

NATIONAL GEOGRAPHIC SOCIETY NEWSROOM

For the Day of the Elephants, a Crash Course in Conservation

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Ian Redmond in conversation with Nick, a friendlier elephant than Kali.

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There is a moment of intense clarity just before a collision, when everything you've done to avoid it has failed... As the now inevitable impact approaches, time seems to slow right down. Or is it that your sense organs go into overdrive? Perhaps it is an evolutionary trait that turns up the dial on our senses in an emergency to glean as much data as possible so that – if you survive – you are better equipped to avoid the next one? Either way, it happened to me recently when I was run over by a four-tonner... no, not a four-tonne truck but an unusually angry elephant.

There is some irony in this – that the person who coined the term 'elefriends' should be trampled by a decidedly unfriendly elephant – but I'm pretty sure it wasn't personal. Kali the Courageous Tusker – as we have named her – seemed to be acting on a grudge against humans in general, and for good reason it turns out, given what has happened to her family and forest.



Tusking rock in the world's only underground elephant salt-mines, Mt. Elgon, Kenya.
Photo: Ian Redmond

Let me first set the scene. Back in 2001, Sir David Attenborough wanted to film the amazing underground behaviour of Mount Elgon's elephants in Kenya for the BBC series *Life of Mammals*. Elgon is the only place in the world where salt-hungry herbivores venture deep into the dark zone of caves to visit subterranean salt-licks. I had begun studying them in 1980, intrigued by the very idea of troglodyte tuskers, but ivory poaching in the mid- to late-'80s scuppered our research plans and greatly changed their behaviour; they become more secretive and seldom visited the better-known caves.

The Elgon elephant population was, we think, reduced to under a hundred – down from an estimated 1,200 in the early 1970s. Then came the 1989 ivory ban, introduced after shocking exposés of the elephant slaughter all over Africa; outrage from the public was expressed through campaigns such as Elefriends. During the 1990s, the fall in ivory prices and Kenya's improved anti-poaching efforts gave them some respite. The Elgon elephants remained elusive, however, and if they were to be filmed underground, we needed to know where they were, when they were visiting the caves and, most important, we needed to regain their trust. Enter the MEEM Team – the Mount Elgon Elephant Monitoring Team – made up of local community trackers and Kenya Wildlife Service (KWS) rangers, working on foot with a hand-held GPS unit, to plot the movements of the elephants over Elgon's rugged terrain (before you ask, collaring an elephant in montane forest with cliffs and ravines would be very risky). It worked a treat for the *Life of Mammals* filming and was so useful to the Park Warden it continues to this day, funded by the Born Free Foundation.



The first MEEM Team, Mt Elgon NP, Kenya. Photo: Ian Redmond

The way the MEEM Team operates is to follow the elephants' tracks and look for good vantage points to observe their behaviour and count them, noting their approximate age and sex and naming easily recognisable individuals. Sometimes this requires tracking them through dense forest which can lead to close encounters, but the main aim is not to get close – simply to find a position to observe them.

We always aim to avoid startling the elephants by giving them notice of our presence, making a quiet rumbling noise whenever we are close enough for them to hear. This is adapted from the method I learned from Dr Dian Fossey for habituating gorillas; it means we avoid startling them and give them a choice to leave if they are not comfortable with us being there. If they do decide to leave, we do not immediately follow them in case they fear we are hunting them. Instead we estimate their direction of travel and try to be in another good vantage point for further observations an hour or two later.

Like gorillas, elephants will give impressive bluff charges to scare away a perceived threat, but we found they soon got used to the idea of harmless humans who announced their presence with soft rrrrrrumbles. I had even imagined that elephant tracking with the MEEM Team might one day become a tourist activity similar to gorilla tracking in Rwanda, thereby bringing benefits to the Mt Elgon National Park and surrounding communities.



