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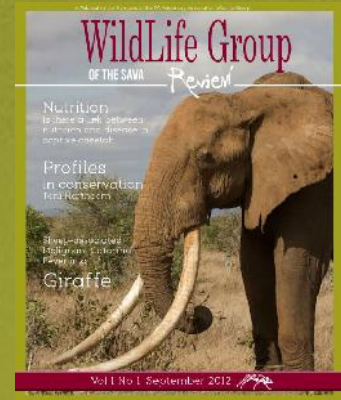
## Wildlife Articles

### Elephant tusk extraction in Poland

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Elephant tusk extraction is a procedure that has been described in the literature but something that is infrequently done in wildlife/zoo practice. Over the past few years I have performed several of these procedures and when I was asked by a zoo in Poznan (Poland) to extract the diseased tusk of a 13-year-old elephant bull, I was naïvely confident and accepted the invitation. What follows is a diary of what transpired and how an anaesthetist and I aged significantly in 5 short months!

Ninio is an African elephant bull housed in a wonderful, purpose-built facility in the Poznan Zoo in Poland. He arrived at the facility when he was 5 years old and is the offspring of the largest elephant bull in captivity in Europe (a fact we only discovered later).



In 2010 he fractured his tusk for the first time and a human stomatologist (dentist) was called to assist. According to the zoo keepers this person was horrified at the amount of bleeding as he tried to do a partial pulpectomy (removal of part of the pulp – a type of root canal procedures) and so applied some medication and a filling and left it at that.

In February 2012 a human dentist in the UK (who also had wildlife experience) was contacted and agreed to help Ninio in late 2012. Unfortunately the dentist subsequently suffered a serious heart attack and could no longer assist them. A cry for help from Poznan was directed to me via Ireland and then via a colleague of mine, Dr. Cedric Tutt.

After making contact with the zoo, it was clear that they did not know anyone confident enough to anaesthetise an elephant bull for a 3-hour procedure. I thus proceeded to call in the help of Dr. Adrian Tordiffe of the National Zoological Gardens. Together we have worked on several elephants before and I knew he was the right person for the job.

The next few weeks were rather intense as we finalised our travel arrangements. To add to the usual red tape, Adrian had to obtain the necessary permits for us to carry M99 with us to Poznan as the only etorphine available in Europe is found in a combination drug together with acetyl promazine (ACP) and not suitable for elephant anaesthesia. We had other “unusual” luggage too. Karl Storz (the endoscopy manufacturing company from Germany) has manufactured a purpose-made endoscope for elephant vasectomies and this is also the ideal instrument for evaluating the pulp on such a tusk. This instrument was thus first to be packed. (Karl Storz in Poland was more than willing to assist with equipment but since only 2 of these endoscopes exist in the world, I had to take ours with us). Carrying this piece of equipment as hand luggage caused me to be detained at many a security check point, as it very much resembles something more dangerous and sinister!

We flew to Warsaw and were met by the veterinary technician of the Poznan zoo. The vehicle he came to fetch us with, though, would not start (and Poznan is still a 3-hour journey from Warsaw). This afforded us the opportunity to spend a whole afternoon in the Warsaw zoo. For both of us it was our first sighting of a greater one-horned rhinoceros, since Warsaw zoo has two of these magnificent animals. We also got to see Ninio’s half-brother at this zoo and began to get an inkling of the scale of the task ahead of us. He was enormous!

We had chosen to stay in the zoo at their administration building, rather than at a hotel, so that we could be close to Ninio all the time as the staff was very concerned about him and what would be expected of them. Most of the keepers could not speak English and we used an interpreter (the head elephant keeper’s wife) to help us communicate with them.

The first anaesthetic of Ninio went exactly the way we did not want it to go. The darts did not discharge completely and after careful recalculation Adrian had to give more drugs, but again there were issues with darts failing. When Ninio was eventually affected to the point that he could no longer stand steadily, he still refused to go down and with the shuffling of his hindlegs splayed completely. This was the first time ever either of us had seen something like this and it was very concerning. Quickly manipulating a 5-ton animal is out of the question and it didn’t help our cause that the elephant quarters were not equipped with a hoist. Neither was there access for a vehicle to help manipulate this monster. Everything had to be done by hand. Fortunately they had a manual hand winch and many helping hands which saved the day.

