

A surprisingly large number of places in Africa, eager to draw tourists, claim the title 'the last great wilderness'. A dwindling number is justified in doing so, and among those is Niassa National Reserve in the remotest corner of northern Mozambique. In his year-long 'MegaFlyover' across Africa in 2004, World Conservation Society conservationist Mike Fay highlighted Niassa as one of the continent's 'last wild places'; more down to earth, researchers Colleen and Keith Begg have spent the past four years there tracking, discovering – and being repeatedly enchanted by this area's treasures. ▶

Emerging from the shadows

NIASSA NATIONAL RESERVE

Text and photographs by Colleen and Keith Begg



Sprinkled liberally in a wide arc across the centre of the reserve, Niassa's distinctive granite inselbergs dominate the landscape with their mostly bare slopes exposed to desert-like conditions and extremes of temperatures. Depressions fill with water temporarily during the wet season, which runs from November to April, with rainfall varying from 250–350 mm per month.

PREVIOUS SPREAD The Lugenda River valley forms a focal point for wildlife activity in Niassa Reserve, especially during the dry season when standing water is scarce. While miombo woodland forms the predominant habitat type in the reserve, along the perennial Ruvuma and Lugenda rivers there are also patches of wooded grassland, mixed woodland, combretum thickets, wetlands and a narrow band of riparian forest.



Unconstrained by dams, the Lugenda River flows for 360 kilometres through the heart of the Niassa Reserve. The river repeatedly spreads out across rocky sills, forming a maze of rapids, braided channels, waterfalls and gorges that are prime fishing habitat and important for hippos and crocodiles.

The Niassa Reserve's 42 000 square kilometres make it one of the most extensive protected areas in Africa

The lion headed towards a huge boulder that balanced above the miombo woodland like a giant toe at the foot of the mountain. He flopped nonchalantly onto the cool rock and fell into a doze while we watched, baking in the open sun. This was 'Campu', the first Niassa lion we had radio-collared in a clearing behind our camp and, judging from the strong feline smell of old urine and scats, the site he had chosen for his nap was a regular hangout. As we watched the sleeping lion, our attention was drawn to a curious arrangement of red marks on the rock face directly above him. The more we peered at the spots, the more they seemed to form patterns. The circles and radiating lines were far too regular; surely they were not the work of resident mud wasps? Could it be rock art? But it looked so different from the painted San art we are more familiar with elsewhere in southern Africa.

We waited impatiently until, in the late afternoon, Campu started to roar lazily, stretching and barely lifting his head. When he finally set off, we moved in for a closer look. The reddish, fingertip-sized dots and lines were made by man, we were convinced of that – but who made them and what is their significance? Once again, Niassa had a surprise for us. Over the past four years we have been continually challenged, frustrated, amazed and rewarded in this special, rather unusual wilderness.

Whenever we fly from the coastal town of Pemba westward across northern Mozambique, we are impressed by the unbroken expanse of woodland that lies below. There are no hard boundaries here and it is impossible to tell from the air when we are overflying the protected area. Niassa National Reserve lies at the heart of the region, midway between the coast and Lake Niassa, with the Ruvuma River forming its northern boundary as well as the international border between Tanzania and Mozambique. During colonial times, the Portuguese called this region *Fim de mundo* – the end of the world – because it was such an isolated part of the country. Just a few years ago the roads in it were some of the most challenging in eastern or southern Africa; today an excellent tar road extends from Pemba almost all the way to Lichinga on the highland plateau above Lake Niassa. Construction is also well under way on the Unity Bridge, which will be the first direct road link with Tanzania, crossing the Ruvuma River at Negomano, in the north-eastern corner of the reserve.

More than twice the size of South Africa's Kruger National Park, the Niassa Reserve's 42 000 square kilometres make it not only by far the largest



Granite outcrops provide canvases for rock art – and shade for a young territorial lion. The paintings are believed to have been made by the hunter-gatherer Batwa, who are culturally connected to modern-day pygmy groups. Radio-tracking lions in these woodlands has shown how they live among the Yao and Makua communities along the Lugenda River.

conservation area in Mozambique, but also one of the most extensive protected areas in Africa. It was first established in 1954, then was abandoned during the hostilities in the 1970s and '80s until the peace accord was signed in 1992. The new Mozambican government then took a bold and innovative step and entered into an arrangement to manage Niassa Reserve as a public/private partnership. In 1998 SRN (Sociedade para a Gestão e Desenvolvimento da Reserva do Niassa) assumed responsibility for the reserve, and in the same



year it featured for the first time in *Africa Geographic*. Much progress has been made since then. Another important and productive partnership was formed in 2002 between SRN and Fauna & Flora International, and this has undoubtedly led to the emergence of Niassa Reserve from the shadows.