Elephants feel their way into Elgon's caves in total darkness. Photo: Ian Redmond

Ivory Poachers and Ivory Pyres

Unfortunately, Elgon's elephants are not immune to the renewed wave of ivory poaching that has swept across Africa in recent years. Between late 2012 and early 2014, at least eight elephants were killed by poachers on Mt Elgon, and several tusks were recovered by KWS and brought to the ivory store in Nairobi.



0.2Kg tusk of baby elephant in Kenya's ivory store before 2016 burn, Nairobi, Kenya.
Photo: Ian Redmond

Thus, at the end of April when I joined hundreds of journalists, conservationists and visiting dignitaries to watch President Kenyatta of Kenya and President Bongo of Gabon set fire to 105 tonnes of ivory, it was with a heavy heart I filmed the burning pyre. It was essentially a mass funeral, and some of my study animals were among the thousands of elephants and other animals whose last remains were being cremated. Much of the attention was on the stacks of enormous tusks – some weighing more than 50 kg each – from old male elephants, but what I found more heart-wrenching were the sacks of tiny tusks, some the size of carrots, from

baby elephants whose lives were cut short so someone could buy an ivory carving for their living room.



Kenya destroys 105 tonnes of ivory, 30th April 2016. Photo: Ian Redmond

Much has been written on the cruelty and suffering inflicted on the elephants by poachers; on the loss of tourism revenues that these elephants would have generated had they lived; and on the emotional impact their death would have had on any surviving family and friends, but there is another impact that is often ignored – the loss to the ecosystem.

Elephants can live for up to 65 years and eat vegetation amounting to about four per cent of their body weight every day. This gargantuan appetite means that, on average, every elephant produces about one tonne of dung every week; that is 52 tonnes a year, decade after decade, of first-rate organic manure being spread as they roam.

Moreover, when the elephants have been eating fruit or *Acacia* pods, their dung is peppered with seeds. It is a fact that elephants disperse more seeds of more species of trees for longer distances than any other animal. This is why they are known to ecologists as the mega-gardeners of the forest and savannah.

Now consider this: It is estimated that there were some 10 million elephants across Africa before the advent of modern firearms a couple of centuries ago, enriching the soils of the continent with 10 million tonnes of fertiliser every week. Today, even the optimists put the continental elephant population at under half a million and falling. We have lost 95 per cent of the gardeners of the forest just at the point where we have realised the importance of forests for climate stability and rainfall generation (for an animated map showing how tropical rainforests drive global weather patterns, see <http://www.vets.ucar.edu/vg/T341/>).



Seedling grows out of elephant dung, Mt Elgon NP, Kenya. Photo: Ian Redmond.

Saving Africa's elephants, therefore, is not just a matter of wanting some amazing wildlife to watch on holiday (wonderful though that is!) it is a matter of recognising their role in globally important ecosystems that sustain us all.

These were my thoughts the day after the ivory burn as I travelled north in a Born Free Land Rover to Mt Elgon, to see how this particular population of elephants was faring. We were in the process of revamping the MEEM Team, and we had interest from another BBC film crew that wanted to follow an individual elephant mother and baby. I hoped to identify an easily recognisable elephant mother and shoot some video of her on three consecutive days to show the BBC producer it could be done. Fate, however, had other ideas. Instead, I learned of a new threat to Elgon's elephants and gained a new understanding of the pressures they are under.

Charcoal

On the first day, after meeting the KWS Senior Warden at the Park HQ, we drove about 50 miles round to Kaberwa Forest Station in the forest reserve to the south of Mount Elgon National Park. By the time I had briefed the officer in charge there, and he organised the rangers, it was already well into the afternoon and pouring with rain. Even so, we set off after the rain walking into the reserve at Chesamo and quickly found some elephants. They were very nervous, though, and after trumpeting and giving a small bluff charge they left. Nearby, we found a large illegal charcoal kiln and much evidence of elephants and charcoal burners interacting, which perhaps accounts for them being on edge. We didn't want to stress them further so after opening up holes in the charcoal kiln to allow the fire to consume the wood, we headed out of the forest.



