



Gorilla Journal

Journal of Berggorilla & Regenwald Direkthilfe

No. 56, June 2018

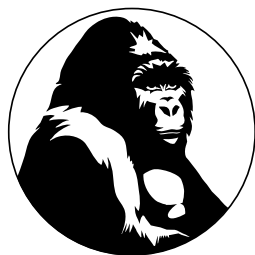


**The Current
Whereabouts of
Coco and Pucker**

**Education Efforts
Prevent a Cross
River Gorilla from
Being Killed**

**Being a Good
Guest – A Guide
for Tourists
Visiting Gorillas**

**New Population
Estimate for
Western Lowland
Gorillas**



BERGGORILLA & REGENWALD DIREKTHILFE

CONTENTS

D. R. Congo	3
Street Lighting in Mwenga Centre	3
More Rangers Killed in Virunga National Park	5
Rwanda	6
Gorillas in our Midst: the Current Whereabouts of Coco and Pucker	6
Memories – Working with Mountain Gorillas in the Cologne Zoo	7
Cross River	9
Education Efforts Prevent a Cross River Gorilla from Being Killed	9
Gorillas	11
New Virunga Gorilla Number	11
Being a Good Guest – A Guide for Tourists Visiting Gorillas	11
Certified Gorilla Friendly™ – Gorilla Tourism as a Conservation Tool	14
New Global Population Estimate for Western Lowland Gorillas	18
Reading	20
Berggorilla & Regenwald Direkthilfe	21
Impressions from our Members' Meeting in Nuremberg Zoo	21
Finances	22
Impressions from the Species Conservation Day in the Stuttgart Zoo	23

Gorilla Journal 56, June 2018

Editor: Dr. Angela Meder
Augustenstr. 122, 70197 Stuttgart, Germany

E-mail meder@berggorilla.org

Translation and Proofreading: Ann DeVoy, Bettina and Andrew Grieser Johns

Cover: Kamaya, Loango National Park, Gabon

Photo: Martha Robbins

Bank Account:

IBAN DE06 3625 0000 0353 3443 15

BIC SPMHDE3E

Switzerland:

IBAN CH90 0900 0000 4046 1685 7

BIC POFICHBEXX

Authors of this Issue

Brian Batstone worked with apes in the Cologne zoo from 1973 to 1985. He was keeper for elephants from 1985 to 2012. During his holidays he worked with elephants in Asia. He retired in 2014 and is still engaged for the Cologne Zoo as a project assistant at the Elephant Transit Home Udawalawe, Sri Lanka.

Anna Behm Masozera has worked for the International Gorilla Conservation Programme since 2010, currently as the programme's director. She holds a Master of Science degree from the University of Florida's School of Forest Resources and Conservation.

Andrew Dunn is Project Manager for the WCS biodiversity research program in southeastern Nigeria, having taken up his appointment in March 2004.

Janne Granroth, Senior Museum Technician at the Finnish Museum of Natural History, maintains the vertebrate collections at the Zoological Museum in Helsinki. During the last couple of years he has participated in taxonomic review and restoration of old mammal and bird specimens.

Dr. Inaoyom Imong is the Director of the Cross River Landscape Project of WCS Nigeria. He has been involved in Cross River gorilla conservation since 2004.

Jean Claude Kyungu Kasolene headed the Tayna Gorilla Reserve, the Walikale Community Gorilla Reserve and was Project Manager for the Tshiaberimu Gorilla Project for The Gorilla Organization. In 2008 he

Organization Address:

Berggorilla & Regenwald Direkthilfe
c/o Burkhard Broecker

Juedenweg 3

33161 Hoevelhof, Germany

E-mail broecker@berggorilla.org

Website:

<http://www.berggorilla.org>

became conservator for the Mt. Tshiaberimu sector of the Virunga National Park and in 2017 the Director of the Itombwe Reserve.

Dr. Fiona (Boo) Maisels has worked in the Central African forests for the last 30 years as a conservation scientist. She has been in the IUCN SSC Primate Specialist Group (PSG) since 2007 (and on the IUCN SSC PSG Great Ape Section Executive Committee since 2013).

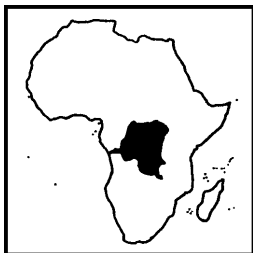
Dr. Henry Pihlström is a researcher and lecturer at the Faculty of Biological and Environmental Sciences, University of Helsinki, Finland. Among his research interests are the taxonomy, anatomy and biogeography of mammals, including primates.

Dr. Martha Robbins, a research associate at the Max Planck Institute for Evolutionary Anthropology, has been studying the behavioural ecology of gorillas since 1990. Since 1998, she has been studying the mountain gorillas in Bwindi Impenetrable National Park, since 2005 she has been working with the gorillas in Loango.

Dr. Samantha Strindberg has worked as a quantitative conservation scientist in the Global Conservation Program of the Wildlife Conservation Society (WCS) since 2001. She provides statistical design, field implementation, and analysis assistance to WCS staff world-wide.

Dr. Iris Weiche started her work with primates in 1990. For her dissertation she studied female gorillas in zoos. Since 1994 she has been active for B&RD, and from 1997 to 2002 she was a member of the Board of Directors. Currently she is lecturing at the University of Tübingen and involved in zoo research, especially on gorillas.

Dr. Liz Williamson is a Research Fellow at the University of Stirling and the IUCN Red List Authority Coordinator for great ape taxa. She began fieldwork on apes in 1982 and is a former director of the Karisoke Research Centre.



D. R. CONGO

First Phase of Street Lighting in Mwenga Centre

The Democratic Republic of the Congo teems with important natural and biological resources. As they are so important for growth, development, the fight against poverty and climate regulation, strategies and effective rules for the conservation of these resources need to be put in place.

In fact, nature conservation was regulated long ago through Decree no. 69-041 of 22 August 1969. However, the implementation of this law turned out to be difficult as appropriate implementation measures had not been planned which would take into consideration new challenges to sustainable development. Key among these is the fight



One of the street lights during the ceremony

Photo: ICCN RNI

against poverty of populations adjacent to protected areas but not actively participating in the management of these protected areas, and thus not deriving legitimate advantages and benefits from them.

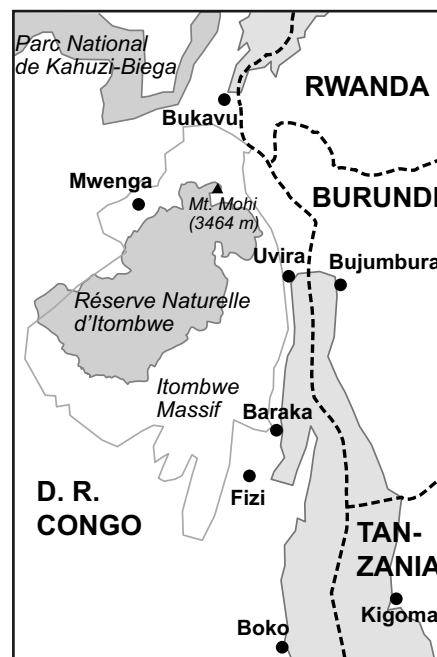
Furthermore, the legislation had nothing to say concerning the responsibilities of neighbouring populations – and indeed of all the stakeholders, both public and private – to participate in the planning process, nor in regard to national policies to implement conservation and sustainable use of biodiversity, and neither did it say anything about the practical modalities of the consultation process.

In fact, Decree no. 69-041, of 22 August 1969, was unsuitable as nature conservation legislation. A new Decree, no. 014/003, of 11 February 2014, on nature conservation, combined with the ICCN's (Congolese Institute for Nature Conservation) national strategy for community conservation, have brought about several major innovations, among them APA (Areas of Indigenous Heritage) which benefit local communities.

The managers of Itombwe Nature Reserve (INR) in partnership with the organisation "les SAGES" and with financial support from their partner Berggorilla & Regenwald Direkthilfe were pleased to be able to finance and implement an electrification project in selected public places in important centres adjacent to the INR. Putting theory into practice, the first electrification phase was launched by the Mwenga Territory Administrator on 12 January 2018 in the presence of all the relevant state services and tribal chiefs, in front of a crowd that was happy to receive this gift from the ICCN/IRN and its partner organisation Berggorilla. This is an innovative project for Mwenga Centre.

The objectives:

- to contribute to the development of Mwenga Centre by providing street



The Itombwe Reserve in South Kivu and the town Mwenga

Map: Angela Meder

lights along the main road, based on the APA principle, which is stipulated not only by the CBD (Convention on Biological Diversity) but also by the NSCB (National Strategy for the Conservation of Biodiversity);

- to mitigate the insecurity caused by a lack of lighting;
- to demonstrate to the population the merit of protecting the natural resources of the INR in general and the gorillas in particular;
- to help the population develop trust in the INR such that the community will participate in the conservation of the reserve's natural resources.

Results:

- The trust between the INR and the neighbouring population has been strengthened.
- The population joins in the participatory conservation of the INR.



D. R. CONGO

- The APA principle and its application in favour of the people living in the neighbourhood of the IRN replace that of exclusive conservation.
- The population understands the merit of protecting the natural resources of the IRN in general and the gorillas in particular.

This report gives an account of the ceremony for the launch of the pilot project for public electrification and its official presentation to the population and the completion of the first phase. Six electricity poles have been installed in a parking place in Mwenga Centre. The street lighting will benefit the population of Mwenga Centre. The activity was implemented as part of the community conservation programme.

The public ceremony, which was held on 12 January 2018, was facilitated by the local chief/community conservation officer John Baliwa. Several personalities offered a few appropriate words in front of a large crowd consisting of the local population and others

who had arrived for the occasion. All the words and speeches expressed joy and satisfaction with the support given by the ICCN/IRN and its financial partner Berggorilla, which has allowed the accomplishment of this first phase of providing Mwenga Centre with electricity. Highlights of the speeches are as follows:

The **Chief of Mwenga Centre** could not hide his sense of achievement about these electrical installations. He offered his warmest thanks to the ICCN/IRN for the electrification, the first in the history of Mwenga, and saluted the approach of the SAGES association in supporting this initiative. He promised that the population would get involved in the sustainable conservation of the IRN.

After introducing all the association's members including all the leaders and prominent citizens of the area, his association's aims and activities, the **President of the Mwenga SAGES association** thanked the new IRN management team and lauded their ef-

forts. Only two months after their arrival, they have already made the ICCN very visible. Building on the public electrification event, which has just been implemented, his association has now become involved in the sensitization of the people living adjacent to the IRN in the Mwenga Territory.

