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Saddle-billed stork –one of the beauties of the Okavango Delta. | PR Ehrlich

Beyond the Big Five

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For first-time visitors to Africa, the must-see fauna there usually is what hunters used to call the "big five:" lion, leopard, Cape buffalo, black rhino, and African elephant. These animals were the most prized as trophies by hunters who thought that killing one of them was a badge of manhood. Such fools, unhappily, are not yet extinct, though happily they are mostly a minor factor today in pushing lions, rhinos, and elephants toward extinction. Habitat destruction and Chinese quests for ivory trinkets and aphrodisiacs are much more important. Recently, a dentist famously wounded a pet lion with a bow and arrow while being guarded by a "guide" with a high-powered rifle. He doubtless imagined it was "sporting," even though the lion had to be shot to be put out of its misery.

Africa exemplifies many of the dilemmas of ecotourism. Of the big five, all but the leopard are now confined to Africa, with the minor exception of the once widespread lion, now represented outside of that continent by a tiny population in the Gir forest of western India. Africa is still a place where big predatory cats are easily seen in the wild. Those like us with a strong interest in wildlife who have been fortunate enough to travel extensively in Africa will be familiar with

its vast array of antelopes and other hoofed animals, still abundant in some areas. They may have been able to observe some big primates -- bonobos, chimps, and gorillas -- our closest relatives still persisting on humanity's home continent, but persisting in much reduced ranges.

Our early experience in Africa introduced us to a less appreciated but equally spectacular fauna, starting with a species-rich array of butterflies, including *Papilio antimachus*, perhaps the largest butterfly on the planet with a wingspread of about nine inches (which we've never been lucky enough to encounter). We've also missed a denizen of African moist tropical forests, a small group of structurally weird butterflies of the genus *Pseudopontia*, related to cabbage butterflies but lacking the swelling of the antennae typical of other butterflies. But we were rewarded with a chance to get to know many members of the subfamily Acraeinae, a group in the same family as monarchs, wood nymphs, and admirals (Nymphalidae) that reaches its greatest diversity in Africa.



Shoebill in Uganda's Murchison Falls National Park. This rare species is vulnerable to extinction from the usual human causes. | PR Ehrlich

More recently we've worked to learn Africa's amazing avifauna. As big game hunting has faded and more and more people have seen the big five and other charismatic animals, bird-watching has taken an increasingly important place in the continent's ecotourism. To our great pleasure, an increasing number of nature guides have developed expertise in sorting through the sometimes confusing diversity of species, and we hope that we and others, by requesting guides with that knowledge, have encouraged the trend.



Burchell's sandgrouse wetting their feathers to take water to their chicks. | PR Ehrlich

Just "ticking" off life (never before seen) birds and mammals is only a start. Next comes observing behavior and learning to understand it. On our most recent African trip, one of the highlights was seeing a large flock of sand grouse swooping in to a water hole in the Kalahari Desert, not just to drink but for males to soak their breast feathers in the water. It was once doubted by scientists but now is well established that they carry water back to their nests where their precocial young (active and self-feeding like ducklings) strip the water from the feathers. The males are able to carry the water over great distances, sometimes more than 20 miles. The sand grouse use calls to assemble the large flocks that arrive simultaneously at a water source -- almost certainly a strategy to overwhelm and confuse predators, which often have difficulty selecting a target from a mob.



Young lions guarding eland kill. | PR Ehrlich

It was fun to "tick off" three species of sand grouse, but knowing their behavior added greatly to the experience. So can an experience with one of the big five. On our last trip (September 2015), we had a fascinating time watching a pair of young bachelor lions, about three and a half years old, guarding the carcass of a large female eland (the most cow-like of the antelopes) that they had killed a couple of days before. About a dozen each of black-backed jackals and

spotted hyenas approached closely, but a mere glance from one of the lions dissuaded them from going further. Their close guarding and constant vigilance were apparently soon relaxed, perhaps because the lions had eaten their fill and the meat had gotten too ripe. A return trip the next day revealed no trace of lions, eland carcass, or scavengers. That incident made a striking contrast to an impala kill at another site many kilometers away that we observed a few days later. Another pair of bachelor lions were on the scene, but not closely guarding their meat. Instead they were lounging on the cool mud of a beach, dozens of meters away. There were no scavengers around, no sign of hyenas or jackals, no life at the kill. The presence of death was only signaled by a few vultures waiting patiently in local treetops. It was quite an interestingly different ecological/behavioral situation.

Later in the same trip we shared a morning with the food-getter of a pride -- a nursing lioness -- off on a hunt. She patrolled a large open area while our vehicle attended her. At one point from the elevated perspective of our vehicle we saw two warthogs approach a waterhole (game had been quite scarce). The behavior of the lioness changed instantly when a few moments later she spotted potential prey. She went into a close-to-the-ground ready posture and then trotted away keeping bushes between herself and her potential victims, clearly planning to trap them between her charging self and the water's edge. But no luck; the warthogs detected her before she could get within sprint range, and retreated to safety. It was easy to interpret the look on her face as disappointment. She continued her patrol at a steady pace, interrupting it occasionally to sit and scan the horizon, or to drink at a swamp edge.