'Are there any animals left?' is a question we are regularly asked, even by Mozambicans. Our answer is always an emphatic 'Yes!' Initially it was the elephants, particularly the 'big tuskers', that caught everyone's attention and provided the first impetus for renewed conservation efforts. The biannual aerial surveys conducted since 1998 confirm that there is a growing population of about 12 000 elephants, but that's certainly not all. Niassa also supports some 6 000 buffaloes and increasing populations of almost all the ungulates, specifically the three endemic subspecies: Johnston's impala, Niassa wildebeest and Boehm's zebra. Sable are particularly well represented, with as many as 13 000 distributed across the miombo woodlands. Only black rhino and possibly roan antelope seem to have been lost. A series of short biodiversity studies (on plants, carnivores, reptiles,

amphibians, bats and spiders) have also revealed a host of new species and surprises. In many cases these seem to have been the first systematic surveys done here, perhaps because southern Africa typically ends at the Zambezi River and eastern Africa tends to start at the Ruvuma, with northern Mozambique falling into a no-man's-land between them.

Our own work has concentrated on mammalian carnivores in the Niassa Reserve, of which there are 24 species at least. Eight mongoose species include the rarely seen Meller's mongoose and a black-tailed form of white-tailed mongoose, and there are also two civets (African and African palm), serval, honey badger, African clawless otter and four genets. Among the larger carnivores, over the past four years we have documented a growing and viable population of 700 to 900 lions and significant numbers of spotted hyaena and leopard. Undoubtedly, though, the most exciting news has been confirmation of a sizeable population of African wild dogs. These Critically Endangered canids number fewer than 6 000 individuals globally, so the Niassa population of at least 400 dogs is of both national and international importance. ▶

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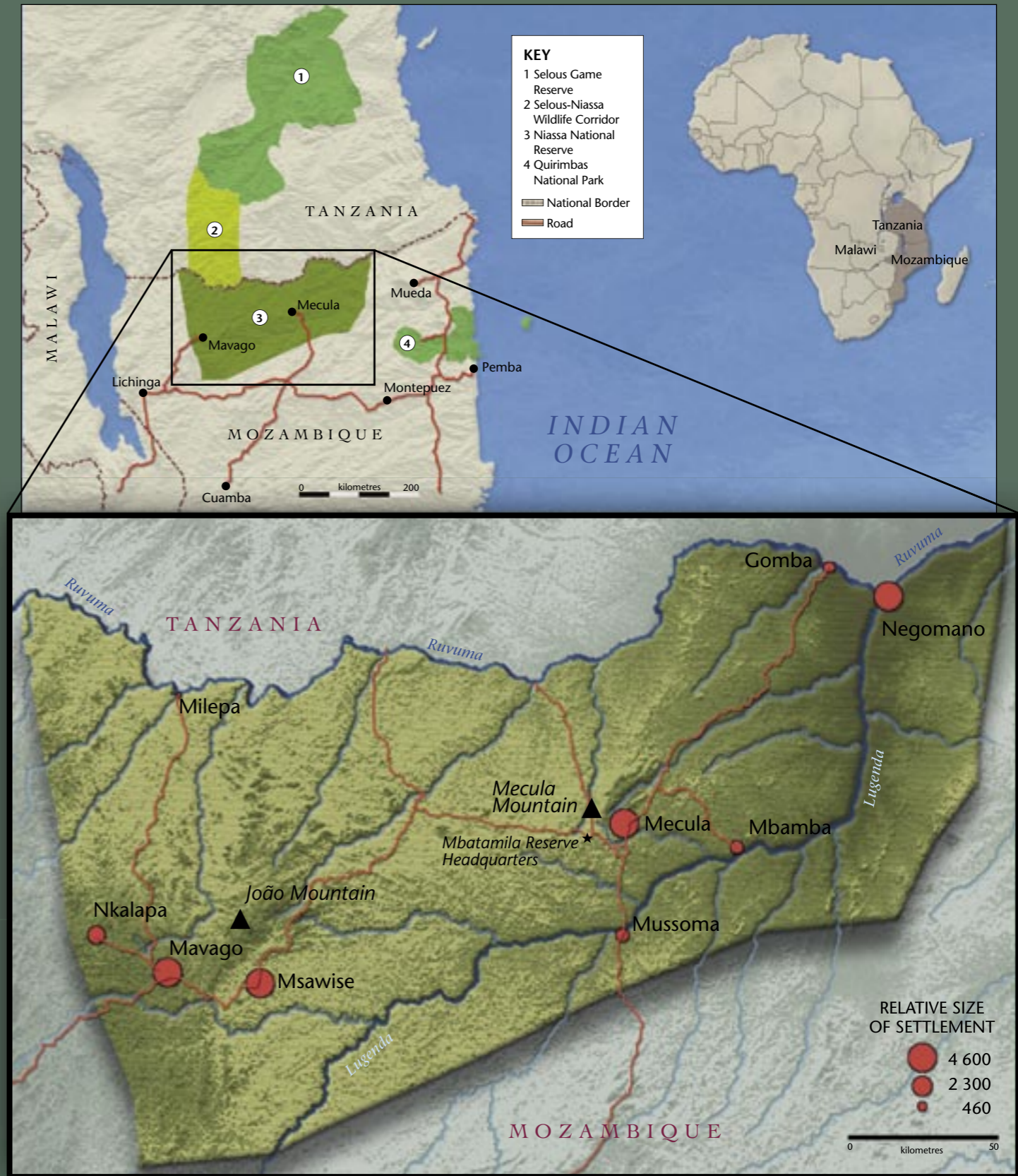


