

# The beast with no name

In the depths of the Congo lives an elusive ape unlike any other. What is this mysterious creature, asks Emma Young

IT WAS late morning on a damp, sweltering day in the middle of the rainy season when Shelly Williams found what she was looking for. She had been trekking for 5 hours through dense forest in the remote far north of the Democratic Republic of Congo (DRC), on the hunt for a beast that locals call the lion-killer. Now, here she was, face to face with several of them.

"We were following their trail, and we were very close. We could hear them in the trees, about 20 feet away. My tracker made a sound of an injured duiker – and four suddenly came rushing through the brush towards me," Williams recalls. "If this had been a bluff charge, they would have been screaming to intimidate us. These guys were quiet. And they were huge. They were coming in for the kill. I was directly in front of them, and as soon as they saw my face, they stopped and disappeared. You couldn't even hear them leave. I tried to find their trail, but couldn't. And when I turned around, the trackers were hiding behind the tree."

That day in June 2003, Williams, an independent primatologist affiliated to the Jane Goodall Institute in Maryland, became the first scientist to see one of these "lion-killers" in the flesh. But exactly what she saw is a matter of intense, even acrimonious debate. Williams, who remains the only scientist ever to have seen the animal, believes it might just be a new species of great ape. If it is, this would be the most astounding zoological find for decades. Other researchers don't agree, arguing that even though there clearly is a mysterious ape in the Congo basin, it is probably a chimpanzee with some unusual physical characteristics and behaviours. Either way, the scientific discovery of these large apes, reportedly up to 2 metres tall and perhaps half as heavy again as the largest chimps on record, reveals just how much we still have to learn about our closest living relatives.

The origins of this particular mystery stretch back more than a century to a time when European hunters published pictures of dead gorillas from the forests around the towns of Bondo and Bili. In 1898, a Belgian army officer returned from the region with three skulls. They looked like they belonged to gorillas – and in recent years have been identified as such – but were deemed sufficiently unusual by taxonomists at the time to be classified as a separate subspecies. Then nothing, until 1996 when Karl Ammann, a Kenyan-based Swiss photographer and champion of the African bushmeat crisis, heard about the "lost gorillas" and decided to journey to DRC in search of them.

Today, the region lies around 500 kilometres from the outer documented boundaries of both the western and eastern species of gorilla. But to Ammann's excitement, locals told him stories about large, ferocious apes with a reputation for killing lions. He also came across a skull with the prominent sagittal crest – a bony ridge running its length – typical of a male gorilla. But he was baffled by the hunters' descriptions of the apes' behaviour towards humans.

COLIN GROVES

Chimp keepers estimate that the animal shown here weighed half as much again as a

"Gorilla males will always charge when they encounter a hunter and if you were charged by a gorilla, you would never forget it, but there were no stories like that," Ammann says. Instead, the tales were of giant apes coming face to face with hunters and silently slipping away. The sort of thing a chimpanzee would do.

Determined to uncover the truth, Ammann gathered what information he could about the animals and recruited scientists to visit the region. In 2001, an international team of primatologists including George Schaller of the Wildlife Conservation Society in New York and Richard Wrangham of Harvard University braved the civil war to fly deep behind rebel lines, in search of gorillas. They didn't find them. What they did find, however, was even more puzzling – large, well-worn ground nests. Chimps usually bed down in trees, while gorillas tend to nest on the ground. But they hate water and build a new nest each night, and these nests were often located on swampy ground and were obviously being reused night after night. What's more, an examination of faeces from the nests indicated an animal with a diet rich in fruit, typical of chimps.

## Caught on camera

The following year, Williams visited Bili at Ammann's invitation. She stayed for six weeks at his camp, Camp Louis, and managed to capture the mystery apes on video with the help of local people. Her tape, along with images taken by Ammann, shows large, black-faced apes. The head is gorilla-like. "They have a very flat face, a wide muzzle and their brow ridge runs straight across and overhangs," says Williams. Other features, especially the body, are much more reminiscent of chimps, but with some peculiarities. "They seem to turn grey very early in life, but instead of developing a grey back like a gorilla, they turn grey all over," she says.

