CORRIDORS OF SURVIVAL

INTRODUCTION BY SARAH DURANT, PH.D.

PHOTOGRAPHY BY HOWARD G. BUFFETT

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TO ENSURE A FUTURE FOR BIG CATS, WE MUST THINK BEYOND FENCES.

BY SARAH DURANT, PH.D.

Humans have a deep and longstanding fascination with big cats. In our evolutionary past, peoples' lives depended on paying attention to wild predators' movements and habits. In some traditions, lions, tigers, and jaguars were thought to have special spiritual powers or embody the souls of ancestors.

For more than three decades, Howard G. Buffett's passion to photograph big cats in the wild has deepened our modern appreciation of these special animals. His extraordinary wildlife photography has both captivated and educated those who cannot directly experience the biologically rich Okavango Delta or the craggy, glacial faces of Patagonia to see big cats firsthand. As a conservation biologist who has studied cheetah in Africa for more than 25 years, I believe communicating the beauty but also the fragility of these animals and their habitats is vital for their very survival. Because of threats including deforestation, human settlement, encroachment and illegal poaching, the International Union for Conservation of Nature (IUCN) has designated the majority of big cat species as threatened.

Howard's photographs are only the most visible sign of his contributions to the survival of big cats. He has been a visionary supporter of what we in conservation call the "corridor" approach to trying to ensure that threatened species can survive in steadily shrinking natural habitats.

Photo: Doug Oller

SOUTH AFRICA

Corridors are a crucial part of a holistic approach to safeguard highly mobile wildlife. Establishing and maintaining protected areas like national parks has long been a tool for conservation; but species that are wide-ranging and sparse need landscapes much larger than a protected area.

Cheetah, for example, live at very low densities and a single cheetah may range over thousands of miles. Even in the largest protected areas, cheetahs struggle to evade more aggressive predators such as lions and hyenas, which may kill them as well as compete with them for prey. Maintaining connections between different protected areas is essential to allow cheetah to find unrelated mating partners and maintain genetic diversity.

Wildlife corridors demand that we first understand an animal species' natural ranging patterns and social behaviors to determine how they move across a landscape. Within our cheetah landscape project we are working to identify these natural corridors and to work internationally across entire regions with national and local governments to protect pass-through areas in land-use planning. But safeguarding cheetah also requires on the ground action as well as higher level policy frameworks.

We work with local stakeholders to help sensitize communities and landowners within and adjacent to those natural corridors to support their co-existence with cheetah and other large predators. There are a variety of tools to minimize livestock loss including: strengthening the natural thorn fences called bomas around pastoralist communities so they can gather their livestock inside at night and prevent attacks from predators; using domestic dogs as predator alarms when herding livestock at pasture; and finding new ways to secure benefits to local communities from the presence of large carnivores.

There have been important successes in establishing corridors, notably in Latin America where jaguar populations are on the rebound in many areas. The muscular jaguar on the cover of this book lives in the Pantanal region of Brazil. Brazil is one of 20 countries that still support jaguar populations and has signed on to a plan to help communities live peacefully and safely with jaguars moving through their regions.

The corridor notion may sound simple. I assure you that implementing it is not. As you will see in Howard's photographs, the landscapes a single species such as the cheetah inhabit can range from the rolling savanna of the Serengeti to the parched, rocky deserts of Iran and Algeria, to relatively dense woodland. Communities may be hostile to predatory species, particularly if predators take their livestock. Patagonian pumas inhabit an alpine habitat in which they sometimes hunt and kill sheep local people depend on. In some parts of the world, leopard and cheetah pelts are still prized for use in rituals and clothing. And one of the bizarre revelations of Facebook has been to shine a light on the keeping of lions, cheetah, and other threatened wildlife as exotic pets in Dubai and other regions of the Middle East where they once lived but are now extinct.

