

CONSERVATION

Poison Empties Skies That Once Were Full



THE AUTHOR



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Rolling down the car window, the first thing that hit me is the stench. The vulgar smell of death and decomposition quickly descends deep into my nostrils, leaving me with an acrid taste in my mouth. Then comes the sound. When I worked in Maasai Mara National Reserve in 2009, the sound that seemed to always around me during the summer months was the strange huffs and bleets of the wildebeest, which dominate these plains. Now the sound has changed. Though the herds stand only a few hundred metres away, the noise that overwhelms me and even makes me involuntarily shiver is the buzzing. Flies swarm the four wildebeest carcasses that lie before me. These are the old and weak that didn't make it through the cold of the evening air. They have succumbed to their journey as so many hundreds and thousands will in the coming months of the dry season. The sight of maggots writhing within the carcasses completes the scene. The tiny white wormy bodies eat to their hearts content, a horrifying portent of the thousands of flies that will come forth as these larvae develop.

It hasn't been a particularly dry year, but that doesn't matter. The migratory wildebeest herds have remained strong in the past two decades. Though their resident cousins have long since gone missing, these wildebeest have flourished. The wildebeest migration cycle persists. Each year thousands are born and thousands die, but the population remains stable. It truly is a marvel that this beautiful spectacle has been preserved. The road through Serengeti National Park that so many feared never came to pass. Together the Maasai Mara National Reserve of Kenya and Serengeti National Park of Tanzania have protected enough forage and water to keep the migration going.

But not all the natural processes of the Mara-Serengeti have been

saved. The skies are nearly empty. The vultures are gone. Vultures were never the only scavengers in this ecosystem, but they alone kept up with the migratory herds. In the past, an entire region's vultures migrated, coming from as far as Sudan and Ethiopia, into the Mara to take advantage of the wildebeest herds during the dry summer months when so many would fall. Their mammalian counterparts – the hyenas and jackals – are still here, but their population dynamics are such that they could never increase in number, through growth or movement, to sufficiently utilize this incredible seasonal surge in food availability. The predators too will take their share, turning to scavenging when it suits them, but again their numbers are never enough to relieve the excess of carrion that comes with such a large migration. But nature doesn't believe in waste. With the passage of avian scavengers, flies and bacteria now dominate the scavenging community. Even as I sit here, the tiny black nuisances climb along my skin, suck from the corner of my eyes, and burrow into my nostrils. I'm thankful that I have left my insect adverse husband at home – there are few that can stand the overwhelming abundance of these tiny scavengers.

Even I, a true veteran of carcass "stake outs" from my years of research, find the flies so irritating that I twitch and flail as I try to relieve my flesh of the horrible sensation. I know that the hundreds of tiny feet that walk upon my skin, are covered in the bits of bacteria, dung, and carrion that their owners have walked upon – bits that can cause disease as they enter my eyes, nose, and mouth. But try as I might I am unable to rid myself of the flies. So I roll the window up again – the alternatives are now either stand the heat or forbear the flies. For a brief moment, I have chosen the former as the latter has become unbearable and repulsive. It is no



A Ruppell's Vulture flies in towards carcass

wonder so few tourists are interested in coming here anymore. The Mara's reputation for its flies has surpassed its reputation for wildlife.

Suddenly I hear a familiar sound and I look to the sky. The white strip of feathers teeters back and forth above my head as I take in the graceful flight of a female Bateleur. She lands 200 metres away and nibbles at some small morsel in the bushes. Twenty years ago when I did my dissertation research I noted that Bateleurs were the only species increasing despite the threats to avian scavengers. My work showed that thanks to a small range size and a preference to avoid human settlement areas, these raptors had been able to succeed where all the others were

failing. Back then, Egyptian Vultures had already more or less disappeared. Their ecology had in part explained why they had been the most vulnerable. With large range sizes and a preference for feeding near human settlement, not to mention an already small population, this species had been at greatest risk of poisoning and had suffered the fastest.

Over the last 20 years, the numbers have confirmed what I had sadly predicted. Hooded Vultures were the next to disappear, due to the ecological habits that they shared with the Egyptian Vultures. Then came the population crash of the social vultures – the White-backed and Ruppell's Vultures. At first, their numbers declined slowly, thanks to

their preference for protected areas. But over time, their large home ranges meant that not a single individual was safe from poisoning. Every one of them spent almost a quarter of their time outside protected areas and they feed there too. It really was only a matter of time until a large proportion of them were poisoned. Lappet-Faced Vultures and White-headed Vultures clung on a bit longer as had Tawny Eagles, but their numbers are now sparse even within protected areas. Now 20 years later, only the Bateleur are really left in any numbers, but given their preference for smaller carcasses and small populations, they could hardly be expected to clean up the hundreds of wildebeest carcasses that still appear



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like clockwork each day of the dry season.

I drive out of the park, heading north into the villages that I once knew so well. The Maasai are there, still herding their cattle, but life hasn't gotten easier. I drive to the house of an old friend – Wilson, who was once my field assistant. He has aged and the years are reflected in his eyes and have tugged at the seams in his skin. His wife sits just in the house, boiling tea in preparation for my visit. The flies are here too. Though flies have always enjoyed the dung filled bomas – protective areas for livestock – they have moved with a vengeance into the houses. I can see ten of them pooling in the basin of tea even as it boils.