Illegal charcoal kiln and elephant tracks, Chesamo, Mt. Elgon Forest Reserve, Kenya.
Photo: Ian Redmond

The next morning, four rangers arrived instead of the expected two. I prefer to keep groups following animals to a minimum but they were keen so we all set off together with Ken, one of the most experienced trackers, and a volunteer helper; as it turned out, the extra manpower was very helpful at the end of the day.

The folded valleys of this part of Mount Elgon are a mosaic of grassy glades, rocky outcrops and dense forest but there are very few big mature trees – mostly it is relatively open, secondary forest. People are allowed to graze their cattle and goats and collect non-timber forest products in the forest reserve, so it is quite common to see elephants and cattle and people apparently going about their separate lives amicably, although occasionally there are incidents of conflict. We asked the cattle herders and learned that the elephants we had seen yesterday had moved on some distance and so we hiked for an hour or so to an open, grassy glade with cattle and a couple of herders' huts. From there we could look across the opposite forested slope and see the occasional brown elephantine back, or trunk tip reaching out of the green to pluck some leaves to eat. All seemed calm.

We guessed that one or more elephants were going to visit a small spring and so took up a position by a thicket about 25 metres from it to see if they came to drink. We watched a young male elephant feeding in the bushes slowly approaching the spring. He emerged into the open, slowly walking towards the water, which must have seemed cool and inviting on a hot day.

I realised that if he started to drink and then noticed us, it might alarm him so I rumbled softly to tell him we were there. He stopped, listened, thought about it for a minute and very slowly turned round and walked away. No panic, no displays, he just clearly preferred not to drink with human company. As he moved away out of sight, helpful cattle herders on the opposite slope of the valley some two or three hundred meters away, were shouting and gesticulating to show which direction he and the other elephants nearby were heading. Evidently, he had communicated his disquiet to the others, because we heard the sounds of the females and young moving away, but not with any trumpeting or signs of panic or distress. If he vocalised, it was with infrasound, below the range of human hearing.



Tim the Timid Tusker approaches the spring. Photo: Ian Redmond

We decided to name the young male Tim, short for “timid”, and had a clear photo ID for the file. Then followed a long walk through the cattle areas up onto a high outcrop of lava from where we could look into the forest on the opposite slope and see the elephants in the distance through binoculars. As they passed gaps in the trees, we would count them, comparing notes, and estimating a dozen here, and twenty there. It did seem that there were a lot of elephants in the forest.

We walked up the open area and I noticed that our team had been joined by several interested local people, so we had grown to eleven strong, but the elephants were more than two hundred metres away so it didn't seem a matter of concern. The MEEM Team and I hiked up an open rocky outcrop to a series of connected grassy glades and got to a point where we could see quite large numbers of elephants crossing between forest patches. I filmed them with the intention of counting them more accurately later, from the video.

They were still crossing one gap, when Ken excitedly drew my attention to a better vantage point a few metres away, so I walked up to join him, and filmed, about 150 metres away, an impressive herd of elephants flowing from left to right, from one patch of forest to another.

The Charge

Just before disappearing into the bushes, the last elephant turned round and started running towards us. At this distance this was surprising because none of the elephants had seemed to be taking much notice of us and they normally tolerate people at much closer distances. We expected her to put on a display and trumpet, spread her ears and then turn and join the rest of the herd, but she didn't. She kept on coming, gaining speed and momentum.

Because she was coming downhill, we, as a group, began to move back and then turned and ran for cover (there being no big enough trees to climb). Elephants are reckoned to be able to run at 40 kph (25 mph) which as it turned out, was quite a lot faster than we were running. Because I had been filming the elephants, I was on the elephant side of the group, and realised that as she was gaining on us, I would likely be the first one she could reach. Looking over my shoulder as I ran, I have to say that the sight was awesome. She looked like an elephant athlete. I didn't want to be attacked from behind, so scarcely believing this was really happening, I turned to face her, still running backwards and still rumbling to her in a last hope

that we might be able to talk this through. I later found that the camera in my hand had started recording because my grip had tightened when I turned round to face her.