Once the animal was correctly positioned I inspected the tusk and could immediately see that my purpose-made equipment from SA was going to be too small.

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Due to the chronicity of the pulp infection, ivory pearls had started to form within the pulp canal which prevented good drainage. There were also pockets of abscessation within the pulp and its cavity. During this first anaesthesia I was at least able to amputate the affected tusk and start with the loosening of the tusk as well as cutting lengthwise grooves.

We decided to wake Ninio up and reschedule a second procedure 5 days later. This meant we had to postpone our flights, which pushed the return date for us beyond the date on which Adrian's visa expired. This required a trip to the local bureaucracy in Poznan. While Adrian was off to find a legal way to stay until the next week, I was off to a local hardware store to try and find components for new equipment.

The second anaesthetic was not much better than the first, unfortunately. Once again the darts did not discharge properly. (Adrian later realised that the syringe that was being used to pressurise the darts was carefully washed by the vet technician and contained a small amount of water. This was then getting into the pressure chamber of the darts, causing premature loss of pressure and therefore only partial drug delivery). When Ninio was eventually down, I was able to work on his less problematic right tusk – it only had a crack in it. I was able to amputate the tusk, do a partial pulpectomy and seal the tusk again with a polyethylene filling. For the left tusk we decided to just open up the pulp canal in order to create drainage. For this I needed an extension on the hole saw that I had brought. The local technicians did a brilliant job at extending this for me and it worked well.

We left Poland disappointed but promised to return to remove Ninio's tusk. Over the next 5 months we worked hard to make sure that when we went again we would succeed. I was fortunate enough to make contact with SOMTA tools in Pietmaritzburg who produce all kinds of cutting tools. I described my predicament to them, explaining that I needed equipment that does not exist. To my astonishment they decided to take on this challenge as a project and the development began.

In Pretoria another company, HentIQ, owned by Louis la Grange (husband of Valme and father to Francois – both vets) was very keen to improve and enlarge my elevators. The largest I had were only 50 cm long. I needed to extend them to 70 cm and do a few other modifications. Louis was also able to design and make some other pieces of equipment for me.

With all of our new equipment and a multitude of plans we returned to Poznan in early May 2013, determined to relieve Ninio of his problematic tusk. This time we flew directly into Poznan, arriving on the Sunday and immediately unpacking and getting everything ready for the big operation scheduled for Monday morning. Last-minute adjustments were made, such as purchasing of a new drill as both drills they had were too weak to drive my new purpose-made cutters.

Adrian had, by then, realised what the problem with the darts was and sorted this out. The anaesthetic was thus as smooth as we are used to, to our great relief. Ninio went down by sitting first (no splayed legs) and we were able to push him over onto his right-hand side in order that the left tusk (the one to be removed) was uppermost. All the equipment worked well and I was initially making good time.

After 2 hours the tusk fragments I had cut were already starting to move – I was so optimistic! But by 3 hours into the procedure I was getting a bit dejected. We had said to one another that 3 hours was what we knew we could safely keep Ninio under anaesthetic for (even though he was under for about 4.5 hours the last time we worked on him, we knew that was



far from ideal), and things were progressing too slowly. At this point I opted for plan C.

I have once before extracted a tooth with a winch and this was what I decided was needed in this case. The hand winch was brought in and it was attached to the most movable piece of tusk. After only about 3 minutes of applying traction to this piece of tusk it moved. Removing a tusk is like removing a pipe – what gives it strength is the intactness of this pipe. As soon as that first piece moved the structure of the tusk was weakened and I was able to manipulate what was left in the alveolus. The last piece I removed (with the winch) was enormous and once everything was out I wasn't sure how I had got it out in the pieces I did! For long periods of time all I had done was focus on the immediate task at hand and silently prayed. There was a lot of praying!

With the tusk removed all that remained was to empty the alveolus of the pulp. If left, this diseased pulp would continue to be infected and form abnormal ivory. This task took another 20 minutes of blood, sweat and tears. At one stage (while my arm was literally up the alveolus to my armpit) I overheard Adrian say to one of the 23 people in the enclosure I could have gone into obstetrics!

After 3 hours and 45 minutes Ninio was standing. Adrian and I had discussed pain relief for Ninio in depth and it was very pleasing to see that after all that this elephant had gone through the combination used by my very able anaesthetist was working very well. He started eating that same day. Within the next 2 days he was interacting with the other elephants, allowing close inspection of the alveolus and eating as if nothing happened.