The **Director of the IRN** first introduced his team to the people, then explained the origin of the project. In his speech, he showed that the project originated through a meeting with SAGES. During this meeting, the association had presented a tortoise that had been found and was then put back into the forest. The association expressed its wish to collaborate with the IRN in sensitization. Within this context, the demand for public electrification was mentioned and the IRN director passed it on to Berggorilla & Regewald Direkthilfe, whose response was favourable and who thus also needed to be thanked. In addition, he informed the audience that the street lights are a gift from the IRN in order to protect the gorillas. In this sense, if the people commit to conservation, they will benefit from the IRN.

Finally, the director of the IRN thanked the administrator of the territory, the representatives of the chiefs of Basile and Wamuzimu chieftains, the members of the security council, the partner organisations WWF and Africapacity, the priests, the doctors, the Mwenga office of the public prosecutor and the local notability for having agreed to support the IRN and for gracing the ceremony with their presence.

The **partner organisation Africapacity** expressed its satisfaction about such an initiative: lighting up the parking places not only helps the local people but also travellers who are passing through.

The **partner organisation WWF** hoped that the population will use this model initiative to become more involved in the conservation of the IRN.



During the ceremony: from left to right, the representative of the Mwami of Basile, the Administrator and his wife, and the Director of the IRN. Behind them are the partner organisations WWF and Africapacity.

Photo: ICCN RNI



D. R. CONGO

As far as WWF is concerned, the new IRN team should be supported in its work, as its arrival has given impetus to the WWF's community activities which have been going on in the area for a while.

The **representative of the Mwami of the Basile chieftain** said it was an honour to see the main road of his area provided with electricity, which is a first.

The **Mwenga Territory Administrator**, after having closed the series of speeches, called on the population to protect the new installations like reasonable people. Just having light in the night will reduce insecurity. With these words, the speaker made the case that this initiative is the beginning of the development of Mwenga Centre. This initiative constitutes the first phase of electrification of the localities bordering the IRN.

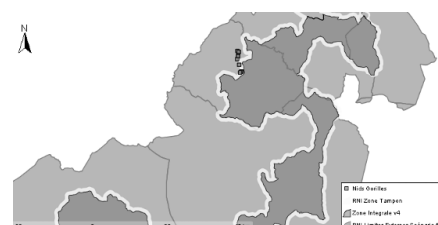
After his speech, the Administrator proceeded to the official launch of the first phase of the provision of electricity by cutting a symbolic ribbon and by turning on the first pilot lamp by remote control while waiting for the time of the automatic lighting of the lamps (6.30 pm) to arrive for the other lamps to light up. At the sight of the light being turned on, the population could not hide its satisfaction – crying out and applauding when they saw a dream come true. And with this outpouring, the ceremony ended with a cocktail offered by the SAGES association.

The purchase price on the market was high, which meant that not all the material that was planned could be bought. Instead of buying 10 poles, only 6 could be bought due to budgetary constraints. Apart from these constraints and other logistical hazards, both technical and financial, it must be noted that all activities were implemented as reported above.

However, there is notable success in that we have succeeded in providing street lighting to a part of Mwenga's main road, particularly to the carpark,

which is the centre of all socio-economic activities of Mwenga, and where cases of insecurity have been registered at night. The population in general – and female sellers in particular – were pleased and relieved as the public lighting guarantees them a minimum of security during their nightly sales activities. As a result, the population has promised to make the installations their own and to protect them.

Jean Claude Kyungu



Distribution of gorilla traces in the Itombwe Reserve, sector Mukunguzi, noticed during the patrols in January to March 2018 (at the top of the map, in the middle)

Map: ICCN RNI

More Rangers Killed in Virunga National Park

During a rebel attack on 9 April 2018, five rangers and a driver were killed. Another ranger was wounded. The team was ambushed while driving through the central sector of the park near Lake Edward between Lulimbi and Ishasha, close to the border to Uganda. The men who died were between 22 and 30 years old. Although it is not clear which one of the many rebel groups ranging in the park is responsible for the attack, officials believe that it was a Mai-Mai group.

This was not the first attack to Virunga National Park staff in April: on 1 April, a ranger was killed by armed men when he and his colleagues were on a routine patrol in the central sector.

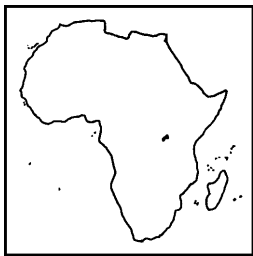
Including these most recent cases, the number of Virunga National Park employees who have died during their work for the park has risen to 175 within the last 20 years.

On 11 May 2018, a ranger was killed again and 3 persons were abducted by armed attackers – the driver of the vehicle and two British tourists. They were driving from Kibumba to Goma after having visited the mountain gorillas in the park when they were ambushed. Two days later the kidnappers released their hostages in the national park.

The ranger Rachel Masika Baraka, who died after her critical injury during the attack, was only 25 years old. She was one of 26 women who worked as rangers for the Virunga National Park.

Tourism was halted in Virunga National Park after this incident to improve the security of park personnel and visitors.

Summary of several blog entries of the Virunga National Park and other media



RWANDA

Gorillas in our Midst: the Current Whereabouts of Coco and Pucker

Dian Fossey's famous book *Gorillas in the Mist* (1983) contains several memorable episodes from her years of studying the mountain gorillas in the Virunga Mountains. One of them is the story of Coco and Pucker, the two juvenile females which were captured from the wild and destined for the Cologne Zoo, (West) Germany.

The capture of Coco and Pucker in 1969 was sanctioned by the Rwandan government. Fossey, however, strongly disapproved of the affair, especially when she subsequently learned that in order to capture these young gorillas, the hunters who were assigned for this task apparently killed all the other members of both Coco's and Pucker's respective family groups (Fossey 1983). She also feared that mountain

gorillas would not fare well in a European zoo. Nevertheless, Fossey volunteered to nurse both Coco and Pucker to health after their capture, in order to increase their chances of surviving the trip to Germany. In Fossey's care, both Coco and Pucker did indeed rapidly regain their strength.

In May 1969, Coco and Pucker arrived in Cologne Zoo, where they would live for nine years. Originally, it was believed that Coco was male and the zoo thought that it had received a potential breeding couple. However, a chromosome test in the early 1970s showed that both gorillas were females (Henning 1974). In 1978, Coco and Pucker suddenly succumbed to bacterial infection within a few months from each other. Coco died on April 5, 1978, and Pucker on June 6 in the same year. An autopsy was performed on both animals; it was found that Coco and Pucker suffered from congenital immune system defects (Krüger 1979).

Coco and Pucker's earliest days in captivity have been recounted both by Fossey herself (1970, 1983) and by others (e.g., Mowat 1987). Rather less has been published about Coco and Pucker's later life, but the fact that they did indeed end up in Cologne Zoo is widely known. However, what happened to these two gorillas after their deaths has received little attention, at least in print.

Originally, Coco and Pucker ended up as specimens in the collections of the Alexander Koenig Research Museum (or the Zoologisches Forschungsmuseum Alexander Koenig, ZFMK) in Bonn, Germany (R. Hutterer, personal communication). At the time of Coco's death, the possibility that her skin should be preserved as a museum specimen was apparently not considered. During the autopsy, Coco's head, including the skin, was detached from the rest of the body, thus making the skin unusable for taxidermy purposes. Pucker's skin, however, was kept intact after her death.

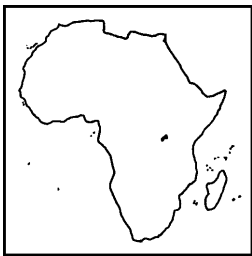
The ZFMK had traditionally close institutional ties with the Finnish Museum of Natural History (FMNH) in Helsinki, Finland. These two museums exchanged zoological specimens on several occasions in the early 1980s. It was as a result of one such specimen exchange that Coco and Pucker's remains eventually ended up in the FMNH. Pucker's skin was made into a taxidermy specimen and she has been on public display in the FMNH since 1985.

In the FMNH, Pucker has been placed in a diorama with a Virunga Mountains setting, positioned on a sloping, moss-covered tree trunk. Pucker is mounted in a quadrupedal pose which is similar to that of a mountain gorilla in one of Robert Campbell's photographs, originally published in the *National Geographic* magazine (Fossey 1971, pp. 574–575). Pucker's skull and virtually complete skeleton are not on display;



Pucker in her diorama setting in the FMNH

Photo: Janne Granroth



RWANDA



Pucker's skull

Photo: Janne Granroth

they are part of the FMNH's research collection (where they have been given collection number UN 1416). Coco's skull and the skin of the head are unfortunately missing, and are presumed lost. However, most of her postcranial bones (collection number UN 2718) as well as the rest of the skin (UN 1720) are preserved.

Pucker's skull is in fairly typical condition for a female gorilla of her age, which was estimated to have been circa 13 years at the time of her death (Krüger 1979). All permanent teeth are in place, with the exception of the mandibular third molars which were still erupting (cf. Smith et al. 1994). Pucker has, in addition to 7 cervical vertebrae, 13 thoracic, 3 lumbar, and 6 sacral vertebrae, i.e., the typical moun-

tain gorilla vertebral formula (Williams 2011, Thompson & Almécija 2017). Coco's vertebral column is incomplete. The first cervical vertebra (the atlas) is missing, and while there are 13 thoracic vertebrae, only two lumbar vertebrae and no sacral or cervical vertebrae are preserved.

Coco and Pucker have ended up far away from their native Rwanda. Their lifespans were, sadly, not as long as they ideally should have been, and neither one of them ever had any offspring. However, their earthly remains are, at least for the most part, preserved for posterity. Thus Coco and Pucker still serve as silent ambassadors for their endangered species, long after their deaths.

Henry Pihlström and Janne Granroth

We thank Risto Väinölä and Martti Hildén at the Finnish Museum of Natural History LUOMUS for providing us with access to specimens in their care, Rainer Hutterer, Eva Bärmann, and Erik Weckman for providing us with valuable information, and Jeroen Stevens and Sonja Koski for help with the literature.

