

Book reviews

Episodes and Tribulations of the African Ranger: A Tale of Tales by a Veteran

Conservationist by Joseph Serugo (2020) 165 pp., TFK-Luminary Publishers, Kampala, Uganda. ISBN 978-9970-578-05-4 (pbk), UGX 35,000 (GBP 8.00).

At the first African Parks Congress (Kigali, Rwanda, July 2022), I found this unobtrusive autobiography of former Ugandan park warden Joseph Serugo. Few seem to have paid attention to it, unfortunately, yet his autobiography is a landmark in African conservation, providing a different perspective from those of wardens, invariably of European descent, who described the spectacular African wildlife and protected areas at the end of the colonial and early independence period. George Adamson's *Bwana Game* and Bruce Kinloch's *Shamba Raiders*, amongst others, featured in this journal's book reviews in the 1960–1970s. Following independence and the subsequent Africanization of wildlife services, (Western) public fascination seems to have shifted to Western scientists and conservation NGOs working in African protected areas, such as Jane Goodall, Cynthia Moss and Ian Douglas-Hamilton. This Western conservation centrism was bitterly attacked in the *The Big Conservation Lie*, arguing that the narrative of wildlife conservation in Africa is unjustifiably dominated by the so-called white saviour perspective, undermining the critical role that rangers, communities and local organizations play in conserving natural resources (Mbaria & Ogada, 2016). It is refreshing that Serugo took the initiative to revisit the prime subject of this controversy, the ranger autobiography, providing an insider's view into the lives of African park managers.

Joseph Serugo studied Botany and Zoology at Makerere University, Uganda, in the early 1980s, when his interest in conservation was triggered by a visit to Queen Elizabeth National Park. After teaching in neighbouring Kenya, he returned to Uganda in 1989 at the end of the civil war. He applied for a position as ranger at the Game Department, was rejected, but nevertheless started as a project assistant in Queen Elizabeth National Park. Serugo soon left to pursue post-graduate training at the African College of Wildlife Management at Mweka, Tanzania. Mweka, created at independence to deliver qualified African wildlife managers, offers practical training to students from all over the continent (Scholte, 2003). It was there that Serugo learnt about the realities of African wildlife management. Returning to Uganda in 1991, Serugo was posted at Bwindi National Park, the start of a career at the Uganda Wildlife

Authority that lasted till 2007, during which he managed six protected areas: Bwindi, Kibale, Lake Mburo, Rwenzori Mountains, Kibale-Semuliki and Mount Elgon National Parks, and which ended with a short period at headquarters. The book's chapters are centred around these postings, with a presentation of Uganda's outstanding protected areas in the annexes.

Bwindi National Park is now a prime tourism destination, renowned for its mountain gorillas, but in 1991 tourism and the Park's infrastructure were still in their infancy. As in Serugo's subsequent postings, the presence of research and development programmes was often a blessing as they provided much-needed logistical support, and stimulating professional exchanges, also with colleagues abroad. Such projects could also be a curse, however, and Serugo describes in his straightforward style a number of sour personal relationships, sometimes resulting in transfers to other postings. Whereas previous generations of European wardens had a military or hunting background, Serugo was amongst the first with university training. European wardens in Africa used to have high social status, albeit with low income and limited operational support (Parker & Bleazard, 2001). This high status was not enjoyed by subsequent African managers such as Serugo, but the personal costs of being a ranger remained high, as readers of this book will discover. Serugo himself encountered multiple tragedies, including the loss of his wife on the eve of his departure to Mweka, car and motorbike accidents, suicides of colleagues, highway robberies, village uprisings and attacks by wildlife. One wonders how he and his colleagues remained motivated despite poor working conditions, low salaries, lack of career progression, corruption, and most strikingly, the brusque and sometimes irrational changes in postings.

I encourage all involved in wildlife conservation to read Serugo's autobiography, enjoy his adventures, and be inspired by his pragmatism and positive attitude. I hope that increased awareness of the harsh working conditions of rangers may stimulate much-needed improvements, which will be essential for attracting qualified rangers such as Serugo, on whom—now more than ever before—the future of African wildlife depends.

