

# Year of the gorilla

The United Nations has declared 2009 the Year of the Gorilla. All four subspecies are under threat but several pioneering projects in Gabon are helping to save some of our closest cousins from extinction

**I**N 1847, AN AMERICAN MISSIONARY BASED AT Gabon's Presbyterian Baraka Mission in Libreville was given the skull of a creature that resembled that of a man. Until then, the gorilla was unknown to science although early historic accounts had mentioned sightings of "hairy people". That skull, now in the Museum of Comparative Zoology at Harvard University in the United States, was the first scientific evidence of the existence of what was then dubbed the *Troglodyte savage* – the gorilla.

Its discovery sent shockwaves through the scientific community at a time when the intellectual world was polarised over evolutionary theories. The existence of this man-like ape, later revealed to share around 95 per cent of our DNA, was seized upon by Darwinians as further evidence of a missing link.

In 1856 in Gabon, the French-American explorer Paul du Chaillu became the first white man to see this mysterious animal in the wild. "I found myself face to face with a monster whose ferocity, strength and cunning I had heard much about from the natives; an animal hardly known to the civilised world," he wrote.

It took scientists many more years to realise that there was more than one subspecies of gorilla and that it was far from ferocious, but a sensitive, vulnerable creature, and never more so than today. Sadly, the subspecies found in Gabon, the western lowland gorilla, was listed in 2007 by the International Union for Conservation of Nature (IUCN) to be "critically endangered".

Gabon's leading role in the study of the gorilla continues to this day and there are a range of projects taking place across the country. One of the most pioneering involves its habituation to humans, a process far more demanding than with the mountain gorilla due to the tendency of the lowland species to forage further. Gabon's most successful attempt is taking place at Moukalaba Doudou National Park where scientists have become the first to fully habituate a group of wild lowland gorillas as part of a collaboration between Gabon's Tropical Ecology Research

Institute (IRET) and the University of Kyoto, funded by the Japan International Co-operation Agency.

The tropical forests of Central Africa are home to two great ape species, the chimpanzee and the western lowland gorilla. "There is no other place in the world where these two types of great apes have anything like as great a distribution pattern," says primatologist Caroline Tutin, co-founder of the Gorilla and Chimpanzee Research Station at Lopé National Park.

Most of the world's western lowland gorillas are found in the Republic of Congo, but a significant proportion also live in Gabon. Its national parks were surveyed between 2003 and 2009 by field teams from the Wildlife Conservation Society (WCS) and the Worldwide Fund for Nature.

"Each site was surveyed on foot using a series of lines that covered the whole of the area, sampling each habitat in the same proportion in which it occurred at the site," explains WCS primatologist Fiona Maisels. "The teams recorded all the nest groups that they saw and mapped them using GPS so that an overall country map [see diagram, right] could be created. The northeast, once a stronghold for great apes, has suffered a series of epidemics in the last 15 years which has reduced ape numbers to a shadow of what was there before. However, there are still important ape populations in the centre, south and west of the country, away from major towns."

Despite their extensive distribution, ape populations are in serious trouble and in spectacular decline for three principal reasons. These are hunting, disease and habitat loss. In Gabon, habitat loss is not an issue, but the network of logging roads has hugely facilitated poaching in the last few decades, allowing access to once-remote forest tracts. The second cause of ape population decline in Gabon is the deadly Ebola disease. Probably over half of all Gabon's gorillas have disappeared since the 1980s due to hunting and Ebola. ■

*Sarah Monaghan*

## UP CLOSE: IAN REDMOND

Ambassador, UN Year of the Gorilla (YoG)

*You visited Gabon in September. What was your impression of the conservation work underway and the political will behind it?*