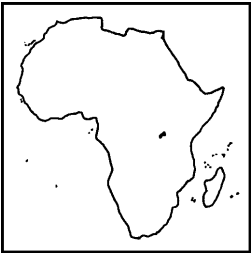
References

- Fossey, D. (1970): Making friends with mountain gorillas. *National Geographic* 137 (January), 48–67
- Fossey, D. (1971): More years with the mountain gorillas. *National Geographic* 138 (October), 574–585
- Fossey, D. (1983): *Gorillas in the Mist*. Houghton Mifflin Company
- Henning, G. A. (1974): Olympiatest für Gorillas. *Die Zeit*, 19. April
- Krüger, G. R. F. (1979): Coco und Pucker, die Berggorillas (*Gorilla g. beringei*) des Kölner Zoo – ein Epilog. *Zeitschrift des Kölner Zoo* 22 (3), 95–99
- Mowat, F. (1988): *Woman in the Mist: The Story of Dian Fossey and the Mountain Gorillas of Africa*. Macdonald, London & Sydney
- Smith, B. H. et al. (1994): The age of eruption of primate teeth: a compendium for aging individuals and comparing life histories. *American Journal of Physical Anthropology* 37, 177–231
- Thompson, N. E. & Almécija, S. (2017): The evolution of vertebral formulae in Hominoidea. *Journal of Human Evolution* 110, 18–36
- Williams, S. A. (2011): Variation in anthropoid vertebral formulae: implications for homology and homoplasy in hominoid evolution. *Journal of Experimental Zoology (Molecular and Developmental Evolution)* 318, 134–147

Memories – Working with Two Mountain Gorillas in the Cologne Zoo

The two mountain gorillas from the Virunga Mountains in Rwanda, Coco and Pucker, arrived in the Cologne Zoo in May 1969. At that time it was a very controversial theme worldwide. Coco and Pucker were a present from the Rwandan government to the mayor of Cologne, Theo Burauen. The Cologne Zoo was the only zoo in the world at that time to display mountain gorillas. They were given as a pair to breed, unfortunately they turned out to be two females.

I was fortunate to work as a keep-



RWANDA

er with Coco and Pucker from 1973 to 1978. During the summer I took them out for walks. I remember they loved to climb the beech tree opposite the zoo director's house. On top of the tree they built themselves sleeping nests. Every time I pass this tree during my walks through the zoo today, I think of Coco and Pucker. They were very playful.

Gorillas prefer varied diets and have individual preferences for food. Since we did not have the same food as in the wild, we supplemented their food with celery, onions, broccoli, other vegetables, bamboo shoots and wheat sprouts. Celery, both sticks and root, and fresh spinach leaves were their favourite food.

Coco and Pucker had an occasional

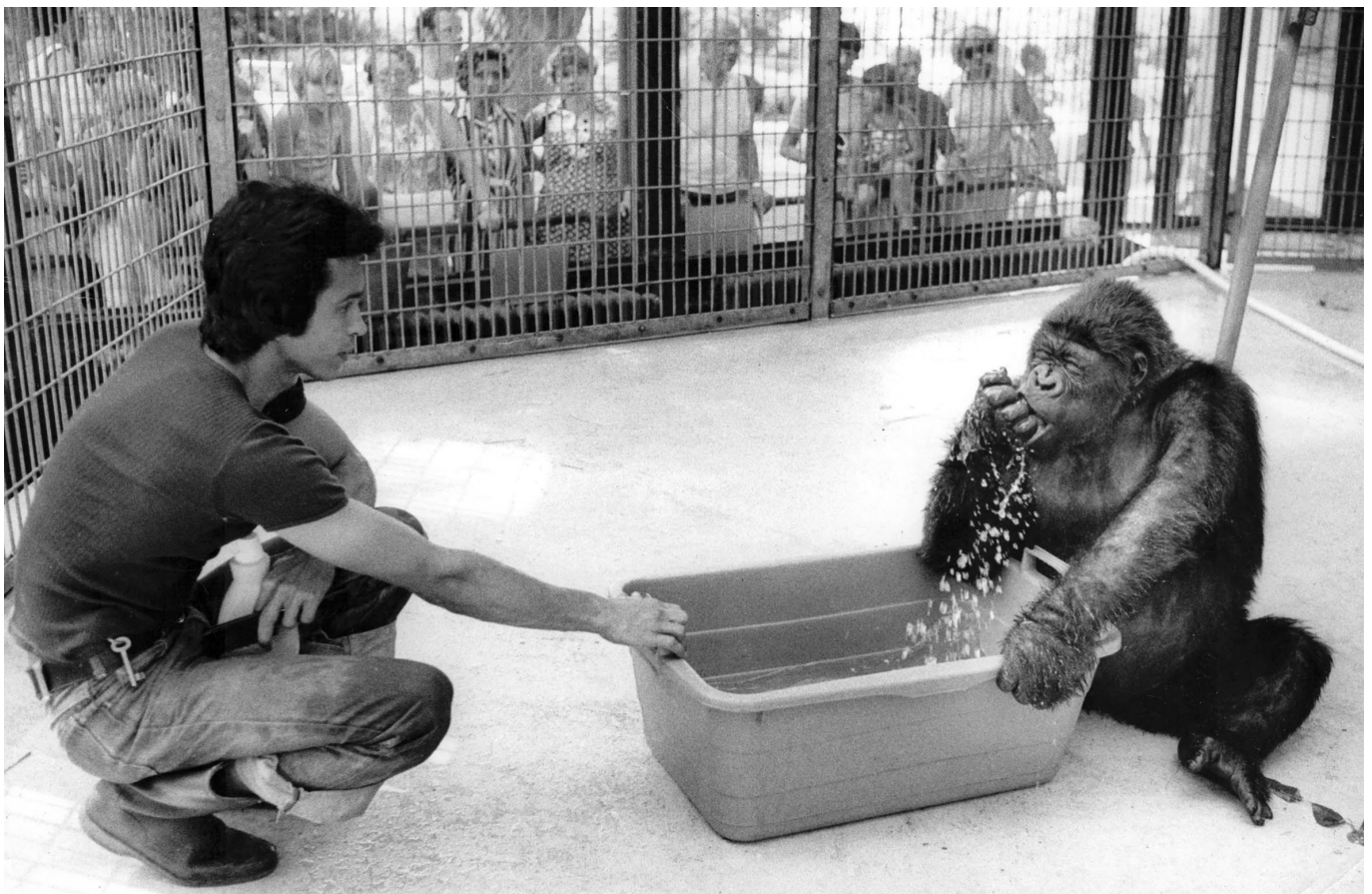
cold or diarrhoea but nothing serious. In March 1978 Pucker showed signs of discomfort and did not have an appetite. In spite of the consultation of a paediatrician and immediate treatment she died a few days later. Coco had the same symptoms and died several weeks later (on 1 June). They both died of a bacterial infection. The post mortem results showed symptoms of a defect in the immune systems (hereditary or acquired) of both mountain gorillas which might have been the reason why the treatment with antibiotics etc. failed.

I remember Coco and Pucker as very gentle apes and it was great fun to work with them.

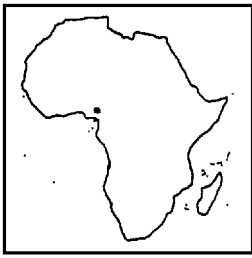
Brian Batstone



Pucker in Cologne Zoo



Brian Batstone with Coco



CROSS RIVER

Education Efforts Prevent a Critically Endangered “Blackback” Cross River Gorilla from Being Killed

In November 2017, Wildlife Conservation Society (WCS) received a report of a lone male Cross River gorilla sighted near two Nigerian villages (Ofambe and Okiro), miles from the nearest protected area. Fewer than 300 Cross River gorillas remain in the wild in Nigeria and Cameroon and are rarely seen. They avoid humans by living on the steepest, most inaccessible mountain slopes.

News of this gorilla sighted close to the villages, several miles outside of Afi Mountain Wildlife Sanctuary – the nearest gorilla stronghold – was therefore surprising. In Nigeria, gorillas occur at three sites – the Afi Mountain Wildlife Sanctuary (AMWS), the Mbe Mountains, and the Okwangwo Di-

vision of the Cross River National Park.

Researchers believe the gorilla is a “blackback” – a young male that has recently left its family group to start its own. Gorillas normally live in small groups composed of a large dominant male known as a silverback together with three to four females and their young. When these young gorillas mature, they leave to join another gorilla group. Each blackback gorilla must roam the forest in search of a mate. These wanderings are very important for the long-term survival of the species, allowing for the exchange of genes between groups.

This gorilla is believed to have been making an attempt to migrate from the AMWS to the Mbe Mountains, the nearest Cross River gorilla site. So far away from the sanctuary (see figure next page) and without the protection offered by ranger patrols within the sanctuary, he faced serious risk of be-

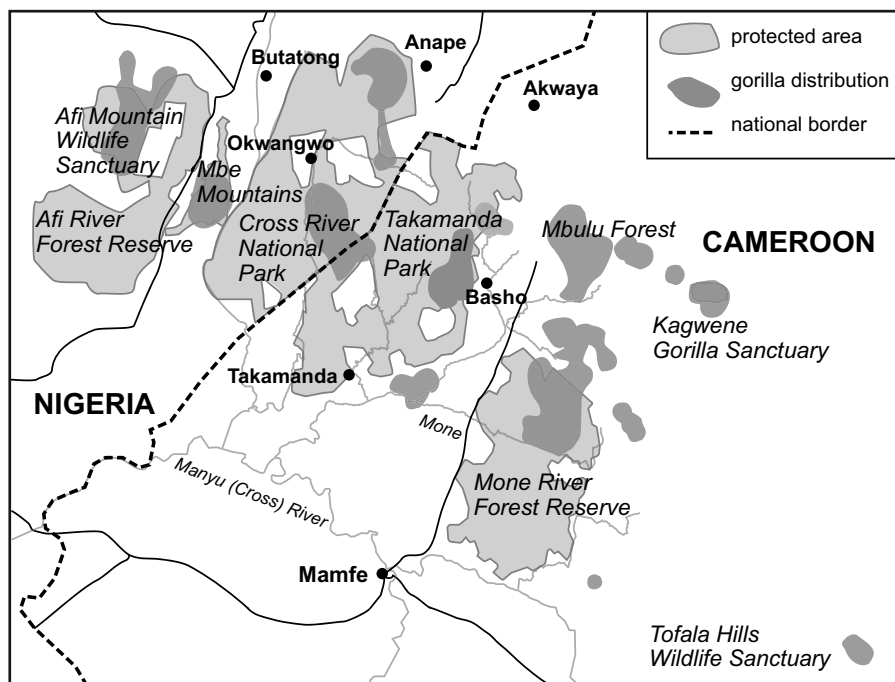
Population Differences

In western gorillas and Grauer’s gorillas, male emigration is common, while among mountain gorillas less than 50% of the males emigrate. In the Virunga mountains, in Bwindi and Bai Hokou, a large percentage of the groups includes more than one adult male.

Solitary males make up 5 to 10% of the western lowland gorilla populations. Among eastern gorillas, the percentage seems to be lower: up to 3.5% in Kahuzi-Biega and 1.8–4.0% in mountain gorillas.