We left Poznan on the Thursday, humbled as the zoo community there overwhelmed us with gratitude for what we had done for Ninio. (This time we could actually see the emotion on their faces).

As I sat at Frankfurt airport (after my plane was delayed for 12 hours) I thought of all the people who had made my dream to work with elephants possible.

As always, my family have been willing to be without a father and husband for frequent periods of time (sadly this is the fate of many spouses and children of veterinarians). Then there are my staff members who make sure all the equipment is ready and packed, as well as the various companies who have been instrumental in equipping me to be able to perform the surgery. Lufthansa was willing to give me a 23kg extra weight for free – the 4 new elevators alone weighted 10kg. (My thanks to Heidi for convincing them). The list grows to include the 23 willing helping hands in the enclosure on the day of the surgery. All of this proves that veterinary science is truly a team sport.

A special word of thanks goes to the National Zoological Gardens for allowing Adrian to accompany me on this venture. It is always a pleasure working with him.

## **GEZA - THE FINAL HOURS - by Dr William Fowlds**

**Free E-book on this story to share and educate people and help rhino poaching**

[Click here](#)

**This is the story of a white rhino callously mutilated** by poachers and left alive with his horns and part of his face hacked off with pangas



On the 11th February 2011 I found myself forced into a personal experience of the most horrific, man-inflicted animal suffering. An experience that has affected me beyond what I thought was possible. More than five months on and I still struggle to contain and express the emotions burned within me, that churn to the surface every time I talk about that day.

I don't expect to make sense of it, or the similar rhino deaths that take place daily in my country. I do intend to ensure that the account of this one rhino's tragic end, will reach into the conscience and hearts of all men and woman, and compel each of us to do something towards stopping the suffering of this magnificent species and others like it.

I count myself truly blessed to be able to live my dream as a wildlife vet in a part of Africa that satisfies my senses and fills my soul. One of my many privileges is that I get to work with rhino in the wild. These living dinosaurs are truly iconic symbols of our successes and failures as custodians of this planet. The current rhino situation is a dying testimony of our conservation efforts. If we are not able to save the rhino from extinction, this flagship species that's larger than life, what hope do we have of saving the rest?

On that fateful morning in February, I was called by Mike Fuller of Kariega Game Reserve, in the Eastern Cape, who informed me that one of their rhino had been poached. My heart sank, as I relived that dreadful feeling, a few months before, which had hit me when news of a rhino poaching on my own game reserve came through. Knowing how slow the initial crime scene proceedings can take, I expressed my heart-felt remorse and said I would get there later in the morning. There was a silent pause before the sledge-hammer .....  
"William, he is still alive!"

Images of the hacked bone and bloodied tissues I had seen previously came flooding back, doubting the truth of this outrageous claim. As I fumbled for questions to check my own doubts, the description of this poor animal began to take shape. "The horns are gone, it's a bloody mess", added Mike.

As I drove rapidly for 30 minutes following the directions; the location, the description and the circumstances around this animal started to sound familiar. I remembered that two rhino from my own reserve, Amakhala, had been moved to Kariega three years before and had been joined by other animals from a different reserve.. At least one of these, was now in an unthinkable situation and I prayed it wasn't one I knew.

On approaching the location where the rhino had last been seen, I was struck by the tranquil beauty of the place. A small, open area alongside a meandering river with broken vegetation joining up into thickets of valley bushveld on the hill slopes. A picture-book setting which could have been used to depict a piece of heaven. It just didn't seem possible that somewhere here, there was an animal that was going through a living hell.

The horror of that first encounter will remain branded in my memory forever. In a small clearing enclosed by bush, stood an animal, hardly recognisable as a rhino. His profile completely changed by the absence of those iconic horns attributed to no other species. More nauseating than that, the skull and soft tissue trauma extended down into the remnants of his face, through the outer layer of bones, to expose the underlying nasal passages.

Initially he stood on three legs with his mouth on the ground. Then he became more aware of my presence and lifted his head up revealing pieces of loose flesh which hung semi-detached from his deformed and bloodied face. He struggled forward and turned in my direction, his left front leg provided no support and could only be dragged behind him. To compensate for this, he used his mutilated muzzle and nose as a crutch and staggered forward toward me. His one eye was injured and clouded over, adding to his horrific appearance.