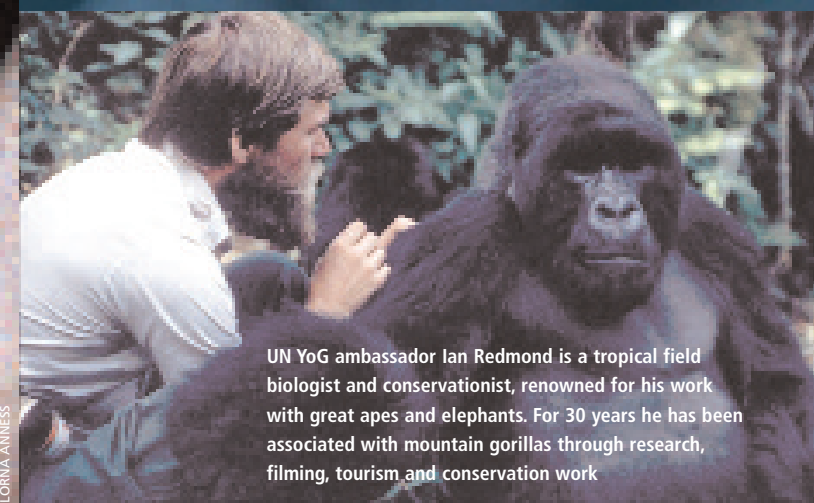
Gabon is one of the world's most important countries in terms of numbers and habitat. I saw my first western lowland gorillas here in 1997. In September I was taken to Lopé National Park and interviewed scientists, government officials and the country's environment minister. All were keen to emphasise Gabon's commitment to gorilla conservation, while recognising there is a problem with poaching and illegal trade.

It is clear that the new President has strong environmental policies. Our hope is that Gabon will play a key role in the negotiations for the new global agreement on climate change in which the function of tropical forests in global climate stability is expected to be recognised so there will be an

economic imperative to protect the forests and the wildlife living within them.

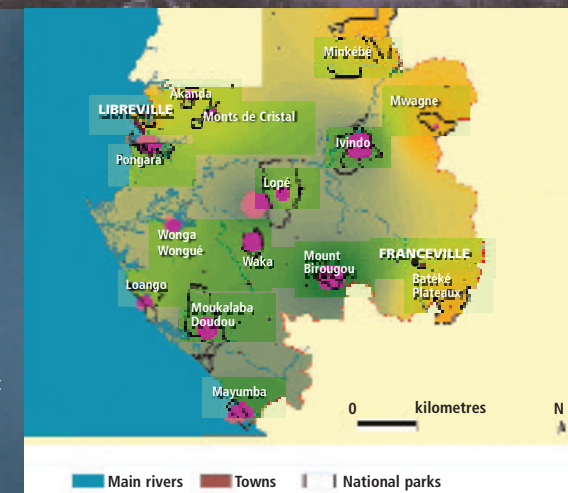
*Over the past year you have visited several countries as part of your role as Ambassador for the YoG. What was your aim in doing this?*

The UN YoG is a global partnership of people, governments and organisations. It was created to support the Gorilla Agreement, a new legally-binding treaty between the countries where gorillas live, negotiated under the Convention on Migratory Species. Almost all the African countries I visited for YoG were countries with gorilla populations. I hoped to interview people living near gorilla habitat in each of these ten countries, and in the capital cities where conservation decisions are made. The aim was an overview of the state of the gorilla. My blog and findings can be found online at [www.YoG2009.org](http://www.YoG2009.org)



UN YoG ambassador Ian Redmond is a tropical field biologist and conservationist, renowned for his work with great apes and elephants. For 30 years he has been associated with mountain gorillas through research, filming, tourism and conservation work

The map right shows, schematically, overall distribution of great apes in Gabon using data collected between 2003-2009. The darker the green, the more often apes (or rather ape nest groups) are likely to be encountered. Each pink spot is the site of a specific survey and the size of it is representative of the relative abundance of ape nests





## FIRST STEPS INTO THE WILD



**S**IX INFANT AND juvenile western lowland gorillas rescued from the illegal-bushmeat trade were transferred onto a safe island in the Fernan-Vaz Lagoon outside Loango National Park in July in what was the first successful transfer.

This was the second step in a rehabilitation project that it is hoped will allow these young gorillas to return entirely to the wild and follows a three-year-long rehab programme to prepare them for release. The transfer marks the beginning of the gorillas' independence since they have now exchanged human-built shelters for a palm-fringed forested islet where they can live safe from the threat of poachers or predators.

The transfer was supervised by the Fernan-Vaz Gorilla Project (FVGP) director and veterinarian Nick Bachand and a team of Gabonese keepers. "We all felt a hint of sadness as the gorillas left the place where their journey started," says Nick. "But this was instantly replaced with a mountain of pride when we observed some of the gorillas starting to build their own nests to sleep outside overnight."