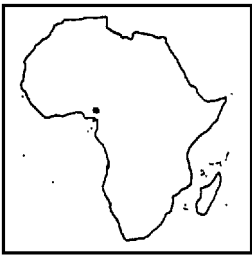
ing killed by villagers for bushmeat or as reprisal for perceived threat to people and crops on farms. Fortunately however, rather than attacking and killing this young, adventurous gorilla, the villagers tolerated its presence so close to their communities and reported its presence to the Cross River State Forestry Commission (CRSFC), which manages the sanctuary, and WCS staff at Afi. In December 2017, WCS staff and CRSFC rangers found a fresh trail heading back into the sanctuary – the last sign of the animal seen outside the sanctuary and indication that it had safely returned back to the sanctuary. The attitude and behaviour of the villagers towards this gorilla is commendable, a possible indication of the success of WCS’ long-standing education program.

Although protected by law in Nigeria and Cameroon, Cross River gorillas are still occasionally hunted and they are particularly vulnerable to hunting outside protected areas where they are not protected by ranger patrols. WCS works to save Cross River gorillas through support for protect-

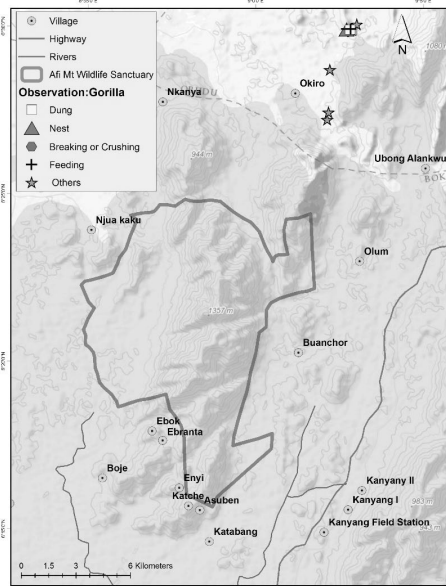


Distribution of the Cross River gorilla in Nigeria and Cameroon

Map: Angela Meder, with information from Richard Bergl



CROSS RIVER



Locations where signs of the gorilla were observed outside the AMWS
 Map: WCS Nigeria

materials such as T-shirts, caps and notebooks are produced and distributed as souvenirs in the local communities and schools to encourage people to take pride in Cross River gorillas as their natural heritage. Thanks to this increased awareness, and two enlightened village chiefs in Ofambe (Chief Julius Ochui) and Okiro (Chief Augustine Bitte), the presence of this gorilla so close to their villages was tolerated. However, more needs to be done to protect gorillas outside protected areas. With funding support from Berggorilla & Regenwald Direkthilfe, WCS recently launched a “Gorilla Guardian” project at Afi, working with the surrounding communities to monitor and protect Cross River gorillas outside the sanctuary. A similar project is implemented by WCS in Cameroon.

Inaoyom Imong and Andrew Dunn



Interview session for My Gorilla – My Community with Hon. Abubakar Ewa, Executive Chairman of the Boki Local Government Area

Photo: WCS Nigeria

ed area management and wildlife law enforcement, community-based gorilla protection, research, sustainable livelihood development and conservation education. WCS has been implementing an education and awareness program in the Cross River gorilla landscape since 2002, reaching over 100 villages and 80 schools in Nigeria and Cameroon. Activities implemented include community meetings, great ape film shows, field trips for conservation clubs, schools visits, and a radio program called *My Gorilla – My Community*. The *My Gorilla – My Community* program is a weekly radio magazine program that combines entertainment and education to influence attitude and behaviour change. The program includes a drama segment and an interview segment which provides a platform for listeners to interact with conservation experts and local politicians, and promotes adoption of sustainable livelihood activities that reduce pressure on the gorillas and the forest. Cross River gorilla campaign ma-



Recording a scene of the drama for My Gorilla – My Community

Photo: WCS Nigeria



GORILLAS

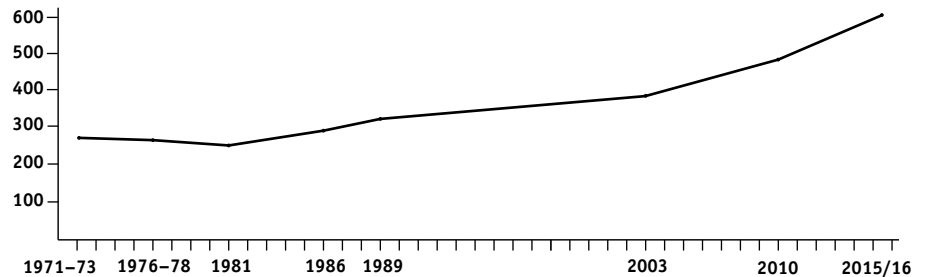
New Virunga Gorilla Number

A survey in 2015–2016 documented 604 mountain gorillas in the transboundary Virunga Massif, one of the two areas where this gorilla subspecies is found. This is the largest number of Virunga gorillas ever recorded – 124 individuals more than during the previous census (in 2010)! When combined with the published figure of 400 gorillas from Bwindi Impenetrable National Park, Uganda, as of 2011, an estimated 1,004 mountain gorillas existed in the wild as of June 2016.

In the area encompassing the Mike-no Sector of Virunga National Park in the Democratic Republic of the Congo, Volcanoes National Park in Rwanda, and Mgahinga Gorilla National Park in Uganda, the 604 gorillas were found in 41 groups and as 14 solitary males. Survey teams walked pre-determined “recces” (reconnaissance trails) ensuring a thorough coverage of all forest areas to sweep the area and search for signs of gorillas, other key mammals, and illegal activities. When fresh gorilla signs were detected, the teams followed the gorilla trail to locate three recent night nest sites. At each of these nest sites, the teams collected fecal samples from nests.

However, during this past census in 2015–2016, the survey effort was doubled by sweeping the Virunga Massif twice; first from October to December 2015 (57 days) and second from March to May 2016 (59 days). A second sweep allows to find gorillas that were undetected during the first sweep and thus provides more reliable numbers of gorillas. Fecal samples were analyzed genetically to determine individual genotypes.

The survey was conducted by the Protected Area Authorities of DRC, Rwanda, and Uganda (l’Institut Congolais pour la Conservation de la Nature, the Rwanda Development Board and



Virunga gorilla census results

Drawing: Angela Meder

the Uganda Wildlife Authority, respectively) under the transboundary framework of the Greater Virunga Transboundary Collaboration, and supported by many partners and various donors.

The increase in mountain gorillas inhabiting the Virunga Massif is attributed to the effectiveness of conservation policies, strategies, notably regulated tourism, daily protection and veterinary interventions, intensive law enforcement, community conservation projects, and transboundary collaboration among government institutions and NGO actors. Further, these results are a testament to the tireless effort of the rangers and trackers who daily protect and monitor mountain gorillas and their habitat, including those that have been killed in the line of duty. It is also important to recognize the role of the communities that live in close proxim-

ity to these national parks who co-exist with mountain gorillas and contribute to conservation efforts.

The two populations of mountain gorillas remain small and vulnerable to a potential rapid decline due to factors such as their limited habitat, climate change, dependency on resources in the park by people, and the risk of disease transmission. The Greater Virunga Transboundary Collaboration calls upon all conservation institutions and organizations and in fact all individuals, to join efforts to conserve mountain gorillas and their habitat for future generations.

Source: press release of the Greater Virunga Transboundary Collaboration

Being a Good Guest – A Guide for Tourists Visiting Gorillas

As with many types of wildlife tourism, viewing gorillas has grown in popularity since the 1980s. Currently tourists can visit more than 20 gorilla groups in the Virunga Massif and another 14 in Bwindi Impenetrable National Park, Uganda. Approximately 50,000 tourists visit mountain gorillas each year. Tourists can also visit Grauer’s gorillas in Kahuzi-Biega National Park, Democratic Republic of the Congo as well as see habituated western gorillas at four sites (Bai Hokou in Central African Republic, Mondika and Odzala



A young Virunga gorilla on the mother's back

Photo: Martha Robbins



GORILLAS



Tourists with Mukiza, Bwindi Impenetrable National Park

Photo: Martha Robbins

in Republic of Congo, and Loango National Park, Gabon).

With little doubt, tourism has been beneficial for gorilla conservation. The permit fees provide millions of dollars in revenue for the park services and associated tourism businesses. Routine monitoring of the habituated groups provides increased protection of those gorillas and enables veterinarians to treat habituated gorillas. This greater protection of habituated gorillas is believed to be partially responsible for the large increase in the number of mountain gorillas in the Virunga Massif since the mid-1980s (Robbins et al. 2011). However, tourism can also be a threat to the gorillas if not properly managed.

Seeing gorillas in the wild is a dream of many people and is an unforgettable wildlife experience. It is very different from observing wildlife from a vehicle on a game drive, because there is nothing except some forest vegetation between the gorillas and us. This makes it an incredible event but also brings in different challenges. We are

able to get a close view into the lives of some gorillas because they have been habituated. Habituation, or when the gorillas grow accustomed to humans being in close proximity, is a form of trust between the gorillas and us. They learn to expect us to act in a certain way and in return, they will permit us to be nearby.

Therefore, in the excitement of a unique encounter with habituated gorillas, we should also not forget that like most things in life there are guidelines to be followed. The rules for gorilla tourism are in place essentially as a means to maintain the trust of the gorillas as well as protect them from too much disturbance. These rules exist not only to ensure the safety of visitors but also to attain the main goal of gorilla tourism: the conservation of the gorillas.

There is something very special about being embedded with a gorilla group. Even after studying gorillas for nearly 30 years, I still enjoy the privilege of watching the day-to-day ac-

tivities of a gorilla family. I also enjoy talking with tourists about their experiences and sharing the world of gorillas with them. I view being with the gorillas the same way as being a guest in someone's house, or in this case, forest. As a guest, I treat the hosts with respect and behave in a polite manner. If guests behave in an inappropriate way, they are likely to offend the hosts, cause them stress, or in the worst case threaten their safety.

What are the "house rules" for visiting gorillas and why do these rules exist? When conservationists developed gorilla tourism in Rwanda in the 1980s, they realized that if it were to succeed as a conservation strategy, it would need to be regulated (Weber & Vedder 2001). The rules are in place primarily to minimize disturbance to the gorillas, reduce the risk of disease transmission from humans to the gorillas, and provide a safe, high quality experience for tourists (Macfie & Williamson 2010). People visiting the gorillas will hear these rules a few times and the majority of visitors are interested in protecting the gorillas. Nonetheless, it is valuable to spend some time thinking about the justification for the rules. Furthermore, putting yourself in the "shoes" of the gorillas – our hosts – may help you remember what the rules are and provide a more meaningful experience. The guidelines have changed little over the years:

- 1) *A maximum of 8 visitors to each group of mountain gorillas (or 4 for most western gorilla sites).* This is in place to minimize the amount of disturbance to the gorillas and to ensure that all tourists can get a good view of the gorillas. We all know the difference between having a few friends visit versus hosting a party. When visiting the gorillas, it should be an intimate visit, not a large party. The gorillas are aware that there are different visitors every



GORILLAS

day, but the more people they need to keep track of, the more stress and disturbance it is for them.

