

JULY - SEPTEMBER 2014

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# Kenya's tarnished image needs polishing, fast



**F**oreign Travel Advisories are not the only reason Kenyan tourism is on its knees. The blame for jobless thousands in the tourism sector cannot be laid solely at the door of the British Foreign Office or U.S. State Department.

Advisories do not help. But they are the justified reaction of governments that feel they should be frank with their citizens about the risks they take abroad. Sometimes, as in the case of Lamu in 2011, they are off target. Criminals, not Al-Shabab, were responsible for the kidnappings and killings there. But this was of little consequence to those kidnapped or to the families of those bereaved. It was a triumph of crime over law and order, and 20,000 people in Lamu paid with their livelihoods, and are still paying.

The perception that Kenya is no longer a safe place to visit is growing, and not because of Travel Advisories. Foreigners do not need to read government websites to believe that Kenya is not safe. Post-election violence, Westgate, grenade attacks around the capital and at the coast, and the slaughter of innocents near Lamu are all signs of a place where security is not given. On top of this is the worrying image of organised criminal gangs feeding off the carcasses of elephants slain for ivory or rhino for their horns. It does little to burnish the image of the country. Quite the opposite. They are icons of insecurity, of people with guns operating with relative impunity. Every picture of a tusk-less elephant or amputated rhino head in a pool of blood says "lawlessness." It begs the question that if animals cannot be protected in National Parks, can people?

Safari and Tour operators rage against the injustice of insecurity in one part of Kenya rendering their part of paradise off limits. I remember several operators fulminating against foreign media coverage of the post-election violence "because it was only in the Rift Valley" and "the coast was perfectly fine once you got through Likoni" (the Mombasa ferry crossing where there was bloodshed). But if you followed

this logic, we could be taking beach holidays in Western Libya to admire the Roman ruins (but staying away from the daily gun battles in Tripoli and Benghazi).

Managing perceptions means managing reality first. The reality of Kenya today is that there is a wide gulf between the rule of law, the statute books and its implementation. The world's perception of Kenya as an unsafe place lives and breathes in that space. So do poaching, the organized smuggling of animal artefacts and the godfathers who control the trade under the guise of "doing business."

Tourism and Conservation live on the same street. Conservation thrives when tourism thrives. Government revenue swells when the tourism numbers rise. Poaching is a very public indicator of whether a government has a handle on the security of its natural assets. Law and order is a prerequisite for healthy tourism, however beautiful the place.

It is time to be seen to be closing the gap between the reality of beautiful Kenya and the perception that it is spiraling into utter lawlessness. The alternative is to let insecurity become the new reality. ●

**Andy Hill**  
Editor

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GAMEWATCHERS SAFARIS

## The decline and fall of the Maasai Mara Game Reserve

Dear Editor,

When I first visited Maasai Mara I remember the abundance of wildlife, the thick luxuriant and intimidating forest along the river, the undulating hills covered in vegetation. Huge herds of buffalo, rhino everywhere and predators galore.

What do we have left? Very little of the above. The area is surrounded by wheat farms blocking off many of the migratory routes for wildebeest, zebra, elephants and others. This in turn has had a devastating effect on the vegetation within the reserve. Gone are most of the thickets of croton and euclea that used to cover every hill, the riverine forest looks like as if a seriously sophisticated timber monster has gone through it. Many of the acacia woodlands have also suffered.

The big herds have disappeared, the large prides of lion have been diminished. Only the other day two more lions were killed, INSIDE the reserve (Musiara area). Does anybody, seriously believe that these poachers (because, that is exactly what they are!) ever will be prosecuted!! Having leased vast tracts of grazing land to the wheat farmers (approximately 50,000 ha), the reserve is now invaded by huge herds of cattle, denying the wildlife their right to existence. Leopard and cheetah are also being killed or succumb to the number of diseases carried by domestic dogs. Many a scavenger (such

as vulture, hyena and jackal) have also died of agonizing deaths, due to the number of dead carcasses being poisoned. The few remaining cheetah live in a constant state of agitation, being chased across the plains by undisciplined minibus drives.

There are far too many tourist establishments in the area, most of them blatantly disregarding the law, which puts fragile ecosystem at risk. There is an estimated 150 hotels, lodges and camps operating in the Maasai Mara. Apparently they represent 6,000 beds. Out of these 150 units, only 30% are in business legally!!

This reserve is the cornerstone of the national tourism industry. A rough calculation of the direct income to (the previous) Narok County Council and the neighboring group ranches would give a figure of more than \$50 million per year. Yet they declared only \$9 million, last year.

It seems that next to nothing goes back into the preservation of the habitat, the wildlife and the water catchment for the Mara river. Poaching is rampant, snares are everywhere. There was a time when you often came across efficient, smart and polite game scouts, forever patrolling in their immaculate uniforms. Mostly on foot. Patrols are never to be seen anymore ("we have no vehicles"). Foot patrols an activity of the past!

Who, in their right mind really believes, that tourists having travelled from far away are in the least interested in seeing more cattle than wildlife, whilst visiting Maasai Mara.

It is infuriating, it is sad, it is indefensible that the National and local Government are letting such a rare jewel be destroyed. This beautiful part of Kenya, "the eighth wonder of the world", will very soon become just an overgrazed dust bowl with no vegetation and no wildlife. Just a few emaciated cows. Who will pay any more to see that? ●

Ulf Aschan  
March 2014

Dear Ulf,

I acknowledge your letter and agree with you that Mara is getting worse day by day. I was in Mara between 8th and 11 June and made the same observations. The issues you raise are similar to the ones I highlighted in my letter (SWARA: 2014-2). The problems raised require us to work with people in Mara and key government agencies such as the National Environment Management Authority (NEMA). While much remains to be done, I take note that some of the people in Mara have realized the need to make changes in their way of doing things. Some of the previous wheat farmers are now converting their farms into conservancies, a trend that should be emulated. I saw this happen in Enonkishu. Mara remains a core area in Society's work due to its uniqueness and we will remain engaged in advocacy to have action taken on the issues that you have raised. ●

Michael Gachanja  
Executive Director - EAWLS

Dear Editor,

I was excited and intrigued when I looked at the cover of SWARA (January-March 2014) and saw the feature "The next generation of conservationists talk". I wondered who they are, whether I knew them personally (I hoped I did!) and most importantly, to read what they had to say. My reasoning was that the term 'next generation' referred to new perspectives, improved insights and abilities, sort of like 'generations' in terms of mobile phones (pardon the comparison) where you had 1G, 2G, 3G etc.

I was however taken aback to find that the (very thoughtful and interesting) article by Storm Stanley was actually about the 'offspring of the leading first generation of conservationists'. This was breathtaking



but highly necessary reality check for the conservation sector in Kenya and Africa as a whole. It is (or should be!) a rude awakening for conservation scholars and practitioners that the feudal origins of wildlife consumption and (in this case) conservation practice still exist in our thinking. I am of the opinion that if Mordecai Ogada is called to as a conservationist, then those who refer to him as such are not doing so because

of his parentage. Who will write about the thoughts of the many conservationists who cannot claim the sort of lineages shared by the individuals covered in this article? Nobody can take away from any of the great achievements and well-deserved accolades of both the generations covered in your articles, but the only way to progress is to break out of this mould. The biggest challenge facing conservation in much of Africa currently is the fact that like hunting used to be in feudal societies, it is an unapologetically elitist pursuit. ●

Mordecai Ogada

We are repeating this letter from Dr. Ogada published in SWARA 2014-02 because it omitted the photograph which gave it meaning and relevance



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# Poaching and Terrorism

## Africa must act as one!

The United Nations Environment Programme (UNEP) and INTERPOL have just released a damning report on the "Environment Crime Crisis". Among other issues, the report highlights the extent to which poaching and other illegal trade in natural products support militant organisations like Al Shabaab and the Lord's Resistance Army (LRA) in this part of Africa. The direct links between the current accelerated wildlife poaching and belligerence of militant organizations has become a nightmare for Kenya's security organs. Poaching and illegal trade in wildlife products are a serious threat to be addressed by our countries individually and collectively. Indeed, it is fitting that UNEP Assembly convened in Nairobi this at the end of June has focused on this environment crime crisis.

Previous interventions by countries have included strengthening of law enforcement and introduction of stiffer

penalties. However, even the recently introduced stiffer penalties for poaching do not seem to deter the militant groups and the future of targeted wildlife species like elephant and rhino is bleak.

I have argued before that African countries must take a common stand on this matter and agree on and implement measures to stem the flow. Africa is the home of great wildlife biodiversity and must take this challenge as an issue of global threat to biodiversity and a war between powerful cartels, international trade and conservation forces.

In this regard, I am most encouraged by the recently concluded protocols for joint action on illegal trade under the East African Community. This is a good start to solving a complex problem with broader international ramifications. It is hoped that other affected and beneficiary countries can be party to the efforts. Moreover, this should go beyond political and policy integration into cross border control measures to stem

non-compliance. I have argued in my earlier messages that this is not an issue to be resolved only within the continent but also in the countries that provide lucrative markets for wildlife and wildlife products. We must find ways to reduce market demand – period. In the meantime, African countries should take actions to institute governance systems that can stem illegal flows of wildlife and wildlife products.

In his address to UNEP Assembly in Nairobi, President Uhuru Kenyatta of Kenya appealed to beneficiary countries to join in the fight to eliminate poaching and illegal trade in natural products. Let us hope that the international community will take actions to save wildlife in Africa and other continents. ●

**Fredrick Owino**  
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# Getting the youth involved and good news from Tanzania



**T**here are two issues that I want to bring to the attention of our members in this edition of SWARA.

## **Roof hatch vehicles constraints to Tanzania National Parks**

In his private capacity, Collin Church, senior advisor and former Chairman of the Rhino Ark Charitable Trust wrote to the Director General of the Tanzania National Parks Authority (TANAPA) regarding allowing private non Tanzania citizens to make visits to Tanzania National Parks early

this year using their private vehicles. There are many East Africans who travel throughout East Africa in their private four wheel drives with hatches to better see and photograph wildlife. They have in the recent past been restricted to visiting many of the Tanzania National Parks. In support of Collin's letter, the East African Wild Life Society (EAWLS) took up this issue with the Director General of TANAPA in March this year. I am happy to note that TANAPA has addressed this matter and allowed private roof hatch vehicles for East African citizens to enter Tanzania National Parks. There are several requirements though:

1. Individuals must produce at the gates original vehicle ownership cards for verification. How this will be implemented remains a challenge since original ownership cards are retained at the border entry points.
2. Individuals must produce passports for verification of their respective nationality.
3. Vehicles ferrying any foreign nationals other than East African citizens will be refused entry to the parks.

## **Engaging the youth in our work**

In an effort to engage youth, EAWLS has set up a student-focused membership category, the Individual Associate Membership category. This membership allows youth, mostly below the age of 30 years to participate in our conservation initiatives and therefore become part of us. This need arose from the fact that our membership survey show that 75% of our members are

over 56 years of age and only 5 % are below the age of 35 years. This trend is worrying because as the older generation leave the scene, the EAWLS membership is declining and few young people are joining. There are several reasons why this may be happening. 1) probably the passion of youth getting involved in conservation is declining; 2) economic factors may be a barrier, and 3) probably, we are not reaching out to the youth.

Regardless of the factor, this is the time our members in the over 56 years category should help us in bringing their sons, daughters and their friends to be part of us. You will see that this year is an important year for us to campaign to have most of our youth join our conservation efforts by paying a low membership fee of USD 15. We are living in a digital generation where technology has advanced and we believe that most of our youth would benefit from reading our E-Swara.

In this issue, I want to thank our members, especially the ones who have been active and supportive for many years. It is difficult to list names as they are many, but our members are special to us since without their continued support, most of what we do could stop. If each of us is to enroll a youth, our membership base would double, and so would our conservation initiatives.

**Help us recruit our Youth! ●**

**Michael Gachanja**  
**Executive Director**



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# Sign up and save Kenya's Wildlife Tourism

## JONATHAN SCOTT



was born in London. He took an Honours degree in Zoology at Queen's University in Belfast. He then moved to Africa and worked as a resident naturalist, guide and author. He began presenting television programmes in the 1980s. Since 1996,

Jonathan has co-presented *Big Cat Diary* and *Big Cat Week*, reporting on the daily lives of the Masai Mara's three species of big cat. In 2004–5, Jonathan embarked on a year of filming for *Elephant Diaries*. The series follows the rescue of orphaned elephants by The David Sheldrick Wildlife Trust.

**K**enya has been my home for 40 years, my wife and daughter are Citizens, our Grandson was born here and has made more safaris in his first year than many people will be privileged to do in a lifetime – and he has enjoyed a holiday at the coast. This prompted me to write an article that appeared in the travel section of the *Saturday Telegraph* in the UK – the land of my birth – telling people

just how much Kenya needed tourism – that it was vital to our economy and to conservation. Without substantial revenue from tourism our wildlife will be even more vulnerable to poachers; setting aside wilderness areas for animals even harder to justify to land hungry humans. The article was circulated widely by the Kenya Tourist Board to encourage overseas guests to visit this wonderful country in the face of a barrage of Travel Advisories that have cast a long shadow over our tourism industry. If you look on a map you will see just what a tiny part of Kenya is prompting security concerns – yet the repercussions of recent events and the impact of Travel Advisories have been devastating and on a scale that in no way reflect the situation in the country as a whole.

What a difference a month can make on this fast paced planet of ours. The World Cup has kicked off and

the champions Spain are already on their way home. But that is not what is catching my attention right now. It would be easy to feel despondent reading headlines telling the world of renewed loss of life on the Kenya coast not far from the ancient city of Lamu, together with the killing of Satao barely a month after the death of Mountain Bull, two mighty 'tuskers' slaughtered for their magnificent ivory tusks worth nearly US\$ 2,000 a kilo in the Far East. The bulls were in their mid to late 40s and had lived through events both locally and internationally that have blighted Kenya's tourism industry in the past – the bombing of the Norfolk Hotel in Nairobi on New Years Eve 1980/81; the Gulf War of 1990/91; the bombing of the American Embassies in Nairobi and Dar es Salaam in 1998 and the political violence that erupted at the time of Presidential elections in Kenya in 1997 and 2007. Despite





these setbacks the tourism industry has always shown a resilience that has enabled it to dust itself down and snatch victory from the jaws of defeat. But make no mistake these are difficult times. All the more reason then to redouble our commitment to Kenya, to 'light a candle rather than curse the darkness.'

Terrorism and poaching go hand in hand. They feed on fear and insecurity. The battle to save our planet's increasingly endangered wildlife might appear to be a lost cause whether attempting to protect the last few thousand wild tigers in Asia or stemming the catastrophic epidemic of elephant and rhino poaching in Africa. Even the Maasai Mara where Angie and I continue to follow the lives of its charismatic big cats has seen an alarming upsurge in poaching in recent months with reports of 117 elephant carcasses new and old discovered during a census of wildlife in the Reserve - minus their tusks. At times like these it is understandable to feel powerless and downhearted. But each individual can contribute in a meaningful way by simply holding up their hand and saying 'NO' to the killing.

When I was working on a book on leopards in the 1970s it was estimated that 50,000 leopards were being trapped, shot and poisoned across Africa each year for their beautiful spotted coats. In the 1980s a brilliantly orchestrated advertising campaign writ large on billboards and in cinemas across Europe and America turned the tide in the fight against fur with graphic images from photographer David Bailey showing a model dragging a blood soaked fur coat above the words: "It takes up to 40 dumb animals to make a fur coat but only one to wear it." And in 1989 when Kenya set fire to 12 tons of ivory in Nairobi National Park it caught the imagination of the general public, helping to change people's perceptions and leading to a ban on the trade in ivory that same year. But as recent events have shown we must always be vigilant on behalf of wildlife - some people are wearing fur again, some never stopped. And until China

bans ivory imports the killing of our elephants will continue apace.

We are not alone in our commitment to change. Kenya is loved around the world for the warmth of its people and the wonder of its great migration of wildebeests and zebras. Right now the animals are thundering in to the Mara in their tens of thousands. This is the time to be there to witness the greatest wildlife show on earth. If 'Brits' are pondering the wisdom of visiting Kenya they can do no better than embrace the *Stay Calm and Carry On* attitude of their own Royal Family who have lost loved ones to acts of terrorism in the past - the Queen's cousin Lord Louis Mountbatten was murdered by the IRA in Ireland (along with three other people including his grandson Nicholas), when a bomb detonated on his fishing boat in 1979. They live with the threat of terrorism wherever they are in the world.

Prince William and his wife Kate are one of the most recognizable and iconic couples on the planet - and great friends of Kenya. The Prince proposed to his future bride while on holiday in the country. Like his father Prince Charles, William is passionate about wildlife and recently launched *United for Wildlife* bringing together a coalition of conservation groups committed to making a difference. Under the banner of *Whose Side Are You On*, and harnessing the power of charismatic sports personalities such as football's David Beckham, motor racing's Lewis Hamilton, cricket's Raul Dravid, rugby's Francois Pienaar and China's basketball superstar Yao Ming, *United for Wildlife* is mounting a Social Media campaign on Facebook, Twitter and Google to spread its message to all corners of the earth. Imagine if we could engage Kenya's beautiful and talented Oscar-winning actress Lupita Nyong'o alongside our world beating sportsmen to show solidarity with a campaign that will help protect our own wildlife? Knowing Kenyans they will.

One might draw some grain of consolation from the loss of the world's wildlife if it was the disadvantaged and impoverished among us who were

benefiting from the carnage - the people losing their lives and jobs right now. But it is not. It is the rich and greedy - and seemingly untouchable - who are turning a vast profit from the illegal trade worth US\$ 5 - 20 billion annually, as is the case with the other major criminal activities that are such a stain on our character: trafficking in drugs, weapons and people across the globe. A friend recently sent me artwork depicting *The Earth's Land Mammals by Weight*. It showed all too graphically just how much of our planet we humans and our livestock - cattle, sheep, goats, pigs and horses - already occupy. Wildlife is being squeezed out of the landscape like never before. Africa's 450 to 500,000 elephants are barely visible in the larger picture. So how will things look with another two billion people on this earth by 2050? We must act now.

When it comes to tourism, wildlife is Kenya's greatest asset as one long time resident reminded me in his response to my recent article. "The world is littered with beautiful places that lure vacationers. Many have beaches, sunshine, great food and lovely people....just as Kenya does. However, Kenya's amazing wildlife is its advantage over all those other destinations." With so many options for travellers these days we cannot afford to rest on our laurels. Our tourism product has to be competitive in price and services if it is to keep topping up our foreign exchange coffers so we can continue to conserve 'world heritages' like the incomparable Masai Mara. That is why tourism is so vital to this country along with the tens of thousands of jobs it helps to create.

The message we wish to send to our friends overseas is this: 'Sign up to the *Why I Love Kenya* campaign as you plan your next safari. Lend your collective voices to *United for Wildlife* by embracing the challenge of *Whose Side Are You On*. If you do that today we all stand to benefit - people and wildlife the world over.

It may be too late for the iconic Mountain Bull and Satao, but we can still honor their memory. ●



## Kenya's Paula Kahumbu and Shivani Bhalla win Conservation "Oscars"

Elephant champion Paula Kahumbu and Ewaso Lions leader Shivani Bhalla both won "Green Oscars" in the annual Whitley Fund for Nature (WFN) awards, each worth £35,000 to be spent over one year. The awards are seen as some of the most important in the Conservation world and have been given to more than 100 people since their inception in 1994.

Paula Kahumbu was honoured for the "Hands Off Our Elephants" campaign which has seen her crossing the globe to lobby against the illicit sale of ivory and stiffer penalties against poachers, middlemen and the shadowy godfathers of the trade. Kahumbu, a Director of Wildlife Direct, was honoured for "Delivering African leadership". Kahumbu is also a leading light in the Friends of Nairobi National Park and has been instrumental in raising awareness in Kenya and beyond its borders about the importance of the country's natural assets to its economic and cultural future.

Shivani Bhalla, no stranger to readers of SWARA was honoured for a largely unsung programme to help Samburu warriors appreciate, manage and control wildlife in the areas where they live to underpin community conservation programmes to help residents earn income from wildlife and other tourism.

Shivani is deeply grateful for this accolade and said, "Winning the Whitley Award allows my project, Ewaso Lions, to engage more Samburu warriors in conservation. We will be able to build on the success of this program and expand our area of coverage to create a vast network of warriors protecting lions across northern Kenya's arid lands. I would like to dedicate this award to my team in Samburu – a group of special young warriors who risk their lives to save lions. They are the real wildlife heroes and it is a great privilege for me to work with them."

(see [ewasolions.org](http://ewasolions.org))

## British military training for anti-poaching work on hold?

News reports say that Kenya has either postponed or rejected planned British military training for Kenya Wildlife Service (KWS) rangers in their anti-poaching drive. In June President Uhuru Kenyatta put all KWS field operations, including all assets like vehicles, communications equipment and arms, under the direct control of the country's police Inspector General, David Kimaiyo. Kimaiyo was recently embroiled in controversy for an on-off ban on vehicles with tinted windows, a pronouncement ultimately overturned and dropped. Controversy also followed his handling of the Al-Shabaab guerrilla attack on Nairobi's Westgate Mall in which 67 people were killed.



## Kenyan president unveils steps to lift sagging tourism

President Uhuru Kenyatta, last month announced a series of initiatives to stimulate the tourism sector including reducing the fees at Kenya's national parks and also reducing landing fees charged at both Moi International Airport and Malindi Airport.

Addressing the country's tourism sector, Kenyatta said the country had seen a drop in international arrivals last year due to challenges relating to security. "With the recent advisories from some in our traditional source markets that account for about 46%, [the] tourism sector is likely to continue facing difficulties," he said.

Kenyatta said the government and stakeholders had agreed measures to grow tourist numbers in Kenya. With immediate effect, landing charges at Moi and Malindi airports would be reduced by 40% and 10% respectively. Fees at Kenya's premium national parks would be reduced from \$90 to \$80. With effect from May 29, air ticketing services supplied by travel agents are exempt from VAT to allow for competitive pricing.