Each of the six gorillas (three females and three males) varying in age from two to

The Fernan-Vaz Gorilla Project at Loango National Park received enormous press coverage this summer with its first successful transfer of rescued gorillas to the wild. Above: A male silverback. Right: director Nick Bachand and keeper. Below: a keeper with one of his young charges

seven, had been orphaned by the illegal-bushmeat trade. They had spent the past two and a half years undergoing daily forest rehabilitation from their gorilla orphanage accompanied by their keepers on Evengue Island, north of Loango National Park. A team of keepers will continue to monitor their progress from a base camp on their new island home.

The FVGP is two-fold, comprising a sanctuary and rehabilitation programme. Its sanctuary provides a home for older gorillas that can never return to the wild as they lack the critical survival skills usually taught by their parents in the first six to eight years of life. They live in a fenced-off area from which they can be discreetly observed as part of a regulated, responsible and educational experience for local, national and international tourists.

The IUCN has identified the use of reintroduction projects as part of a global strategy for the survival of the world's endangered great apes. The Pan African Sanctuary Alliance (PASA) works closely with the FVGP. "We have to find ways to restore value to Africa's forests, and reintroduction places focus on the African

wildlife in the African forests," says Doug Cress, executive director of PASA. "It's no good for any of us to

aspire to having the world's largest captive population of chimpanzees or gorillas – even if we are saving lives."

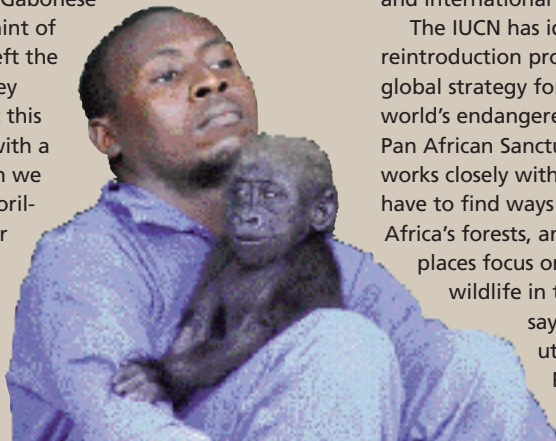
In the meantime, the FVGP is working hard to raise awareness on issues facing gorillas, to encourage research that emphasises the needs of local people and to integrate responsible tourism, as part of a national and international effort to save the gorilla from extinction in the wild.

In addition to its sanctuary and rehabilitation programmes, the FVGP has initiated an education campaign to raise awareness among local children on the importance of great-ape and environmental protection.

On December 5, Hermann Loundou, one of FVGP's two team leaders, will travel to Paris to represent the FVGP during a one-day gorilla symposium co-ordinated by the Muséum national d'Histoire naturelle in Paris and Unesco.

The FVGP in Gabon is a project of the Société de Conservation et Développement (SCD) in affiliation with its main ecotourism partner Africa's Eden. SCD has partnerships with the Wildlife Conservation Society, the Max Planck Institute, the Gabonese ministry of forestry and the Gabon's National Parks Agency (ANPN). For more information, please visit [www.gorillasgabon.com](http://www.gorillasgabon.com)

*Sarah Monaghan*



MICHAEL VILJOEN/FVGP

## FORENSIC SCIENCE GIVES CLUES

**W**HO KILLED PORTHOS? That was the crucial question researchers asked when a silverback gorilla was found dead in the forest. The answer came thanks to the application of a technique associated with solving crimes – forensic science.

The Gorilla and Chimpanzee Research Station (SEGC), established in 1983 at Lopé National Park, was the country's first ape-research and conservation project. Its scientists work in an area of about 100 square kilometres of stunning forest and savannah mosaic on the River Ogooué watershed. SEGC has pioneered research into great ape ecology and conservation and published dozens of groundbreaking papers.

With the support of the laboratory facilities at its headquarters, the International Centre of Medical Research in Franceville (CIRMF) – which is responsible for breakthroughs into Ebola and HIV – SEGC specialises in the fields of genetics and health. Today we are studying the ecological

**“GORILLA GENETICS MAY HELP PRESERVE SOME OF OUR CLOSEST RELATIVES FROM EXTINCTION”**

determinants of zoonotic disease and the impacts of climate change. SEGC is affiliated to the University of Stirling and works closely with WCS and the Zoological Society of London.