- 2) *One tourist visit per group of gorillas per day.* Studies have shown that gorillas may feed or rest less during the hour that tourists are visiting. To maintain as much of the normal daily schedule of the gorillas as possible, only one tourist visit is permitted per day.
- 3) *A maximum of one hour per visit.* This rule is also in place to enable the gorillas to follow as much of their normal daily routine in an undisturbed fashion as possible. Can you imagine what it would be like to have 8 strangers sit in your living room for an hour every day?
- 4) *Visitors must be 15 years old or older.* Children are more likely than adults to harbor various diseases that can be transmitted to the gorillas. Also, small children may have difficulties walking in the forest or find the gorillas very frightening.
- 5) *Maintain a minimum distance of 7m between people and gorillas.* Without a doubt, this rule is the most difficult to abide and is the one most commonly broken. Often it is nearly impossible to see the gorillas when 7m away because of the thick vegetation. The gorillas also do not always follow this rule. It is not uncommon for juveniles to be very curious about humans, when they should be busy playing with their peers. However, this rule is in place to minimize the risk of disease transmission from humans to gorillas. Studies show that particles from a human sneeze can travel this distance. In addition, being too close to gorillas can cause them stress and be threatening to them. Yes, it is amazing that wild gorillas can be so tolerant of humans at a close distance, but that does not mean that it is worth the risk of giving them a respiratory disease. Gorillas may

also become stressed or agitated if humans are too close. The closer humans get to the gorillas, the higher the risks. Humans have unwritten rules about personal space, especially with strangers, so respect the personal space of the gorillas. If the guides are taking you too close to the gorillas or other tourists are asking to be taken closer, do not hesitate to ask them to respect this rule too.

- 6) *Do not go to the gorillas if you are sick with a cold, flu, or intestinal problem.* One of the biggest risks to gorillas is the transmission of human disease to the gorillas (Spelman et al. 2013). Cases of gorillas being ill with human respiratory disease have been documented. Colds and flu may put us out of work for a few days, but they can be lethal for gorillas. Would you visit friends if you were sick?
- 7) *All visitors must wear a surgical mask (only in the Congolese portion of the Virungas and Loango National Park, Gabon).* This rule is in place to minimize the risk of disease transmission. The gorillas are not disturbed by people wearing masks and it provides one additional boundary to prevent human germs getting to the gorillas. Wearing masks does not diminish the importance of the 7m distance rule.
- 8) *Do not eat, drink, or smoke when with the gorillas. Do not litter in the forest.* Any food or water particles dropped in the forest may have human germs on it. We do not want the gorillas ingesting human food.
- 9) *Do not use flash photography.* Nobody likes having bright lights in their faces, including gorillas.
- 10) *Speak quietly and do not make any sudden movements. Do not run if a gorilla charges.* The gorillas are accustomed to humans moving slowly and quietly. Therefore, do not do anything that may disturb them.

If a gorilla screams or charges at visitors, it is because the humans did something to provoke it. Maybe the visitors approached too closely or made a rapid movement that frightened the gorilla. If gorillas scream or charge, they are trying to protect themselves and the rest of their family. Occasionally I hear tourists say that "it was so cool to be charged by a gorilla", which upsets me because it means that the visitors caused that gorilla too much stress. Who would brag about being shouted at by the host of a get-together?

- 11) *Follow the advice of the guides.* The guides are experienced in telling people where and when to move when with the gorillas, with the goal of minimizing disturbance to them.

If your guide is not following the rules, say something to him and/or to the park managers at the office. We live in an age where you can voice your opinion and rate the quality of anything online (TripAdvisor etc.), which includes gorilla tourism. Sometimes guides may bend the rules in hopes of getting a larger tip from tourists, which is shortsighted on the part of both the guide and the tourists. Everyone – the park staff, tourists, tour operators, conservationists, and researchers – must work together to maintain the rules for the long-term benefit of the gorillas. It may be easy to think "oh, I'm only seeing the gorillas once, so it is okay if I sit one meter away from this infant gorilla if the guide allows me", but please remember you are one of thousands of people visiting these critically endangered animals and it only takes one person to transfer a cold. Do you want to be the person that gives the gorillas a cold virus? Do you want to be causing stress to the mother and father of that infant gorilla?

Lastly, while it is not an official rule, I suggest that when visiting gorillas you



GORILLAS

put your camera down for at least five minutes of the hour. Photos are a great way to document your experience, but rather than spending the full hour taking many, many photos, take some time and simply watch the gorillas. Why are you visiting the gorillas in the first place? Is it simply to get a photo or is it for the overall experience? After all, you would take photos the entire time you were visiting friends?

Martha M. Robbins

References

Macfie, E. J. & Williamson, E. A. (2010): Best Practice Guidelines for Great Ape Tourism. IUCN/SSC Primate Specialist Group (PSG). Gland, Switzerland
Robbins, M. M. et al. (2011): Extreme Conservation Leads to Recovery of the Virunga Mountain Gorillas. Plos One 6

Spelman, L. H. et al. (2013): Respiratory disease in mountain gorillas (*Gorilla beringei beringei*) in Rwanda, 1990–2010: outbreaks, clinical course, and medical management. *Journal of Zoo and Wildlife Medicine* 44, 1027–1035

Weber, B. & Vedder, A. (2001): *In the Kingdom of Gorillas*. New York (Simon and Schuster)

Certified Gorilla Friendly™ – Safeguarding Gorilla Tourism as a Conservation Tool

The International Gorilla Conservation Programme has been operating for more than 25 years, and has provided financial and technical support for the introduction and development

of tourism as a conservation tool for mountain gorillas within their three range States. While IGCP does not manage mountain gorilla tourism – that is left strictly to the Protected Area Authorities – we strongly advocate for the continued pursuit of best practice approaches by all involved, from authority, to manager, to guide, to private operators, to tracker, to tourist.

What underlines best practice approaches is the precautionary principle – utilize as few gorilla groups as needed, take as few people as possible, and stay no more than one hour of viewing at a safe distance. It is even better to wear a mask or at a minimum at least a barrier (even a cloth bandana) to cover your nose and mouth in proximity to go-



During a tourist visit of the Umubano group, Parc National des Volcans

Photo: Karin Linke



GORILLAS

rillas. These principles have been documented in best practice guidelines by IUCN (Macfie and Williamson 2010; Giaraldi et al. 2015).

These best practice approaches can be perceived as a barrier to greater revenue by an authority, and a barrier to getting better tips from tourists for perceived good service by a guide. However, there is a stronger case to be made for the best practice approaches in ensuring greater visitor satisfaction and willingness to pay, and ensuring that the objectives of gorilla tourism are sustained – conservation of the species itself.

In 2012, the International Gorilla Conservation Programme began working with the Wildlife Friendly Enterprise Network to explore transitioning the best practice guidelines into standards on which the various actors could evaluate themselves against best practice, and also provide the basis for an audit to establish eligibility for a specific tourism ecolabel. Certified Gorilla Friendly™ was born, and since its inception, and through a consultative process, the following set of agreed required and recommended standards have been developed:

- Parks & Park Guides
- Hotels & Lodges
- Tour Operators
- Drivers & Private Guides
- Travel Agents
- Park-edge Community Products

These are complimented with a full suite of documents – certification manual and audit forms, as well as a brand manual. While these were developed specifically for mountain gorillas, Certified Gorilla Friendly™ is a voluntary ecolabel and the standards were developed so that they can be applied to tourism of any gorilla subspecies.

The pursuit of an ecolabel to create a market-driven incentive mechanism to maintain best practices is not new, but the application of an ecolabel to

contribute to the conservation of a specific wildlife species is. Wildlife Friendly Enterprise Network's exploration of Certified Gorilla Friendly™ standards has led to the development of similar ecolabels – Sea Turtle Friendly™ and Elephant Friendly™.

A professional standards writer was engaged to translate the best practice guidelines into auditable standards. For each standard extracted from the best practice guideline, an informed decision was taken after consultation of experts and stakeholders in regards to which standards were required, and which standards were recommended. Certified Gorilla Friendly™ went one step further and identified those required standards considered to be Critical, for which non-compliance would subject the entity to exclusion or suspension of the designation of Certified Gorilla Friendly™.

Through the process, the IUCN best practice guidelines which were difficult to reconcile with current practices in