At first I stood shocked in front of the sight before me, then I struggled to comprehend the extent and implications of the jagged edges and plunging cavities extending into his skull. As he shuffled closer in my direction, now scarcely 15 meters away, the realisation of his pain overwhelmed me. I had been so stunned by the inconceivable, I had neglected to consider the pain. What possible way could I have any reference of understanding the agony he was in? How long had he been like this? Were his efforts to approach me a weakened attempt of



aggression towards the source of his suffering or was there a desperate comprehension of finality, a broken spirit crying out to die.

I crouched down trying to steady my shaking hand which held the camera, as I realised that this was possibly Geza, the young rhino I had sent to this sanctuary three years ago. Thoughts and emotions raged through my head. How low had we fallen to inflict so much suffering on such a magnificent creature whose care had been entrusted to us? Could any reason justify this happening? Without thinking I apologised under my breath, "I am sorry boy, I am so, so sorry." His breathing quickened in response to the sound. Was he trying to smell me, was this their characteristic humming which is part of natural investigatory behaviour or was this a pathetic version of rhino aggression in response to a source of threat. I was close enough to see the blood bubbling inside his skull cavities and wondered how every breath must add to the agony, the cold air flowing over inflamed tissues and exposed nerves.

Thinking I should be fairly hardened to trauma and the sight of poached rhino and mutilated bodies, I had to re-assess my own reaction to what I had just seen. This took things to a new level. This stirred up anger and despair and regret and shame more than anything I had ever experienced. This brought the suffering of this and many other rhino right into the living room of my soul.

Surely, I would never be able to think of a rhino poaching in the same way ever again. If we are shaped by our experiences, then this experience was a watershed moment in my life. Part of that watershed was out of my control, but the other part involved decisions which were optional and would take me across an ethical line which had been formed by a lifetime of nurturing and training.

Knowing that this reserve relied on my professional opinion on what to do next, I buried my personal emotions and approached Mike with three recommendations. Firstly, I confirmed their fears that, in my opinion, there was no chance of saving this life and the most humane thing to do would be to end this tragedy by euthanasia for this animal. Secondly, I asked for time to consult with some of the other vets who had experienced similar survivors just in case there might be some hope for this animal.

Thirdly, with considerable trepidation, I asked if they would consider allowing the world to see the horrendous suffering that was taking place a short distance from where we stood. The practicalities, though, would involve getting a camera on site to take broadcast quality footage, something that would take a few hours to happen in this remote part of the reserve.

Could a vet, who is supposed to care deeply for animals; who is trained to be the mouthpiece for those that can't speak for themselves; who more than most should understand the extent of suffering that this animal had gone through and was still enduring, be at ethical liberty to extend the suffering of this animal a little longer. Would those who do care, and even those who purport not to care, be shocked out of their complacency at the sight of such inhumanity?

The request sounded irrational to my own ears, and I wrestled with the thought of it. For the previous three years our association of private game reserves had built up measures to combat the looming threat of rhino poaching. I had seen the mortality figures escalate in 2009 and double again in 2010 and there was still no sign of the public or the law enforcement agencies finding the will to stop it.

Many of the animals poached were being immobilised with veterinary drugs before having their horns and underlying skull bones hacked off with pangas and axes. The assumption is that these animals are under anaesthetic and so don't feel anything. I assure you, they feel; as, in many instances, the amount of drug used does not kill the rhino. If they don't bleed to death, they wake up under circumstances which I am finding difficult to describe.

I had always wondered why the poachers made such a mess of the rhino's faces when their modus operandi suggested that these were well organised criminals. The sight of Geza that terrible day brought the realisation that many of these animals were probably still alive and responsive to the mutilation that they were being subjected to; hence the panga marks chaotically arranged around the facial areas.

My mind was telling me that to keep this animal alive was wrong, but somewhere inside I



felt certain that the story of this despicable suffering could get to even the most hardened minds. The people driving the demand for this bizarre product, who say they take rhino horn to feel good - surely, they couldn't feel good knowing that animals are suffering to this degree at their hands. If they could, in some way, be made to feel part of the massacre, then perhaps this cruel and senseless killing might stop.