But back to the 'who killed Porthos?' mystery. In our study, one group of gorillas was followed for ten years until its elderly silverback (Porthos) died after a violent fight with another male, causing the breakdown of the group and the disappearance of all surviving members (three young males and an adult female). They were never traced, leaving burning questions about the fate of the female and the identity of the attacker. The plot thickened when three months later, another silverback corpse was discovered; his cause of death was unknown but skull remains and hair samples were collected and the skull was nicknamed 'Yorick'.

This is where forensic science came in. When scientists need to study

individuals that cannot be seen or captured, material such as hair provides a potential goldmine of genetic information. For humans, this is usually done to trace criminals, but its potential has importance for the diminishing western lowland gorilla.

Our team later analysed shed hairs collected from the night nests of gorillas in the area, and generated DNA 'fingerprints'. The results were intriguing. We traced an adult female from Porthos' group to a new silverback on the same day of the fight.

If this female was the only one in Porthos' group when he died (and evidence suggests this), then this finding identified the new male as the most likely accomplice, and therefore, Porthos' mystery murderer. Furthermore, it meant we had detected the transfer of a female between groups on the very day it occurred and could tell exactly how far she eloped with her new male. To

Below: Kathryn Jeffery, director of SEGC. Genetic studies of gorillas have been developed here to support the long-term study of gorilla ecology. By generating genetic profiles and tracking gorillas through the population, SEGC is able to provide life-history information about the movements of the gorillas, helping us to understand better their social behaviour and dispersal patterns

our surprise, the DNA identified the new silverback as none other than Yorick. Whether Yorick's subsequent death was as a result of this fight we can never know, but the female was traced to a third group, where she remained for some time.

The information has helped SEGC understand the circumstances under which females transfer between groups. Understanding how fast, how far and under what conditions gorillas move within a population is valuable for predicting the effects of threats such as hunting and disease.

As is often the case in human forensics, insufficient evidence prevented us from making definitive conclusions about the identity of Porthos' killer. Nevertheless, the quest to resolve this mystery may help in the ongoing battle to preserve some of our closest relatives from threats to their survival.

*Kathryn Jeffery, director, SEGC*



SEGC



## BABES IN THE WOOD

**D**EEP IN THE FORESTS of south-eastern Gabon, a landmark release programme has successfully reintroduced the western lowland gorilla species to the Batéké Plateaux National Park, an area from which it had been hunted to extinction half a century ago.

The post-release survival of both wild-born and captive-born gorillas here (84 and 86 per cent respectively) at the Projet Protection des Gorilles (PPG) is extremely high thanks to the experience and skills of the project staff.

Behind the programme is a UK-based charity, The Aspinall Foundation, which runs another project in the Republic of Congo. "The principal aim of the reintroduction programme is to re-establish viable, self-sustaining populations of the western lowland gorilla in the wild, within the former range of the species," says its overseas-projects director Amos Courage.

The gorillas here are principally wild-born young orphans abandoned by the illegal-bushmeat trade. "Some orphans arrive in terrible physical and mental conditions and require an

intensive stabilisation phase with the primary aim simply to ensure their survival through medical and psychological treatment," he says.

Gorillas that survive the initial period following arrival undertake a lengthy preparation to adjust them to the release site. "It is a complex process that includes psychological support, social integration, forest adaptation, behavioural and health assessments, and occasional medical interventions," explains Amos.

Two groups have been released into the wild at PPG-Gabon in 1998 and 2004: a total of 29 gorillas, including 20 wild-borns and nine captive-borns. There has been one baby born to date within the released groups, with most of the release stock only recently reaching adulthood or still immature. To the delight of PPG's staff, the baby was discovered in October 2007 and was named *Okeli*, meaning 'stream that leads to bigger things'.