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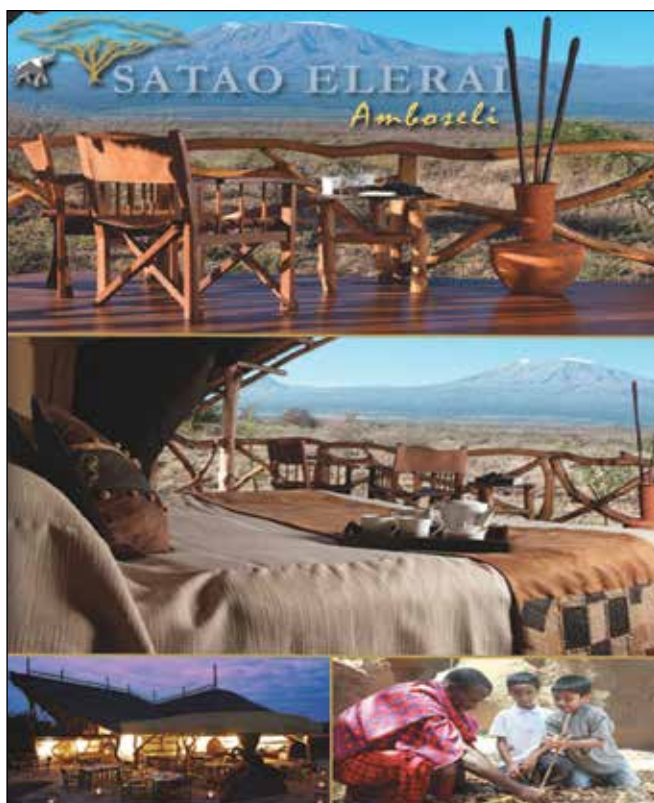
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## Poachers kill two of Kenya's most famous Elephant Bulls

Two of Kenya's most revered elephant bulls succumbed to poachers in May 2014. Believed to be more than 40 years of age, Satao and Mountain Bull each survived the poaching wars of the 1970s and 1980s, only to be cut down last month as the latest war on Africa's elephants rages.

"Satao and Mountain Bull were one of us; they were Kenyan," says African Wildlife Foundation's senior director of conservation science, Dr. Philip Muruthi. "To lose these national treasures in the span of one month is devastating. It also galvanizes us in the conservation community and as Kenyans to work harder at protecting what belongs to this nation and this continent and penalize those who are robbing us of our heritage."

Though Mountain Bull had been partially de-tusked by rangers in a 2012 operation and regularly tracked by radio collar, and though Kenya Wildlife Service kept tabs on Satao's movements through aerial patrols, neither bull could be kept safe from the crude instruments that ultimately claimed their lives. In early May 2014, poachers trespassing in Mt. Kenya National Park attacked Mountain Bull, not with AK-47s, but with spears. A few weeks later, poachers in Tsavo East National Park took down Satao with a single poisoned arrow. (AWF)



## Bond bail for Ivory haul suspects "mastermind" still at large

Kenyan authorities seized a major haul of 228 tusks in a raid on a warehouse in Mombasa. The find, which also included 74 pieces cut to size for packing, probably represents the deaths of at least 150 elephants and is one of the biggest hauls in Kenya. It is thought to have come from as far afield as South Sudan and the Democratic Republic of Congo.

Four people have appeared in court and been freed on a bond of 10 million shillings. A fourth suspect, Feizal Mohamed, the reported mastermind of the poaching network, is still at large and there is a warrant for his arrest. Kenya's new laws can impose a maximum fine of \$235,000 and life imprisonment. This year some 200 people have been arrested and charged with poaching but none has seen the maximum sentence imposed.

## Is poaching slowing down? CITES sees evidence it may be

For a second year, the number of elephants poached in Africa has decreased, according to a new report released on June 13 by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The report estimates that 20,000 elephants were poached in 2013, compared to the 25,000 killed in 2011 and 22,000 killed in 2012, and suggests that elephant poaching may be leveling off to a degree.

"This is good news that the figures are declining, but the rate of poaching is still far too high and unsustainable," says African

Wildlife Foundation's senior director of conservation science, Dr. Philip Muruthi. "The loss of one of Kenya's largest and most famous bull elephants to poachers is a stark reminder of this, and we must continue strengthening our efforts on the ground to ensure the figures continue their downward movement."

Large-scale seizures have increased overall, with seizures in Africa exceeding those in Asia for the first time, possibly as a result of stepped-up law enforcement efforts in Africa, according to the report. Eighty percent of the seizures occurred in three



countries: Kenya, Tanzania, and Uganda. "These large seizures in Africa mean less ivory is leaving our shores and ending up in storefronts or coffee tables in Asia," says Muruthi. "This ivory was grown in Africa and it should stay in Africa."





## No drones for anti-poaching drive – Kenyan government

The Kenyan government has ruled out the use of drones to combat poaching. A government source said the reason was security concerns. Kenya's Ol Pejeta Conservancy has been pioneering the use of a drone as an eye-in-the-sky to detect animal and poacher movements. Its own drone is still under trials and it is not known how the ban will affect its commissioning.



## Save the Elephants

Yao Ming, ex-NBA basketballer has been a tireless campaigner for elephants ever since visiting Save The Elephants (STE) in Samburu with WildAid. In early March he presented the Chinese People's Political Consultative Conference with a petition asking China's government to ban sales of ivory. Numerous members of China's business elite were among the signatories, all of them urging their nation to take the leap of leadership necessary to save Africa's elephants on behalf of the world. Two weeks later, Hong Kong's largest ivory retailer announced that it has stopped selling ivory in response to public opinion.

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## Wildlife Direct petition Margaret Kenyatta to stop Poaching

Letter to Margaret Kenyatta, the First Lady of Kenya, June 2014

Her Excellency Margaret Kenyatta  
First Lady of the Republic of Kenya  
State House, Gate D  
Office of the First Lady  
P.O Box 40530-00100  
Nairobi, Kenya

14<sup>th</sup> June, 2014

Your Excellency,

### Concern about the Elephant Poaching crisis in Kenya and request for your intervention

By now you have heard that one of Kenya's greatest Elephant icons, Satao, is dead. Satao lived in Tsavo East National Park and he was slain by a poisoned arrow. Less than a month ago another icon, Mountain Bull, was gunned down in Mount Kenya. I am sure that you share my deep sorrow, words cannot describe how devastated I feel about what is happening to our elephants.

Alongside poaching, Kenya is also renowned as a hub for the transiting of ivory and CITES have just revealed that 80% of the ivory exiting Africa is passing through Uganda, Kenya and Tanzania, and that Mombasa is now the world's most active port for transiting of ivory. I appreciate the great efforts that are being made by the Ministry of Environment, Water and Natural resources through the enactment of new legislation, the Kenya Wildlife Service on anti-poaching, the Police on making seizures. The consequences for poachers and traffickers are beginning to emerge as the Judiciary and the state prosecutors implement reforms in the legal sector. In addition I am thankful for the allocation of KES 1.8 billion for anti-poaching in next year's budget. Civil society is working hard to support all of these efforts.

However, Kenya still treats these crimes as wildlife offences, when in fact there is ample evidence that these are organized crimes, international crimes, and economic crimes. The poachers and traffickers will continue to win and we will still lose all of our elephants and rhinos unless Kenya adopts a national strategy to robustly combat wildlife crime as international crimes and organized crimes. We must be smarter and more effective than the perpetrators of these crimes if we are to win.

### Your Excellency, Kenya won before and we can do it again.

This letter is an appeal to you to take three important actions that will transform our performance and success in this war against the criminals who threaten our heritage, our economy and our security

1. Speak out boldly about this crisis and its impact on our heritage, our economy and our security at the UNEP Governing Assembly this month so that the world's leaders witness your determination to end the crisis. Appeal for international support towards immediately ending all forms of trade in ivory in order to kill the demand.
2. Appeal to Kenyans to help. Use your office to provide transparency and accountability that Kenyans are asking for on poaching, ivory seizures and stocks, arrests and prosecutions. Invite Kenyans to help you; Kenyans can raise funds, report crimes and protect elephant habitats and corridors.
3. Announce that you will lead the creation of a National Strategy to Combat International Wildlife Crime and enlist the support of law enforcement experts, as well as non-state actors and experts to help you craft effective strategic interventions on legislation, law enforcement, compliance, accountability, outreach and international cooperation.

Your Excellency, we support you and your leadership on this issue and we know that your voice is the most powerful one in the room right now. As the only First Lady in Africa you have already attracted enormous attention and interest. We now look forward to supporting actions that will save our Elephants and other endangered species.

**Yours Sincerely**  
**Wildlife Direct**





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# My Wild Life

**A**frica has unique wildlife that occurs in varied habitats from snow-capped peaks to sandy white beaches. Africa also has one of the highest human population growth rates, which threatens vital animal and plant habitats. Photographic technology is also changing at an exponential rate and many budding photographers seem obsessed with shots of charismatic mega-fauna and seem to forget about the thousands of different and spectacular animals that live within or just outside where we stay.

SWARA has created this special section on "My Wild Life" to showcase all those forgotten animals that play significant roles

in maintaining ecological harmony. From bees that pollinate flowers to geckos that eat harmful mosquitoes, from sunbirds that enthrall us, to chameleons and frogs that fascinate us. This is YOUR opportunity to show case what is "Your Wild Life".

In each issue we will select a winner who will receive a prize. Even if you do not have a big garden or own a concrete patio, you will be surprised at what shelters in the nooks and crannies. If you live in town one of the best ways to help wildlife is to garden for wildlife.

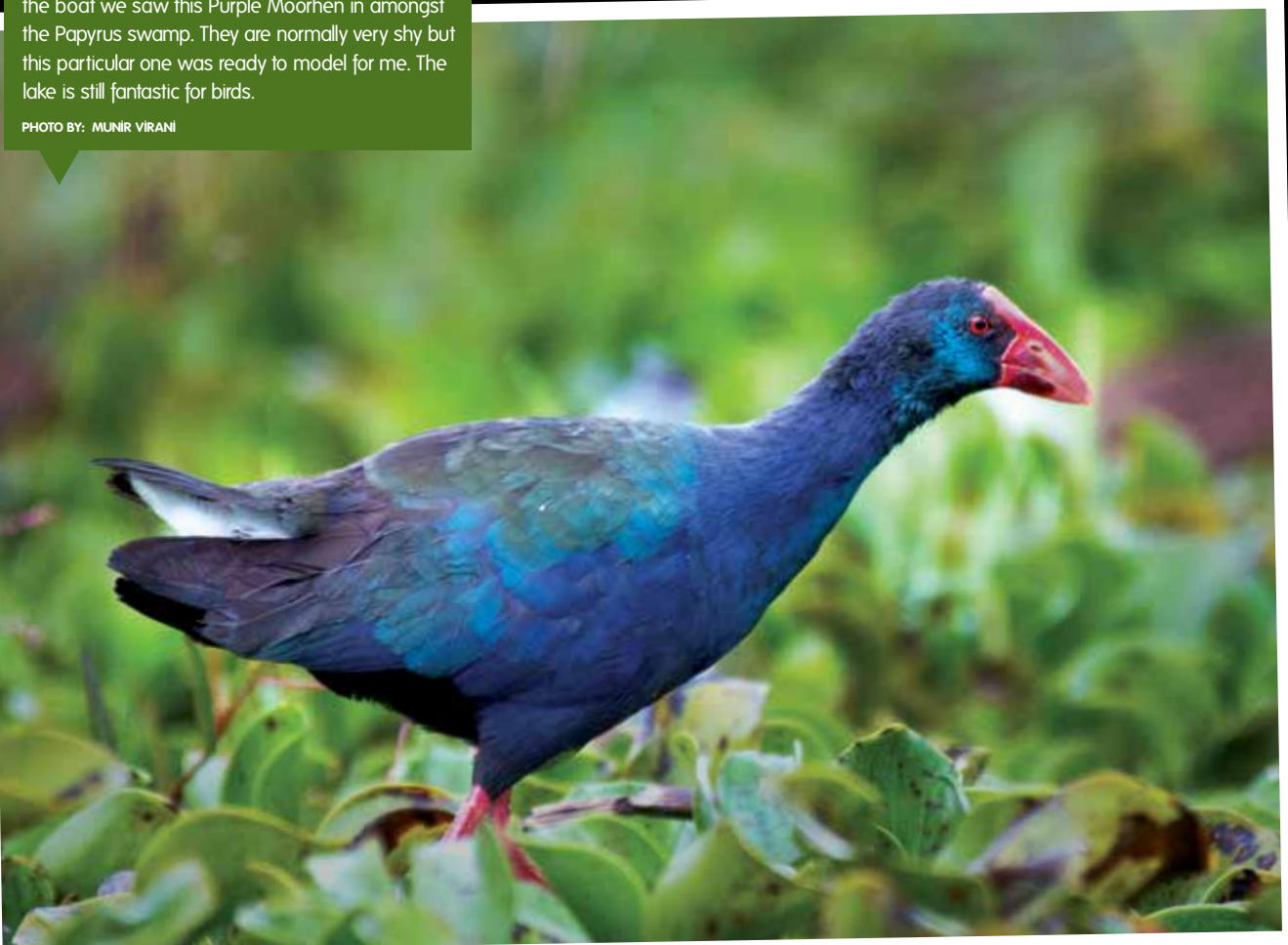
This does not mean giving up on your herbaceous borders and letting the nettles grow, but just adapting what you may

already be doing. Gardens are extremely important for wildlife, not only can they provide food and shelter for a huge range of plants and animals, but they can form a natural "bridge" between built up and open areas which allow wildlife to move between them relatively easily. Gardens can also provide particular habitats that may be missing in your local area such as ponds and suitable foraging or nesting sites.

**Send your images to:**  
**bishopokello07@gmail.com and don't forget to insert a three-four sentence caption on why you took that picture and what story it tells.**

I was at Lake Naivasha last weekend and whilst on the boat we saw this Purple Moorhen in amongst the Papyrus swamp. They are normally very shy but this particular one was ready to model for me. The lake is still fantastic for birds.

PHOTO BY: MUNIR VIRANI







A herd of grazing Zebra pause to watch for predators at the Elsamere Field Study Centre. Despite their relative abundance, Zebra are still under pressure from human sources.

PHOTO BY: ADAM EICHENWALD



This female African Fish Eagle popularly known as "Champa" was tagged in 1997 and 17 years later, continues to thrive near the Geothermal Club shoreline along Lake Naivasha. African Fish Eagles are important "barometers" of ecosystem health. The African Fish Eagle Project, is a long-term project that aims to monitor African Fish Eagle populations s indicators of ecosystem health.

PHOTO BY: MUNIR VIRANI

An Amethyst Sunbird alights on a flower at mid-morning. Although sunbirds still collect at Naivasha in large numbers, many of the plants they use for nectar have been cleared away.

PHOTO BY: SARAH HIGGINS



Pelicans take flight as the sun rises over Lake Naivasha. Abundance of wildlife surrounding the lake has declined in recent years as human population has skyrocketed, but Pelicans appear to gather in large numbers around the lake's edge.

PHOTO BY: ADAM EICHENWALD



These three Side-striped Chameleons were rescued by my driver from his garden as the local kids kept killing them. He brought them to me for release in my garden where they promptly disappeared into the undergrowth and are, I hope, happily breeding.

PHOTO BY: SARAH HIGGINS





# Sexy Signals: The Locust, Stalk-eyed Fly and Widowbird

DINO MARTINS



is an entomologist and evolutionary ecologist broadly interested in life on the planet and natural history. He studies the intricate connections between insects and the way the world works and how they keep the planet running.

**I**ncredibly, I heard them before I saw them. A sinister, sibilant low rustle that hissed out from the tangle of grasses and drying leaves of the lemon-scented Lippia bushes. Slightly alarmed, but inevitably curious, I moved closer, hoping that this wasn't the scraping of agitated rough scales issued by a belligerent Puff adder. Or the movement of a flattened cobra belly pressing against the leaf litter. Zaza and Barabara, my faithful canine companions, lifted their noses and ears, but watched cautiously from a safe distance (they've learned lessons from our wanderings).

Then I saw it. It was THEM! But at first I only saw IT. A single broiling mass twitching in irritation at being approached too close. This was, like so many things in nature, an illusion, a suggestion, a matter of form and colour united in purpose. Despite the warning, black and yellow and orange, and now enhanced with a cloying, pungent and poisonous whiff, I still drew closer. And now, peering close among the tangled rank leaves and stalks, the mystery was revealed: a cluster of milkweed locust nymphs holding on to each other for dear life, literally, enhancing their distasteful signal many-fold.

As I peered, and of course prodded (I'm an entomologist after all!), the mass of cooperation began to crumble, and a perfect illustration of the selfish purpose of the group became apparent as the true geometry of this selfish



A cluster of Milkweed Locust Nymphs in some long grass.



herd kicked in and each individual scrambled and kicked its fellows aside to gain access to the middle of the mass, leaving those at the edges to their fate. However, this breakdown of law and order had the inevitable effect of collapse, and the mass of nymphs fell apart in ignominy as they dropped about in twos and threes, plopping unceremoniously onto the ground.

These clusters of locust nymphs are often observed in East Africa, especially at the beginning of the rainy season. The bright colours borne by each individual are a warning signal to would-be predators that they will make a rather distasteful mouthful if sampled. And by clinging together, they enhance the signal and send a clear message: "Leave Us Alone!"

Members of the Family Pyrgomorphidae, the milkweed locusts and their relatives are also known as 'Foam Grasshoppers'. This is due to another trick they have tucked under their wings of the ability to produce a frothy, noxious secretion if mishandled or harassed. If that isn't enough to

PHOTOS BY: DINO MARTINS



**Top: Toxic beauty - Detail of a Milkweed Locust Nymph showing the incredible colours**  
**Below: Face-forward view of an almost mature Milkweed Locust Nymph.**



put you off, they can also hiss loudly, flash their colourful wings and kick vigorously with their spiky legs. Despite all of this, incredibly a few human fatalities have been recorded from people eating these bugs, likely mistaking them for one of the many other perfectly edible and yummy species of locust. Of course the signal and toxic secretions evolved to protect these creatures from birds, lizards and other animals millions of years ago.

Green Milkweed Locusts are common in grasslands, bush and savannah regions throughout East Africa. The nymphs are black with variable electric orange and neon yellow spots. The adults are bright green to olive green with gaudy red and blue hind wings. One often encounters them in pairs, with the smaller males riding around on the females' backs. This is their form of mate guarding, where the hapless males have to stick around so as to prevent other roving males from mating with 'their' female.

It is of course an obvious fact that much of the signalling evolved by animals developed between males and females within a species. Acted upon by sexual selection (basically what females,



PHOTO BY DINO MARTINS



Inset: Detail of a Stalk-Eyed Fly, one of the most bizarre creatures on our planet.  
Below: A Stalk-Eyed Fly laps up some sweat from the author's leg.

and sometimes males, prefer and find 'sexy'), this phenomenon explains some of the more flashy, extreme and bizarre features of the animal kingdom and has fascinated naturalists for centuries. For sexual selection helps explain everything from the male peacocks' showy tail to the presence of a fully functional penis in female spotted hyenas.

Charles Darwin devoted an entire book to the subject, which remains one of great intrigue and study today. His book, *"The Descent of Man, and Selection in Relation to Sex"*, raised many interesting questions and showed that many features were related to courtship and evolved to attract mates.

And perhaps no other organism on earth better illustrates the idea of how extreme this can be than the Stalk-Eyed Fly. These are perhaps one of the most bizarre and wonderful of all flies, and we are very lucky that they are fairly common throughout East Africa. Stalk-Eyed Flies can be found almost anywhere that there is somewhat dense vegetation along rivers or streams or around the edges of wetlands.

Among many memorable encounters with these strange creatures, one of my







PHOTO BY: DINO MARTINS

A 'lek': a gathering of male Stalk-Eyed Flies being checked out by females.

favourite places to watch them is in the Kerio Valley in northwestern Kenya. Perhaps one of the most beautiful and diverse landscapes of our region, the Kerio Valley is blessed with streams and waterfalls that plunge down from the Cherangani Hills and adjacent highlands along steep escarpments to the hot, dusty plains below, where they form ribbons of green life shaded over by giant fig trees.

Seeking refuge from the heat after a morning of chasing after bees, I recently spent a few hours in the company of the amazing Stalk-Eyed Flies there. Along a crystal clear stream that bubbled and gurgled softly over a rocky stream bed, the flies were acting out a soap opera of high intrigue against the peaceful backdrop. Like many insect dramas, one has to get close in order to appreciate fully what is going on. I found a comfy rock and entered the world of sexual selection in action.

Hundreds, even thousands of individual flies were gathered in frantic groups among the shelter of the rocks. Here they were acting out a script that has been running uninterrupted for millions of years.

When you first see one up close, at first you can't believe your own eyes. For in this incredible insect, sexual selection has stretched and distorted the head and eyes beyond belief. Their eyes are placed on the ends of long thin, fragile-looking stalks. They stick out in a gangly fashion from the insects' head. What on earth could have produced such a bizarre structure? The answer is female preference. Female Stalk-Eyed Flies prefer males with longer, more widely spaced eyes.

Over millions of years, this preference has been played out as it was now going on in front of me here in the Kerio Valley. Among the massed flies, females were rejecting males whose stalk-size

did not impress them, and allowing attention from males whose length they found irresistible. Males approached females, who mostly rejected them with a firm flick, or simply took off, landing a short distance away. Other males were engaged in more direct acts of competition. They face off and battle it out, by pushing eye-to-eye, where fine hooks allow them to grapple and sometimes damage the eyes of their opponent. Meanwhile the female flies watch bored from the side-lines.

Multiply this simple act of female choice over many generations and you can see how the length of the stalks and spacing of the eyes increases to the point where you have the remarkable structures we observe today.

And this remarkable phenomenon is not just found in insects. Many different kinds of birds have elaborate and beautiful features brought about by through female choice.



PHOTO BY ELSA KARSTAD



**Jackson's Widowbirds: an amazing example of female preference and sexual selection in birds. In flight (inset) and perched on a Whistling Thorn tree at Suyian in Laikipia, Kenya.**

On the high plains of Central Kenya dwells one of the most elegant and breath-taking examples of sexual selection in birds: the Long-Tailed Widowbird. For most of the year you would be hard-pressed to notice these birds as they move about in nondescript flocks all sporting rather drab brown and tan plumage. However, at the beginning of the rains, the males undergo a transformation brought on by the heady rush of hormones and prospects of reproduction. Like teenagers headed to a prom, they put on their best clothes as their brown feathers change through moulting to glossy black with smart red epaulets and a long, flowing elegant tail.