Many of the communities living in the reserve today still rely on traditional skills passed on by previous generations: (TOP) An old iron-smelting furnace provides evidence of the long cultural history of Niassa Reserve, and old pottery and melted iron slag can be found throughout the area. Even today, local ironsmiths still forge simple axe blades (now fashioned from old vehicle springs) using bellows to pump air through clay pipes (or tureyes) into the heart of the furnace. (CENTRE) Honey is a highly sought-after commodity and this old honey gatherer has climbed more than 14 metres up a baobab at night to raid beehives in the outer branches. (BOTTOM) The Lugenda River is home to a vibrant fishing industry and provides the staple protein and an income for local communities. More than 24 different fishing techniques are used, including these bamboo fish traps. Tons of dried fish are transported by foot or bicycle to markets that often lie more than 100 kilometres away in Tanzania.

Back at camp, a bout of e-mail correspondence began to connect the rock art dots and reminded us that humans have had a role in shaping this wilderness for thousands of years. Dr Benjamin Smith from the Rock Art Research Institute at the University of the Witwatersrand in Johannesburg informed us that recent studies of similar finger paintings suggest they are the work of the San's hunter-gatherer neighbours, the Batwa pygmies. Groups of Batwa are thought to have lived in northern Mozambique until the 1900s,

forming part of a broad band north of the Zambezi River that stretched west into Angola and north to Tanzania, towards their better-known home in the Congo. The rock art we had found belongs to the 'classic red geometric tradition' and the paintings may be as much as 4 000 years old.

As we trailed carnivores across the woodlands over the next few months, we found other sites with similar geometric designs. Not only that, the towering granite inselbergs that give Niassa its distinctive scenery ▶



NIASSA NATIONAL RESERVE

Established in 1954, the Niassa National Reserve's boundaries have changed a number of times, but today the sanctuary includes large portions of both the Niassa and Cabo Delgado provinces, extending over eight municipal districts.



ABOVE Elephants pass below Lipumbulu Inselberg on their way to the Lugenda River's main channel, where they typically congregate to feed on the lush reedbeds along the riverbank. Many inselbergs, including this one, are sacred to the local communities.

OPPOSITE Nkuti village, situated in the Lugenda River valley, is one of 40 villages situated inside Niassa Reserve. Shifting subsistence agriculture is the primary land use and main economic activity. There are no cattle in Niassa due to the presence of tsetse fly, the vector for the disease trypanosomiasis, but smaller livestock (primarily goats and chickens) are present.



yielded pottery shards and the remains of iron-smelting furnaces. While never densely populated – relatively infertile soils, malaria and the presence of tsetse fly had seen to that – the region has clearly been inhabited for thousands of years. And today, like most other protected areas in Mozambique, the Niassa Reserve still has a human component, in this case some 25 000 people in 40 villages. Since we started working here, we have been fascinated by the complex interplay between wildlife and people.