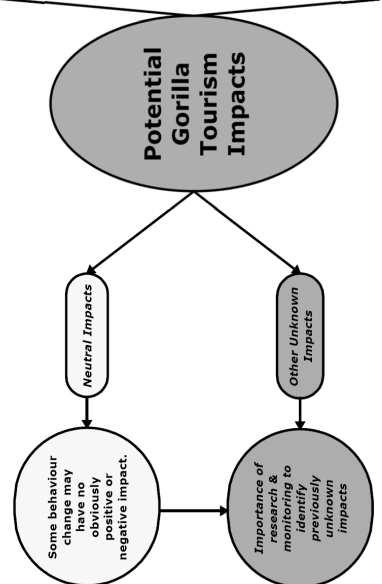
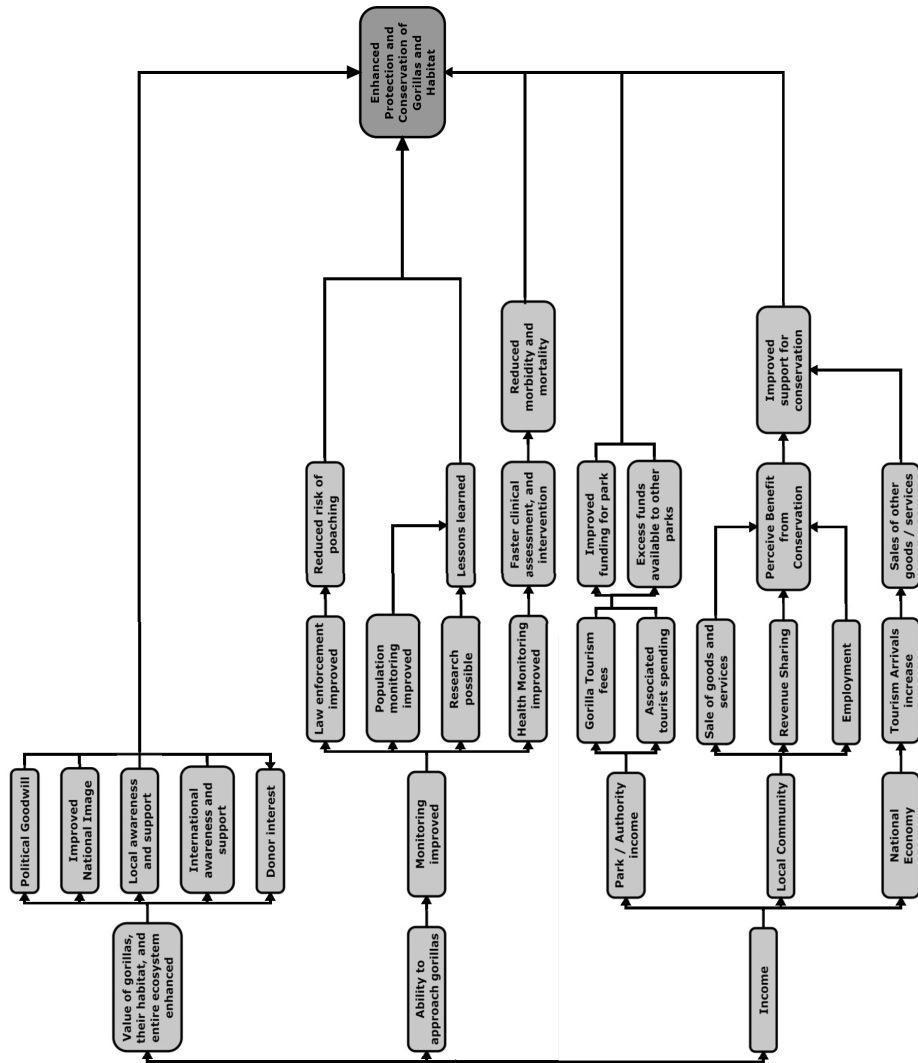
mountain gorilla tourism stipulated the percentage of great ape population to be exposed to tourism, the number of tourists per visitation, and the use of face masks.

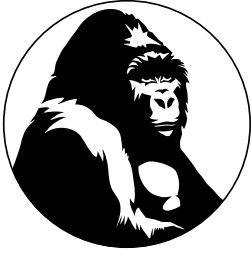
We hope that in the near future, people will start seeing the Certified Gorilla Friendly™ label (<http://wildlifefriendly.org/gorilla-friendly-tourism/>) as a way to identify and confirm that a business, park, or product they are supporting as a consumer meets or exceeds standards. In the meantime, individual tourists can take the Gorilla Friendly™ Pledge at www.gorillafriendly.org and/or provide feedback on your experience at the same site.

We strongly encourage all authorities, private operators, and conservation organizations involved in gorilla tourism to reach out to IGCP or the Wildlife Friendly Enterprise Network to initiate an audit against the standards, and to seek certification if eligible. We are actively seeking pilot sites, operators, and facilities. While we focus on

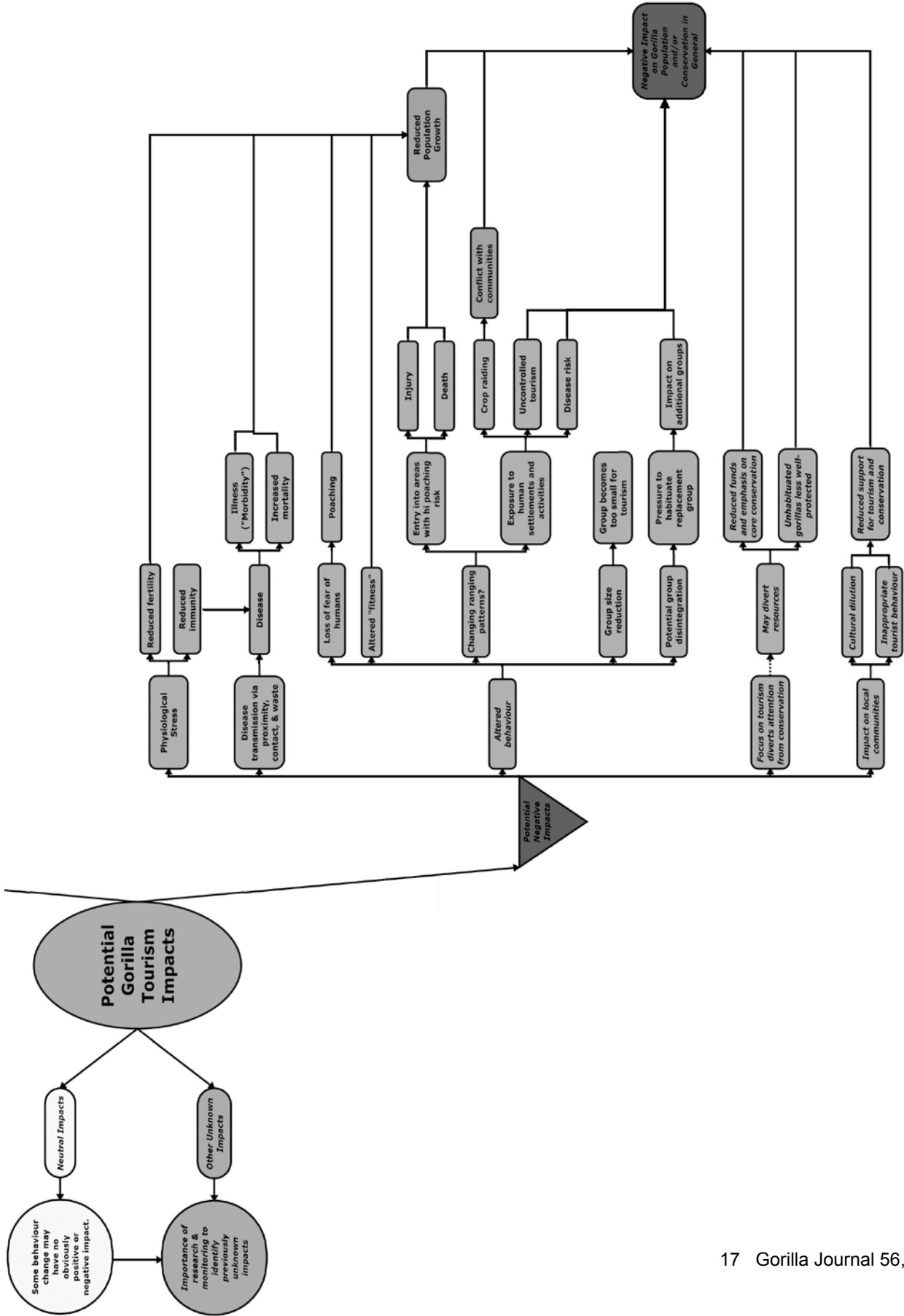


GORILLAS





GORILLAS





GORILLAS

tourism, it is important to recognize that any human–gorilla interaction – whether by tourists, researchers, park and security staff, or illegal/legal resource users – can contribute to habitat destruction, behaviour change, and disease transmission if not carefully managed. It is this improved management and monitoring, and the constant pursuit of better practices across all management activities, which will help secure the future for mountain gorillas.

About to visit gorillas or know someone who is? Here are some pointers:

- 1) Make sure your visit is an authorized visit and you have an original receipt from the appropriate authority. Corruption is the biggest threat to any tourism as a conservation tool.
- 2) Avoid any tour operator or product – even if on offer by the relevant authority – which promotes longer stays (more than one hour).
- 3) Follow park authorities' guidance and observe gorillas from a safe distance (minimum distance of 7 m/23 feet if wearing a mask, or 10 m/33 feet if not wearing a mask), and only take and share photos that respect this principle.

Observing gorillas from a safe distance:

- 1) Approach slowly, together, until the gorillas come into view.
- 2) Viewing will not always be perfect – appreciate that there may be branches and other vegetation between you and gorillas.
- 3) Move slowly, deliberately, and together – do not disperse.
- 4) Be patient where you are, and only shift after the gorillas do, keeping in mind that some gorillas may be behind you.

If your guide does not respect these principles, please leave this as a comment in the guest book, inform a park manager, and/or register your experience through the feedback section of www.gorillafriendly.org.

Anna Behm Masozera

References

- Gilardi, K. V. et al. (2015): Best Practice guidelines for health monitoring and disease control in great ape populations. Gland, Switzerland: IUCN SSC Primate Specialist Group
- Macfie, E. J. & Williamson, E. A. (2010): Best Practice Guidelines for Great Ape Tourism. Gland, Switzerland: IUCN SSC Primate Specialist Group

New Global Population Estimate for Western Lowland Gorillas

In a paper published in the journal *Science Advances*, Samantha Strindberg, Fiona Maisels and 52 coauthors provide the most comprehensive assessment to date of western lowland gorilla (*Gorilla gorilla gorilla*) and central chimpanzee (*Pan troglodytes troglodytes*) populations (Strindberg et al. 2018). Here, we wish to explain in a little more detail the approach used in this first ever rangewide assessment of these two great ape taxa, in which we examined the weight of each potential driver of their density, which allowed us to estimate abundance across their geographic range and refine their distribution map, as well as investigate population trends in time. Prior to this analysis, no one had assembled time series data from survey sites located across the entire range of either subspecies. This assessment was an essential component of a strategic planning process and builds on work carried out in 2005 and 2013 (Tutin et al. 2005, IUCN 2014) [for background, see *Gorilla Journal* 50, 20–21].

In the paper “Guns, germs and trees determine density and distribution of gorillas and chimpanzees”, we estimate that in 2013 around 360,000 gorillas were living in the forests of Western Equatorial Africa (WEA). The IUCN Red List entry for western lowland gorillas states that “extensive surveys carried out since the mid-2000s have suggested that 150,000–250,000 west-

ern lowland gorillas occur in the areas surveyed” (Maisels et al. 2016). Although at face value, the new estimate seems higher than previously reported, we already knew that gorillas were also living in the parts of their geographic range that had not been surveyed – we just didn't know how many. Now we have been able to “fill in the gaps” and come up with the most accurate population estimate to date.

We did this by first identifying the various factors (explanatory variables in statistical parlance: guard presence, previous occurrence of the Ebola virus, canopy height, various human pressure variables, etc.) that previous research had shown to influence great ape density. Subsequently, using data from all sites where surveys of western lowland gorillas and central chimpanzees had taken place, we fitted statistical models that reflect the relationships between great ape density and the explanatory variables. These multi-variable models allowed us to find the combination of explanatory variables that best described the survey data, that is, to identify the model best reflecting the real world system. For each taxon, we selected the model that best explained density and distribution in the areas surveyed, and then used these same models in conjunction with explanatory variable values to produce “predicted density” layers across the entire geographic range (one for each taxon). The abundance estimates were obtained from this density surface, which also defines the distribution of these great apes.