Their tails are truly something to behold and are so long that they almost seem to encumber the males while in flight. (A game I no longer play, and am embarrassed to admit to, was chasing after the males and scooping them up in my butterfly net while on horseback: note that all birds were released unharmed if a little dishevelled!). However, what this illustrates perfectly is that sexual selection can actually produce a trait that encumbers the individual. So why would this be selected for? For surely if entomologists can catch them then

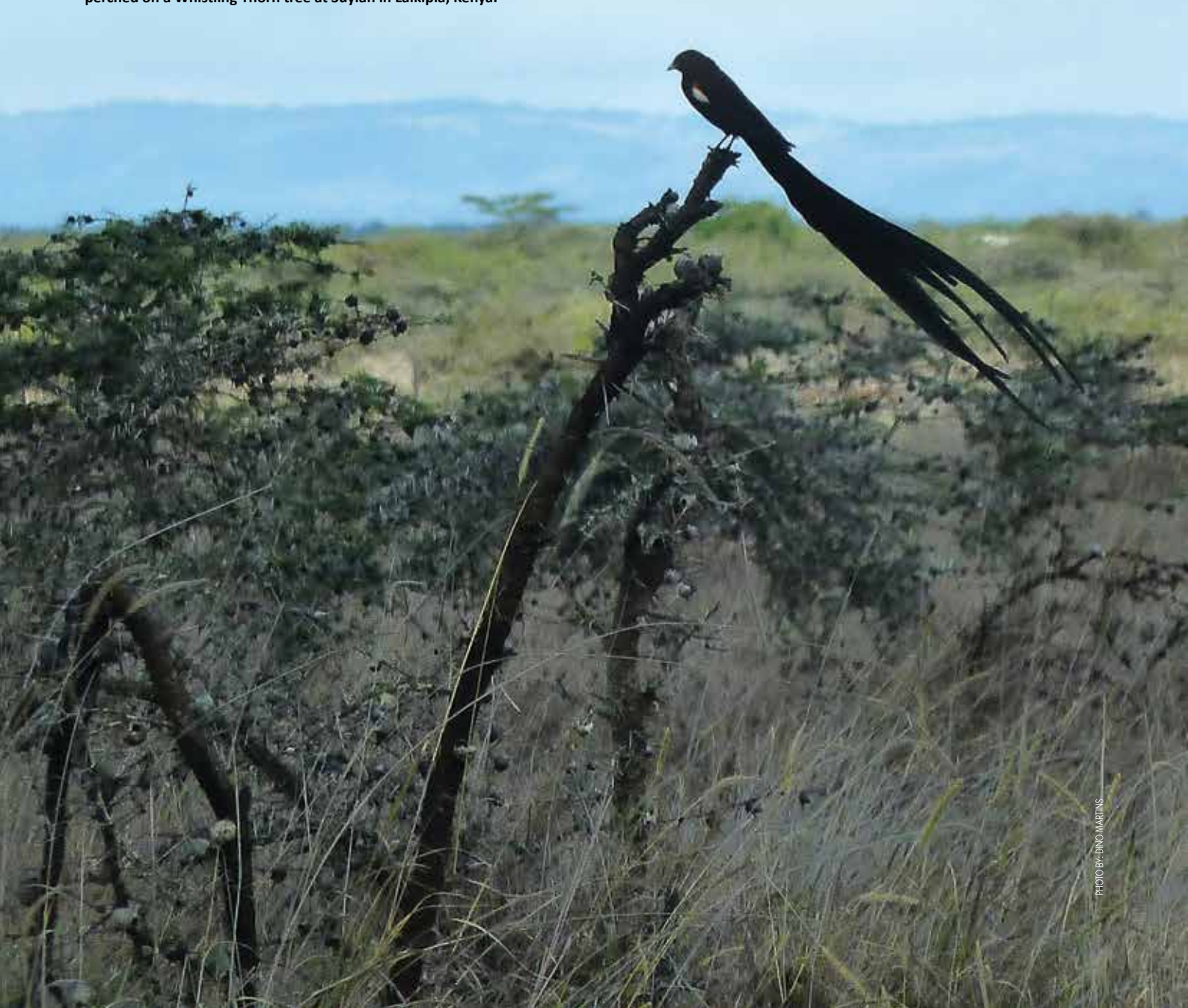


PHOTO BY DINO MARTINS



so could serval cats, genets and other predators?

This puzzle has been the subject of much careful thought by evolutionary biologists, and one of the theories put forward to explain this phenomenon is called the handicap theory, developed by the Israeli biologist Amotz Zahavi in the 1970s. The basic premise is that the signal that males display has to be honest, as they might sport beautiful colours for example, but this does not necessarily correlate with good genes in the individual. Females are faced with a dilemma, as they could be misled by male signals. By selecting a feature that is costly to the males and expensive to produce and maintain, females are more assured of finding a male whose signal does in fact correlate with better genes.

Therefore, what seems like a handicap, actually is an indicator of good genes. For if I am Long-Tailed Widowbird who sports a particularly long tail and I can still fly well and escape from predators, then the ladies are getting a fair deal as the tail also shows that the male is strong and

healthy, more so than other males with shorter tails. The tail accurately indicates the genetic quality of the male. For the cost of an extra-long and shiny tail means that particular males' genes are also good at producing muscles, feathers, resistance to diseases or parasites and strong bones.

Now of course, the intriguing thing with sexual selection is that all of these features will ultimately have to be balanced out by natural selection. For if the Stalk-eyed Flies eyes are too widely spaced, this will affect flight and

**Top: A Jackson's Widowbird on the ground showing how the long tail can 'get in the way'**  
**Below: The author with an adult Milkweed Locust.**

survival, and if Long-Tailed Widowbird tails' were too long they wouldn't be able to fly at all which would quickly come to a sticky end limiting their potential contribution to the gene pool. Experiments where the tail-lengths of males were artificially enhanced have shown that females much prefer these males. This demonstrates that the long tail really is what the females are using to assess the males value as a potential mate.

Many different East African birds display striking sexual dimorphism (where males and females are very different in size, shape or colouration) that can be explained through the simple act of female choice enforced over millions of years.

When you're next in the company of any of these wonderful insects or birds in the East African bush, please keep in mind the many levels of intrigue moulded by millions of years of evolution that has produced the beautiful, strange and even bizarre forms and behaviour that we observe today. Spend a few minutes watching them and learn from the script that has been running since the dawn of time. ●

Dino Martins' latest book, *Our friends the pollinators*, is reviewed on pg. 73

PHOTO BY DINO MARTINS





# LAWS AND CARBON OFFSET GIVE NEW START TO LOST TANZANIAN TRIBE

**Through a range of local initiatives and collaborations developed over the past 15 years, Tanzania's Yaeda Valley, the primary remaining home territory for the last community of Hadzabe hunter-gatherers, has become a model for community-based conservation.**

## FRED NELSON



is the Executive Director of Maliasili Initiatives, which is advancing sustainable natural resource management in Africa by supporting the growth, development and performance of leading civil society organizations."

**I**n the annals of human ecology, there is antiquity, and then there are the Hadzabe. These Tanzanian hunter-gatherers, who today number only about thirteen hundred individuals, are truly of ancient lineage. The Hadzabe and their predecessors are legitimately East Africa's- and in many

respects the world's- last remaining 'first people', representatives of the original cultures that once occupied all of the region but have been largely displaced by later waves of farmers, herders, and ultimately industrial society.

Tanzania's Yaeda Valley, running south of Lake Eyasi and abutted by the Mbulu Highlands, provides not only the last remaining territory for the Hadzabe, but a unique window into East Africa's social, ethnic, and linguistic history. The Hadzabe have been living in Yaeda and the surrounding area for at least 40,000 years, where up until about 3,000 years ago they were the dominant ethnic group in the region. Their endurance is a testament to the environmental sustainability of their

hunter-gatherer lifestyle, which relies on wildlife as well as honey and a vast array of wild plants, from baobabs to numerous edible tubers and berries.

About 3,000 years ago, Cushitic groups moved into what is now Tanzania and Kenya from the Horn of Africa to the northeast. The Iraqw, today's dominant ethnic group across the Mbulu highlands, are the descendants of these first iron-age immigrants. Later waves of iron-wielding Bantu farmers moved in from the west, and others, such as the Iramba, migrated to the region. Later still, only around the seventeenth century, Nilotic pastoralists such as the Datoga (Barabaig) moved down the Nile Valley into East Africa. The Datoga ended up in Yaeda Valley and

A forest carbon offsetting project is paying the community to keep their forest and ecosystem intact.



PHOTO COURTESY: GOOGLE IMAGES



**Top: The Hadzabe way of life and their existence is under threat.**

**Right: The Hadzabe rely on wildlife, honey and a vast array of wild plants, from baobabs to numerous edible tubers and berries.**



PHOTOS BY: DAVID PETERSON

its surroundings after being pushed out of much of north-central Tanzania by the Maasai, who took over rich grazing territories in the Ngorongoro highlands by the early nineteenth century.

The defining aspect of the Hadzabe's hunter-gatherer lifestyle and social ecology is that their livelihood is based on 'immediate returns', rather than storing and accumulating resources. Hunter-gatherers such as the Hadzabe do not grow and store their food; when they are hungry, they go and find something to eat in the bush. Because they have such deep knowledge about their environment, refined and developed over thousands of years, food is virtually always available. This non-accumulative lifestyle stands in

direct contrast to the dominant aspect of human social evolution following the adoption of agricultural cultivation and domestication of livestock roughly 10,000 years ago. This is that the accumulation of surplus food supplies in agricultural or pastoralist societies, which enabled people to free up surplus labor, allowing for the development of specialized skills, including everything from crafting pottery and other goods, to the collection and eventually transcription (writing) of knowledge. The accumulation of food supplies and other goods created by specialized producers also led to the generation of stored forms of wealth, which created the basis for, among other things, societal inequality and more violent competition over the control or seizure of that wealth. The need and rationale

for governments and armies, among other things, evolved directly from humanity's agricultural history.

The Hadzabe never passed through those stages of human history. Because the Hadzabe never stored and accumulated goods, they never developed hierarchical social structures. In essence, the Hadzabe have never had anything to fight over. One outcome is a remarkably harmonious and egalitarian social structure; sharing, not individual acquisition, is internalized as a core cultural value, as it is a critical element of the ability of hunter-gatherer communities to survive together.

However, another outcome of the Hadzabe's unique cultural history, social structure, and values is that they have been rendered totally unprepared to confront external encroachment

Thanks to the low impact hunter-gatherer lifestyle, the Yaeda Valley landscape continues to support the Hadzabe community in the same way it did 40,000 years ago.





PHOTOS BY DAVID PETERSON



PHOTO COURTESY, GOOGLE IMAGES

**Top: A Hadzabe man begins his hunting day early in the Yaeda Valley.**  
**Below: Hadzabe hunters cooking a squirrel and bird on the fire.**

and appropriation of the lands and resources their livelihoods depend on. For thousands of years, pastoralist and agricultural groups have gradually moved into Hadzabe lands. The Hadzabe, without any centralized social structures, or means of mobilizing analogous to the warrior youth age classes of pastoralist societies, nor any clear notion of territorial property, have simply moved off to somewhere else.

But by the late twentieth century the Hadza were running out of places

to move off to. Their last remaining territory of any significant extent comprised the Kidero Hills, a ridge and hill system roughly 30 km long and 10 km wide, running east to west to the south of Lake Eyasi and north of the Yaeda Valley and Mbulu escarpment.

The Yaeda Valley, like nearby savannah landscapes throughout northern Tanzania, was once a rich area for wildlife, with large herds of wildebeest roaming the valley floor and large numbers of Black rhinos and

elephants in the baobab woodlands. But by the 1980s wildlife was depleted from uncontrolled poaching. As more and more newcomers pushed the Hadzabe into the rocky hills, the ancient community was running out of both space to live and the natural resources their livelihood depended on.

The tide began to change in the mid 1990s. Dorobo Safaris, a leading ecotourism company, pioneered the first joint venture tourism agreements with communities in northern Tanzania in 1991 by forming contracts with two Maasai villages- one in Simanjiro adjacent to Tarangire National Park, and one next to Serengeti National Park in the Loliondo area. These contracts provided the communities with set annual and bed night payments in exchange for setting aside concession areas for low-impact camping tourism and walking safaris, mixed with traditional livestock grazing and other non-agricultural resource uses.

Dorobo began operating in Yaeda Valley in the early 1990s, carrying out cultural tourism with the Hadzabe and



PHOTOS BY DAVID PETERSON



**Top:** Richard Baallow, a UCRT Field Officer, was born Hadzabe and played a key role in helping the Hadzabe community secure rights to their land.

**Below:** With the territory back under Hadzabe control, wildlife, such as these Impala, are recovering in the area.

making set payments into a number of established community funds. In Yaeda, Dorobo and the community worked together to carefully control and regulate tourism. They coordinated and managed visits from all tourism companies, ensuring payments were made to agreed accounts, sharing guiding opportunities among a broad group of residents, and restricting stays to designated campsites.

While community-based tourism was proving successful, Dorobo recognised that the Maasai and Hadzabe faced growing pressures on their land and natural resources. In response they founded a U.S. non-profit Dorobo Fund for Tanzania in the 1990s, and shortly thereafter helped establish the community-based organization, Ujamma Community Resource Team (UCRT). UCRT formed to facilitate community land use planning and natural resource management capacity building among pastoralist and hunter-gatherer communities across northern Tanzania. It began working with the Hadzabe community to develop stronger community level institutions

for governing land use and resource access. The main objective was to secure Hadzabe control over their own village, ensuring the community could control the land area and decision-making processes within that village (the 'village', with its governing Village Council and Village Assembly, is the lowest tier of local governance in Tanzania and the institutional basis for tenure over the 'village land'). Village land use plans and supporting by laws for Mongo wa Mono village were facilitated by UCRT between 2000 – 2002. At the time Mongo wa Mono was under Hadzabe majority control. These plans included setting aside roughly 20,000 hectares of the Kidero hill system as a 'conservation zone', prohibiting cultivation and livestock grazing in that area, in order to protect the wildlife and other resources the Hadzabe depended on in that best remaining stretch of habitat.

Almost 3,000 years later, the Hadzabe were finally able to control and protect their (much reduced) territory again. Large mammals such as greater kudu, impala, zebra, and

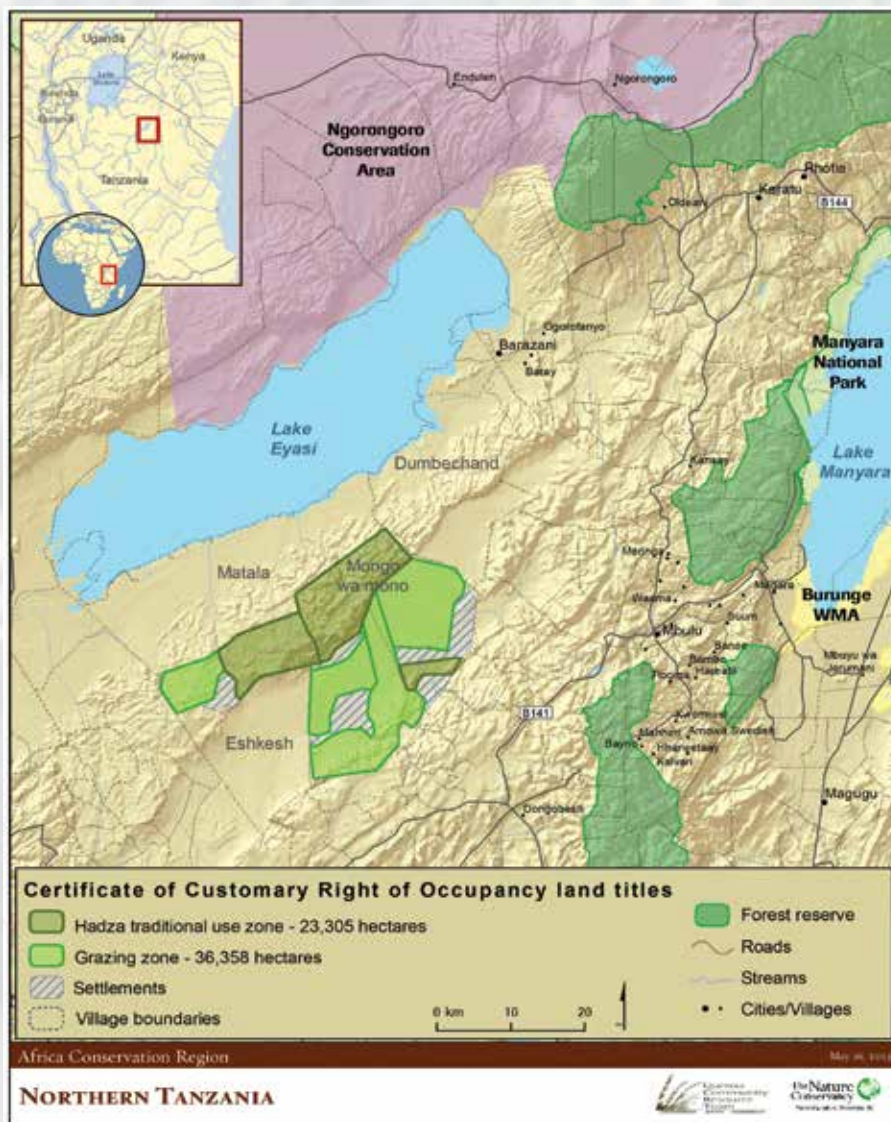




giraffe began to recover, and predators such as lion and even wild dog began to be seen and heard again. This nascent recovery was threatened in 2005, when government proposals emerged to turn Yaeda Valley over to a recreational hunting concession held by a prospective investor from the Middle East. Local advocacy, based largely on Hadzabe rights to their land and self-determination, and supported by civil society groups such as the Pastoralist Indigenous NGOs Forum (PINGOs), led to the eventual withdrawal of this proposal after several years of debate.

In 2009, a new threat emerged. Increasing immigration from adjacent areas, notably the densely populated Mbulu highlands, meant that the Hadzabe were becoming a minority in Mongo wa Mono and would no longer be in charge of village government decisions about land and resource use.

In response, UCRT, with financial support from the Dorobo Fund and The Nature Conservancy, began work with the Hadzabe community and the Tanzanian Ministry of Lands to facilitate the issuance of a 'Certificate of Customary Right of Occupancy' (CCRO) under Tanzania's Village Land Act for the core conservation zone and a number of other smaller parcels. These CCROs are basically a communal title issued in the name of the Hadzabe community. The key legal innovation of this certificate is that these titles are indivisible through village governance processes, i.e. the land cannot be subdivided at the local level. This provides a much stronger legal basis for Hadzabe protection of their territory and its conservation in perpetuity. In 2011 a CCRO was issued covering nearly the entire 20,000 hectare Hadzabe conservation zone, effectively giving it legal status as a Hadzabe-owned, community conservation area. In 2012, UCRT also extended this work to surrounding Datoga grazing lands, helping these pastoralists obtain roughly 36,000 hectares of grazing land



Map of Yaeda Valley showing Certificates of Customary Rights of Occupancy obtained in recent years for Hadzabe and Datoga communities.

in their own CCROs, which serve as a buffer to the Hadzabe land.

Another innovation during the past several years is a carbon offsetting project, using the emerging 'REDD'<sup>1</sup> market for carbon storage and avoided deforestation. This project, developed by Carbon Tanzania- the country's first carbon project developer focused on community-based forest conservation- and executed in partnership with UCRT, effectively reinforces the Hadzabe's existing conservation regulations. The project pays the community, using

revenue generated from the sale of carbon offsets, to protect their forests. It also provides resources for community scouts to patrol, enforce local regulations, monitor forest condition, and help prevent encroachment by agriculture or livestock. It is estimated that 268,939 tonnes of carbon dioxide emissions will be avoided over the next twenty years.

Carbon Tanzania is marketing these carbon offsets both internationally, through various intermediaries in the United States and Europe, as well as

<sup>1</sup> Reduced Emissions from Deforestation and Forest Degradation.



PHOTO BY: DAUDI PETERSON



In 2011, the Hadzabe gained legal status to a 20,000 hectare conservation zone, which can be used to support their traditional hunter-gatherer way of life.

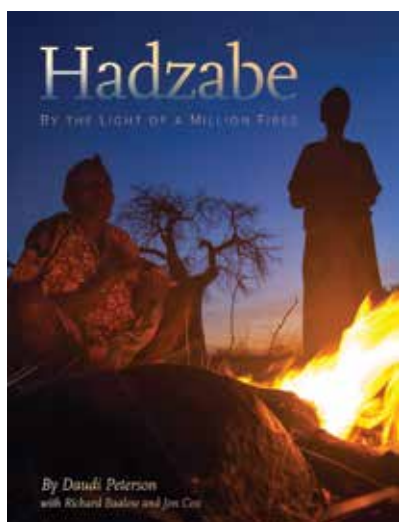
to Tanzania's local tourism market. A number of leading Tanzanian tourism companies, seeking to market themselves as 'carbon neutral' or low-impact eco-operators, have purchased offsets for several years running.

Last year the Plan Vivo Standards, a carbon offset project certification body, approved Carbon Tanzania's Yaeda Valley project. Initial sales have already resulted in over \$30,000 being paid into the Hadzabe community accounts, with more than twice that amount in annual payments to the community possible, if all offsets are sold.

Against all odds and, with some committed and skillful external supporters and new conservation innovations, it seems the Hadzabe have managed to strengthen their hold over their last remaining home range. Today, national level policy support for the Hadzabe and other hunter-gatherers appears to be growing in Tanzania, with the ongoing constitutional reform process adopting a number of proposals specifically geared towards better protecting the rights of these indigenous groups. Globally, the Hadzabe, among the oldest communities of people on the planet, seem to have been rediscovered as well. In addition to a prominent new illustrated volume on the Hadzabe produced within Tanzania (see Box below), a documentary on the Hadzabe, *Last of the First*, recently premiered

at an environmental film festival in Washington, DC.

As pressures on both natural landscapes and the human communities and cultures that depend on them increase across East Africa, the experience of Yaeda Valley provides an inspiring example of grassroots conservation that blends ancient traditional knowledge with modern markets and institutions. After decades of being squeezed out of their territory and being derided by many in Tanzania as an antiquated relic in need of modernization, the Hadzabe have secured a significant proportion of their lands and seem to have also secured some measure of respect for their culture and lifestyle. New efforts by UCRT and other collaborators are pursuing the possibility of extending the existing Hadzabe conservation zone by connecting it to Hadzabe communities closer to Lake Eyasi and Ngorongoro. While all existing gains bear some level of fragility, there is now hope that a community that has survived for millennia has a more promising future of its own. ●



The Hadzabe have recently received a flurry of attention, from various publications to media coverage, but one clear standout product is Daudi Peterson's new book, *Hadzabe: By the Light*

*of a Million Fires*. Daudi Peterson, of Dorobo Safaris and the Dorobo Fund for Tanzania, produced the book together with Richard Baalow, a leading Hadzabe social activist, and Jon Cox, who contributed artwork and photographs.

The book is a unique and hard-to-classify product- part illustrated field guide, part ethnology, part social history, and part coffee table book. The result is a volume that is both visually engrossing and intellectually enlightening, covering subjects ranging from Hadzabe linguistics (with a contribution on that subject from the renowned anthropologist and Hadzabe expert, James Woodburn), hunter-gatherer behavioral ecology, to current challenges around land rights and natural resource management, which both Peterson and Baalow have been centrally involved in for decades.