Kali the Courageous Tusker with ears spread, but evidently not a bluff charge!
Photo: Ian Redmond

As she closed the gap, I had three simultaneous thoughts: She looked magnificent... this is going to hurt... and how am I going to get out of this one? This was that moment of slo-mo clarity yet it seemed almost unreal; still moving backwards, my hands went up to her face, video camera still clenched in my right hand.



Kali at full pelt, just before impact with the photographer! Photo: Ian Redmond

As she made contact, I have a vivid recollection of the feel on my knuckles of the hardness of the tusk and the softness of the skin of her upper lip/trunk where it curves over the tusk. Unfortunately, the impact turned off the video at this point. She was still moving faster than me, so I was pushed into a high-speed backward roll, and amazingly, I found myself momentarily upside down between her front legs with my feet touching her chest... and then completed the backward roll and landed on my hands and knees under her belly, facing her hind legs. Things got a bit confused at this point, but I think she was playing football with me, trying to kick me into a position where she could either “kneel” on me with her wrist, or perhaps reach me with her trunk. I was doing my utmost to prevent this!

My next clear memory was of my left hand on Kali's right foreleg and my right hand, still clutching the camera, trying to steady myself under her. I could feel the soft, pliable, muddy skin and bristles against my palm – elephants do have hairy legs. Unbelievably, one kick caused my grip on the camera to squeeze again and re-started the video recording, the first few frames showing me curled up under the elephant as her tail swung into view against the blue sky.



The view from under the elephant, tail against the sky. Photo: Ian Redmond.

I didn't think this phase lasted more than a second or two, but the clock in the camera says it was 5 seconds – a long time to be an elephant's football! The camera was knocked out of my hand by the kick that turned it on, and landed upside down on the grass, unfortunately pointing the wrong way, but useful because we have the sound recording of what transpired. I think I had either pushed myself, or the elephant kicked me out from under her feet or flicked me with her trunk and I landed on the grass to her left, stunned.

Almost immediately, I heard a sharp crack, as Mohammed, the nearest ranger, fired a single round into the air, followed a second later by two more shots, fired by other rangers. Mohammed told me that on the first shot, the elephant turned and fled. I picked myself up and as I got to my feet, the thought struck me, "goodness, I'm going to walk away from this!" – but the pain in my neck made me think I needed to lie down again in order to, a) relax and get my breath back and, b) assess what injuries I might have sustained. I found that both of my legs were OK and my right arm was OK, but my left arm felt damaged at the shoulder, and my chest and neck hurt. I thought I might have cracked some ribs, but it was the neck pain that worried me the most, coupled with a buzzing, tingling feeling in my hands and lower arms, especially the left one.

Casualty evacuation

After a few minutes rest, I tried getting up again but the painful feeling in my neck and buzzing fingers convinced me that I needed to be carried on a stretcher. The rangers quickly fashioned one out of two long poles and two jackets, something they had clearly been well trained to do. Meanwhile, I got Ken to bring my camera bag within reach of my good arm and delved into the pocket for a triangular bandage to support my left arm in a sling. I didn't want to put extra pressure on my painful neck, so I instructed them to loop it under my right shoulder; this served to stabilise my floppy arm without adding to the pain in my neck.

I was wracking my brains to think of how I could fashion some kind of neck brace, and asked Ken to feel deep in the bottom of my Billingham bag for the thick pad which is designed to protect the lenses. He first pulled out a British Museum snake bag – no – and then a poncho – no not that – but eventually found the pad which he slid under my neck to the back of my chest and used a second triangular bandage to tie my head to it. With me directing operations, the men gathered round, one holding each leg, one holding my head and four others holding my belt and shirt, and not touching my body directly.

They gently lifted me onto the stretcher – a surprisingly painless operation. They then got into position and on a signal, lifted the poles – at which point I realised that the poles were then squeezing me as the jackets took my weight. I urgently asked them to put it down and they cut two more poles to act as spacers at the top and bottom to give it some rigidity.