Wilson's children and grandchildren rush towards me in excitement. I look down to see their tiny eyes. Maasai have always had a way of tolerating the flies and this has continued, but I can't help but notice how faces and fingers have nearly disappeared amongst the plague of insects. With every blink a cloud lifts up, only to re-land, a fraction of a second later. There is no ridding oneself of these creatures. Over tea I continue to twitch while my tolerant companions sit passively. We talk at first of the old days. Wilson recalls capturing our first

vulture at a zebra carcass. We had been attaching GSM-GPS units to study their movement. He recounts how 50 birds had sat idly as we prepared the trap and how incredibly easy it had been to catch a bird.

"What would it be like now?" I ask him. He pauses. "I doubt we could capture so much as an African White-Backed Vulture now. It might take two, perhaps three, weeks before we would be able to see so many birds."

We reflect on the lessons we had learned from the elders when I first



The Bateleur is one of the few avian scavenger to have increased in number because of a small foraging range and preferring for avoiding human settlements.

started this work 20 years ago.

“The mzee (old man) would talk of the Egyptian Vulture,” he recalls. “I had never seen one until spending six months searching for them with you. Now I can only tell my children stories of what was once the most common bird here – the White-Backed Vulture. They have gone the way of the Egyptians.”

“Do you remember what the one mzee told us about the importance of the vultures?” I ask.

Wilson smiles. “He told us they were the soap of the savannah; they keep our homes clean. But now they are dirty,” he laments, brushing flies away from the eyes of his youngest grandchild, who is but two years old. “Even the cows suffer now,” he continued. “We used to fear the diseases the wildebeest would bring to the livestock, but now we fear the diseases from the flies. We fear the diseases the cows will spread to each other. Not to mention the diseases the flies spread to us. I never would have imagined it could be like this.”

I can see the exhaustion and frustration as he speaks. It is what I had predicted, what we had known would happen, but it doesn’t lessen the blow.

“If only they had known,” he goes on.

“But we told them,” I say.

“If only they had listened.”

“Some did,” I reply.

“It took so little to destroy the vultures. Even when so many were protecting them, it only took a few people – a few drops of poison – to make the birds disappear.”

“We knew it wouldn’t be easy. Remember what I told you about India. With poison – or in this case diclofenac – in just three of every 100 dead animals, the vultures there vanished in just 15 years. From millions to thousands in a decade. It doesn’t surprise me that it could happen again. That it could happen here.”

“There were five families, I think,” he goes on. “At least I only knew of five that had been told but wouldn’t stop.

One family lived nearly 20 kilometers from the park, but the hyenas still came. They ate ten sheep and five lambs in one night. Before I could stop them, they had poisoned all the carcasses with pesticide. I remember watching the vultures pile up afterwards. In just an hour, a hundred had died.”

“The vultures gather so quickly.

It is their gift . . . but with poisoning it becomes a curse,” I continue as I imagine sitting next to a carcass back in the old days. We would sit and wait for the vultures at a carcass as part of my study. The speed with which the vultures arrived always amazed me. Once the first bird landed there would be 50 before five minutes was up. Vultures, especially the White-backed and the Ruppell’s vultures, use each other to find food. They don’t coordinate, but by flying a few kilometres apart they create a network and once one bird sees something they can all follow it in. My own studies had helped demonstrate how



Corinne and Wilson prepare to release a vulture with a transmitter.

effective this can be, but it requires a healthy population of vultures. As the populations decline, the networks start to break down. Now with so few left, the system is defunct and it is every bird for itself.

I emerge from my musings and finish my cup of tea. I talk with Wilson of family, but as the sun sets I say my farewell. I spend the next few days driving the roads of the Mara to assess the damage. It is so clear – so few birds in the sky and so many rotting carcasses with only the flies to scavenge them. After the long bumpy drive back, I find myself sitting in an airplane on the tarmac at Jomo Kenyatta Airport.

Looking at the floor, I see the rivets, holding the plane together.

As we take off, I close my eyes. I imagine the plane is our earth, the only one we have. The rivets are her many species – the dung beetles and the leopards, the elephants and the kudu. Each has its role in holding the system together. We might be able to afford losing a few, just as the loss of the Egyptian vulture seemed insignificant to many when I had started in 2009, but with greater and greater losses come greater ramifications. With so many avian scavengers missing, the savannah can no longer be cleaned. ●

This is only one possible future, but the demise of East Africa's vultures is not yet written in stone. For now, the Masai Mara remains a spectacle of both beast and bird with thousands of vultures covering the landscape to eat the remains of the passing wildebeest and zebra herds during the dry season. Vultures are adaptable and resilient, but they will need our help to survive the plague of poisoning that currently threatens so many species. My hope is that solutions to human-predator conflict can be implemented to stave off the drivers of poisoning. Only when poisoning has come to a complete halt will these critical scavengers be saved.

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