The book, rather unique for such a high-quality publication, is also an attempt to capture, document, and preserve the Hadzabe's unique

cultural knowledge and customs, which have been central to their survival for thousands of years. This builds on earlier efforts that Peterson, Baalow, and others were involved with, including a Hadzabe cultural mapping project that documented important sites and resources within the community's landscape in the Yaeda Valley. This more recent book was produced together with an 'editorial team' that contributed much of the information and local knowledge documented in the volume. An earlier special hardcover edition of the book was used to raise funds for protecting Hadzabe land rights. By helping the Hadzabe themselves document and preserve their unique knowledge, customs, and lifestyle, and raise awareness both within Tanzania and in the wider world about the community and the Yaeda Valley, the book is one more milestone in efforts to help the Hadzabe shape their own future in today's world.

# London talks highlight existing sanctions to bust poaching

## FELIX PATTON



is a rhino ecologist, who writes and broadcasts about the species from Africa and Europe. He has an MSc in Conservation Biology and a PhD based on research into individual rhino identification and social behaviour. He is a frequent contributor to SWARA.



Movie star Jackie Chan with a rhino called Spike for a demand reduction Public Service Announcement (PSA).



Organised in conjunction with the London Conference on the Illegal Wildlife Trade (see SWARA April - June 2014) was a Symposium organised by the newly formed United for Wildlife organisation to discuss the coordinated international effort that would be required to combat the illegal wildlife trade. At this meeting, people actively involved in conservation issues presented a number of potential actions to stem the rising tide of the poaching of, and subsequent illegal trade in, especially rhino horn and elephant ivory.

There has been much clamour for new and reformed wildlife legislation to help combat the illegal trade but changing legislation takes time. The Symposium heard that existing systems, if applied in full force, were immediately available.

### INVOKE TRADE SANCTIONS

Trade sanctions have been found to be an effective weapon in getting countries to confront issues and make significant changes. The commercial world largely runs on trade agreements which could easily include an obligation to uphold environment protection.

A good example of the effectiveness of trade sanctions is that of when the US

invoked the Pelly Amendment in 1994 against Taiwan for failing to control the trade in rhino horn and tiger parts. Under the Pelly Amendment to the Fishermen's Protective Act of 1967, the President has the authority to prohibit imports when foreign actions are found to diminish the effectiveness of an international conservation programme. President Clinton imposed a ban on the importation of certain fish and wildlife products from Taiwan worth around US\$20 million a year.

Taiwan almost immediately made major strides in combating the devastating commerce in endangered species by enacting amendments to its Wildlife Conservation Law, strengthening enforcement activities and enabling law enforcement authorities to impose sufficiently high penalties to deter people from dealing in rhino and tiger parts.

### IDENTIFY & CLOSE THE GAPS

To control wildlife crime, governments and other involved organisations need to identify the strengths and weaknesses of, and gaps in, existing legislative, administrative, enforcement, judicial and preventive systems. Guidance from competent authorities



PHOTO BY: KRISTIAN SCHMIDT FOR WILDAD

The Duke of Cambridge and David Beckham have lent their support to Ivory and Rhino horn demand reduction campaigns.

is essential as the issues are complex and wide ranging. The International Consortium on Combating Wildlife Crime - consisting of representatives from the CITES secretariat, INTERPOL (the International Criminal Police Organisation), WCO (the World Customs Organisation), UNODC (the United Nations Office on Drugs and Crime) and the World Bank - was launched in 2010 and agreed that there was an immediate need for a "Wildlife and Forest Analytic Toolkit". The toolkit is designed to enable any interested party to:



PHOTO BY: PETER KNIGHTS

Former Chinese basketball star Yao Ming watches a parade of orphan elephants at the David Sheldrick Wildlife Trust as part of the "Say no to ivory and rhino horn" campaign.





PHOTO BY: ALEX HOFFORD FOR WILDLIFE

Seized Ivory tusks and Rhino horn, with a street value of around US\$ 5million, are seen at the Hong Kong Customs & Excise headquarters in Hong Kong, China, 07 August 2013.

“(a) conduct a comprehensive analysis of domestic systems, (b) identify areas of technical assistance, (c) assist in the design of interventions that integrate international standards and norms on the prevention, deterrence and detection of wildlife and forest offences, and (d) assist in training on these issues”.

The set of measures proposed in the toolkit should help to analyse criminal justice systems and other mechanisms to prevent and address wildlife and forest offences.

## IMPROVE LAW ENFORCEMENT

National and international law enforcement systems are well established but are not being used fully to help control illegal wildlife trade. This is largely due to a lack of understanding by those in the judiciary as to the severity of such crimes. Wildlife crime has been viewed by many as a ‘victimless crime’ – there

are no witnesses to it other than the perpetrators, the victim cannot talk, items recovered may no longer be in a recognisable form, difficult to determine who has suffered. In addition, the consequences of a wildlife crime are not understood. For example, the fact that a container can be loaded with tonnes of ivory and smuggled across borders should be seen in the context that it might have been radioactive material (rather than ivory) so having national, regional and international security concerns.

Recognising that the activities of the illegal trade in wildlife represent a ‘serious crime’ opens up a series of international protocols that allow for greater transparency and the greater involvement of international security and intelligence agencies. The ‘kingpins’ organising the illegal wildlife trade distance themselves as far as possible from the actual crime thereby avoiding detection but they might well be caught

out by “crossover crimes” such as tax fraud, passport fraud, violence, murder and corruption. The example most often used to illustrate this was the jailing of the infamous American gangster Al Capone for tax evasion as he could not be caught for smuggling illegal alcoholic beverages into Chicago during prohibition and various other criminal activities, including bribery of government figures and prostitution.

A multi-agency approach is essential and there exists an Interpol recommended programme for individual countries called NEST – National Environmental Security Taskforce – combining prosecutors, customs, police and wildlife authorities.

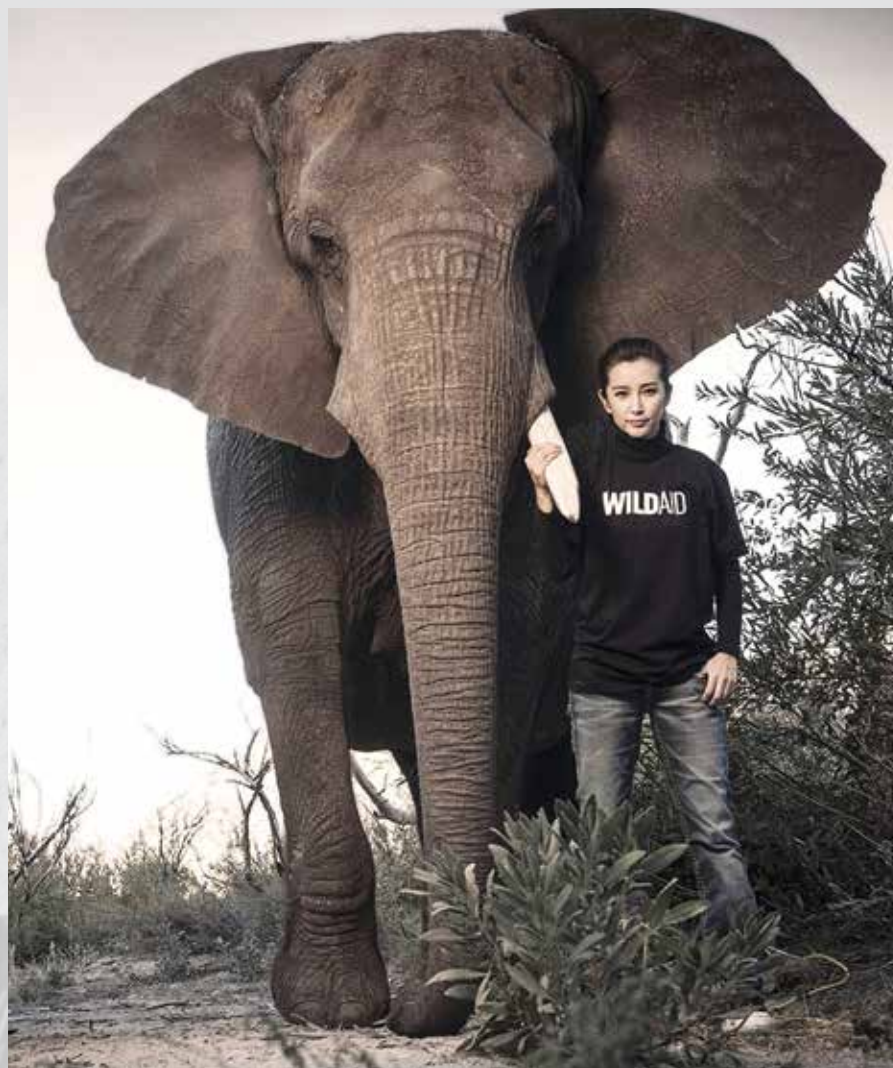
The approach has been taken a step forward by the forming of Wildlife Enforcement Networks (WEN’s) with a multi-agency approach across a region such as the Horn of Africa WEN (involving Djibouti; Ethiopia; Kenya; Sudan; South Sudan; Somaliland; Somalia and Uganda ) and the South East Asia WEN (combining Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Vietnam and Thailand.)

A problem that regularly confronts the judiciary is the lack of evidence needed to link a suspected poacher to a poaching incident. Forensic science using DNA analysis is a key so that a confiscated rhino horn or elephant tusk can be traced back to a specific carcass which in turn can be traced to the machete used to remove it and to trace DNA from the carcass on the clothes of a suspect. To get this evidence requires maintaining the integrity of the crime scene (to avoid cross contamination), having adequate DNA collection resources and dedicated forensic laboratories with skilled staff as exist for other serious crimes.

## REDUCE DEMAND

Recent research indicated that Vietnam had become a major market for rhino horn. Recognising the need to stem, and hopefully reduce, the demand for rhino horn in consuming countries, advertising campaigns were initiated. These were based on the fact that





China's top actress and singer Li Bingbing stars in a Public Service Announcement for a campaign against the ivory trade.

owning a horn meant that a rhino had to die or on the premise that rhino horn as medicine was 'the same as chewing your fingernails'. The effectiveness of these campaigns was tested and found to be wanting as the drivers for the demand for rhino horn were not fully understood.

The key Vietnamese consumers tended to be older, wealthy and well educated, mostly business people and entrepreneurs. They wanted rhino horn to give as a gift to elderly family members, relatives, friends, their bosses and business partners. By owning a rhino horn, they were affirming their wealth and status and by giving it they were showing respect.

The information contained in the advertising was not seen by these

consumers as being relevant to them – "they did not kill a rhino, the poacher did", they were not using the horn for medicine. In addition, the consumers did not believe/trust the messages as they were being presented by foreign organisations.

What has been seen to have an effect is the use of national celebrities to deliver the message. Public service announcements by the retired Chinese basketball star Yao Ming and actress Li Bingbing were well received especially when added to by locals using internet based social media – China has 690 million online users. Yao Ming fronted a campaign to reduce the consumption of shark fin in China and in two years there was a reported 50% to 70% drop.

## OBTAIN ADEQUATE FUNDING

It was suggested that much more than US\$100 million would be needed to enact the many solutions that would lead to securing the future for elephants, rhinos and other endangered wildlife. For example, the Tanzanian president has said that he would destroy the country's ivory stockpile if the international community would donate US\$30 million in its stead.

The level of funding required is massive in conservation terms but relatively minor in terms of funding for such as poverty alleviation or security. The UK overseas aid budget alone, over the next 10 years, was reported to be £140 billion. Conservation needs to get its fair share of worldwide international aid by changing its narrative from say "saving elephants" to "creating sustainable livelihoods". To get this funding, the donor organisations need to act more cooperatively and not just competitively. To be fully effective, the funding must get channeled through all sizes of organisation as often it is the smaller NGO's that are taking direct action in the field.

The two day Symposium comprised over 20 formal presentations plus points made during discussion sessions so it is impossible to cover everything raised in an article. All the presentations and discussions can be viewed online through You Tube by searching for International Wildlife Trafficking Symposium – A United for Wildlife event hosted by ZSL.

United for Wildlife is a collaboration of seven international conservation organisations – Conservation International, Fauna and Flora International, International Union for the Conservation of Nature, The Nature Conservancy, Wildlife Conservation Society, World Wildlife Fund and the Zoological Society of London – convened by HRH Duke of Cambridge, committed to focusing increased attention on the most pressing conservation issues of our time. ●

See [www.unitedforwildlife.org](http://www.unitedforwildlife.org)





WWF/Traffic advert - Vietnamese citizens are being encouraged to stop buying or consuming Rhino horn through a series of advertisements developed by WWF and TRAFFIC as part of their campaign against Illegal Wildlife Trade.

## THE NEPALESE EXPERIENCE

The rhino range state that is held up as perhaps the main example of where rhino poaching has been held in check is Nepal. In the three-year period 2011-2013 only one rhino was poached. Following extensive poaching during the Maoist insurgency from 1996 to 2006, all levels of wildlife crime control were reformed from the community level to the political level. A fully committed Prime Minister demanded inter-agency collaboration and became Chair of the National Wildlife Crime Control Bureau.

Today, staff of the Department of Forests, the Department of National Parks and Wildlife Conservation (DNPWC) and the Nepalese army all share information and work together

to fight wildlife poaching and trafficking. Wildlife rangers and the Nepalese army patrol protected areas with support from community-based anti-poaching units outside the parks.

Communities provide the DNPWC with information, which allows officials to target poachers and dealers. Active enforcement by the crime investigation bureau of Nepal's police is crucial to breaking up illegal wildlife trafficking networks with more than 700 criminals arrested for wildlife-related crimes including many "kingpins". Nepal's forest law empowers district forest officers and chief wildlife wardens to deal with offenders and impose prison sentences of up to 14 or 15 years. This means that any poacher who is caught can expect to be dealt with quickly.

Nepal ensures local communities benefit financially from the parks and ecotourism not only through employment but also from sharing revenue, such as entrance fees and license fees from tour and lodge companies, with local people. By receiving as much as 50% of the revenue, local communities value live rhinos more than dead ones.

The growing rhino population will inevitably attract poaching groups and Nepal is addressing the problem by employing the Wildlife and Forest Crime Analytic Toolkit and collaborating with the International Consortium on Combating Wildlife Crime (ICWC) in order to strengthen even further its approach to wildlife crime.



# Helping Simien National Park in Ethiopia meet its potential

KATHLEEN H. FITZGERALD



is the Vice President Conservation Strategy, African Wildlife Foundation (AWF)

**W**e are at 12,000 feet. I can feel the shortness of breath. The air is cold. A woman wrapped in white swaths of material crouches by an open fire and cooks coffee beans in a skillet. She smashes them in a mortar and pestle and then brews a sweet-smelling coffee. Despite being in the middle of Simien Mountains National Park, at a small, dilapidated shelter, we are served divine tasting coffee in delicate china that could be served at an up-scale cafe in Europe.

## **This is Ethiopia.**

Ethiopia is a country recognized for its cultural richness, 80 tribes, and deep religious history. It is said that Christianity reached northern Ethiopia at the time of the Apostles and that the Ark is buried in the northern town of Aksum.

The African Wildlife Foundation (AWF) is working with the Ethiopian Wildlife Conservation Authority (EWCA) to ensure that the country is recognized for its ecological richness. Our starting point is Simien Mountains National Park (SMNP).

Established in 1969, SMNP is located in a remote part of northeastern Ethiopia in the Simien Mountains Massif, one of the major highlands of Africa. The Simien Mountains contain the highest parts of the Ethiopian Plateau (more than 2,000 metres). The Park is surrounded by a steep, ragged escarpment, with dramatic vertical cliffs, pinnacles, and rock spires. The rocky massif slopes down to grasslands and is cut by streams and gorges. Quite simply, SMNP boasts one of the most spectacular settings in Africa, if not the world.

Add to these awe-inspiring views the Gelada monkey—an endemic species—and you have one of the most special wildlife experiences in Africa. Commonly referred to as the bleeding-heart baboon, because of a brilliant red patch on its chest, the Gelada is actually a monkey.

One morning, we sat on the edge of the cliff with our coffee, watching the mist roll over the mountains. Slowly, these awesome, furry creatures emerged over the cliff. They are not aggressive and have an amazing repertoire of vocalizations. For hours we sat amongst the Gelada, literally, and watched them play, preen each other, and scoot along the plateau picking grass. Allan Earnshaw, a long-time tourism expert who conducted a tourism assessment for AWF in SMNP, noted, ‘The Gelada offer a unique experience that rivals that of chimpanzees and mountain gorilla.’

The Simien Mountains are home to 21 threatened or endangered species, including some of Ethiopia’s most unique species, including the Walia ibex and the Ethiopian wolf, the most endangered canine in the world. Approximately 96% of Ethiopia’s highlands are developed and cultivated, making SMNP ecologically significant. The Park was designated as one of the first World Heritage Sites in 1978, on the basis of its importance for biodiversity (criterion iv) and its exceptional natural beauty (criterion iii). SMNP is an Important Bird

One of the awe-inspiring views in Simien Mountains National Park, Ethiopia.

Area (IBA) and plays a key role in safeguarding life support systems as a key watershed.

Originally set aside as a 190-km<sup>2</sup> Park, SMNP has since been expanded to 420 km<sup>2</sup>; however, the Park is under threat from human and livestock encroachment, leading to ecosystem degradation and habitat loss. Impoverished communities surround the park, engaging in low-productivity agriculture on small land holdings that extend right to the edge and even inside the Park. The local population is very young—65% below 25 years of age—and social amenities and services are poor. Unsustainable agricultural practices and high human density have caused severe land degradation, impacting water retention and soil fertility.

Approximately 16,000 tourists visit SMNP annually, with visitor numbers increasing steadily over the past 15 years. SMNP is now featured in many visitors' itineraries as it is in the famous northern cultural tourism circuit. Ensuring the Park is developed in a way that can accommodate these visitors while maintaining its ecological integrity is the key challenge.

In 2005, SMNP was declared a World Heritage Site Under Threat because of: declining populations of Ethiopian wolf and Walia ibex; human presence in the Park; ecological degradation; and a road and power line cutting through the Park. The World Heritage Commission gave conditions that had to be met for the Park to be removed from this threatened status.

EWCA initiated a series of actions designed to remove SMNP from the list, including expanding the Park by over 50%, thereby adding critical habitat for the ibex and wolf, while simultaneously cutting out villages from the Park. The main road is being rerouted from the centre to south of the Park, and considerable efforts have been made to manage and decrease grazing within SMNP boundaries.

While SMNP has a General Management Plan, it did not include a tourism and/or development plan. In 2013 AWF and Conservation Capital worked with EWCA, the Amhara Region authorities, local communities, tour operators, and stakeholders to develop the *Simien Mountains National Park Tourism Development Plan*. Without such a plan, the Park was at risk of being overrun by unplanned tourism development. EWCA approved the plan in 2013. The plan:

- provides a strategic framework for tourism development and related investment in SMNP to avoid overcrowding and poorly regulated tourism development, disperse usage to underutilized areas, and transform tourism into a viable source of revenue for the Park and surrounding communities;
- identifies several high-potential investment opportunities in and around the Park; and
- outlines a process to improve the trails, facilities and service provision for trekkers, and to develop new



PHOTO BY: STUART WILLIAMS



PHOTO BY: BRIAN MCBEARITY AWF

Top: Ethiopian wolf  
Below: Walia Ibex

trekking routes to reduce pressure on current routes and campsites—thereby spreading the benefits to other regions of SMNP.

AWF is now working with EWCA on implementing the plan.

AWF's impact investment company, African Wildlife Capital (AWC), completed two financial deals to support conservation-based tourism in SMNP. AWC is a mission-related impact investment company owned and operated by AWF that provides



Gelada Baboons inside the Simien Mountains National Park.

PHOTO BY: KATHLEEN FITZGERALD AWF



financing to small and medium-sized enterprises to leverage conservation and generate economic and social benefits for people who live with wildlife.

In SMNP, there is a clear need to increase involvement of and benefits to local communities. AWC provided financing to Village Ways, a company that works in partnership with rural communities to establish, develop and manage a trekking-based tourism product, to expand their tourism product in Eastern Africa. With support from AWC and AWF, Village Ways is developing community based tourism in five communities on the southern boundary of SMNP. Under the Village Ways' plan, guests will walk from village to village and stay in traditional community hosted and owned guesthouses that are of good quality but based on local designs. Village Ways trains the local communities as hosts, chefs and guides and markets the product. The accommodation infrastructure is wholly owned by the local communities, and Village Ways enters into long term exclusive agreements with each village for the use of the infrastructure.

AWC more recently provided financing for a new lodge, Limalimo,

in the western part of the Park, located on a spectacular cliff. The majority of visitors to SMNP are sightseeing tourists who stay for one night in the Park or do a day trip. Limalimo will help accommodate this market by providing high-end lodging and will incentivize people to stay longer by providing a diversity of activities. Limalimo will host trekkers who are starting or finishing their trek, and/or want to do day hikes from the lodge. Revenue from Limalimo will provide benefits to a new AWF Conservation School being developed on the southern side of the Park, the Park's conservation, and the local community.

Of course, delivering a solid tourism product is more than the facilities or trails. The face of SMNP and the key people interacting with tourists are the guides. SMNP has more than 60 registered guides, but they have not been provided with adequate training, support and structure. Recently AWF conducted a one-week training with two South African guide experts that covered everything from managing guests to natural history of the landscape. More guide training is scheduled.

Species protection is another key aspect of the Park protection. The

Ethiopian Wolf Conservation Project has a long-standing program in SMNP and other wolf habitats in Ethiopia. The estimated population of the Ethiopian wolf in SMNP is 98 with an average density of 0.4 km<sup>2</sup> which represents an upward population trend. AWF provided a grant to the organization for wolf conservation work in SMNP and other locations through our Species Protection Grants Program.

Whilst a small Park, SMNP holds the potential to serve as a holistic conservation model for Ethiopia. The Park is endowed with rich biodiversity, world renowned landscapes and views, and engaged communities. Ensuring its long-term viability is a challenge that must be met.

On a recent trip to Ethiopia, we came out of the restaurant in Addis to find our car boxed in by a blue Fiat taxi. Our driver casually called over a few men and before I knew it, without hesitation, they literally picked up the taxi and moved it over. Our driver wiped his hands together with satisfaction, called us into our vehicle and we drove away. If we can address challenges in SMNP with that kind of teamwork, efficiency and creativity, we will certainly succeed. ●

The 'red hot poker' or 'torch lilly' (*Kniphofia foliosa*) a locally common plant at SMNP.





# POISONING THE FUTURE OF WILDLIFE IN KENYA?

BY DON TURNER

As Kenya moves forward into the 21<sup>st</sup> century, one has to wonder what the future holds for its younger generations, its economy and its magnificent variety of birds and wildlife. Can an explosive population ever be compatible with industrialization and the aspirations of conservationists and wildlife lobby groups? On the one hand the Government needs to plan ahead for a time when the country's population will be close to sixty million and growing, and so we are already seeing economists beginning to equate Kenya with Nigeria as becoming the two main "Tiger" economies of a future Africa, where growth and more growth is the order of the day.