Following the birth of Okeli, three young captive-born gorillas were flown from The Aspinall Foundation's

Below left: The remote site near the Congo border where the PPG project is based. Anti-poaching patrols have also reduced bushmeat hunting in this area (WWF and WCS support the national parks agency anti-poaching efforts in most of the parks). Below right: Damian Aspinall with the three baby gorillas born at Howletts Zoo in the UK from where they were recently transferred to Gabon to begin their adaptation preparation for the wild

Howletts Zoo in the UK to Gabon, where they will become part of a third group to be reintroduced into the wild. They included five-month-old Tiya, the youngest gorilla ever to be transferred for reintroduction. The animals were all transported on a private jet courtesy of English entrepreneur Richard Branson to Libreville, where they boarded a presidential helicopter bound for the forest camp.

The gorillas were accompanied by Damian Aspinall, son of the late John Aspinall, the project founder. "They will be taken out into the forest each day and in a few years they will be ready for life in the jungle," he says.

Admittedly, this gorilla reintroduction project is a small dent in a big problem with some primatologists predicting that extinction is a real possibility for gorillas in the next few decades. In the meantime, however, the new generation of gorillas here is thriving, and a moving and inspiring example of what can be achieved with sufficient care.

*Sarah Monaghan*



PPG/DAVE ROLFE/ASPINALL FOUNDATION

## PEOPLE-FRIENDLY GORILLAS



MAX PLANCK INSTITUTE

**W**AKE AT 6AM and find it is drizzling outside my tent in the forest at Loango National Park. I can smell wood smoke from our trackers' fire. At 7am we organise ourselves into two teams, each with a researcher and three trackers. Each team will now follow a separate group of gorillas, picking up the trails where we left off last evening.

We work with Pygmies from Waka in central Gabon, using their tracking expertise gained over centuries in their traditional way of hunting. In addition to spotting bent stems and imprints that we rarely see, our trackers can see dimples in dried leaf litter from 50 paces and have an intuitive understanding of gorilla movement.

Today, I will be following the *Indegho* (a local word meaning 'our friends') group of gorillas. We have been following this group of 13 for the past two years in the hope that they will accept our presence.

The aim of the Loango Great Ape Project, a collaboration between the

All in a day's work: JoJo Head, director of the Loango Great Ape Project, accompanied by Martha Robbins of the Max Planck Institute and two trackers contend with a river crossing in pursuit of a group of gorillas

Max Planck Institute for Evolutionary Anthropology and Africa's Eden, is to habituate gorillas and chimpanzees for research and tourism.

We are also studying the process of habituation, knowing from the successful projects with mountain gorillas in Rwanda and Uganda that international ecotourism could offer a way of generating funds for conservation, as well as providing tourists with the opportunity to experience apes in their natural habitat. In addition, we want to understand the behaviour, culture, ecology, health status and demography of these species and how these two closely-related apes coexist.

After an hour of hiking, we arrive at the spot where we left the gorillas yesterday and the trackers spread out. Two whistles tell me that one of the trackers has found the trail. We keep talking to a minimum to avoid disturbing wildlife and use bird-like whistles to communicate. Loango differs from other areas in Gabon

## HABITUATION OF GORILLAS COULD OFFER TOURISTS A RARE CHANCE TO SEE THEM IN THE WILD

because its habitat types are diverse with coastal forest and swamps in addition to rainforest. We follow the trail for hours, crawling through dense forest and swimming through muddy swamps of razor-sharp grass.

Suddenly, we are rewarded with the sweet smell of gorilla odour. We creep forward, clicking our tongues to let the gorillas know we are there and not poachers. The silverback *Mutembeke* (meaning 'big force') responds with a bark and one of the females hoots to incite him into charging.

He comes charging towards us, barking loudly. He stops however about eight metres away and then sits and studies us, checking out how we respond. It takes willpower to resist running away at his charge but we have to show no fear. We stand quietly, avoiding eye contact. Deciding that we do not pose a threat, he retreats to his group who resume feeding.

Today's contact is a reminder of how much progress we have made. Over time, we have learnt a lot about the habits of the *Indegho* group. We now know their favourite places for crossing the swamps and how to monitor the fruiting status of their favourite trees.

We try to stay near until late in the day when they make their night nests. Back at camp, we record the data collected as well as assessing the faeces we gather for DNA genetic identification or dietary intake.

We still have a way to go before this group is fully habituated and do not yet allow tourists to accompany us because of the risks to them and the stress it would cause the gorillas. However, slowly but surely, these gorillas are revealing the secrets of their lives to us. ■

*JoJo Head, director of the Loango Great Ape Project*