and CEO/Chief Scientific Officer Dr. Tara Stoinski, former Karisoke researcher Dr. Stacy Rosenbaum of Northwestern University, and Rachel Santymire of the Davee Cen-

ter for Epidemiology & Endocrinology at Lincoln Park Zoo.

## 2 Deogratias Tuyisingize and the status of endangered golden monkeys

Golden monkeys are the only other primate living in gorilla habitat in Volcanoes National Park, and are found only in this region.

The Fossey Fund has been studying them for 15 years, with much of the work under the long-term supervision of Deo Tuyisingize, who is the Fossey Fund's biodiversity research program manager and is now pursuing doctoral research on golden monkeys.

Surveys over the years have gathered important information about these monkeys, demonstrating that while their population seems stable at about 4,000 individuals, certain activities such as bamboo harvesting, threaten their survival.

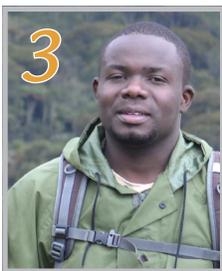
An effective conservation plan is being developed using this data and involving local communities around the park.



## 3 Jean Paul Hirwa and seed dispersal by mammals

Animals play an important role in ecosystem regeneration by helping with seed dispersal, as they feed on fruits in the forests.

Jean Paul Hirwa, who is the Fossey Fund's gorilla program manager, studied in Panama for his master's degree and conducted research on the impact of such seed dispersal by arboreal monkeys and terrestrial mammals there.



## 4 Jean Pierre "Samedi" Mucyo and how gorillas impact food plants

With the mountain gorilla population growing, research assistant Samedi wanted to learn whether their increased use of the forest

## Collaborating with other scientists, too

*The Fossey Fund* also often partners with associate scientists, who work with data collected through our field programs and are often joined by research assistants from our staff or by other associate scientists. At the IPS conference this year were:

- **Sue Wiper**, who is studying vocal communications as well as male behavior in golden monkeys for her Ph.D. with the University of Chester.
- **Dr. Jordi Galbany** of The George Washington University, who is now analyzing data collected during four years at Karisoke through high-tech photography, measuring the body growth of young gorillas from a distance. This work was also sup-

ported by the National Science Foundation.

- **Dr. Cyril Grueter** of the University of Western Australia, who has studied the effect of gorilla group size on their daily travel distances, activity levels, and food intake.
- **Dr. Edward Wright** of the Max Planck Institute for Evolutionary Anthropology, who has studied the advantages of large body size in male mountain gorillas, finding a positive connection between body size and dominance rank.
- **Dr. Melanie Mirville**, who did her doctoral research on gorilla group interactions at Karisoke and is now at the University of Western Australia.

habitat has had an impact on the key food plants that they eat.

This is important because we want to know how much more space there is to accommodate the increasing gorilla numbers.

### 5 Didier Abavandimwe and feeding behavior in gorillas

As they grow up, gorillas must learn how to determine the most suitable plants to eat in the forest, choosing from a very wide variety of options!

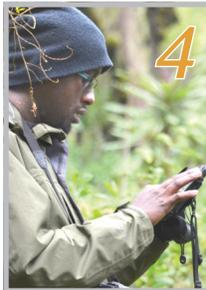
Research assistant Didier is working on a collaborative project that is studying gorillas up to 6 years old in relation to changes in their diet composition and feeding behavior.

This study is part of a larger project on gorilla growth and development with The George Washington University, with support from the National Science Foundation.

### 6 Gudula Nyirandayambaje and dominance changes in gorilla groups

When a leading silverback dies, a new leader must take over and this can be interesting if there are already other silverbacks in the group, even though they are of lower rank.

Gudula, who is a Fossey Fund



### 7 Eric Ndayishimiye and human-wildlife conflict regarding golden monkeys

Golden monkeys, which share the forest with the gorillas, are known to sometimes leave the national park and raid local crops in nearby farms. This type of human-wildlife conflict is a challenge for conservation efforts around the world.

Research assistant Eric has studied the effects of this on communities as well as non-harmful methods of reducing such crop raiding.

This research is part of his master's degree work with the University of Chester.

### 8 Thadee Muhire and periodontal disease in gorillas

Just like people, mountain gorillas can be affected by gum disease, and research assistant Thadee has measured levels of this using skeletal remains of mountain gorillas who died of natural causes and which are preserved by the Mountain Gorilla Skeletal Project, hosted at the Karisoke Research Center.

See **Research**, page 8

research assistant, studied the response of gorilla females to new leaders before and after the death of the dominant silverback.

Results show more aggression

toward the females from the new leader, though they also appeared to strengthen their relationships by spending more time closer together.

## Research

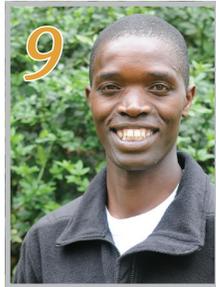
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His results show periodontal disease does occur and is correlated with age of the gorillas.

This study is a collaboration between the Fossey Fund, the Rwandan government, The George Washington University and Gorilla Doctors, with support from the National Science Foundation.

### 9 Faida Emmanuel and bamboo shoots foraging

Mountain gorillas and golden monkeys like to feed on seasonally available bamboo shoots but our long-term data collection on these shoots suggests an overall decline in the park. Faida studied how many are consumed by primates, to see if there are connections to the decline in bamboo regeneration.



### 10 Urbain Ngobobo and protecting Grauer's gorillas in community-managed forests

In the Democratic Republic of Congo, we protect and study critically endangered Grauer's gorillas in forests that are not formally protected and which have been subject to decades of hunting, mining and other pressures.

By partnering with local families, who have traditional ownership of forest sectors, we have set up a thriving gorilla protection program that covers more than 1,100 square kilometers of forest, resulting in a significant decline in gorilla poaching — none since our project started in 2012!

Urbain, who heads this effort as well as all of our programs in Congo, presented this unique community-driven model of conservation. ■



**Urbain Ngobobo**, middle, leads our community-driven Grauer's gorilla protection in Congo.

## Building your own legacy of conservation

Planned giving is a unique way to support the work of the Dian Fossey Gorilla Fund during your lifetime and beyond.

When you inform us of your planned giving intentions, you become a member of our Legacy Society, allowing us to recognize you appropriately for your generosity and dedication to wild gorilla conservation in Rwanda and the Democratic Republic of Congo.

There are many vehicles that allow you to provide for your loved ones and make a planned gift to the Dian Fossey Gorilla Fund, including:

- wills and living trusts,
- life insurance policies,
- retirement plans,
- bank and investment accounts,
- gifts of stock or securities, and
- donor-advised funds.

To learn more please contact **Katherine Cadwallader** at [kcadwallader@gorillafund.org](mailto:kcadwallader@gorillafund.org); 404.624.5620. Or visit [gorillafund.org/giving](http://gorillafund.org/giving).

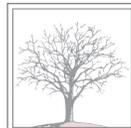
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