Last year, Williams returned for a two-month stint. She was joined, for one week, by Colin Groves of the Australian National University in Canberra, one of the world's leading chimp morphologists. Groves examined all the Bili ape skulls he could get his hands on and concluded that they were chimps, albeit peculiar ones. Normally chimp skulls are 190 to 210 millimetres long. Four or five skulls from Bili measured more than 220 millimetres, way off the end of the normal range, he says. Then there is the skull Ammann found. "There's no doubt from the measurements that this is the skull of a chimp, though the crest is strange," says Groves.

Casts of footprints also point to an unusual animal. The largest, which Williams believes are from the giant apes, are between 28 and 34 centimetres long – longer than the largest common chimp and gorilla footprints, which ▶

notch up 26 and 29 centimetres respectively, she says. Groves also sent a copy of a photograph of a large dead ape from Bondo with its poacher to Taronga Zoo in Sydney, Australia. Six chimpanzee keepers each estimated the animal's weight at between 85 and 102 kilograms. The acknowledged record for a chimp is 70 kilograms.

Working with local trackers, Williams has surveyed about 400 square kilometres of forest and patchy savannah around Bili and gathered all the information she can on about 50 ground nests and 12 tree nests found close by. Her studies have convinced her that the heavier males make the ground nests while females, juveniles and infants prefer the trees.

The mystery ape (below) has a mixture of chimp and gorilla-like features. The skull found by Ammann (bottom) is chimp-like, but with an odd prominent crest. And some of the

“There might be two or three ground nests in the swampy water or a stream, and then if you look up, you'll always see two or three other nests above,” she says. This, together with other observations and reports from locals, leads her to believe that these apes live in very small groups. By contrast, the local subspecies of chimp, *Pan troglodytes schweinfurthii*, which is common in the forests, travels in large troops of between 30 and 45 individuals.

Williams is now writing up her research for submission to the *International Journal of Primatology*. There is no doubt that these are unusual apes, she says. But the big question is – what exactly are they? It is here that her speculation has brought her into conflict with other primatologists. She suggests three controversial possibilities: they might be a new species of great ape, they might be a gorilla-chimp hybrid, or they might be a new sub-species of common chimpanzee.

The notion of a new species is not quite so outlandish as it first appears, given the ongoing wrangling over great ape classification. The bonobo, *Pan paniscus*, was only recognised as a separate species in 1929, and heated debate continues about whether the orang-utans of Borneo and Sumatra are one species or two. Three subspecies of common chimpanzee are universally recognised: *Pan troglodytes verus* in west Africa, *P. t. troglodytes* in the centre, and *P. t. schweinfurthii* in the east, including northern and eastern DRC. But extensive new chimp genetic data, collected and analysed by Katherine Gonder of the University of Maryland, College Park, and colleagues, bolsters a long-standing but previously dismissed argument for a fourth subspecies, *P. t. vellerosus* – a classification that is now accepted by the World Conservation Union and other groups. Groves, meanwhile, is

Pictures of giant apes from near Bili were published

arguing for a fifth subspecies in some parts of DRC, as well as Uganda and Tanzania, based on an as yet unpublished analysis of chimp skulls.

Even so, Williams's suggestion that the Bili apes might be an entirely new species puts her on lonely ground. Certainly, the DNA evidence so far seems to contradict this possibility. Between 1999 and 2001, Pascal Gagneux from the Center for Reproduction of Endangered Species at San Diego Zoo made the first analysis of the apes' mitochondrial DNA (mtDNA) in hairs taken from large ground nests around Bili. His studies indicated that the animals are "*schweinfurthii*-like" and genetically indistinguishable from other chimps living in the region. A team at Omaha Zoo in Nebraska, led by Ed Louis, later did mtDNA analysis on faecal samples and reached the same conclusion. "We are almost certainly not talking even about a new sub-species," Gagneux says. Most other researchers agree with him. But Williams argues that mtDNA can never give the full picture because it only tells you what is inherited through the maternal line.