It was agreed to call in a camera to get the footage while I phoned colleagues for second opinions. For the next three hours I went back several times and agonised over my decisions while watching his condition deteriorate. During those hours I learned that this rhino was indeed "Geza" – the Naughty One - a male born on Amakhala, the reserve on which I live. He was born in January 2006 as the second calf of "Nomabongo" – the Proud Lady. His mother was the first rhino to come to our reserve, which like many in our area, was a reserve which had transformed previous farm land into protected areas.

I vividly recall the day Nomabongo arrived in 2003. Her presence, just one rhino, immediately transformed the whole atmosphere of that landscape from farmland into wild land. I also remembered the first week of Geza's life. Unlike Nomabongo's first calf, which she hid from us for 6 weeks, the "Proud Lady" showed off her boy calf within a few days of giving birth to him and a photographer friend captured these moments in some breathtaking photos.

Geza's name came about because from a very early age he would challenge older rhino in a mischievous manner and then bundle back to the safety of his ever protective mother. In social gatherings with other mothers and calves, Geza was always the instigator in the interactions, always playful to a point of seeming to show-off.

When Geza and the other rhino came to Kariega, they were the first to be introduced into this section of this sanctuary and their presence there had the same effect of transforming the reserve back to wild land. Now two and half years on, Geza was critically injured and the other rhino had disappeared into the thicket vegetation. Even if they were still alive, this event would ensure their removal from this area and with them a part of the soul of the land would die too.

As the hours passed slowly by, the location of the actual poaching was discovered and a crime scene investigation commenced, piecing together the train of events which had taken place there. A large pool of blood marked Geza's initial fall and where the hacking took place. Pieces of flesh and bone lay in the blood stained grass nearby. He had stood up at some stage and staggered about ten paces before falling on a small tree, where, judging by the signs of his struggling, he had lain for some time. Again, a large area of blood stained earth bore testimony to his solitary ordeal. Every dozen or so paces another pool of blood marked where he had stood a while. I imagined his body going through the phases of drug recovery which, without an antidote, would have taken him through cycles of semi-consciousness before he was plunged back into the reality of his painful wounds. It could not be accurately ascertained how long he had been left in this state.

His front left leg had been cut off from circulation while he struggled on his side and this accounted for his eye injuries too. By the time Geza was found, he had lost all use of his left front leg. Through blood loss, shock, dehydration and pain this animal was paying dearly for man's senseless greed.

The wait for what seemed like ages eventually passed. The camera-crew arrived and I was finally able to bring this nightmare to an end. The most humane way to end it all was to administer an overdose of opioid anaesthetic. The method would have to be the same way the poachers did it, with a dart. A heavy calibre bullet to the brain would ensure finality - no return to hell.

As the dart penetrated his skin I wondered if this rhino had any mental association of being darted all those long hours before and the agony that ensued. Would he recognise that dart impact and the ordeal that followed shortly after? Would any feelings of helplessness suddenly be overcome by one final fit of rage as I would expect it to be? His response was to take only a few paces in our direction as the dart penetrated, before his injuries stopped his advance.

Within a few minutes the drugs were taking effect and even though his final conscious moments could have been extremely painful, I knew that the pain would be subsiding as he



began to slip away. One final close up inspection of his wounds confirmed there was no going back and I injected more anaesthetic directly into his bloodstream. A sense of relief mingled with sadness, disgust and shame descended over that small piece of Africa, which for long hours had been gripped in tension and violation. The heavy bullet slammed through his skull, with the noise and shock wave blasting out across the landscape, heralding the end to a tortured and agonising struggle.

Geza, the Naughty One, who had touched my heart as a playful calf, died while I held my hand over his intact eye, his shaking body growing still and peaceful. Geza, who had his horns and part of his face hacked off while he was still alive by poachers feeding a chain of careless greed and ignorant demand. Will this rhino, whose suffering I prolonged, so that the world could get a visual glimpse of this tragedy, end up as just another statistic in a war that rages on? Or, will this rhino's ordeal touch us in a way that compels us to do something about it? What I have witnessed ensures that I will never find peace until the killing stops.

As I write this, news reaches me of seven more rhino killed yesterday. Please help all of us on the frontline of this war against rhino poaching. If we can't save the rhino, what hope do we have of saving the rest?

Thank you for taking the time to read this.

Dr William Fowlds.

[The footage of this horrific crime can be accessed at the link below](#)

<http://bit.ly/p9nk5G>

[You can do something about rhino poaching NOW!](#)

Watch the video, sign a petition and send a letter.

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