For generations Kenya enjoyed a worldwide reputation for being one of the few countries in Africa where its wildlife was at the centre of its economy, while at the same time its position on the East Coast of Africa had for centuries made it a strategic location for trade. The post-independence years saw an explosion of the country's tourism industry and much needed foreign exchange into the Exchequer, and with it the country quickly became the economic hub of East Africa. However, that was a rather short-lived boom, quickly to be overtaken by the needs of a fast growing population with a hunger for a better life and a larger share of the spoils of success.





Something had to give and today we are witnessing a total transformation of life as many once knew it, with our precious natural resources being plundered by unscrupulous individuals both local and foreign. It's no secret that forests, wetlands and grasslands the world-over are under direct threat as all countries faced with rapidly increasing populations strive to improve their agricultural potential. Kenya is no exception and today with our population reaching unprecedented and possibly unsustainable levels, and where in many rural areas the human population density is already in excess of 800 per sq km, our precious natural habitats are under their greatest pressures.

The 60-70% decline in our wildlife numbers since the 1970's is well known and has been well documented (Norton-Griffiths 2007, Western et al 2009), but the decline of many of our bird species may not be so well known. Taking a closer look at our forest, freshwater and grassland species we are seeing monumental declines that many of us had never before envisaged:

As our forest cover decreases and has done steadily since the 1960's, forest birds that rely on closed canopy forests have themselves declined, to such an extent that Kenya has already lost six species and a further four forest species and three others are currently very close to that final category of being locally extirpated (Appendix A).

Wetlands are internationally recognised as one of the world's most productive ecosystems, with both wildlife and people highly dependent on them. They attract more wildlife (particularly birds) than any other habitat, while at the same time providing numerous benefits to both governments and local councils. They are however, among the most threatened habitats in the world today, due largely to uncontrolled drainage, land reclamation, pollution and over exploitation.

Sadly due to a combination of woefully inadequate legislation relating to the protection of wetlands, and a general lack of law enforcement by local authorities, many of our wetlands



A poisoned Lion struggling to walk.

(including some designated as being of international importance) have been irreparably degraded to the point of being listed as endangered wetlands. Prime examples are Lake Victoria, and lakes Baringo and Naivasha in the Rift Valley, arguably three of East Africa's most valuable freshwater resources. Naivasha in particular was known for its crystal clear waters and extremely rich biodiversity, with over 150 wetland species recorded at the lake, while during the months of January and February upwards of 20,000 migratory ducks and shorebirds were recorded annually. Sadly this has all but vanished, and Lake Naivasha has undergone profound environmental changes due to pollution in the form of raw sewage, heavy metals and organochlorine pesticide residues that continue to enter the lake with seemingly little attempt to control or take action against those responsible. The once common Great Crested Grebe (close to 1,000 individuals at Naivasha 50 years ago) is now the most critically endangered wetland bird species in East Africa, with only double-digit numbers remaining in both Kenya and the other East African countries.

However, it's in our world famous savannas and grasslands that we are witnessing some of the most dramatic declines. Grasslands are a major global habitat with over 50% of the earth's land surface covered in grass, and is second only to the oceans in terms of

the surface area of our planet. In Kenya grasslands occur from sea level to the alpine tussock grass at over 3000m on Mount Kenya and Elgon and the Aberdares. They are however a fragile ecosystem with little in protected areas, as a result many are under pressure from burgeoning re-settlement schemes, and intensive agricultural and horticultural projects. At the same time the East African savannas are great tourist attractions with many of the earth's last great wildlife spectacles occurring there, and for that reason alone they deserve the highest possible conservation consideration and protection from their governments. Ostriches, Secretarybirds, Vultures, Birds of Prey, Francolins, Bustards, Plovers, Coursers, Sandgrouse, Larks, Pipits, Cisticolas and Widowbirds are all totally or largely dependent upon our grassland habitats and are themselves important indicators by which we are able to gauge the quality of their habitat. Without exception we are currently seeing declines in all these families.

Today one of the major challenges facing anyone involved in wildlife conservation is the issue of direct and indirect poisoning of birds and mammals through use and mis-use of carbofuran pesticides, most notably Furadan, a widely available insecticide that is used against a broad range of horticultural and agricultural pests. Carbofuran is the active compound in Furadan and as such it is highly toxic

<b>Appendix A: Those species that have been extirpated from Kenya:</b>		
Forest Wood-Hoopoe	<i>Phoeniculus castaneiceps</i>	Formerly in Western Forests
Speckled Tinkerbird	<i>Pogoniulus scolopaceus</i>	Formerly in Western Forests
White-winged Apalis	<i>Apalis chariessa</i>	Formerly in Tana River Forests
Kretschmer's Longbill	<i>Macrosphenus kretschmeri</i>	Formerly in Kitovu Forest near Taveta
Yellow-streaked Greenbul	<i>Phyllastrephus flavostriatus</i>	Formerly on Mt Kasigau, Taita District
Yellow-mantled Weaver	<i>Ploceus tricolor</i>	Formerly in Western Forests

<b>Species currently in danger of local extirpation within the next twenty years:</b>		
Great Crested Grebe	<i>Podiceps cristatus</i>	Freshwater lakes
Lammergeier	<i>Gypaetus barbatus</i>	Mts Kenya and Elgon
African Grey Parrot	<i>Psittacus erithacus</i>	Kakamega / South Nandi Forests
Velvet-mantled Drongo	<i>Dicrurus modestus</i>	Kakamega Forest
Spotted Creeper	<i>Salpornis spilonotus</i>	Cherangani
Taita Thrush	<i>Turdus helleri</i>	Taita Hills
Taita Apalis	<i>Apalis fuscicularis</i>	Taita Hills

to mammals, birds, invertebrates and insects including high value insects such as bees. Despite being banned in several EU and North American countries it is still available in Kenya and Tanzania for the treatment of barley seeds, rice, bananas, beans, vegetables, flowers and coffee. It is also widely used to control insects in soils as well as eradicating foliar-feeding insects in coffee, bananas, pineapples, pyrethrum and maize. Despite stringent regulations concerning its use, recent surveys have shown that it is readily available in both granular and liquid form in veterinary stores in many rural areas.

Since 2004 the illegal mis-use of Furadan is seriously affecting Kenya populations of birds, hyenas, lions and hippo through both direct and indirect poisoning. The catastrophic effect on our lion population is such that although they are not subjected to any legal hunting, the killing of lions through carbofuran poisoning is such that the Kenya Wildlife Service have estimated that the country is losing 100 lions annually, and at this rate of off-take the lion could be extirpated from Kenya within twenty years (Barley 2009, Nelson et al 2013).

The most common reasons for poisoning by poachers, pastoralists and farmers are control of crop damaging animals, harvesting of fish and bushmeat, harvesting of birds and wildlife for traditional medicine, and killing wildlife sentinels such as vultures because their circling alerts authorities to poaching activities (Ogada 2014). The dramatic decline in all vulture populations together with a general decline in most birds of prey has been attributed to carbofuran poisoning, while the poisoning of hundreds of water birds at both the Bunyala and Mwea rice schemes in Kenya continues at alarming levels. Meanwhile the spraying of *Quelea* colonies has also

been identified as a major cause of raptor deaths (Thomsett 1987).

Statistics now show that several vulture populations in Kenya have experienced strong declines, almost as much in protected as in unprotected areas. The declines are occurring across all species, with the largest declines apparent in White-backed, Ruppell's, White-headed and Egyptian vultures. These declines have accelerated since 2011 due to the sharp increase in poisoning, and a 60% decrease in Laikipia in the last three years coupled with a 50% decrease in the Mara in the last ten years is indicative that some areas of Kenya could lose ALL vultures in the next 30 years or less. ●

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# KENYAN TOURISM AT CROSSROADS TIME FOR A NEW DIRECTION

## DAMIAN COOK



is the founder and CEO of E-Tourism Frontiers, an international initiative to develop tourism and technology resources in emerging markets, and works with leading destinations worldwide. He is Kenya based and lives in Watamu, where he is Chairman of the Local Ocean Trust.

**K**enyan Tourism sits at a critical crossroads. A once classical wildlife and adventure destination finds itself in the midst of falling arrivals and revenue, rising costs, and declining wildlife. Thrown into this mix are questions about the security of the destination that are being answered by travel advisories and media that seem inconsistent, confusing and often politically motivated.

As the industry cries foul and the authorities look towards immediate fixes, policies, plans and solutions are being suggested, born, shaped and reshaped on an almost daily basis. Yet at the centre of all of this is the core product of the destination itself, and these plans are not just shaping the

short-term economic strategy, but potentially the future of the destination itself, including the natural resources and the wildlife it depends on.

Many are struggling to find quick fixes, but at the heart of this crisis are some key problems with our products, value and business models and we are running out of time to find genuine, sustainable solutions.

Currently the destination is in damage control mode, dealing with the fallout from travel advisories and the raft of cancellations they have caused, but even before these advisories came to be, both arrivals and revenue from tourism were in a state of marked decline. The security situation and our messaging in response to it are symptomatic of a much broader issue with the destination: That much of our product lacks appeal in the current travel market, and has for some time, and our model for selling it is broken.

As this is becoming increasingly clear, we are seeing numerous suggestions for how to reposition and redirect our travel trade- many based on short-term gain or on untested or potentially

unsustainable models. The Chinese Market still remains a much-eyed Holy Grail, even though it has proved to be a business travel market and little else, with their leisure market firmly focused on Europe and Asia and what traffic does come to Africa sitting toward the lower end of the market.

There have been the suggestions of creating tourism mega cities with Dubai as a model- a major undertaking with questionable market appeal and without the same economic base that built the Emirates first as a business hub that then evolved into an associated leisure product.

So where do we go from here? We need to look at our product and what makes us unique and special, and most importantly, how we value it.

A new travel trend has grown out of the recent recession and is continuing and sustaining: Globally, people are travelling less often but spending more when they do. This has been borne out by sales figures, with one of the leading travel sellers in Europe reporting in the past year a 3% decline in booking matched by a 4.5% increase in revenue.

A Game drive is a perfect way to get close with animals.

In a nutshell, people are travelling less but expecting more.

The upshot of this equation is that destinations and businesses that are succeeding are those who are not focusing on growth via increasing numbers, but on growth of yield, or total revenue per tourist. Focus on this alone has seen strong economic growth in destinations such as Botswana, the Seychelles and Jordan, who focus on improving the value of their visitor experience over volumes of visitors.

But Kenya in many ways gets this wrong. Our forecasts and strategies are on arrival numbers and on source markets that are rapidly drying up as mass and packaged travel sales are eroded by increased direct online and high value sales.

Our industry are pinning the blame on increased taxation, reduced destination marketing budgets and lack of air charter lift- but we need to also address that these things alone will not address the fact that many of the products we offer and the way we sell them have very little market appeal.

Our herds of minibuses are off-putting to any traveller looking for an individualized high value experience. Our Coastal products are for the largest part hopelessly outdated, selling a product that sits firmly in the 1970-80s

with endless buffets, lines of sunbeds and cover bands crooning popular hits of a bygone era. No successful coastal destination worldwide is selling these kinds of experiences in a market looking for small, exclusive beach resorts and boutique hotels. Expecting a revival of the market without a major rethink of the product is entirely unrealistic.

And this has very important relevance for the conservation of our natural resources too. Botswana and Namibia have built extremely high quality and lucrative wildlife tourism models based around sound sustainable models, but they have done so by placing a high value on their product and focusing on revenue over volume. Our wildlife product, when swamped by literal busloads of tourists paying very little (in comparative terms) to do so, cheapens the product in every conceivable way.

The infrastructure required has unacceptable environmental impacts, the wildlife is adversely affected by the volume of human activity and the associated economic activity with such a large industry becomes a sinkhole for human migration, informal economic activity and increased competition for habitat and subsistence poaching.

The Coast is no different- increasingly successful beach destinations are those that are natural, unspoiled and

peaceful, not lined with resorts, bars and commercial enterprise. One only needs to look at Bali- a destination whose natural environment has been decimated by tourism and finds itself facing falling arrivals and revenues.

If we are to grow into a high value destination, then we need to value our products and this means real protection of resources. Tourism is a great debunker of the myth that a free market will protect its own resources. In many destinations the tourist industry has willfully decimated and destroyed the resources it depends on. Why? Because in many cases the profit making travel sellers or even the owners of the business sit offshore and are driven by profit margins, and the product is a cash cow, with insufficient investment locally to be concerned about the future beyond the short to medium term. In an unregulated industry money talks, and we only need to look at the failure of attempts to curb development and building in the Maasai Mara or on our coastline, where a promise of investment and employment out trumps an Environmental Impact Assessment again and again.

We need regulated and enforced baselines for tourism that protect the resources coupled with a rethinking of our products to be geared towards



Relaxing at a Campfire.



PHOTOS BY: DAMIAN COOK



Top Left clockwise: Group of tourists, selling painting at the beach in the coast and enjoying a view of wildlife from a pool.

investment in small scale profitable tourism at a local level with very real stake in the resource.

Equally we need to look at tourism as an economic sector that supports all levels of the economy, from agriculture to automotive to accounting. It is worth noting though that the majority of these linkages and benefits are indirect. While tourism does support communities this does not mean that every member of that community has to benefit directly from it. Italy is the world's leading travel destination, but not every citizen

of Venice rows a gondola. The constant calls for increased revenue from tourism directly into communities that then grow exponentially in response to economic benefit will create a law of diminishing returns.

Community tourism can be just as damaging as other forms of tourism if it is not properly regulated, especially if it is just a labeled 'social responsibility' component of a larger operation or when entirely supported by NGOs and donors with no hope of actual sustainable profitability.

Kenya has several pioneering community based conservancy models that have proved very successful, but they remain a very small fraction of our total product.

We are fast running out of time to restructure our tourism sector, because it is competing against other sectors that are booming.

One of the key challenges to wildlife and resource management is land use and resource competition. As Africa becomes a new frontier for rapid economic growth and investment, one inconvenient truth is becoming increasingly relevant- that the economic development of both Europe and the United States necessitated a massive wave of environmental decimation of habitat and species as demand for land and resources became paramount, and human expansion made co-existence with predators and large herds of mammals impossible.

Africa is now facing a similar wave of progress and we see large areas of land being allocated to development of industrial complexes and technology centres, or, as in Ethiopia, large tracts of land being leased to industrial agriculture to feed the Chinese market.

Wilderness is now literally competing for space- but winning this competition means finding a model that is high profit, low impact and ensures that what makes Kenya so special is protected, and shared with the world in a responsible way. We have a unique product and destination and it is our responsibility to keep it that way. ●

# ILLEGAL AND OPEN WILDLIFE TRADE IN MOROCCO'S CAPITAL

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## VINCENT NIJMAN

trained as a biologist. He is currently Professor of Anthropology and has studied the international wildlife trade for the last two decades.

With cheap flights and ferries to several large cities, an exotic, vibrant culture and stability compared to others in North Africa, Morocco is an enticing option for many, especially European, tourists. Morocco has a diverse and varied landscape with coasts on both the Mediterranean Sea and Atlantic Ocean, four distinct mountain ranges and a large desert area, giving tourists a fascinating range of things to see and do. It is also, as part of the Mediterranean basin, one of the most biodiverse regions in the world and a 'hotspot' for conservation priority.<sup>1</sup>

Unfortunately, one aspect of the "exotic" image of the country involves the sale of wildlife for souvenirs, pets and for use as photo props.<sup>2,3</sup> Many tourists see it as a necessary part of a trip to Morocco to pose with or take a photograph of a monkey or a snake charmer with his snake. Animals are also often used in magic and withcraft, a practice that is aimed at Moroccan



This stuffed Dorcas Gazelle advertised the entrance to a section of the market containing several Herbalist shops selling spices, herbs, oils and animal parts. No live animals were observed in these types of shops in Rabat.

people rather than tourists.<sup>4</sup> The unregulated hunting of animals, in part to fuel this demand from tourists, local people and Moroccan expatriates, is not only illegal but could be having a very damaging effect on some of the local wildlife. In fact, in the last 100 years species such as Hartebeest *Alcelaphus buselaphus*, Addax *Addax nasomaculatus*, Oryx *Oryx dammah*,

Dama Gazelle *Nanger dama*, Leopard *Panthera pardus* and Lion *Panthera leo* have been driven to local extinctions.<sup>5,6</sup>

For many years, wildlife trade could only be considered illegal by interpreting hunting laws to encompass the capture and sale of animals, as well as their killing. However, according to the new Law 29-05 on the Protection of Wild Species of Flora and Fauna and

<sup>1</sup> Myers, N., Mittermeier, R.A., Mittermeier, C.G., Da Fonseca, G.A. and Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858.

<sup>2</sup> Martin, E. and Perry-Martin, C. (2012). Tourists underwrite Morocco's illegal trade in wildlife artefacts. *Swara* (Jul-Sep): 16-29.

<sup>3</sup> Znari, M., Germano, D. and Macé, J.-C. (2005). Growth and population structure of the Moorish tortoise *Testudo graeca graeca* in Westcentral Morocco: possible effects of over-collecting for the tourist trade. *Journal of Arid Environments* 62: 55-74.

<sup>4</sup> Highfield, A. and Bayley, J. (2007) Folklore, Myth, and Exploitation of Snakes in Morocco and Tunisia. *Tortoise Trust*.

Available from: <http://www.tortoisetrust.org/articles/exploit.html> Accessed: 20/05/14

<sup>5</sup> Cuzin, F. (2003). Les grands mammifères du Maroc méridional (Haut Atlas, Anti Atlas et Sahara). PhD dissertation, University of Montpellier.

<sup>6</sup> Loggers, C.O., Thévenot, M. and Aulagnier, S. (1992) Status and Distribution of Moroccan Wild Ungulates. *Biological Conservation* 59(1):9-18.



**Table 1. Species observed for sale in the Medina in Rabat, Morocco between 27 May and 25 June 2013.**

Species	IUCN Status	Live	Derivatives	Shop type	Protected
Dorcas gazelle <i>Gazella dorcas</i>	VU		7	He	Yes
Dama gazelle <i>Nanger dama</i>	CR		1	He	Yes
Red fox <i>Vulpes vulpes</i>	NA		6	He	Yes
Leopard <i>Panthera pardus</i>	NT		2	He	Yes
Least weasel <i>Mustela nivalis</i>	LC		2	He	No
Egyptian mongoose <i>Herpestes ichneumon</i>	LC		1	He	No
Barbary squirrel <i>Atlantoxerus getulus</i>	LC	10		Pe	No
North African Hedgehog <i>Atelerix algirus</i>	LC		6	He	No
Spur-thighed tortoise <i>Testudo graeca</i>	VU	387	1	Pe-387 So	Yes
Chameleon <i>Chamaeleo chamaeleon</i>	LC	16		Pe	Yes
African rock python <i>Python sebae</i>	NA		3	So	No
Nile crocodile <i>Crocodylus niloticus</i>	LC		1	He	No
Common hoopoe <i>Upupa epops</i>	LC		6	He	No
Black kite <i>Milvus migrans</i>	LC		2	Pe	Yes
Common buzzard <i>Buteo buteo</i>	LC		1	Pe	Yes

NA = Not Assessed LC = Least concern, NT = Near Threatened, VU = Vulnerable, CR = Critically Endangered; He = Herbalist, Pe = Pet shop, So = Souvenir shop

their Trade introduced in 2013 almost all of the trade detailed here is illegal (see Table 1) with fines of up to 100,000 Moroccan dirham (USD12,000).

Work has previously been done on wildlife trade in Morocco, mostly in the cities of Fez and Marrakech, and this has shown the presence of a variety of species in the markets.<sup>2,3,4,7,8</sup> Rabat, however, has escaped much of the attention that the larger, better known cities have received despite being the capital and second largest urban area in Morocco. A UNESCO World Heritage Site, Rabat is on the coast, and has a pleasantly relaxed atmosphere compared to the hectic markets of Marrakech or the maze-like streets of Fez. In 2013, Rabat was voted one of the top tourist destinations to visit by CNN, reflecting, and doubtless contributing to, an increase in tourist numbers to the city. It would be logical to assume that

the capital city would not contain high levels of illegal trade in wild animals, especially not openly. However, even a brief visit to the city demonstrates that such trade is indeed taking place, in public, on the streets of Rabat

To assess the levels of wildlife trade in Rabat, the first author surveyed the market on four separate occasions (27 May, 04 June, 13 June and 25 June 2013) as part of a larger, country-wide survey<sup>9</sup>. The Medina was surveyed by walking down every street on which there were shops of any type and recording animals that were openly on display for sale. No wildlife was bought so as not to fuel the trade and only the first offered prices were recorded to avoid showing too much interest.

Ten shops or stalls were observed selling wild animals. Of the animals observed, tortoises represented the vast majority (84%) of individuals, although

there was a wide range of species represented (see Table 1). This trade was by no means clandestine; at times it was necessary to skirt pallets full of tortoises in the middle of the main shopping street and animal-derived products were prominently displayed in the shops in which they were sold. The majority of the shops in which wildlife trade was observed in Rabat were defined as herbalists: shops containing herbs, spices and oils and frequently animal parts used as decoration or for sale. However, the majority of individual animals (i.e. all of the live animals) were observed in shops or stalls selling pets (See Table 1.).

Turnover of tortoises could be estimated using the numbers present on each visit as an indicator; an increase in tortoises from one visit to another meant that individuals were added and it is assumed here that this required

<sup>7</sup> Shipp, A. (2002). Wildlife for sale in Marrakech, Morocco. *Traffic Bulletin* 19: 65.

<sup>8</sup> Cuyten, K. (2011). Leopard skin trade in Marrakech. A report for the Re-wilding Foundation. Available from: <http://www.rewildingfoundation.org/2011/09/20/leopard-skin-trade-in-marrakech/> Accessed: 20/05/14

<sup>9</sup> Bergin, D and Nijman, V (2014) Ongoing, open wildlife trade in Moroccan markets: reptiles, mammals and their derivatives. *Traffic Bulletin* 26(2)



These Black Kites were kept in filthy conditions and appeared very agitated. They were not observed on the final survey, indicating that they may have been sold or died.

removal from the wild. This assumption seems justified because, by law in Morocco, animals bred in captivity must bear the brand of their breeder before entering the trade and this must remain with the animal until it reaches the final consumer. None of these brands were seen and no vendors claimed that their tortoises were captive-bred (when asked). Animals that were removed (i.e. sold or died) and replaced could not be accounted for, making these minimum estimates.