Photo courtesy of John and Frank Craighead

INDIA *Prior to extinction of the cheetah in India, captive cheetahs were used to hunt game. Similar to the way falcons have been trained to hunt and kill prey and then return obediently to their handlers, cheetahs were taught the same.*

Today, these animals are smuggled in as cubs from Africa. Many die in transit, while those that survive endure short and unhappy lives, stressed to their limits from being paraded around on leashes and driven around in cars or trucks, and malnourished from an inappropriate diet.

Howard and I share a belief that the world can never hope to save struggling animal species unless governments and conservationists first focus on the people also struggling to survive in these ecosystems. As the current poaching crisis of rhinos and elephants has shown so dramatically, when people living in extreme poverty are surrounded by animals commanding high prices from smugglers, it's nearly impossible to stop this illegal killing.

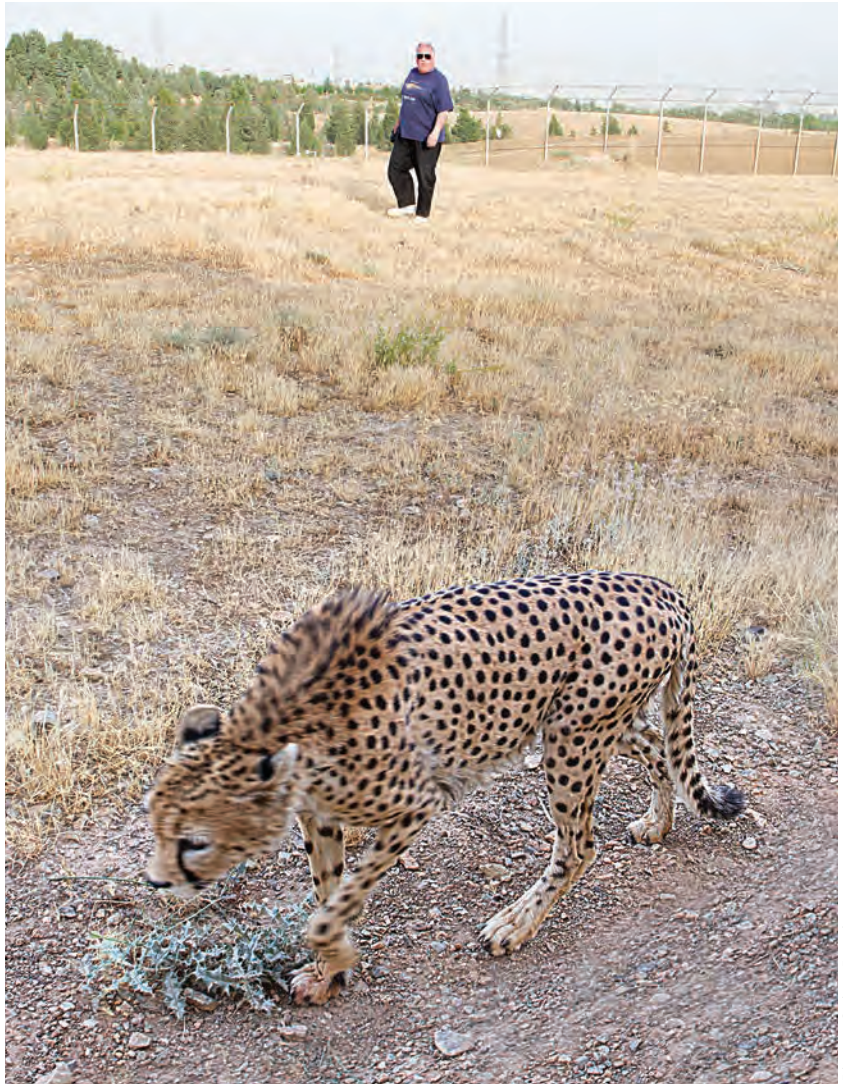


Photo: Sabra Brucker

IRAN

However, the emergence of ecotourism in many parts of the world is one way of tying prosperity for both people and animals together. It attracts vital foreign exchange and provides jobs where jobs are scarce; it helps communities connect the value of safeguarding species with economic benefit.