References

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Among Tigers: Fighting to Bring Back Asia's Big Cats by K. Ullas Karanth (2022) 256 pp., Chicago Review Press, Chicago, USA. ISBN 978-1-64160-654-7 (hbk), USD 30.00.

Tigers in zoos. Tigers in circuses. Tigers in private homes. Tigers in tiger farms. Tigers for amusement. Tigers for worship. Tigers for status. Tigers for bones. There are more tigers in captivity serving human needs than in the wild—WWF estimates twice as many.

But what about tigers for their own sakes, those magnificent felids stalking through the sal forests of India after a gaur? These are the tigers that Ullas Karanth has spent his life working to save and this is the story of the author's life with, and for, tigers. Starting with a passion for nature but no formal training, Karanth taught himself much about nature through exploring his native Karnataka state in south-western India, always convinced that his life's work was to save tigers.

After several career changes, Karanth received a PhD from the University of Florida. During his studies, he conducted path-breaking work on radio-collared individual tigers and leopards in Nagarhole National Park in Karnataka. There, he endured intense days in the field tracking the cats, and painstakingly assembled his findings into an understanding of how tigers and leopards lived within the landscape, what they ate, how fights rearranged their social structures, and what happened when cubs dispersed and set up new territories. His detailed work revealed a fact that is critical for tiger conservation: female tigers can breed successfully and rapidly if given sufficient food—wild cattle, deer and boar in large numbers—and left to live in settings with few people or domestic animals.

Karanth's observations not only provided vital information on tigers, but his long-term field presence also allowed him to build on the strong Indian tradition of lay people's interest in natural history. He recruited and trained a cadre of citizen scientists to conduct line

transect surveys, collect scats and perform other time-consuming work. This group of trained and dedicated people served as a strong and diverse base of supporters who would be critical in future fieldwork and advocacy when the troubles began.

Tiger deaths in Nagarhole Park, where he was working, appear to have been the turning point for Karanth, when he went from being a tiger biologist to becoming a tiger conservationist. A coincidental series of five tiger deaths in 1990 led to the rumour that it was Karanth's research methods that were responsible. Fanned by the tabloid press, these deaths reverberated across India and brought down on the research project the larger national controversies regarding forest exploitation, forest dwellers and miners, and the multi-level rough-and-tumble politics of India.

At this point the book pivots from the dreamy, familiar prose of a hard-working field biologist tirelessly following fascinating animals, into a passionate, detailed examination of the political ecology of tiger conservation in India, with the author's work at its core. This is a tale of deep frustration featuring tigers killing people, the burning of Karanth's research camp, self-serving politicians, swirling local to national politics, the tabloid press and its lack of interest in the facts of tiger conservation, and the rent-seeking and self-aggrandizement of individuals, government agencies, and social and non-governmental organizations. It is also the story of a country changing from highly rural to increasingly urban with improved economic circumstances, and the evolving social view of tigers and tiger conservation that came with this transition.

This tale is told blow by blow, person by person (with those who impeded Karanth's work named only with initials), incident by incident, political interference by political interference, and lost opportunity by lost opportunity. The author has a long memory and has faced a panoply of impediments woven in and around the kaleidoscope of Indian politics. He has particular scorn for what he calls 'forest bureaucrats', and those who feed off large international projects while not actually helping tigers.

To Karanth, any hope of long-term tiger survival requires an understanding that people and tigers can coexist at the scale of a country or state, but not at the scale of a single protected area. This means that for tigers to thrive, people living within protected areas need to voluntarily relocate—a topic that was anathema to many but not to Karanth, who worked with many parties to find land and resources to initiate the gargantuan task of voluntary resettlement of forest-dwelling peoples in protected areas in south-western India. This intervention comes with high political and social costs, but Karanth maintains it is the only

fair solution to help forest-dwelling peoples with limited access to governmental services, and to allow tigers to live their tiger lives. Supporting his argument, Karanth presents evidence of this dual benefit from the limited voluntary resettlement project he was able to help initiate before this effort was largely shut down by opponents.