Niassa's residents are mainly from the Yao and Makua tribal groups, with some Ngoni, Marave and Matambwe people. One day we took a group of Yao elders from a nearby village to the site where we first found the rock art. Campu was there again, adding to the sense of occasion. To our surprise, none of the men knew

anything about the paintings. They were much more interested in the lion, and clearly nervous about being so close to him. We realised that this was probably the first time they had ever sat and watched a lion, quite naturally preferring to avoid such interactions. In the course of our research we have found that the lions appear to do the same, quietly moving into dense thicket when humans cross their path, watchful but avoiding contact.

But humans and wildlife cannot be kept apart. Conflict is a reality in the villages, where elephants, bushpigs and baboons are the main culprits, destroying crops and property and sometimes causing loss of life. When we ask a villager, 'What is the chief of the animals?' his response is immediate: 'The elephant'. Elephants loom large in the lives of the villagers, especially in the wet season when crops are almost ready for harvesting. Dealing with the conflict is going to be one of the main challenges in Niassa's future, as the densities of human and animal populations increase. For a farmer who lives so close to the land and has little or no cash income, an elephant destroying his crop can, and frequently does, mean disaster – even starvation.

There are other challenges too that face SRN. Its community policy and management plan are based on the right of people to continue to live in Niassa, and collaboration with communities is recognised as central to achieving long-term

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conservation goals for the reserve. Subsistence hunting, ivory poaching and potentially unsustainable fishing techniques are problem areas, and resident communities will have to abide by certain restrictions that are not applicable outside the reserve. To balance this, SRN is actively seeking ways to improve their quality of life and to alleviate poverty by maximising opportunities to generate income. A scheme to share benefits derived from ecotourism and sport hunting is already in place.

From a tourism point of view, Niassa's two greatest assets are the Lugenda River and Mecula Mountain. The Lugenda meanders 360 kilometres through the reserve, finally joining the Ruvuma River at the village of Negomano. Unconstrained by dams or agriculture, it is quite possibly Mozambique's wildest and most pristine major river, presenting a multitude of personalities as it flows from the complex *Pandanus* palm-braided channels in the west, through rocky gorges where the entire river disappears into slot canyons, to the broad sandy waterways in the east with their breeding colonies of globally threatened African skimmers. Initial surveys of the river have revealed more than 40 fish species,

with more being added to the list each year, and a viable and growing population of 600 hippos. Some deep pools are known to harbour man-eating crocodiles, but they are rarely seen. The Lugenda also supports a vital fishing industry, which provides the staple protein and income for many local communities. Inaugural canoe safaris have been a success and sport fishing may also become a possibility.

At the centre of the reserve, Mecula Mountain rises 1 441 metres above sea level, straddling the watershed. A diversity of vegetation types, particularly high-altitude forest, has led to the mountain being identified as the most important botanical area within Niassa. A new species of girdled lizard has already been discovered, and the moist montane forests are home to flocks of silvery-cheeked hornbills and buffalo and elephant herds.

Along with tremendous scenic appeal, this section of Niassa has an interesting history. During World War 1, German soldiers under the leadership of General von Lettow-Vorbeck crossed the Ruvuma into Portuguese Mozambique at Negomano. The legendary German commander's main task was to find food for his ▶



The absence of hard boundaries in any direction means that elephants, lions and African wild dogs can roam well beyond the protected area

ABOVE Wild dogs are specially protected in Mozambique and SRN has identified them as a conservation and research priority. To date, more than 39 distinct wild dog packs have been identified and it is estimated that Niassa supports at least 450 of these Critically Endangered canids. This wild dog population is of national and global conservation significance.

TOP RIGHT Palm-nut vultures are fairly frequently seen along the Lugenda River in areas where there are raphia palms, as the palm fruits provide their main food.