We estimate that almost 20% of western lowland gorillas were lost between 2005 and 2013, and that they are continuing to decline at an annual rate of 2.7%, mostly due to poaching for bushmeat, disease, and habitat loss and degradation. By 2020, the total number of western lowland gorillas will be around 300,000, and 25 years from now, the current population



GORILLAS

size will likely be halved if nothing is done to slow the decline. Although no Ebola virus disease (EVD) outbreaks have been detected in the WEA region since 2005, the virus is still lurking somewhere in the forests of Congo and Gabon. The catastrophic impacts of EVD are well known and if it re-emerges, thousands of great apes could be wiped out in a few months, as happened in Gabon and Congo in the 1990s and early 2000s (e.g., Walsh et al. 2003, Bermejo et al. 2006). Gorilla population density is still high in parts of Congo, and if the disease hits a dense population, it will “burn” through them. Effective EVD control is hampered by the difficulties of timely detection and treatment of outbreaks among unhabituated great apes, so further research into the disease and delivery of vaccines is needed (Ryan & Walsh 2011, Leendertz et al. 2017).

Predictive modelling provides the underlying peer-reviewed science in support of the IUCN action plan. Updating this population model to incorporate survey data collected since 2013 should be part of a mid-term evaluation of the implementation and effectiveness of the activities recommended in the 2015–2025 action plan. In our paper, we reiterate – with more conviction – the most important recommendations formulated in during strategic planning. We advocate for more effective anti-poaching and law enforcement for all great ape populations, which will also permit post-disease recovery of populations impacted by EVD. Also key will be rational, integrated land-use planning at national scales to locate economic developments where they will cause the least harm to biodiversity, great apes included.

Liz Williamson, Samantha Strindberg and Fiona Maisels

Original article

Strindberg, S., Maisels, F., Williamson, E. A., Blake, S., Stokes, E. J., Aba'a, R., Abitsi, G., Agbor, A., Ambahe, R. D., Bakabana,

P. C., Bechem, M., Berlemont, A., Bokoto de Semboli, B., Boundja, P. R., Bout, N., Breuer, T., Campbell, G., De Wachter, P., Ella Akou, M., Esono Mba, F., Feistner, A. T. C., Fosso, B., Fotso, R., Greer, D., Inkamba-Nkulu, C., Iyenguet, C. F., Jeffery, K. J., Kokangoye, M., Kühl, H. S., Latour, S., Madzoke, B., Makoumbou, C., Malanda, G. F., Malonga, R., Mbolu, V., Morgan, D. B., Motsaba, P., Moukala, G., Mowawa, B. S., Murai, M., Ndzai, C., Nishihara, T., Nzooh, Z., Pintea, L., Pokempner, A., Rainey, H. J., Rayden, T., Ruffler, H., Sanz, C. M., Todd, A., Vanleeuwe, H., Vosper, A., Warren, Y. & Wilkie, D. S. (2018): *Guns, germs, and trees determine density and distribution of gorillas and chimpanzees in Western Equatorial Africa. Science Advances 4: eaar2964.* <http://advances.sciencemag.org/content/4/4/eaar2964>

References

Bermejo, M. et al. (2006): Ebola outbreak killed 5000 gorillas. *Science* 314, 1564

IUCN (2014): Regional Action Plan for the Conservation of Western Lowland Gorillas and Central Chimpanzees 2015–2025. IUCN SSC Primate Specialist Group, Gland, Switzerland. www.primatesg.org/WEA2014.pdf

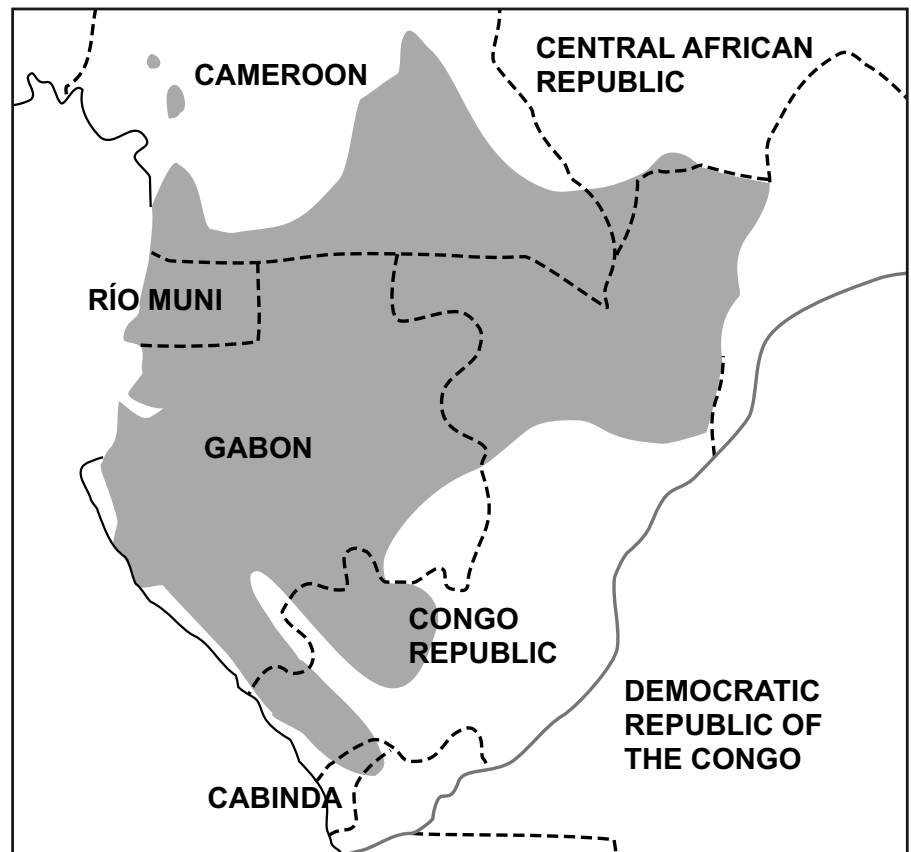
Leendertz, S. A. J. et al. (2017): Ebola in great apes – current knowledge, possibilities for vaccination, and implications for conservation and human health. *Mammal Review* 47, 98–111

Maisels, F. et al. (2016): *Gorilla gorilla* ssp. *gorilla*. The IUCN Red List of Threatened Species 2016: e.T9406A17989591

Ryan, S. J. & Walsh, P. D. (2011): Consequences of non-intervention for infectious disease in African great apes. *PLoS One* 6, e29030

Tutin, C. et al. (2005): Regional Action Plan for the Conservation of Chimpanzees and Gorillas in Western Equatorial Africa. IUCN SSC Primate Specialist Group and Conservation International, Washington, DC. www.primatesg.org/WEARAP.pdf

Walsh, P. et al. (2003): Catastrophic ape decline in western equatorial Africa. *Nature* 422 (6932), 611–614



Approximate distribution area of western lowland gorillas

Map: Angela Meder, with information from the article



READING

Martin N. Muller, Richard W. Wrangham and David R. Pilbeam (eds.)

Chimpanzees and Human Evolution. Cambridge/Mass. (Belknap Press of Harvard University Press) 2017. 848 pages, 41 halftones, 31 graphs, 27 tables. US-\$ 55.00, £ 39.95, € 49.50. ISBN 978-0-674-96795-3

Editors Muller, Wrangham and Pilbeam present this comprehensive work to stimulate the discussion of the last common ancestor (LCA) of humans and apes. Not many laymen are aware that many scientists consider conclusions drawn from the extant chimpanzees – humans' closest relatives from a genetic viewpoint – as problematic, since this ape species has probably continued its evolution since separating from the as yet unknown LCA approximately eight million years ago. To date, there is no fossil evidence for this as the apes' habitats were unsuitable for the fossilization of remains. However, according to genetic analysis, their development seems to have progressed rather conservatively, i.e. not triggered by momentous changes.

Through 21 contributions by notable experts, the editors attempt to prove that the comparison between extant chimpanzees (*Pan troglodytes*) and our LCAs is legitimate. Similarities and differences in life cycles, diet, mating and social systems, social strategies and cognition are presented and explained. For example, the size of human teeth and the thickness of their enamel has increased compared to chimpanzee teeth, which is indicative of food that requires a lot of chewing. Analyses of carbon isotopes suggest that early humanoids inhabited far drier habitats than other apes, with a seasonal patchwork of vegetation made up of C4 plants, for example grasses, and a permanent water source. This indicates that chimpanzees living in gallery forest offer the most appropriate comparison. In these habitats, the supply

of fruit is limited and alternative food sources had to be exploited. Before fire was discovered as a way of making food more easily digestible, non-thermal processing such as crushing or shredding might have permitted a more energy-efficient and improved digestion of nutrients.

Humans engaging in sexual activity independent of receptivity can be interpreted as the further development of the “concealed ovulation” in apes (the exact timing of ovulation is hidden either by longer lasting estrous swellings as in chimpanzees or lack of obvious visible cues as in gorillas) – which, in the last analysis, has an impact on male bonding behaviour to ensure paternity and promote stable populations. However, coercion by males and males' propensity to violence seems – according to the scientists' opinion – to be more developed in chimpanzees and humans than in other primates. The development of a moral code from the adherence to social rules for fear of punishment seems to me too narrowly confined to this group: similar strategies can be observed in other primates and animal groups, including collective action against individuals.

Most scientists work on the assumption that similarities between extant chimpanzees and humans are not due to parallel development but are part of our common ancestor's characteristics. With its state-of-the-art research on chimpanzees and early humanoids – plus critical discussion on what may be inferred concerning the LCA – this book is an interesting and recommended read for interested people with background knowledge.