Realizing that tiger conservation requires a broader perspective than work in a single protected area, Karanth shifted his research from individual tigers to populations. In particular, he pursued transparent and statistically robust means of determining changes in tiger population size. Even readers with limited interest in tigers will know that much is made of press releases issued by conservation organizations and governments about increasing tiger numbers. The end of the book, however, contains a scorching critique of the Indian government for ignoring, diluting and replacing the peer-reviewed methods that Karanth and colleagues have developed with the government's sloppy, opaque methods, based on data that are kept secret. The result is, as Karanth argues, a complete lack of confidence in the Indian government's numbers of tigers, which in turn results in a lack of ability to determine which conservation methods are effective and which are not.

The author ends the book reminding us that India is the country with the most tigers and the greatest potential to increase and maintain the number of these magnificent creatures in the wild. Despite the problems and setbacks, India remains the wild tiger's best hope. Karanth argues that realizing this potential will require attention to creating and increasing tiger source populations that are connected across the country. It will also require social support built on sustainable tiger tourism, and finally, dismantling of the government bureaucracy that has 'smothered' tiger conservation (p. 221).

Decades of service at the frontline of tiger conservation in India have forged Ullas Karanth into one of the world's premier tiger biologists. The major value of this book is the telling of his story and its potential as a teaching tool that lays out in great detail the real politics of conservation of large animals that can be in conflict with humans. Much of the literature that is used to teach students about conservation comprises scientifically sanitized technical papers and reports that fail to convey Karanth's reality of death, birth, mobs, graft, vendettas and the sort of noble stubbornness that characterizes his life's work. This is a grand story, well told. Despite being deeply pessimistic in many parts, the book ends with a passionate conviction that tigers can survive and that India will be the key player ensuring that survival. Tigers stalking through grasslands,

the light glinting off their rippling striped coats, won't know the work of Karanth, but those of us who want to live in a world rich with tigers have much to thank him for.

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Mycorrhizal Dynamics in Ecological

Systems by Michael F. Allen (2022), 300 pp. Cambridge University Press, Cambridge, UK. ISBN 978-0-521-53910-4 (pbk), GBP 39.99.

In 1991, Michael Allen published *The Ecology of Mycorrhizae*, a fascinating overview of the mutualistic symbiosis between many fungi and almost all plants. It was published when the significance of mycorrhizal associations was on the verge of becoming more widely recognized and appreciated, and a good read for me as a young researcher in fungal ecology. Since then, voluminous research has resulted in a remarkable increase in knowledge and awareness of the ecological significance of this ubiquitous symbiosis, attracting an increasing interest not only from students and scientists, but also from land-use managers and the public. Hence, I was thrilled to read Allen's monumental work compiling and discussing the current state of knowledge in his new publication *Mycorrhizal Dynamics*, 3 decades later.

The book's premise to explain about mycorrhiza and its significance in the entire ecosystem is very appealing by its connections to theories and accounts of natural history, although I think that some of the more detailed sections may pose greater demands on its readers.

As Allen so effectively conveys, mycorrhiza is no longer described as something odd or of limited importance, as it was in the textbooks of my school days. Instead, mycorrhiza has stepped forward as a basic premise for the existence of plants and terrestrial ecosystems as a whole. It is now recognized as the prerequisite for life's conquest of land 400 million years ago. The subsequent co-evolution of mycorrhizal plants and fungi makes them as tightly intertwined with each other as we are with our gut microbiomes; in both cases, very different types of organisms act as biological and functional units. A thought-provoking perspective is that plants can be considered (merely) as the outcome of a long-standing, successful entrepreneurship with symbiotically associated mycorrhizal fungi in their roots and photosynthesizing cyanobacteria in their foliage. The largely invisible, intimate physiological integration between mycorrhizal plants and fungi, together with fungi being