BOTTOM RIGHT An African palm civet rests in an *Acacia albida* in the centre of Lugenda Bush Camp, the new ecotourism destination on the Lugenda River. Seldom coming down onto the ground, and active only at night, palm civets are one of Niassa's most elusive small carnivores.

desperate troops and he set off south along the Lugenda River, reaching Metarica, almost 300 kilometres to the west, during the rains in December 1917. On the way, a column he sent on to Mecula Mountain to look for food

was engaged in a fierce battle with Portuguese troops. Today, local guides can take you to the old graves on the mountain slopes above the town of Mecula, which is now a district capital and one of the biggest villages in Niassa.

A detailed management and zonation plan developed for Niassa by SRN has recently been signed by the Mozambican government. This is the blueprint for the reserve's foreseeable future and will guide development and conservation activities. According to the plan, Niassa has been divided into 16 distinct management units: Mecula Mountain, for example, has been designated a Special Conservation Area, while ecotourism and sport hunting have been allocated to Resource Conservation Areas. In effect, Niassa is so vast that many of the units are the size of entire national parks and different strategies can be applied in different ones, taking into account the needs of local communities, income-generating activities and the protection of key biodiversity and cultural areas. At

the same time, all the units can be managed coherently under a central authority.

It was difficult to establish ecotourism in the past because of the lack of infrastructure in the region, but the situation is changing rapidly. The first few specialist walking safaris have been well received, and birding safaris in particular have proved popular, with Stierling's woodpecker, southern banded snake-eagle, Angola pitta and Taita falcon as some of the local specials. The luxurious Lugenda Bush Camp, representing the first major investment in ecotourism, opened its doors in 2006 and four concessions are currently open for tender, with more in the pipeline.

In conservation terms, the absence of hard boundaries in any direction means that elephants, lions and African wild dogs can roam well beyond the protected area, from the coast to Lake Niassa and extending at least 100 kilometres to the south. In addition to this, the establishment of the Selous-Niassa Wildlife Corridor in southern Tanzania, which connects the Selous Game Reserve to the Ruvuma River and north-western Niassa, has created one of the largest wildlife areas in Africa. The corridor was initially established to provide a permanent link between two of the continent's largest intact elephant ranges and to protect elephant migratory routes, but it also potentially links and allows gene flow between the wild dog populations in Selous and Niassa, creating a single population of well over 1 000 individuals.

If it is to continue to develop and make meaningful contributions both to the local communities and to conservation, it is essential that Niassa Reserve eventually becomes financially sustainable and generates a local economy to fund management activities. The reality is that there are very few conservation areas of this scale left in Africa. Throughout the continent, more and more efforts and finances are being mobilised to conserve small remnant populations of species in danger of extinction, yet here in Mozambique is a vast area that survives intact and by its sheer size already supports viable and globally important populations of threatened species. The challenge over the next decade will be to secure the future of this special wilderness and its people by implementing the innovative management plan. ■

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Situated on the banks of the Lugenda River, with the majestic Ngolonje mountains as a backdrop, Lugenda Bush Camp provides luxuriously appointed East African-style tents in a fig-tree forest.

Infotravel

- Self-drive visitors are urged to contact the Niassa Reserve administration in Maputo on tel. (+258-1) 49 9925 or e-mail sgdrn.map@tvcano.co.mz well before visiting the reserve to obtain the latest tourist information.
- No fuel is available in the reserve. The nearest petrol stations to the reserve headquarters in Mbatamila are located in Lichinga (460 kilometres), Cuamba (400 kilometres) and Montepuez (375 kilometres).
- The Lugenda Bush Camp offers luxury tented accommodation on the banks of the Lugenda River during the dry season (mid-May to November), visit www.lugenda.com. Bookings and charter flights can be arranged through Rani Resorts (+27-11) 467 1277, e-mail reservations@raniresorts.com or visit www.raniresorts.com
- Dave Christensen leads expedition-style walking and canoe safaris in Niassa. Bookings can be arranged through Wilderness Africa www.wildernessafrica.com
- The best time to travel to the reserve is between June and October. Many of the roads are impassable in the wet season (December to April).
- For more information about the reserve, visit www.niassa.com

AFRICA Geographic online

Ian Michler wrote about the early days of post-war Niassa in the September 1998 issue of *Africa – Environment & Wildlife* and *Africa Geographic* revisited the reserve with Peter and Beverly Pickford's 'The bed carriers' in the March 2004 issue. Vincent Parker's avian survey of Niassa appeared in the April/May 2004 issue of *Africa – Birds & Birding*.

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