All of the live animals were kept in extremely poor conditions; they were

frequently in filthy cages or pallets with limited, unvaried food and no shade or water despite sweltering conditions. The trade in tortoises is of particular concern because of the high numbers observed. In fact, although there was less overall wildlife trade than in other cities, Rabat had the highest observed number of tortoises in Morocco. Although large-scale export of tortoises from Morocco was stopped in 1978, many are still being taken to supply pet shops in Europe.<sup>3</sup> A minimum of 387 live individuals were observed, at least 136 tortoises were imported into



Spur-thighed tortoises are sold as pets on and nearby the main shopping street. Only lettuce was ever observed being fed to tortoises in the markets and no water was ever seen to be provided.

the market and 75 were sold or died during the 29 day survey period. These numbers don't account for potentially significant numbers of tortoises sold before they reach the markets<sup>10</sup> or collected in chance encounters and would not pass through the markets.<sup>11</sup> For a species that can suffer greatly from the removal of just a few adults,<sup>11</sup> this trade could be having a significant impact on their numbers in the wild. There is great incentive for tourists to buy tortoises from markets in Morocco as the price is typically an order of magnitude lower than in UK and EU pet shops and tourists are positively encouraged to smuggle the animals out of the country by vendors who claimed it was "not a problem", despite the legal requirement for CITES paperwork. The ferry to Spain is reportedly not well policed and vendors even advised

<sup>10</sup> Allebone-Webb, S.M., Kümpel, N.F., Rist, J., Cowlshaw, G., Rowcliffe, J. and Milner-Gulland, E. (2011) Use of market data to assess bush-meat hunting sustainability in Equatorial Guinea. *Conservation Biology* 25: 597-606.

<sup>11</sup> Pérez, I., Giménez, A., Sánchez-Zapata, J.A., Anadón, J.D., Martí'nez, M., & Esteve, M.Á. (2004). Non-commercial collection of spur-thighed tortoises *Testudo graeca graeca*: a cultural problem in southeast Spain. *Biological Conservation* 118: 175-181.





PHOTOS BY DANIEL BERGIN

**Left:** African rock python skins hanging outside a souvenir shop. Although they are for sale, these skins may also serve as decoration to attract tourists to the shop.

**Right:** Red fox skins were generally not as high quality as the one shown here which was seen in the upmarket section of the medina.

THE FERRY TO SPAIN IS REPORTEDLY NOT WELL POLICED AND VENDORS EVEN ADVISED THAT TORTOISES IN CHECKED-IN BAGGAGE ON AN AIRPLANE WILL SURVIVE AND NOT BE DISCOVERED IF WRAPPED IN SELLOTAPE.

that tortoises in checked-in baggage on an airplane will survive and not be discovered if wrapped in sellotape.

There has been an increase in fraudulent, magical and quasi-religious practices in recent times in the markets in Morocco<sup>12</sup> and these practices frequently call for animal parts. Animal skins and stuffed animals are also used to attract tourists to shops and are sold

as decorative items to both tourists and local people. Although low in number, several of the animal-derived products were important because of the conservation status of the species involved (see Table 1.). Leopards, Dama Gazelle and Dorcas gazelle *Gazella dorcas* were all observed in the markets and the presence of these species is of great conservation concern.

There is a significant presence of wildlife in Rabat which has hitherto been undocumented. Tortoises especially are being exploited to an unknown degree while their current status in the wild is also unknown, with the IUCN describing their entry on the Red List as 'in need of updating' and this trade is causing further damage to a species that has not had time to recover from massive overharvesting in the past. With more opportunities to sell these animals on the internet, it is extremely important that the open markets in habitat countries such as this be dealt with swiftly and finally. This completely unconcealed trade in wild animals, which directly flouts the rule of law, is obviously unacceptable and this problem needs to be addressed by the Moroccan government especially when it occurs in the capital city. ●

<sup>12</sup> Van Lavier, E. (2008). The illegal trade in Barbary macaques from Morocco. *Traffic Bulletin* 21: 123-130.

# MEET VULCHIE

## A GLASS HOUSE VULTURE WHO DOES THROW STONES

### CHRIS THOULESS

The members of the Oxford University Vulture Culture expeditions of 1981 and 1982 were John Fanshawe (co-author of *Birds of East Africa*), Hussein Adan Isack (former head of Ornithology of National Museums of Kenya, now director of the Kivulini Heritage Trust), Ruth Mace (professor of Anthropology at University College London), Chris Thouless (based in Kenya, currently working for WWF in Namibia) and Lucy Vigne (rhino horn and ivory trade researcher).

The world's oldest known Egyptian vulture has lived at Kitengela, Kenya, for the last 33 years (the previous record was 23 years), and he is the only Egyptian vulture to have featured in the *Economist* magazine. While he has lived a quiet, peaceful and blameless life after his early brush with fame, his wild relatives have had a much more difficult time. All vultures have declined in numbers, largely as a result of poison set out for predators and reduction in the numbers of dead wildlife, but Egyptian vultures have been particularly hard hit and are currently described as 'endangered' on the IUCN Red List.

Egyptian vultures are amongst the smallest of their kind, unusual in having a predominately white plumage as adults, together with yellow face and white



PHOTO BY: E. KRISTALL

Vulchie at home at Kitengela.

### Bird-brained

Animals that use tools to feed themselves have traditionally been considered more intelligent than those that stumble around their private world snatching food wherever they accidentally find it. However, even this cornerstone of animal behaviour seems to be crumbling. A new study of tool-using birds suggests that they are not being all that clever. They, too, seem to learn by serendipity, not reasoning.

A number of birds can use tools. A species of finch in the Galapagos islands habitually extracts insect grubs from crevices using a cactus spine as a cocktail stick. Green herons even float pieces of bread on the water to attract fish to the surface. Egyptian vultures in east Africa eat ostrich eggs but cannot break them with their beaks, so they throw stones at them until they break.

Now, it seems, the vultures are not being quite as bright as first thought. Mr Christopher Thouless of Cambridge University and his colleagues set out to find whether the birds picked up the idea of throwing stones by an intuitive brain-wave: "Egg! How to break it? Ah, rock!" The alternatives are that the birds learn by imitation or inherit some innate tendency to throw things at eggs.

They put ostrich eggs out on the ground with carefully selected piles of stones beside them to see what kind of stones the vultures preferred to use. Curiously, the sizes of the stones mat-



tered little. The vultures would vainly chuck pebbles at the egg if there were no larger stones within immediate reach. The shape of the stone, though, was vital. Smooth stones were almost always preferred to jagged ones. This suggests that there was some connection in the birds' minds between throwing rocks at eggs and throwing eggs (which is how they deal with smaller eggs). They had not, in other words, solved the problem with forethought.

So is the habit learned or inherited? The scientists presented young captive vultures with ostrich eggs. The birds picked up the trick only when they had been shown that ostrich eggs contained food. But they needed no tutoring and improved their technique little if at all with practice. Neither learning nor reasoning seemed to be involved. Perhaps vultures just have an innate desire, when they see an egg, to pick up something that looks like an egg and chuck it.

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crest. They are at the bottom of the pecking order of vultures, and hence cannot compete at largest carcasses. Sometimes they are to be found on the periphery of a feeding group, waiting for scraps, but they feed on a wide variety of other types of food, including faeces, insects, small reptiles, and eggs of different sizes.

In the early 1960s Jane Goodall saw an Egyptian vulture in the Ngorongoro crater throw stones with its

beak at an ostrich egg to break it open. This was headline news since at that time it was thought that tool-using was one of the main things that set humans apart from other animals. For Jane Goodall to find chimpanzees using sticks to fish for termites was strange enough, but to find a tool-using vulture was truly extraordinary. Since as far as she knew, this behaviour had not been recorded anywhere else before despite Egyptian vultures occurring in many parts of Africa, she presumed that it must have been culturally transmitted, with a single inspired vulture working out how to crack an ostrich egg, and





PHOTOS BY CHRIS THOULESS



**Top Left and Right: Egyptian vulture at Hells Gate throwing stone, showing the aiming and flick of the neck to release the stone at speed. Below Left: Trying to throw a hopelessly small stone.**

**Below Right: Throwing a fake hen's egg (actually a novelty biro) at the ground.**

its friends and relatives passing on the knowledge through the generations.

However, over the following years new information emerged which suggested that this behaviour was much more widespread than had been thought. Charles Andersson, an explorer in southern Africa, recorded local accounts of the stone-throwing behaviour in the 1890s (although he was told that the rocks were dropped from the air). Brian Bertram, who studied ostriches in Tsavo in the 1970s, found that egg-breaking by vultures was actually quite common and widespread. This suggested that the behaviour was in fact innate, and Egyptian vultures

were genetically programmed to pick up stones in their beaks, aim carefully and fling them down with considerable skill whenever they came across ostrich eggs. This seemed almost as implausible as the cultural hypothesis, and when Brian Bertram gave a lecture on his ostrich work at the Oxford Exploration Club in 1980, a group of students were stirred to study this strange behaviour and organised an expedition to Kenya. The basic question was whether the stone-throwing behaviour was inherited, in which case all wild Egyptian vultures should possess the skills, and naïve, hand-reared ones would also be able to break eggs, or culturally acquired, in which case we would expect to find localised populations of skilled vultures, and hand-reared birds would have no idea of how to deal with ostrich eggs.

We carried out a reconnaissance trip in 1981 and a more detailed study in 1982. In 1981 the main objectives were to locate good sites for Egyptian vultures (which even then were quite

scattered in Kenya), to persuade the casting department of the National Museums of Kenya to create a set of fiberglass ostrich eggs, and to put out the word that we were looking for hand-reared Egyptian vultures that had no opportunity to learn egg-breaking skills. In 1982 we returned with a clutch of fake eggs and information on good vulture sites, including some with nests that had been continuously occupied for many years.

We found Egyptian vultures in many places including Hell's Gate, Lukenya, Magadi, Mackinnon Road, Marsabit and Mount Suswa, and they behaved differently at each site. In some places they sailed serenely over the fake ostrich nest; in others they landed and showed great interest in the eggs but either did not throw stones, or threw them ineptly. A vulture at Mackinnon Road showed great enthusiasm, throwing stones in all directions, but seemingly unaware that the objective was to throw stones at the eggs. One at Hell's Gate was by far the best performer. He (or she) immediately landed next to the eggs, and started throwing stones with power and precision. In order not to discourage him, we broke hens' eggs into a half fake ostrich egg to give him a reward, and we were able to carry out a series of experiments over several days to find out his preferences.

As we expected, when presented with a hen's egg, he would pick it up and throw it on the ground (or against a fake ostrich egg if available). When



The perfect experimental subject showing a preference for rounded, rather than jagged, stones.

presented with the choice between rounded, egg-like stones or jagged stones to throw against an ostrich egg, he would go for the rounded stone, even though it was probably less effective at egg breaking. If there was even a hopelessly small stone in the vicinity he would use this rather than looking for a better one at a distance. At times he even brought sticks and arranged them around the 'eggs' in what looked like nesting behavior, showing quite how confused vultures can become

when dealing with eggs – both a source of food, and something to be cared for. This variety of behavior pointed in the direction of culturally acquired behavior, with only some individuals having learnt the art of stone throwing from their parents, but the occasionally inept stereotypic actions pointed towards innate behavior. We needed a naïve, captive-reared bird to give us more clues.

Luckily Harvey and Nani Croze, at Mbagathi, had been brought a couple

of young Egyptian vultures in 1981. By 1982 they had learnt to break hens' eggs by throwing them at the ground, and although more interested in ostrich eggs than other objects of similar size, were still more interested in small eggs, and did not pick up nearby stones. The inability to throw stones in the naïve birds again pointed towards culturally acquired behavior, since they had been given no opportunity to learn the behavior from their parents. We broke a hen's egg into an easily opened fake ostrich egg to show the vultures that there was food inside. When next faced with a whole fake egg one bird immediately began throwing the stones placed nearby. He made a direct hit after five attempts, and after another seven throws, managed nine hits in a row.

So what we discovered is that the tool using behavior of Egyptian vultures is neither wholly innate (or inherited) nor entirely the result of cultural learning. They need to have the right environmental conditions – of gaining practice in throwing smaller eggs and knowing that ostrich eggs are food – in order to unlock their innate ability to throw stones at ostrich eggs.

What we did not know was whether the variation we observed in the wild, with some highly proficient stone-throwers, and some incompetent ones, was the result of young birds not living in areas where there were lots of small eggs to throw, or not learning from their parents that eggs were a good source of food. Some vultures have plenty of opportunity. At Lake Shala in Ethiopia, Egyptian vultures are a major predator of pelican eggs. In other areas, there simply may not be enough small eggs to make them a major food item.

A few years later, I was working in Saudi Arabia, looking after the deceased King Khalid's collection of gazelles and other wildlife, with the aim of breeding them up and reintroducing them into the wild. We had some ostriches in the collection, and they bred every spring. At the same time the migrating Egyptian vultures from Africa passed through on their way to eastern Europe. The clutches of ostrich eggs out in the



PHOTO BY: CHRIS THOLESS



**Left:** The first stone-throwing attempt, with aiming still a skill to be acquired.  
**Top Right:** The frustration of trying to get into an Ostrich egg without knowing about stones.  
**Below Right:** Finally, powerful well aimed stone throwing.



PHOTO BY: J. FANSHAW



barren gravel plains of central Arabia must have seemed godsend, although all I found were the tell-tale signs of broken ostrich eggs and stones. Here, if I had needed it, was proof that stone-throwing was not confined to a small part of East Africa.

In the 30 years since we carried out this work much has changed. The old dichotomy between cultural and innate behavior, which created such a controversy in those days, has been abandoned, and it is accepted that all animal behavior is the result of complex interactions between genetics and environment. Many other animals are now known to use tools, and Egyptian vultures in Bulgaria have been seen practising another type of tool-use, using a twig to roll up bits of wool for nesting material. Vultures, which were once seen as evil creatures, living a dissolute life on food killed by more noble creatures (to the extent

that a feature film loosely based on the establishment of the Kenyan national parks could be called 'Where No Vultures Fly'), have now been recognized as playing a critical role in ecosystem function. It is believed that their role in consuming carcasses is important in controlling the spread of diseases such as rabies and the presence of a good number and variety of vultures is an indicator of ecosystem health.

Unfortunately all vultures have declined substantially in recent years, and Egyptian vultures are no exception. Thirty years ago they were not common, but there were many places where they could be reliably seen. Now they are a much rarer sight, and no longer breed at Hell's Gate, with an estimate of only 50-300 in the entire country. Globally they have been affected by the drug diclofenac, which is used as an anti-inflammatory for cattle particularly in South Asia, and by power lines. It is

possible that they have been affected by declines in the populations of wildlife, although they are less dependent on carcasses than larger vultures. No doubt they have been killed along with other vultures when dead cattle are laced with carbofuran to kill lions and hyenas, and they are likely to be most vulnerable if stray dogs are poisoned, since of all the vultures they are the ones most associated with human settlements.

Meanwhile 'Vulchie' lives out his days at Kitengela, site of a renowned glass factory and very much a place to visit, as a much-loved member of the Croze family. He no longer has access to real or fake ostrich eggs, but is happy to demonstrate his skill at breaking hens' eggs. ●



# CAN DNA BE USED TO BRING THE EXTINCT BACK TO LIFE?

— FELIX PATTON FILES THE LAST IN THIS SERIES ON DE-EXTINCTION —

## FELIX PATTON



is a rhino ecologist, who writes and broadcasts about the species from Africa and Europe. He has an MSc in Conservation Biology and a PhD based on research into individual rhino identification

and social behaviour. He is a frequent contributor to SWARA.

Perhaps the most exciting and controversial new conservation paradigm is that of De-extinction – principally the use of biotechnology and genomic science to both save near extinct species and bring back extinct species with the aim of restoring them to their former range.

Specimens of many extinct species are available in museum and university collections and some fossils. From these it may be possible to extract samples of the DNA, the carrier of the genetic blueprint of the organism,



Model of the Woolly Mammoth.

from which its full set of genes can be read and analysed. That data may, (or may not), be transferable as working genes into their closest living relatives, effectively bringing the extinct species

back to life. What started mostly as a scientific challenge has led to molecular and conservation biologists rapidly developing techniques that will ultimately result in producing live individuals of now extinct species.

The world cannot expect to see the re-appearance of the dinosaur as it is too long gone for useful DNA to be extracted. But it could see the Woolly Mammoth as the Sooam Biotech Research Foundation in Korea has it in its long-term sights. This raises concerns over the ethics of bringing back a species into an entirely alien environment.

However, rather than be concerned with long gone species, it is perhaps better to consider those species that are today on the edge of extinction and how the technology can revive their populations. Species such as the Javan, Sumatran and Northern White Rhino



Mural of now extinct species previously found in Mexico from the National Museum of Anthropology, Mexico City.



PHOTO BY: JOSEPH WOLF



PHOTO BY: KETH SCHENGLI-ROBERTS

Top Left: Pyrenean Ibex sketch 1898.  
Below: Southern Gastric-brooding Frog giving birth in a laboratory.  
Top Right: Stuffed passenger pigeon.

PHOTO BY: PROFESSOR MIKE TYLER/UNIVERSITY OF ADELAIDE



and even the cheetah are examples of such.

What of the progress so far?

The first living birth of an extinct animal, a Pyrenean ibex, was recorded in 2009. The foetus survived to term but died minutes after birth from lung abnormalities. The individual was created using cryo-preserved DNA implanted into eggs from domestic

goats with the resulting embryos transplanted into the Spanish ibex or goat-ibex hybrids for gestation.

This technique is being tried to revive the Australian Gastric-brooding frog which went extinct in 1980. DNA is being implanted into eggs of the barred frog and live embryos produced.

A different technique involving genetic engineering is being progressed

in order to revive the Passenger Pigeon. The basic concept is to “change” the genome of the band-tailed pigeon to match that of the Passenger Pigeon by converting viable band-tailed DNA into viable Passenger Pigeon DNA. The demise of this species, first recorded in 1534, was dramatic. In the 1800’s there were billions of these birds but during the 1870s millions upon millions of birds were consumed for food with their feathers used in the making of bed mattresses and pillows. Live birds were caught and shipped by the thousands for trap-shooting tournaments. There were at least one billion Passenger Pigeons alive in 1878, but by 1890 only tens could be spotted anywhere. On September 1, 1914 Martha, the last surviving individual living at the Cincinnati Ohio Zoo, died and the Passenger Pigeon became extinct.

Seventy-seven Passenger Pigeon specimens including bones and tissue were sampled with the result that one specimen was considered of high enough quality to obtain a full genome and more than 20 specimens useful for population biology research with bits of DNA from all over the genome. However to actually assemble the genome is no easy task. For a start



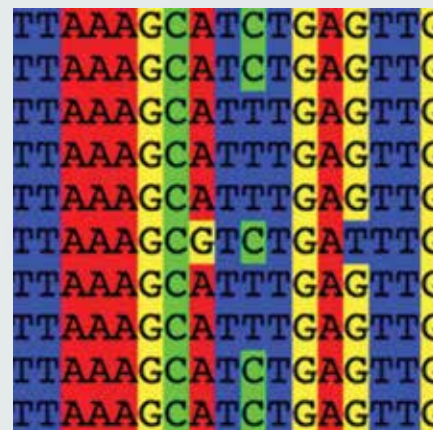
PHOTO BY: REVIVE &amp; RESTORE



**Top Left:** Ben Novak preparing Passenger Pigeon DNA Libraries at the University of California Santa Cruz Paleogenomics Lab.

**Top Right:** DNA sequences of passenger pigeon DNA as viewed during the assembly process. Each line is a small sequence of nucleotides and comes from a different species/sample which are aligned together to reveal differences in their sequences.

**Below Right:** Life restoration of an Aurochs bull.  
**Bottom:** A Maremmaner bull.



CREDIT: ANDRÉ ELIAS RODRIGUES SOARES, REVIVE &amp; RESTORE



PHOTO BY: JAAP ROUWENHOUT, D FOEL (GIMP MODIFICATIONS)

it consists of 1.3 billion base pairs of genetic code. These have to be pieced together from the fragmented bits of DNA left in museum skins, almost all of the fragments less than 150 base pairs in length. More than 80 million fragments of DNA are needed to be able to put the whole genome

together in a way that overcomes misinterpreting damage to the DNA as genuine mutations. Some DNA will be contaminants— from bacteria that were living on dust in the museum drawer, or from the human DNA of museum curators over the past century.

With sufficient specimens and enough recorded history to establish a great understanding of the species' past, it will be possible to plan its future in a knowledgeable and responsible manner. This makes it a model species for thoroughly testing the process of de-extinction.

A third technique, known as back breeding, is being used to bring back the extinct species of cattle, the Aurochs which was once widespread throughout Europe, North America and Asia on open savannah-like landscapes to marshes, forests and lower mountains. Hundreds of plant and animal species developed in co-evolution with the vast herds of these Europe's heaviest land mammals and other large grazers. The last Aurochs individual died in 1627.

Two projects working on Aurochs are focusing

on cross-breeding the most suitable primitive breeds of cattle from throughout Europe to produce a new fully self-sufficient cattle breed which will be a very close, though not exact, copy of the Aurochs. Several old cattle breeds have been proven to still be very close genetically to the Aurochs.

One project is developing the 'Tauros' which will have all the right characteristics of the Aurochs – the colour, size, behaviour and the way of grazing. It will not be one single breed but a number of lineages bred in and suited to different regions of Europe. Seven breeds have been selected for a cross breeding programme including the Maremmaner primitive.

In November 2012 the Taurus Foundation and Rewilding Europe signed a strategic partnership agreement with the goal to re-populate the new European rewilded areas (see SWARA April-June 2014) with wild bovines again. In turn this should result in the preservation and restoration of many species on decline in the relevant ecosystems especially where large herbivores are missing while bringing the potential for economic recovery from eco-tourism.

PHOTO BY: PETER VON WESEDOOK





PHOTOS BY: TRUE NATURE FOUNDATION



PHOTO BY: JOHN LUCAS



PHOTO BY: KATHY MACKINNON



PHOTO BY: FELIX PATTON



Top Left clockwise: Barrosa bull, Chianina cow, Northern white rhino in Garamba National Park, Northern white rhino and Javan rhino.

A second project, known as Uruz, from the True Nature Foundation in collaboration with the Long Now Foundation is cross breeding females of the primitive type Chianina with a Barrosa bull to produce a wild type, coloured, big horned tall and slender cattle breed.

As the DNA of the Aurochs has been completely reconstructed, it should be possible to use genome editing to remove or reduce unwanted traits and eliminate wrong genes from the new genomes produced by the back breeding.

It may be abhorrent to some to work on species that are long gone but the application of these technologies can be used to revive today's near extinct wildlife populations. Species such as the Javan, Sumatran and Northern White Rhino and even the cheetah could benefit although there are already people who are against the use of any form of genetic engineering even for saving species. Take, for example, the Northern White Rhino which today is represented by only seven live but non-breeding individuals in the world and extinct in its historic range. Once, the species was widespread through many

African countries to the west of the Albert Nile in Uganda with the most recent population to die out in Garamba National Park, Democratic Republic of Congo. This large herbivore would have made a major contribution to shaping the ecosystems in these countries and without it, biological diversity would have declined and will continue to do so.