I started to tell them where the para-cord was in my bag but saw that they were already fishing out lengths of cord from their pockets – very impressive. Second try: the four men lifted the stretcher and two others slipped a canvas belt under my bottom, giving me some central support and, with one holding my head steady, the slow descent off the mountain began, feet first.

Where the elephant attack took place there was no phone network, but someone had run ahead and called to alert Born Free and KWS that I had been injured. As a result, Stephen, the Born Free driver, had managed to negotiate an old logging track – possibly the worst bit of road I have ever seen in Africa – and we met him just as it was starting to rain. At some point, I was handed a phone and spoke to Will Travers in Nairobi and told him what had happened – he began organising an AMREF airlift.

With some difficulty we all squeezed into the Land Rover. I asked Stephen to imagine there was a glass of water on the bonnet and not to spill any. One ranger sat behind me, gently but firmly holding my head and the make-shift neck brace against the Land Rover headrest and we proceeded slowly and carefully down the bumpy, muddy, slippery track. By the time we got to the delightfully named IcFEM Dreamland Mission Hospital in Kimilili, it was about 6 p.m. and getting dark, but they had a proper neck brace and I could be lifted onto a trolley. Amazingly, after three hours of being prodded and poked and X-rayed and scanned, the doctors couldn't see any broken bones!



Doctors look for signs of damage to my cervical vertebrae. Photo: Ian Redmond

They concluded I had a partially dislocated left shoulder and what they called “soft tissue damage” to my neck and chest. The next day I was transferred to the Aga Khan hospital in Nairobi for a CT scan, some serious pain relief and finally a shower to wash the muddy elephant footprint off my chest!



Walking wounded – leaving the IcfEM Dreamland Mission Hospital, Kimilili, the next day with X-rays and a neck brace. Photo: Ian Redmond

Why did it happen?

There are a number of puzzling aspects to this event. Ken has been tracking elephants for the MEEM Team for 13 years and has never seen behaviour like this. For my part, it is 40 years since I first encountered elephants on foot in the forests of the Virunga Volcanos (an occasional treat on my way to the gorillas) and 36 years since I first tracked the elephants on Mount Elgon. I, too, have never seen an elephant leave the company of other elephants and run 150 metres to tackle a perceived enemy.

This leads one to ask what had happened in the preceding days or hours to cause this extraordinary behaviour. Elephants are not long-distance runners. If they charge, it is usually for 20, 40 or maybe 60 yards, and in response to someone or something alarming them. In this instance, Kali started running with no obvious immediate stimulus, but clearly something on her mind, and didn't stop until she had reached a human.

We know from the previous day's encounter that Kali's herd were on edge because of the activities of the charcoal burners – and from the number of kilns seen recently this must be a common occurrence. We also know that between 2012 and 2014 at least 8 elephants likely to have been known to her were killed by poachers. Perhaps Kali caught a whiff of the rangers' guns and it triggered a memory? Could it be that she was wounded in one of those attacks and is still in pain? Could it be that the shouts of the cattle herders, intended to be helpful, and the curious bystanders swelling our number, somehow reminded her of an earlier poaching incident and could even have been the reason why the herd was leaving the area en masse?

Evidently, some or all of these factors combined to convince this particular elephant that the group of 11 people standing 150 metres away posed a threat to her and her family. It is important to note that since I first began studying the elephants on Elgon in 1980, including

living in Kitum Cave for a cumulative total of six months over several years, observing and following elephants in and out of the cave, and that since the MEEM Team was created in 2001, to monitor the elephants on a near-daily basis, no such behaviour has been seen, and not a single shot has needed to be fired in response to an elephant charge. Clearly a careful analysis of this incident is necessary to draw conclusions and modify MEEM Team practices to minimise the chance of it happening again. But there is another important conclusion to draw.