Finally, the lioness spotted a small herd of the common swamp-loving antelope, the red lechwe (*Kobus leche*) grazing in an open area near a marsh. She gradually approached them, but they were very alert. You could imagine her thinking, "can I get one if I stalk and sprint?" She clearly decided it would be a waste of effort, as the alert herd was close to the marsh where the swamp animals' powerful, high hindquarters would give them all the advantage in running. At that point she decided to sit on a hillock to rest and survey the surrounding landscape. As the day was heating up, we concluded that we had spent a wonderful morning with a hunting lioness, and left her in peace.

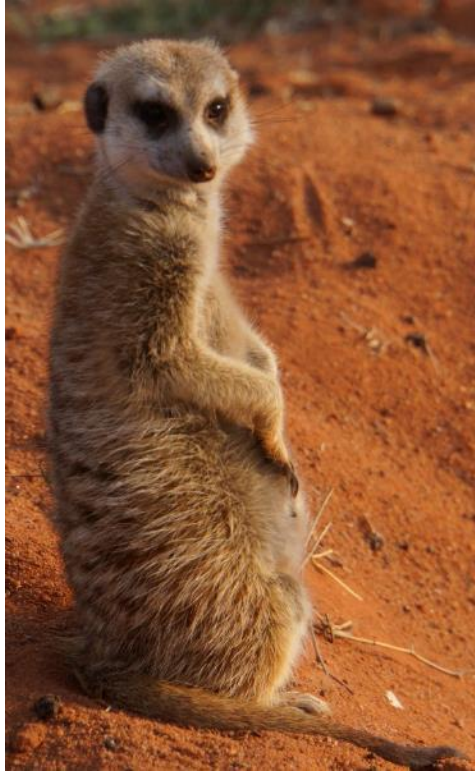
Of course "ticking off" species can be a real thrill even for Africa veterans. On our trip we especially sought three hard-to-see species that none of our group had encountered in the field. During intense searches in early evenings, we saw two of them. The prize, thanks to skilled and determined guides, was the aardwolf, a largely nocturnal hyena that specializes in eating one kind of termite and occasionally eats other insects. A powerful spotlight wielded by our tracker gave us an excellent view. Almost as interesting was time, also with spotlight, to spot and watch three armadillos foraging. This "earthpig" looks like a hog designed by a comedian, with a long snout, an arched back, and kangaroo-like ears. Like the aardwolf, armadillos are mostly nocturnal and dine mainly on termites for part of the year and ants for the rest. Fortunately, neither animal is endangered. Although farmers may persecute armadillos for damage their burrowing activities do to fences and dams, they are common and widespread, just tough to see.

Despite heroic efforts by our guide and our tracker, however, we missed the ground pangolin, member of an unusual group of mammals that have their hairs fused into an armor of reptile-like scales. The ground pangolin is vulnerable to extinction from habitat destruction, killing for bushmeat, and a growing international traffic in the scales. The latter is produced by the oriental (largely Chinese) “medical” trade (in animal parts thought to be aphrodisiacs) and a tradition of devouring endangered species as delicacies. As a result, Pangolins have become the most endangered group of mammals. From our viewpoint, the main positive thing about the ground pangolin is it is a fascinating animal and seeking it gives us another strong reason for returning to Africa.



Spotted hyena pups getting salty water from field vehicle running board. | PR Ehrlich

Our time in Africa has become a kaleidoscope of reminiscences. We’ve sat with a family of mountain gorillas and watched a silverback discipline a young male for abusing a baby. We’ve worked on butterflies at Gombe Stream Reserve, amongst Jane Goodall’s chimpanzees and occasionally interacting with them. We’ve seen powerful honey badgers (big relatives of weasels and wolverines) frantically dig for scorpions, their favorite prey. We’ve watched elephants romp in a lake with their young and seen them reciprocally squirt water from their trunks into each other’s mouths. It’s hard to believe that just a few weeks ago, in the Okavango Delta, we were watching two parched young spotted hyena pups, their parents away hunting, eagerly licking salty water from puddles on our vehicle’s running board, wet from fording a pond.



Meerkat watching for danger. | PR Ehrlich

So Africa has been a paradise for us and many others – a place to do research and also to get a glimpse of what our planet was like in the Pleistocene. We can't help but wonder, after enjoying many visits to Africa over half a century, what the fate of this glorious reservoir of biodiversity and its wonderful and varied human population will be. The fragile Okavango Delta, like the rest of the world, is threatened by climate disruption. Much of the continent is populated by people in need, people who understandably often can't resist poaching's rewards. In some cases, they are still suffering the hangover from brutal colonialism. Africa is now home to more than a billion people, and is projected to double that number by 2050, a rate of growth that itself will make it difficult to improve the average condition of its people and will greatly increase the pressure on Africa's wildlife. And ecotourism, largely a luxury today, is an important source of foreign exchange. It is also vulnerable to terrorism and global economic problems. The challenges for humanity of creating a world in which Africa's biodiversity can be viewed and appreciated by more people, and simultaneously in which the well-being of African people is greatly increased, are daunting indeed.

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