The nearest living relative to the Northern White rhino is the Southern White rhino of which there are some 20,000 today, all of whom have been derived through the generations from less than 50 that remained in 1900 in South Africa. Despite this small remnant population, there has been no indication of inbreeding or genetic abnormalities. It is likely that quality DNA samples from Northern White rhino individuals around this number can be obtained from the live animals, cryo-preserved material from animals that died in captivity, samples taken during notching or treatment for injuries and archived material from zoos and museums. Genome sequencing can compare the DNA from all these sources and only the best chosen for the production of Northern White rhino embryos in the laboratory. These could then be implanted into Southern White rhino females to act as surrogate mothers. This all sounds quite easy and, of course, it would not be as more research would be needed to perfect the material and methods needed to obtain long lasting, live embryos.

Heading closely towards extinction are the Javan rhino with only some 35 to 45 individuals in the wild and none in captivity, and the Sumatran rhino with numbers below 200. It has recently been announced that there are more tigers in captivity than in the wild; that lions are extinct in 25 African countries and virtually extinct in a further 10 and that over a thousand rhinos were poached in 2013. The list of species doomed by human action is endless. The de-extinction projects currently under way will create roadmaps for others to follow in the future and especially will highlight the pitfalls to be avoided. It is a potential human answer to a human problem. The question being asked is, is the technology an intervention too far? ●



# A VERY GOOD FRIDAY – FOR BIRDING ROUND THE BLOCK IN NAIROBI

## RUPERT WATSON



is a lawyer, writer and naturalist who has lived in Kenya for more than 30 years. He is the author of *Baobab* and two books on salmonids.

“**T**his is science,” said Brian Finch, “not fun”, in response to my suggestion that only birds we saw would count; so those heard also made the list by his criteria of “birding.”

We had agreed to spend Good Friday, 18th April 2014, investigating the bird life around where we live, just beyond the Banda School in Langata on Nairobi’s southern fringes. We set up base at home on Mukoma Road and agreed to walk everywhere. We had no recording apparatus to lure

birds out of cover but for those who don’t know Brian, I should say that no bird song goes unidentified, no bird chirps incognito however mundane it may sound to the rest of us. He is, as his name suggests, a Master Birdwatcher, birding guide and all-round Ornithologist.

The estate comprises largely of residential plots, much enhanced by the forests around the 200 acres of Hog Ranch and offices of the International Union for the Conservation of Nature (IUCN), both of which can be visited with permission. Yellow-barked Acacias grow easily in the black cotton soil of our garden and adjoining fields. These flatlands then slope down though more forested red soil plots to the Mbagathi River.

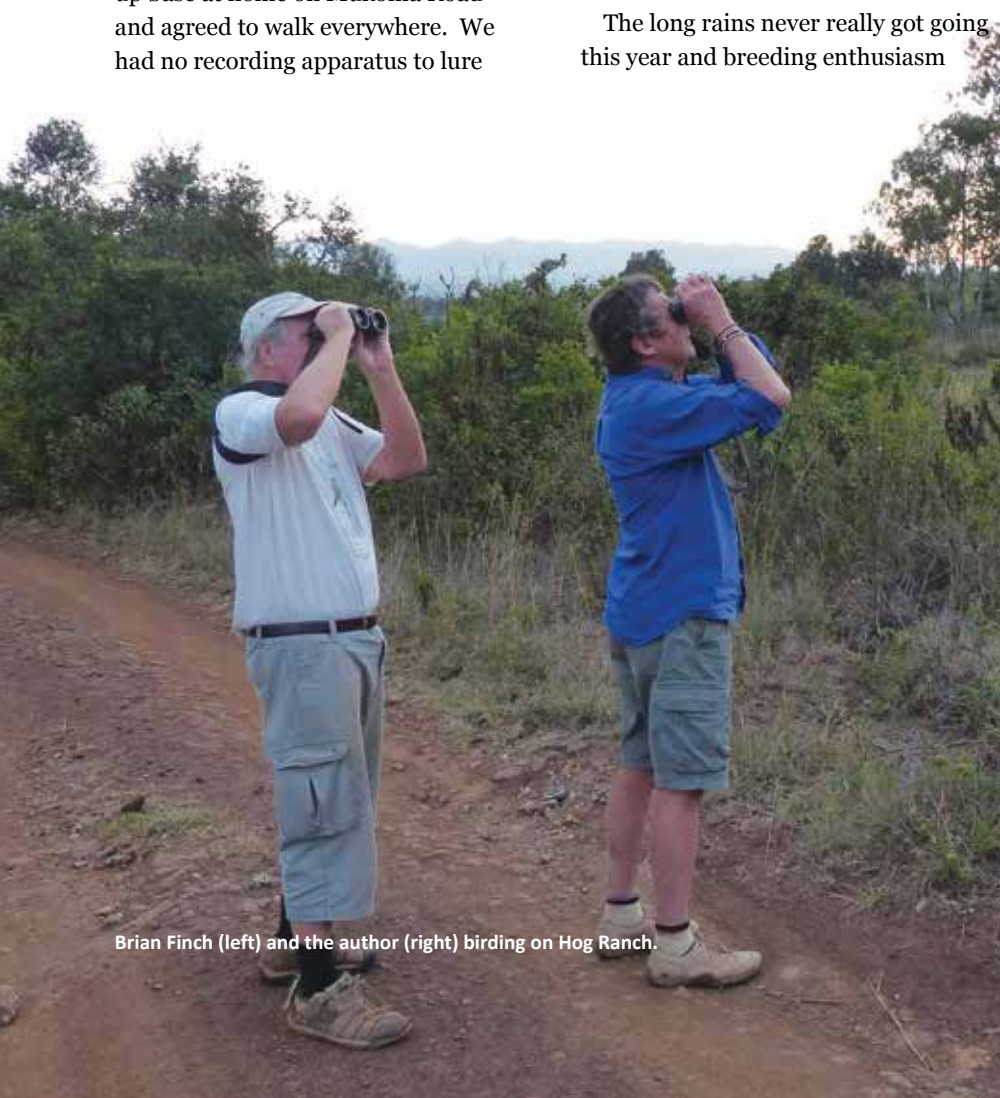
The long rains never really got going this year and breeding enthusiasm

seemed muted. As well as the resident species we hoped to see some late migrants, maybe delaying their northward journey in the hope of a fortifying insect-fest. We agreed to meet at 6.00 a.m. , hoping to catch Montane Nightjars bidding the dark farewell and the African Goshawk tsissing from high up. Blank on both.

Then off down Mukoma Road, picking up easy birds on the way, hearing the first of several Red-chested, Diederik and Klaas’s cuckoos, a questionable Sulphur-breasted Bush Shrike before the visual certainty of the colony of Speke’s Weavers. On the way back we dipped down into IUCN, past Siffling Cisticolas, Golden-breasted Bunting and a pair of Tambourine Doves; down at the bridge some ‘pishing’ attracted Yellow-whiskered and Cabanis’s Greenbuls out of the undergrowth - both always far easier to hear than see.

After going home for fortification we set off to Hog Ranch, past a noisy party of Northern Pied Babblers and inexplicably localised Superb Starlings. A Eurasian Cuckoo obliged by flying low across our bows, and resident Bryony Anderson lead us to within a metre of a roosting Montane Nightjar. Urging to be added to the list was a Green Pigeon, sunning itself on a tree top, while others like the Grey Apalis would have gone unrecorded without Brian’s expertise in identifying its call.

Compiling a day list taught me a lot about bird guiding. We reached 80 species by 10.00 a m, and from then on things moved much slower. To pace the day and make clients happy throughout, I asked Brian,



Brian Finch (left) and the author (right) birding on Hog Ranch.

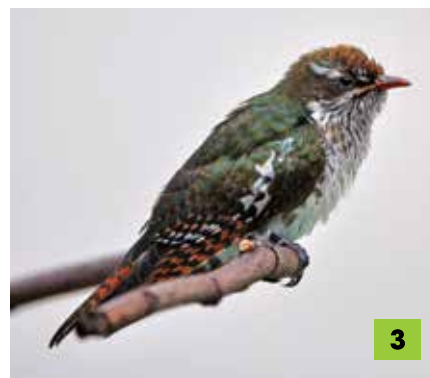




1



2



3



4



5



6

1. Green Pigeons
2. Golden Breasted Bunting
3. Diederik Cuckoo
4. Siffling Cisticola
5. Eurasian Cuckoo
6. White-browed Scrub Robin
7. Tambourine Dove
8. Black collared Apalis



7



8

surely you have to try and keep a few easy ones up your sleeve for later on? Yes, and you also leave birds for the clients to spot themselves.

Next, out of Hog Ranch and down to the Mbagathi River, which was our only chance to access running water. Red-faced Cisticolas obliged as did White-browed Scrub Robins, and the open country allowed us to spot some fine overflying raptors, African Harrier Hawk, Ayre's Hawk Eagle and Long-crested Eagle. Another hour passed with irregular additions to the list, backed by the distant calls of cuckoos that had already found their way onto it. By midday it was hot and blue and new species were getting harder to find. A commotion in the sky above signalled the passing of a displaying pair of Lanner Falcons, then just as they

moved out of sight we both stopped in our tracks; yes, that was the faint, yet unmistakable call of the Black Cuckoo.

Brian's veranda, and expertise, added White-backed Vultures, a Martial Eagle and Nyanza Swift, and back home an overflying Black-chested Snake Eagle was a new sighting for the garden. We then moved to private plots whose owners had given us the green light to visit, at one of which we added a Little Grebe to the list, and further on were both happily surprised by a pair of Yellow-rumped Seedeaters. The sight of the day was still in store, though. Not in a hundred days out would I have imagined seeing two huge chevrons of around 500 and 200 White Pelicans, flying high up to and from destinations only to be imagined.

So we ended up with 121 species, 101 of which I estimated we had seen. What you don't see can be as interesting as what you do. We lack a decent wetland. One of our streamside residents has a pond but this is only filled with good rains so there were plenty of water birds missing from the list. We never saw any Cattle Egrets flying over to their roosts in Ongata Rongai and most days White-headed Barbets would have turned up in the trees and Yellow-throated Longclaws on the vleis. But then you have to leave something for next time. We are lucky to live where we do, but with some good planning, much of Nairobi and elsewhere, can provide anyone else with a similar day of some science and much fun. ●

# THE KENYA REPTILE ATLAS – IT'S FREE AND IT'S CITIZEN SCIENCE IN ACTION!

## THE AUTHORS

**STEVE SPAWLS** was born in London but brought up in Kenya. A science teacher by profession, he has published a number of books and papers on Africa and its reptiles.

**DR PATRICK K. MALONZA** holds a BSc in Wildlife Management, MSc Dryland Biodiversity, and a PhD in Natural Science. He has worked at National Museums of Kenya Herpetology Section since September 1996 as a research scientist.

**BERYL A. BWONG** is a research scientist based at the Herpetology Section of National Museums of Kenya.

**VINCENT MUCHAI** has a MSc. degree in biodiversity and Conservation Biology. He is a research scientist in the Herpetology section, National Museums of Kenya.

**VICTOR WASONGA** is a research scientist based at the herpetology section of National Museums of Kenya.

**H**ow do you inform the public, inexpensively, about reptiles? In recent years a vigorous debate has been running in the scientific world; should scientific knowledge be free, or should it be paid for? Research costs money, yet scientists must do research - fieldwork or experimental work - to gain knowledge. Humanity doesn't progress without increasing knowledge. Who funds that research?

Some say that scientists should be free to profit from their work, if for no other reason that it funds further research. We should be prepared to pay for data and hence science journals cannot be

free. Others say that government should pay; a responsible country will fund its scientists, pay for their research and disseminate knowledge for free. The debate continues.

The prestigious scientific journal 'Nature' recently reported that some big research funding agencies are beginning to punish, by withholding grant money, researchers who do not make their publications openly available. Some research organisations will not promote their scientists who do not disseminate their knowledge. The pendulum is swinging towards the idea; knowledge should be free.

**The Kenya Reptile Atlas**

A project funded by the Rufford Foundation, under the auspices of the National Museum of Kenya; Department of Herpetology

A free, downloadable, atlas of Kenya's reptiles. It's a resource for every naturalist in Kenya, and it costs nothing! Starting now, regularly updated. For each species, you get illustrations, a description and a map

To download material, log on to [kenyareptileatlas.com](http://kenyareptileatlas.com) and click on downloads

We also want your observations of reptiles. Send digital pictures or any other data to [kenyareptileatlas@gmail.com](mailto:kenyareptileatlas@gmail.com)

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NATIONAL MUSEUMS OF KENYA  
WHERE HERITAGE LIVES ON

**The Team**

Beryl Bwong Patrick Malonza Vincent Muchai Victor Wasonga Stephen Spawls

The atlas poster



How can we pass this knowledge to the public? As scientists and herpetologists, working with Kenyan animals, our business is not just to research, but also to inform the average Kenyan about reptiles and amphibians. The Nobel Prize-winning scientist Erwin Schrodinger once said, 'if you cannot, in the long run, tell everyone what you have been doing, your doing is worthless'. Many Kenyans are interested in the creatures of the natural world. How to reach them? The big news media outlets have little time for crocodiles, snakes, lizards and tortoises, other than as curiosities or for sensation. Consider; when did you last see an item on the television or an article in newspapers about crocodiles, or snakes, or chameleons? If you did, it was likely to be a brief sensational story about a reptile trying to eat, or bite somebody. Occasional documentaries about reptiles do appear on television, but reptiles don't appeal the way that the 'Big Five', or cuddly animals do. It's easy to love elephants, rhinos and lions, but not mambas or Agama lizards. And science and television tend to make uncomfortable bedfellows.

As scientists, our efforts are often scrutinised by our employing organisations, and measured in terms of papers published; we won't continue to be employed unless we research and publish. But scientific papers reach few, especially in a country like Kenya.



PHOTO BY: STEPHEN SAWIS

Top: Carpet viper, *Echis pyramidum*, medically significant but its distribution is poorly known. Below: Sometimes specimens are hard to find; Steve, Patrick and Vincent seeing what's hiding under a rock.

THE NOBEL PRIZE-WINNING SCIENTIST ERWIN SCHRODINGER ONCE SAID, 'IF YOU CANNOT, IN THE LONG RUN, TELL EVERYONE WHAT YOU HAVE BEEN DOING, YOUR DOING IS WORTHLESS'

The most prestigious herpetological periodical in Africa is the African Journal of Herpetology; but it only prints a few hundred copies. Less than 30 scientists in Kenya receive it. That means, if you were to consider the population of Nairobi, three million plus, only three of them on average would be reading this journal.

Periodicals have small circulation figures. Sometimes we write books, or magazine articles, occasionally we get a short mention somewhere or another in the media. But most of the time our work has little exposure. And our popular material is expensive a good book on Kenya's reptiles costs several thousand shillings. Such books are beyond the reach of most ordinary people, especially students.

So our new project, the Kenya reptile atlas, is an attempt at genuine citizen science. It is a free resource for anyone who has access to a computer and the internet. To utilise it, you don't have to own a computer, so long as you can find one to use, or a Smartphone, and download the accounts. And it is constantly being added to and updated. You can find it at: [www.kenyareptileatlas.com](http://www.kenyareptileatlas.com), and go to downloads. At present, only 50 or so species are available, but as time goes by, we'll eventually have all of Kenya's reptiles available. Free for all.

So what will you get? The accounts are grouped. We have started with the



PHOTO BY: JAMES CULVERWELL



PHOTOS BY: JAMES CULVERWELL



PHOTOS BY: STEPHEN SPAWLS



**Top Left:** Steve Spawls and Patrick Malonza examine a crucial green mamba specimen from Meru National Park.

**Top Right:** Vincent Muchai and enthusiastic students examining specimens in the National Museum collection.

**Below Right:** Taita Hills blade-horned chameleon, *Kinyongia boehmei*, a Kenya endemic with a tiny range.

**Below Left:** The atlas team and Tom Butynski extract an Agama from a rock crack in the Lolldaiga Hills.

medically important snakes, the front fanged dangerous ones. These are the elapids (cobras, mambas, garter snakes and relatives) and the vipers (big vipers, carpet vipers, night adders and bush vipers). This section will be useful to many, especially doctors and other medical professionals, who want to find out what dangerous snakes occur in their area, and thus what snake might have possibly bitten the patient they are viewing. But anyone who wants to know what sort of dangerous snakes might be around where they live, or where they intend to visit, will also find it useful. We have also put up the chameleons,

because not only are they enchanting animals, but African chameleon taxonomy (the science of classification) is changing fast, with new species being described, (particularly from remote areas), new records being made and the biological molecules (in particular DNA) are clarifying the relationships between the various forms. So you can get up-to-date material, and find out how many species occur in Kenya, how they live and where they are found. And it costs nothing; download it onto your computer or Smartphone.

What has been heartening, in our efforts has been the support we have

received from various bodies. The Rufford Foundation have funded the costs of field trips and work at the National Museums of Kenya, and many scientists and herpetological professionals have given their time to look at accounts, and have generously allowed us the use of their precious photographs. As time passes, we hope to get all of Kenya's reptile species onto the website, and then run updates, informing people of the changes in taxonomy, distribution



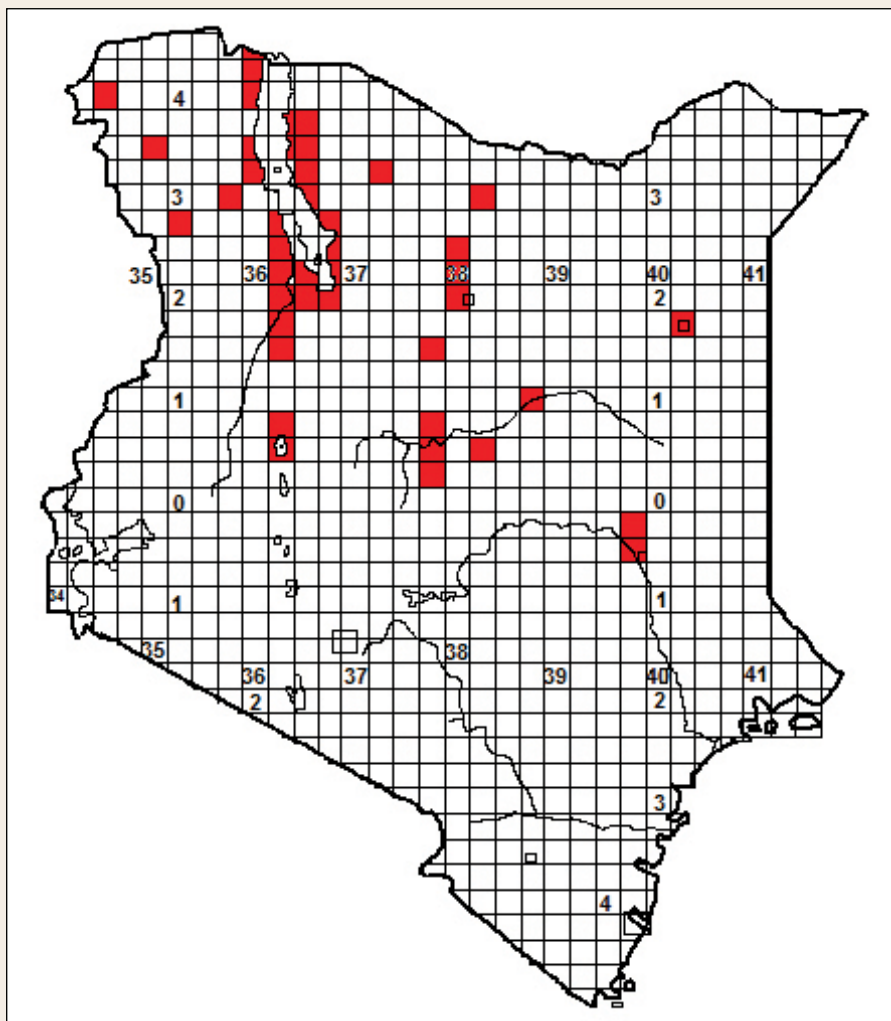
PHOTOS BY: STEPHEN SPAWLS



Top: The Mwanza flat-headed agama, *Agama mwanzae*.

Right: Map of the distribution of the carpet viper.

Below Right: Tsavo West; a poorly-known area in herpetological terms, despite its popularity.



etc. We're also always pleased to receive contributions from the public; contact us at: **KenyaReptileAtlas@gmail.com**. And if you live or travel in Kenya, and find any dead reptiles, please preserve them and take them to the Department of Herpetology, at the National Museum, Museum Hill, Nairobi. Some may object to the preservation of specimens in museums, but it is necessary. Museum specimens can be identified, and used to map the distribution of species within Kenya; this is essential for medical and conservation purposes. Someone trying to list the reptiles of Tsavo National Park, for example, needs to be able to look at preserved specimens in the National Museums of Kenya in order to check that (a) the species is correctly identified, (b) find out where it comes from. The museum – and us – are always pleased to receive specimens. And we also want local reptile stories, legends and local names; indigenous knowledge is a powerful tool towards understanding of how local communities view reptiles.

What if you are looking at a snake, or lizard, and want it identified but don't want to catch it? Take a good digital photograph, with your phone or camera, and send it to us, at the address above. Kenya's reptile fauna is poorly known. Although the National Museum in Nairobi has a good spirit collection, more material is needed. Many areas in Kenya have never even been visited by reptile enthusiasts, let alone surveyed by a professional herpetologist. If you visit an unknown area, or even a well-known area, you may make new discoveries. The museum wants to know about them. For example, a few years ago, the existence of the Mwanza flat-headed agama, *Agama mwanzae*, wasn't even formally recorded in Kenya...and yet they are abundant in the Maasai-Mara National reserve. Another example; we suspect that the dangerous carpet viper, *Echis pyramidum*, is very widely



distributed across northern Kenya. But, apart from a decent set of records around Lake Turkana, it is only known from a handful of records, as detailed in the Vipers 1 download of the atlas. Medical professionals need to know where this snake is found; as it bites a lot of people.

So use our atlas. Download the sections, spread them around, circulate them to all! Inform your friends and colleagues. Keep checking for updates. Knowledge is power! ●

# AFRICAN OPEN-BILLED STORK – MIND THE GAP

## *Anastomus Lamelligerus*

### DAVE RICHARDS



has been interested in wildlife, particularly birds for as long as Dave remembers. He has been for many years a Safari Guide leading safaris through Eastern Africa, Southern Africa and Madagascar. He has written and illustrated several travel and nature books and is a regular contributor of articles and photographs to local and international magazines and books.