Iris Weiche

International Crisis Group
Electoral Poker in DR Congo. Africa Report No. 259. April 2018. 34 pages. <https://www.crisisgroup.org/africa/central-africa/democratic-republic-congo/259-electoral-poker-dr-congo>

Download PDF in English (1.42 MB): <https://d2071andvip0wj.cloudfront.net/259-electoral-poker-in-dr-congo.pdf>

Human Rights Watch

World Report 2018. Events of 2017. Human Rights Watch 2017. 660 pages. ISBN: 978-1-60980-814-3. <https://www.hrw.org/world-report/2018>

Download PDF (4.49 MB): https://www.hrw.org/sites/default/files/world_report_download/201801world_report_web.pdf

International Union for Conservation of Nature and Natural Resources

IUCN 2017, International Union for Conservation of Nature. Annual Report 2017. Volume 1. Gland (IUCN) 2018. 52 pages. <https://portals.iucn.org/library/node/47536>

Download PDF in English (4.82 MB): <https://portals.iucn.org/library/sites/library/files/documents/2018-007-En.pdf>

Amnesty International

Report 2017/18. The State of the World's Human Rights. London (Amnesty International) 2018. 409 pages. ISBN 978-0-86210-499-3. <https://www.amnesty.org/en/documents/POL10/6700/2018/En/>

Download PDF in English (2.84 MB): <https://www.amnesty.org/download/Documents/POL1067002018ENGLISH.PDF>

Gauthier Marchais and Raul

Sanchez de la Sierra

Indirect Rule in Armed Conflict: Theoretical Insights from Eastern DRC. IDS Working Paper 510. Institute of Development Studies and Swiss Agency for Development and Cooperation 2018. 35 pages. ISSN 2040-0209, ISBN 978-1-78118-437-0. <http://www.ids.ac.uk/publication/indirect-rule-in-armed-conflict-theoretical>



BERGGORILLA & REGENWALD DIREKTHILFE

insights-from-eastern-drc

Download PDF (822kB): https://open-docs.ids.ac.uk/opensdocs/bitstream/handle/123456789/13610/Wp510_Online.pdf?sequence=1&isAllowed=y

Group of Experts on the Democratic Republic of the Congo Letter dated 20 May 2018 from the Group of Experts on the Democratic Republic of the Congo addressed to the President of the Security Council: Final report of the Group of Experts on the Democratic Republic of the Congo. S/2018/531, United Nations Security Council, June 2018. 132 pages. Download PDF (7.84 MB): <http://www.undocs.org/S/2018/531>

New on the Internet

Rainforest Foundation UK launched a new interactive website about 34 protected areas in the Congo Basin, focusing on how they impact the rights and livelihoods of indigenous people and other forest communities: <http://rainforestparksandpeople.org>

Impressions from our 2018 Members' Meeting in Nuremberg Zoo



*The old and new board of directors: Burkhard Broecker, Angela Meder, Peter Zwanzger – and Karl-Heinz Kohnen, the cashier
Below at the right: Laura Hagemann, Max-Planck Institute for Evolutionary Anthropology, during her presentation*

Photos: Angela Meder

Primatologists Will Meet in Nairobi

The XXVIIth Congress of the International Primatological Society (IPS) will be held from August 19–25, 2018 in Nairobi, Kenya. All scientific and social sessions will be held at the United Nations Compound in Nairobi. Complete conference information is available at the Congress website: <http://www.ipsnairobi.org/>.

IPS is a multidisciplinary association of approximately 1400 professionals and students whose work is focused on nonhuman primates. In the last two decades, the biennial IPS Congresses have attracted between 650 and 1600 registrants. IPS members include veterinarians, geneticists, psychologists, physicians, neuroscientists, anthropologists, zoologists, conservation biologists, ethologists, zoo professionals, technical personnel, and field assistants.



27th INTERNATIONAL PRIMATOLOGICAL SOCIETY CONGRESS





BERGGORILLA & REGENWALD DIREKTHILFE



Wolfram Rietschel talked about his work with young gorillas as a vet in the Stuttgart Zoo.



The presentation of Yorick Niess, introducing projects in Cameroon



Silverback Fritz, 55 years old
Photo: Uwe Kribus



At the end of our meeting, head keeper Ramona Such guided our group through the zoo, in particular the ape house.
Photos: Angela Meder

Finances

Income in 2017

Subscriptions	22,595.00 euro
Donations	352,364.22 euro
Sales	637.82 euro
Total	375,597.81 euro

Expenses in 2017

Refund for meeting	223.73 euro
Administration	3,076.56 euro
Currency differences	19,916.00 euro
<i>Gorilla Journal</i>	2,327.00 euro
Website	670.00 euro
Postage	2,328.52 euro
Pay/top-ups	5,356.00 euro

Virunga Conservation Area

Gorilla Doctors	20,000.00 euro
Gorilla census	15,416.24 euro

Maiko National Park

Camera traps	22,573.46 euro
--------------	----------------

Sarambwe

Support of patrols	13,812.00 euro
Equipment	1,482.00 euro
Community projects	19,509.00 euro

Mt. Tshiaberimu

Patrols	11,032.16 euro
Community projects	11,019.00 euro
Rat breeding project	2,409.00 euro

Itombwe

Support of patrols	10,045.00 euro
Top-ups	9,534.00 euro

Bwindi

ITFC employees	8,000.00 euro
Gorilla research	20,000.00 euro

Cross River area, Nigeria

Vehicle	13,204.91 euro
---------	----------------

Cross River area, Cameroon

School project environmental education	3,000.00 euro
--	---------------

Total	214,924.78 euro
--------------	------------------------

Our Donors

From November 2017 to April 2018 we received major donations by Fredrik Bakels, Ulrich Balz, Emilio Garcia Barea, Tanja Bendel, Bastian Bender, Ingrid and Burkhard Bröcker, Colibri Umweltreisen, Don Cousins, Angelika



BERGGORILLA & REGENWALD DIREKTHILFE

Dickmann, Daniel Dlouhy, Sibylle Eck, Thomas Eckersberg, Elisabeth Engel, Ursula Fritz, Sonja Geisendorf, Klaus Goetz, Gorilla Gym, Thorsten Hoelser, Friedrich Höppe GmbH, Brigitte Hoffmann, Marieberthe Hoffmann-Falk, Philipp Hülsdonk, Helga Innerhofer, Paul Kallnbach, Götz Kauschka, Christian Kleineidam, Hartmann Knorr, Sandra Kolberg, Martin Lang, Randolf Ledebauer, Lions-Hilfswerk Schwäbisch Hall, Hannelore Merker, Klaus Mikosch, Michael and Regina Möhring, Hanna Otte, Joerg Palsbroeker, Manfred Paul, Daniel Peer, Anne Pfisterer, Manfred Poppe, Jochen Prestel, U. and K. Rathfelder, Birgit Reime, Geraldine Reischl, Rettet den Regenwald, Alfred Roszyk, Erika Rüge, Michael Schmitt, Markus Schrempp, Eva Schweikart, Elke Seeger, Frank Seibicke, Steve Slater, Hartmut Stade, Heinz Stelter, Johanna Steyrer-Meißner, Julia Stoppel, Andreas Strohmaier, Heidi Thies, Claudia Trommer, Almuth Veh, Johann-Jörg Walther, Christof Wiedemair, Wigwam Naturreisen & Expeditionen, Ingo Wolfeneck, Heinz and Elisabeth Zaruba, Johannes Zerhusen, Zoo Heidelberg and Zoo Krefeld.

Many thanks to everybody, including all the donors that could not be listed by name here. We are grateful for any support!

Impressions from the Species Conservation Day in the Stuttgart Zoo Wilhelma



Children added colours to gorilla pictures (and adults liked that too). Below: Anne Pfisterer presents our information material.

Photos: Angela Meder

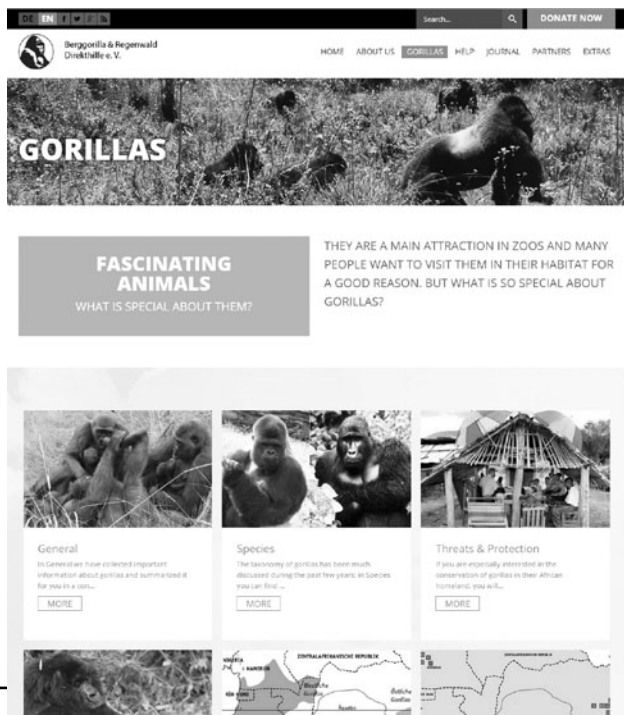


By collecting mobile phones and recycling them, the Wilhelma has supported gorilla conservation in DRC since 2009.

Below: Udo Geiger explains his mobile phone project to visitors. He already collected thousands of used phones



Do you know berggorilla.org? Visit our new site!



Subscription to the *Gorilla Journal*

If you become a member, you will receive the journal regularly. If you want to receive the printed journal without becoming a member, we would be grateful if you could make a donation to cover our costs. The costs to send the journal overseas are about US\$ 20 per year.

If you do not need the printed version, we can include your email address in our mailing list and you will be informed as soon as the PDF files are available (contact: meder@berggorilla.org).

You can download this issue at:
www.berggorilla.org/fileadmin/user_upload/pdf/journal/journal-en/gorilla-journal-56-english.pdf

as well as the German issue:
www.berggorilla.org/fileadmin/user_upload/pdf/journal/gorilla-journal-56-deutsch.pdf

and the French issue:
www.berggorilla.org/fileadmin/user_upload/pdf/journal/journal-fr/gorilla-journal-56-francais.pdf

Declaration of Membership

Starting with the following date _____ I declare my membership in *Berggorilla & Regenwald Direkthilfe*

Name _____ Affiliation _____

Address _____

Birth date _____ male female

- I want to receive a printed copy of the *Gorilla Journal*
 I want to be informed if the new issue is available on the internet. My e-mail: _____

Yearly subscription (please mark) _____ Date and signature _____

	Europe	Overseas
Student	<input type="checkbox"/> euro 20	<input type="checkbox"/> US\$ 30
General member	<input type="checkbox"/> euro 45	<input type="checkbox"/> US\$ 80
Family	<input type="checkbox"/> euro 70	<input type="checkbox"/> US\$ 130
Donor	<input type="checkbox"/> euro 100	<input type="checkbox"/> US\$ 180

Please send to:
Berggorilla & Regenwald Direkthilfe
c/o Burkhard Broecker
Juedenweg 3
33161 Hoevelhof, Germany
Fax +49-711-6159919

Bank account:
Berggorilla & Regenwald Direkthilfe
 IBAN DE06 3625 0000 0353 3443 15
 BIC SPMHDE3E

Bank account in Switzerland:
 IBAN CH90 0900 0000 4046 1685 7
 BIC POFICHBEXXX