Then there is the little matter of the ape's size. Even Gagneux readily acknowledges that the mtDNA results fail to explain how they came to be so very large. He suggests a local variation in the Y chromosome may be responsible. Groves thinks perhaps genes on non-sex chromosomes may be responding to testosterone or some other growth promoter. However, both Ammann and Williams believe they have photographs of unusually large females. If so, Gagneux's theory won't wash

genetically, she says. As the forest fragmented and the level of the Congo rose, an isolated pocket of animals with some mixed-species heredity could have been left behind.

Although the genetic studies by Gagneux and others do not support hybridisation, neither do they rule it out. If the apes are descendants of male gorillas and female chimps, there would be no sign of this in the maternally transmitted mitochondria. Even if males and females of both species interbred, evidence of this might not show up in the sections of mtDNA that have been analysed. Williams is not prepared to abandon the possibility of hybridisation, or indeed the idea that the giant apes may be a new species,

Andrew Whiten of the University of St Andrews, UK, whose own research has helped reveal that such differences can be greater than the genetic variations between groups of chimps. "I do not think that behaviour makes a good marker for sub-species in great apes as flexible as chimps," agrees Gagneux.

Whatever taxonomic category the apes are finally consigned to, there are at least plans for much more detailed observation of their behaviour. Since the five-year civil war came to an end in July 2003, it is safer for scientists to visit. Ammann hopes to have a PhD researcher at one of his camps near Bili for a year to study the apes. And Williams also wants to return to the region – though it won't be to Bili. Ammann has taken exception to her speculations.

While he too is convinced that more research is essential, like most academics he takes a cautious approach. "Whatever exists there, we have evidence for big chimps and that's where it stops," he says. Since Ammann effectively controls scientific access to Bili, through his close links with the local people, Williams is now seeking funds to set up a research camp in Bondo, which she hopes to do this year.

So far, Williams has seen a total of eight of the large apes. No one knows how many there might be, but Williams is afraid they could be poached out of existence before they can be properly studied. Fear for their future is one of the few things she and Ammann agree on. "This is a lawless area," he says. "The government has practically no control over hunting. If we found something interesting it would attract more investment. People would be more interested in conserving it." ●

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and Groves's looks shaky. The cause could still be simple genetic drift, says Gonder. If a founder population of chimpanzees was isolated in a forest fragment and just by chance there were a few big chimps in the area, the genes of those big chimps could have become fixed in the population, she says.

An alternative possibility is that the Bili apes are in fact hybrids of gorillas and chimps. "Gorilla-like characteristics occasionally do seem to turn up in chimp populations," admits Groves, "and I don't know the significance of that." In theory, the two species might be able to mate successfully and produce fertile offspring, although no one has ever seen this. The 2001 Bili expedition did not find any sign of gorillas, but Williams argues that at some point in the past they almost certainly did live around Bili and Bondo. If the Congo river was low at that time, gorillas and chimps could have intermingled – not only geographically but

without a full analysis of the animal's nuclear DNA. Such genetic material is difficult to extract from hair and faeces, which are the only available samples of the mystery apes at the moment. Nevertheless, Ammann hopes that a team at the University of Amsterdam in the Netherlands will soon attempt nuclear DNA analysis using faeces he has collected.

Even if the Bili giants do turn out to be chimps, is there still a case for giving them their own subspecies? After all, they do build ground nests and reuse them, a peculiar habit for chimps. They peel fruit with their hands, rather than their canines. And the tools they use for termite fishing are much longer and bigger than anywhere else. Williams feels these behavioural idiosyncrasies, together with their strange looks, argue for at least a new subspecies. However, even in this, she has few backers. "There are huge cultural differences among chimpanzees," stresses