A highly gregarious, small Stork, with an unusually-shaped, highly specialized bill. Both sexes are alike. Although they appear black at a distance, they are really dark brown with glossy wings. Openbills feed primarily on fresh water snails and mussels in swamps and flood plains, wading in shallow water.

The remarkable feature for which it is named is the gap between the mandibles. The reason for this unusual shape has been a subject of debate for some time.

When eating a snail it is held under water so it is difficult to observe exactly what is happening. For this reason for a long time it was assumed that the Openbill Stork crushed the snail or mussel in the gap between the mandibles. In fact, my copy of “Roberts Birds of South Africa” (1971) states, *‘Its particular shaped bill seems to be adapted to its main diet of fresh water mussels which may be carried from the water to dry ground and laid in the hot sun until open, or crushed under water*

*to remove shell before swallowing’.*

We now know that this is not true. The gap between the mandibles is not the only special feature. Along each edge of the upper mandible is a line of small leathery pads, while the tip of the lower mandible is thin and blade-like. The permanent gap between its upper and lower mandibles when they are closed are a feature believed to be an adaptation for holding fresh water snails and fresh water mussels, which are located as the bird wades in shallow water. When found, the snails are held down by the tip of the upper mandible and the tip of the lower mandible. The lower mandible, which is blade-like, has a sharp upper edge and is inserted into



African Open-bill Stork





the shell, cutting the snail from its shell, which is discarded almost undamaged. To extract freshwater mussels, the tip of the lower mandible is inserted between the halves of the shell near the hinge, severing the muscle, allowing the two halves to open. Interestingly, in the Asian Openbill (which occurs north of the equator), the lower bill curves, at its tip, to the right. This is because most snail shells north of the equator coil to

the right. With the African Openbill, which occurs both north and south of the equator, the tip of the lower bill is straight enabling it to handle snail shells which coil both left and right.

Storks are mostly mute but do make occasional 'crops and honks'. Storks also make loud clapping sounds with their bills during courtship display. Openbills have evolved unusual courtship behaviour. Other storks use a

**Top: Open-bill Storks flying over Musiara Swamp in Masai Mara**

**Below: Open-billed Stork feeding .**

loud clattering of the mandibles in their courtship but, because the Openbill's mandibles only meet at the base and tip they cannot; instead the male Openbill makes a similar noise by clattering their bills against those of its mate.

Although Openbills, like all storks, are able to soar and glide for long distances, they can also fly long distances, crossing large open waters, such as Lake Victoria, by alternatively flapping and gliding. Once, while I was in a boat on Lake Victoria, I witnessed a large flock of several hundred Openbills crossing the lake heading for the mainland. The Openbills were flying very low and seemed to be struggling to keep in the air. Between the Storks and the mainland was Mfangano Island which has high hills. I thought the Island would be an obstacle for them but no, the hot air rising from the Island gave them extra lift, enabling them to gain height and help them on their way towards the mainland. ●





## Besieged Hyena takes shelter in the belly of the Beast

The African Impact Mara Naboisho Volunteer Project had an incredible encounter on April 9 in the Mara Naboisho Conservancy. An old bull elephant died from natural causes and numerous scavengers were attracted to the carcass. Amongst all of the hyenas

and vultures were seven sub-adult male lions. While watching these feasting cats the volunteer project noticed that a hyena was trapped inside the belly of the dead elephant. What was most amusing about the situation was that the lions were absolutely oblivious to the hyena's presence. It was fascinating to watch. After some time the lions left the carcass for a brief moment and the hyena attempted his escape. Right as he began to slink out one of the lions saw him. It was an intense moment as the hyena jumped out of the carcass sprinting for cover with the lion in hot pursuit. Fortunately for the hyena a gorged male lion is not the quickest of animals and he escaped successfully. (Stratton Hatfield, )

BY STRATTON HATFIELD



Stratton Hatfield has a degree in natural resources and conservation management from the University of Kentucky. He is a passionate birdwatcher, amateur photographer and aspiring conservationist. He spends a lot of time in the bush enjoying the spectacular wildlife that Africa has to offer.



PHOTO BY: BRITT KLAASSEN





PHOTO BY STRATTON HATFIELD



PHOTO BY CLAUDIA HAEGERLING



# PORTFOLIO

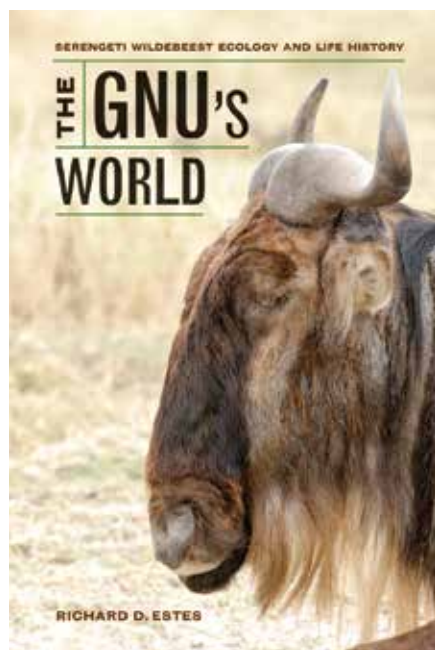


PHOTO BY STRATTON HATFIELD



PHOTO BY STRATTON HATFIELD





**The Gnu's World: Serengeti  
Wildebeest Ecology and Life History**  
By Richard D. Estes

**Published by the University of  
California Press. 337 pages.**

Perhaps few mammals inspire as much mirth, debate and interest as the wildebeest, which serves as both the butt of silly jokes and unfortunate allegories for its alleged 'ugliness' and a subject of intense debate in ecological and wildlife conservation circles around migration and maintaining migratory corridors.

And today thousands upon thousands of tourists stage an annual migration of their own to witness first hand the improbable, somewhat monotonous yet mind-boggling scene of millions of wildebeest plodding their way north through Tanzania's Serengeti National Park, into Kenya's Maasai Mara Reserve. The impact of the wildebeest migration on the economies of these two countries through tourist revenue over the last few decades is immense.

Many readers will be familiar with Dr Estes' previous comprehensive work that synthesized and made accessible the interesting field of animal behaviour in relation to African mammals for guides, naturalists, visitors, students and many others. This new book is a grand, sweeping work bringing together many decades of

research, field experience and summarising the vast growth in our understanding of this remarkable animal and its enigmatic annual trek around the East African plains.

Dr Estes has produced a thorough, well-researched and highly readable book that will become one of the standard references for those interested in the wildlife and ecology of East Africa. His incredible experience over 50 years of researching these strange and wonderful antelopes is presented in an engaging and accessible style, which will be much for its relevance, breadth and biological detail.

Through a dozen chapters, the interesting biology, ecology, life history and natural history of the Serengeti wildebeest are explored in detail, accompanied by black-and-white photographs, some of them historical, and a few illustrations, maps and figures.

Given his vast experience with the antelope family (Bovidae), Dr Estes discusses the wildebeest in relation to this interesting group of creatures in detail in the first chapter as well as in later sections of the book. It is notable, as pointed out in the opening lines of the first chapter, that some 75 different species of antelopes are found in Africa, almost all of them unique to this continent.

This book is about a lot more than just wildebeests, and it uses the lens of the wildebeest to discuss many interesting and relevant topics including evolution, sexual dimorphism, grassland ecology in East Africa through to the challenges facing protected areas and conservation of large migratory species in today's rapidly changing world.

There is a detailed chapter looking at the wildebeest and its relatives, including the endangered hirola, various species of hartebeest, topi and bontebok. Each wildebeest species and subspecies are described, their population numbers reviewed as well as their historical and current distributions in Africa.

The migratory wildebeest in East Africa (Kenya-Tanzania), is the Western White-Bearded Wildebeest, which, according to DNA studies, has been revealed to be a distinctive subspecies, also unique in having a false penile tuft in females (for those of you interested in why female mammals might have penises at all, please look at Dr Estes

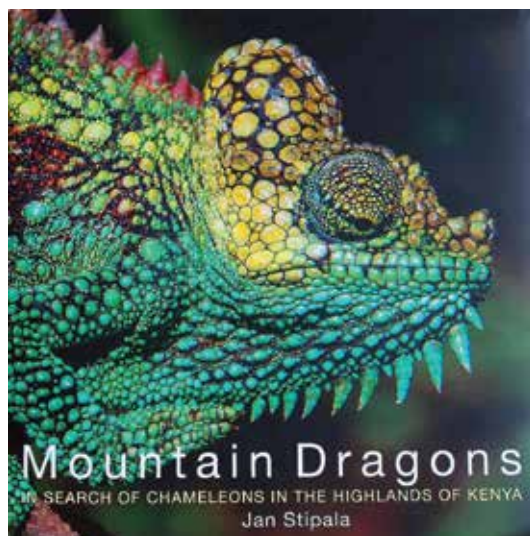
previous work on mammal behaviour – it will make for some very interesting fireside chats or dinner conversations!).

The historical detail in this book makes for fascinating reading and is well-worth consulting for those currently engaged in managing wildlife populations to see the impacts disease control measures, diversion of water resources and land-tenure changes have wrought on East Africa's large herds of migratory mammals over time. There are valuable lessons to be learned from this book in this regard.

In particular, the combined effect of both rinderpest outbreaks in livestock and wildlife, and smallpox in humans at the beginning of the last century in shaping the changes of vegetation, expansion of tsetse flies and subsequent success of certain plains-dwelling mammals is very interesting. With both of these major diseases now eradicated (smallpox in the 1970s and rinderpest in 2010), this is an important lesson given the ecological stresses and fragmentation of wildlife populations being experienced today in relation to the threat posed by emerging diseases. Another valuable component of the book is the detailed discussions of fire (natural and managed) as well as changes in grassland (grass vs. herbaceous plants), presenting a balanced and useful long-term view of patterns and processes that are sometimes overlooked by those in the field today.

The final chapter of the book looks at the conservation and threats to the Serengeti ecosystem, from the much-needed growth in tourism for the regional economy to poaching, climate change and large-scale infrastructure development including a planned tarmacked road through the northern Serengeti to link up western Tanzania. This book is ultimately a celebration of one of our planet's most spectacular wildlife phenomena and also a reminder that we now hold the survival of the wildebeest and its habitat in our hands. Decisions made today will have a profound impact on whether this annual trek of over one million grunting creatures continues to inspire, delight and surprise future generations. ●

**Reviewed by Dino J. Martins**



### **Mountain Dragons – in Search of chameleons in the highlands of Kenya**

By Jan Stipala

**Available through the National Museum bookshop**

**B**eautiful, brightly-coloured charismatic lizards of Africa and its surroundings, chameleons have found their niche in the highlands of East Africa. Tanzania has 40 species; Kenya 24, many endemic, no other mainland

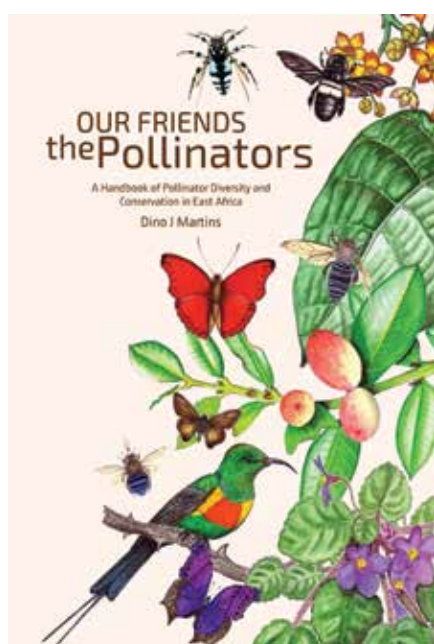
African country approaches those sorts of numbers. Many forest species have developed strange, often unfathomable head ornamentation. Chameleons have inspired enthusiasts, generated Facebook groups and stimulated the production of richly-illustrated books. In this beautifully produced, large format book, biologist Jan Stipala makes his contribution and shows what you can do with a bit of enthusiasm.

The bulk of the book is a travelogue, describing the team's adventures visiting 12 mountain massifs in Kenya; it is followed by profiles for 11 Kenyan chameleon species and a section on chameleon research. Stipala and the National Museum herpetologists spent a year collecting in Kenya with a battered land cruiser. They got stuck in the mud, frozen and soaked at high altitude, had frightening encounters with big game and a drunken game scout shot a hole through the roof of their vehicle. But they also found and described two new species of chameleon, both endemic to Kenya, recorded a Tanzanian and a Sudanese species in Kenya for the first time, and made numerous range extensions.

The text is lucid, entertaining and informative; Stipala's easy style reads well. The 360+ colour photographs are one of this book's strengths, showing the land and the chameleons, often in single or double-page spreads. The panoramic habitat pictures are superb and would not be out of place in National Geographic. The chameleon pictures are equally good, illustrating 12 species of Kenyan chameleon, some recorded in Kenya for the first time. Many are finely composed, taken by daylight and showing the animal behaving naturally; too many modern chameleon pictures show a stressed animal photographed by flash. The high standard of photography is epitomised by an astonishing sequence of pictures, showing two vivid blue-green and yellow Jackson's chameleons from Machakos fighting over a female...who then rejects the winner!

There are a few typos, and Stipala's research on Jackson's and Von Hohnel's chameleons means the picture selection is over-indulgent, there are nearly 140 pictures of these two species. But this is a bewitching, beautiful book, bringing alive the landscape, the chameleons and the ordinary citizens of highland Kenya. ●

**Reviewed by Steve Spawls**



### **Our friends the pollinators**

By Dino Martins

**Published by Nature Kenya, the East Africa Historical Society**

This is a free download you can obtain at: <http://discoverpollinators.org/pollinators/pollinator-handbook/>

**A**nyone who has been to a Dino Martins talk on the world of pollinators knows what the author of this wonderful guide is like: he combines scientific rigour, a childlike sense of wonder at the world he observes and an impish sense of humour in a presence that makes you feel good about both his world and ours.

There is something Attenborough-esque about his enthusiasm and his passion for the natural world. Not surprising really, since

Attenborough was and is a hero of Dino's. Note that we refer to Attenborough by his surname, but everyone knows the author of Our Friends the Pollinators as Dino, not Martins, because his openness and mission to demystify invite the feeling that we are on first-name terms with him. Where some scientists talk at us as though we lived on different planets, Dino has that knack of talking to us in a way that leaves no doubt that his planet and ours are the same, and that we must care for it.

What is surprising is that this guide is free, which is both a strength and a weakness. It's such a beautifully produced volume that it belongs in the hand, not on the screen. There are, apparently, no plans or money to finance the publication of this in paper yet but we are fortunate to have this ultra-modern download to enjoy and learn from. It is illustrated by Dino himself with line drawings that are



a joy. The East African Wild Life Society (EAWLS) stopped selling Dino's Christmas cards several years ago but around November we still get people calling on us to see if we have some for sale. His art, like his words, is gentle and enlightening.

The theme of the book is conservation, of course, but not in the classical "we must save these wonderful creatures from extinction" mode; this is a book about how pollinators contribute to food security. "One in three bites of food is thanks to a pollinator," Dino reminds us. "The beauty of pollination is that it draws a strong and clear link between livelihoods, sustainability, and the protection of the environment. Working with farmers to foster an understanding of pollinators, and habitats, directly contributes to improving food security, and alleviating poverty through increased yields." So there is a clarion call

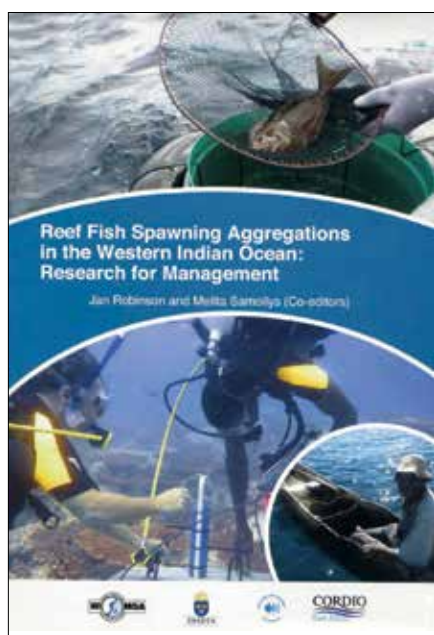
on the world of science to inform the world of the small African farmer on the benefits of pollinators, and the poisonous implications of increasing use of pesticides for increasing yields.

Small-scale African agriculture is the canvas on which he paints his argument for conservation. Bees, birds, bats, bushbabies and butterflies are all presented in terms of what they do to pollinate, the bonus benefits they bring; beans, coffee and cowpeas are some of the food crops he looks at to demonstrate the inter-dependence of things with wings and things with leaves.

It is not a long book; handbook is probably the best description of it at 122 pages. And the science is very much about the East African region. Dino pays tribute to the farmers who have helped him in his discovery and repays them with knowledge

they need to share. What a service it would be if some benefactor could distil this fine work into something our farmers could hold, study and use. Even more, if copies could be made for every school in the region. The beauty of the book is that it relates conservation to daily life in the shape of the food we consume. Its focus is East Africa, but its argument for Citizen Conservation has a universality which has never been more relevant than today, when the fragility of the link between the tourist dollar and conservation is being cruelly exposed. To succeed, conservation has to begin at home. In a gentle, and understated way, *Our Friends the Pollinators*, makes that link. ●

**Reviewed by Andy Hill**



**Reef Fish Spawning Aggregations In The Western Indian Ocean: Research For Management**  
By Jan Robinson and Melita Samoilys (Co-editors)

**Published by WIOMSA, CORDIO**

**T**he key to this book's value is in its sub-title: it is meticulous and groundbreaking research for the management of fish that aggregate to

spawn in the Western Indian Ocean (WIO). It is also as much about the way they are fished as the fish themselves and is an invaluable document for policy makers with responsibility for coastal communities and their livelihoods, and for donors looking at ways to support them. Linking conservation to communities that share natural space is nothing new on land. There is barely a Conservancy operating in East Africa that doesn't boast some sort of Community involvement in its mission statement. Sadly, very few of our coastal hotels, which benefit from reef riches every bit as much as Maasai Mara lodges benefit from Wildlife, get involved in supporting coastal conservation.

SWARA readers will recognise one of the co-authors, Melita Samoilys, who has contributed several articles on ring net fishing and other sorts of gear. With Jan Robinson, they have produced the first framework for processing information about areas where fishing is vital to livelihoods, but needs to be managed. It is the classic conundrum of how to ensure there is food on the table in three years when there is precious little on the table today. The book also breaks ground in exploring the outcome of different management plans across different species in different places. The book sets out to "address critical information gaps and develop robust scientific approaches

for the management and conservation of commercially important species that aggregate to spawn in the Western Indian Ocean. " There are chapters on a variety of fishes from Shoemaker spinefoot rabbitfish to the brown-marbled grouper.

Robinson and Samoilys explore a variety of species that respond very differently to being fished and says a one-size-fits all approach to their management will not work.

"Clearly, the conservation imperative is influenced by the fact that most research to date has focused on the more vulnerable aggregate spawners such as the groupers. However recognition that some aggregative spawners are relatively resilient to fishing is needed, and the socio-economic aspects of the system must be understood."

This is no coffee or bedside table book and is primarily scientific in tone and language. It is honest about information gaps and persuasive about taking coastal community needs into account. It deserves to be on the desk of fisheries managers around the WIO. It must be hoped that it will be instrumental in shaping policies which take account of the need for reef fish conservation and the needs of the communities which depend on the sea for their wellbeing, and for the security of future generations. ●

**Reviewed by Andy Hill**



# A close encounter with a Python in the Maasai Mara

By Paolo Torchio

**W**e were in the Maasai Mara, enjoying a relatively quiet tourist season without the usual hundreds of minivans queuing around every living thing. The Wildlife was therefore confident and natural, not least this enormous python we spotted slithering around a donga, perhaps looking for food. We positioned the car in front of it at some distance, so as not to disturb him; but that didn't stop the snake taking a marked interest in our car. He came slowly straight towards us until he reached the back tyre of the

4WD, and then started to lick it. Then the python raised its big head and seemed quite determined to crawl into the car chassis, and to take refuge there. That's when we started the engine to change its mind. The alternative was to have a six metre stowaway in our car body, and no means to get it out.

The engine noise was enough and it jumped almost the height of our windows to escape towards the safety of the water from which it had emerged. And they say there is nothing new under the sun. They haven't had a python getting up close and personal with their car! ●



PHOTOS BY: PAOLO TORCHIO







PHOTO BY STRATTON HATFIELD

# Our natural heritage

## Our legacy to our grandchildren

The East African region is well known for the richness and beauty of its biodiversity. It has been this that has made the region a favourite destination for millions of visitors. But this precious inheritance is under real pressure from unplanned development, mismanagement, corruption, population growth and a lack of understanding that good economic growth depends on maintaining a healthy environment in all its attributes as the platform for development.

The East African Wild Life Society is home grown. We are part of East African Society culture and future. We care deeply, in line with Kenya's Constitution, which states that everyone has the right to a healthy environment now and for generations to come. That future demands that we keep our biodiversity intact. Therefore the Society has advocacy as a major instrument in addressing the threats we face and we don't flinch in facing up to that responsibility. But the more support we get, the stronger our voice becomes.

Please therefore help EAWLS by supporting us. This can be done in three ways.

1. Become a member
2. Make a donation
3. Leave a legacy in your will

1. If you are interested in becoming a member, then this can be done quite easily online by visiting our website: [www.eawildlife.org](http://www.eawildlife.org) selecting the click here for more information under the Subscribe or Renew Membership title on the home page, and following the procedures requested.

2. For a donation, we have now made it possible for you to enjoy tax relief if you live in the USA or UK.
  - For USA, we have a formal partnership with Lewa USA, who enjoy 501 (c)(3) tax relief entitlement for donations and legacies. The donations have to be made out to Lewa USA but it is easy to indicate that the donation is committed to EAWLS through the Lewa Wildlife programme. The donation can be made by visiting [www.lewa.org](http://www.lewa.org) or if you would like to make the donation by cheque, please make it out to Lewa Wildlife Conservancy and mail it to 38 Miller Ave, Mill Valley, CA 94941 with EAWLS noted on the memo line. Credit card donations can be made by calling Lewa USA's Executive Director, Ginger Thomson at 415.627.8187.
  - For UK, we have now registered East African Wild Life Society (UK) as a UK Registered Charity (Charity No. 1153041). Donations would be entitled to tax relief. EAWLS (UK) has a dedicated bank account and the details can be provided by contacting Nigel Hunter at: [Nigel.Hunter@eawildlife.org](mailto:Nigel.Hunter@eawildlife.org) if you are interested in making a bank transfer. If you wish to use the cheque option, then these should be made out to East African Wild Life Society (UK) and sent to Mrs Emma Stewart, Townend of Grange, Dunlop, Kilmarnock, KA3 4EG
3. If considering a legacy, then please contact Nigel Hunter, who can make useful information available to you.



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