Mountain forests as water-towers

The fact is, some of Kenya's most important remaining forests – that store carbon, generate rain and regulate water flow to the most productive agricultural regions in the country – are being destroyed for profit by wealthy charcoal barons who exploit the rural poor while running a million-dollar business. This is not just a problem for Mt Elgon. Charcoal is the most commonly used household fuel in much of Africa.



Across Africa, bags of charcoal await transport to cities. Photo: Ian Redmond.

A report by the UN Environment Programme revealed that Al Shabaab makes millions of dollars per year from illegal charcoal, much of it from areas of northern Kenya within reach of the Somali border. When people campaign about the need to stop wildlife crime, attention is almost always focused on elephants, rhinos, tigers, apes and other charismatic animals. But wildlife includes flora as well as fauna, and the illegal charcoal trade poses a significant threat to every woody plant within reach of the trade network that supplies households in towns and cities which have no other means of cooking their food and boiling drinking water. Not only are animals and their body parts being traded for profit, their habitat is too.



Mt Elgon's rainfall waters maize fields to the east in Kenya. Photo: Ian Redmond

On a global scale, we are in that moment of clarity before an impending impact, with more and more data coming in and less and less time to process it and change the outcome. The impact in question is between humanity and the rest of Nature, a perfect storm of climate change, biodiversity loss, over-consumption of natural resources, pollution and ocean acidification – each exacerbating the other. ([Biodiversity: The ravages of guns, nets and bulldozers.](#)) The scale of the problem seems overwhelming, but at the local level the solutions are often clear. For Mt Elgon, better law enforcement to crack down on the illegal charcoal trade and better support for those initiatives to make legal charcoal and use renewable energy sources are already under way.

Born Free is supporting the MEEM Team and working with KWS, in association with Kenya Forest Service, to ensure that our long-term commitment to Mt Elgon addresses the issues that may have led Kali to behave in this extraordinary way, in the hope that it will never happen again.

To learn more about the unique cave elephants of Elgon, take a virtual safari there via www.vEcotourism.org/news/take-a-tour/salt-mining-elephants-of-mount-elgon/

To find out how you can help protect them and their important habitat, go to <https://mountelgonfoundation.org.uk/donations/>

IAN REDMOND, OBE



Ian Redmond is a tropical field biologist and conservationist, renowned for his work with great apes and elephants for 40 years. Since studying and protecting the mountain gorillas of Rwanda and Zaire (now Democratic Republic of Congo), working for the late Dr Dian Fossey, and then making the first study of the underground elephants of Mt Elgon, Kenya, Ian has devoted his life to putting conservation principles into practice through investigation, education and advocacy.

He has advised in the making of, and/or appeared in countless documentary films: from introducing Sir David Attenborough to the gorillas in 1978, for the famous BBC “Life on Earth” sequences, to teaching Sigourney Weaver to grunt like a gorilla in 1987, for her award-winning role in the film “Gorillas in the Mist”, and more recently, the 3D movie “The Last of the Great Apes“. Ian has also led anti-poacher patrols, carried out investigations into the primate trade in DRC and Congo-Brazzaville, guided film crews and/or special interest tours into close encounters with gorillas, chimpanzees, orangutans, elephants and erupting volcanoes, and worked to support local conservationists during the horrors of Rwanda’s and D.R. Congo’s civil wars. In 2009, Ian was Ambassador for the UN Year of the Gorilla and since 2010, the Ambassador for UNEP Convention on Migratory Species; he chairs the Ape Alliance and is Ambassador for Virtual Ecotourism, an exciting concept for immersive, interactive conservation education, which can be experienced at www.vEcotourism.org

As advisor and conservation consultant to the Born Free Foundation, Ian draws on his experiences to advise on such issues as the bushmeat and ivory trade, the reintroduction of animals into the wild, sustainable use of forests, climate change and field conservation – helping to ensure the charity’s goal, ‘protecting wildlife in the wild’, is realised.

PHOTO CAPTION: IAN REDMOND IN EASTERN DEMOCRATIC REPUBLIC OF CONGO. COURTESY OF MICHAEL O’DONNELL, CHANNEL 7

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