Howard and I have traveled together to a number of the habitats featured in this book—most recently to Iran in 2015. Iran is the last place on earth where the Asiatic cheetah, which once were common across the Arabian Peninsula and in Iran, India, Central Asia, Afghanistan, and Pakistan, survive. Today, there are fewer than 100 Asiatic cheetah left, but there are a determined group of Iranian conservation biologists who are working to safeguard these rare, solitary animals and create safe corridors between breeding groups. We were struck by how quickly global politics fall away when determined scientists come together to talk about conservation and exchange ideas.

I have run a research station in Tanzania's Serengeti since 1991, and Howard has been a loyal and generous supporter of my work. He continues to support our decade-old Rangewide Conservation Project to protect cheetahs and African wild dogs. It operates in 17 countries. Howard also supported the first ever study of cheetah in the Sahara, which documented them at densities lower than recorded for any other large carnivore: one cheetah per 4,000 km2.

Such statistics may seem esoteric, but how can governments ever plan how to save a species if they have little idea about what they have? Howard also has been a significant supporter of National Geographic's Big Cats Initiative, which supports dozens of projects in 27 countries aimed at protecting big cat species.

For iconic cats to survive, communities must understand and engage in their roles in supporting the health of the ecosystems around them. The future of humans and big cats are intertwined; we both depend on nature. Howard's photographs capture the enigmatic beauty of these increasingly rare and special animals. We must all work together to secure well-defined and protected Corridors of Survival.

RUSSIA

(RUSSIA)

CHINA

NEPAL

BHUTAN

INDIA

BANGLADESH

LAOS

THAILAND

VIETNAM

MALAYSIA

INDONESIA

TIGERS

(*Panthera tigris*)

Primary populations

Significantly reduced populations

ASIA

In 2001, I traveled to India's Kanha National Park, and we were driving down a dirt road in the jungle just after dawn when the fog was still low and thick. We turned a corner, and the first tiger I ever saw in the wild suddenly emerged from the fog, walking straight at me. Just as quickly, the tiger turned and went back into the forest. The tiger's huge head and piercing yellow eyes are still as clear in my mind as if I'd taken the photograph and looked at it 1,000 times. Fortunately, we would see several more tigers on the trip.

Tigers once ranged widely from Turkey in the west to the eastern coast of Russia, and they roamed forests in China, India, Malaysia and Indonesia. Tigers are the biggest and strongest of the big cats, and ancient people tried to tap into that power by making tiger body parts ingredients in a variety of medicines. The sad thing is that tiger parts have no therapeutic powers, but the tradition has resulted in tigers becoming extinct in many of their natural habitats. Today there are believed to be fewer than 4,000 tigers left in the wild.

Until the 20th century, there were nine tiger subspecies (a 10th, the Trinil, became extinct in prehistoric times). The other subspecies that have gone extinct are the Bali, Caspian and Javan tigers. The remaining tiger subspecies are Bengal, Indochinese, Malayan, Siberian, Sumatran and the South China tiger. However, the South China tiger is critically endangered. There have been no confirmed sightings in the wild in over 25 years. Many scientists consider the South China "functionally extinct."

Asia also was once a thriving habitat for lions and cheetah. Indian royalty kept trained cheetahs for hunting. Lions have always been more prevalent in sub-Saharan Africa, but even today there remains a small breeding group of Asiatic lions in India's Gir forest.


MALI
SENEGAL
GUINEA
BENIN
NIGERIA
CAMEROON
CHAD
CENTRAL AFRICAN REPUBLIC
SOUTH SUDAN
ETHIOPIA
SOMALIA
UGANDA
KENYA
DEMOCRATIC REPUBLIC OF THE CONGO
TANZANIA
MALAWI
MOZAMBIQUE
ANGOLA
ZAMBIA
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH AFRICA
LIONS
(Panthera leo)
Primary populations
Significantly reduced populations

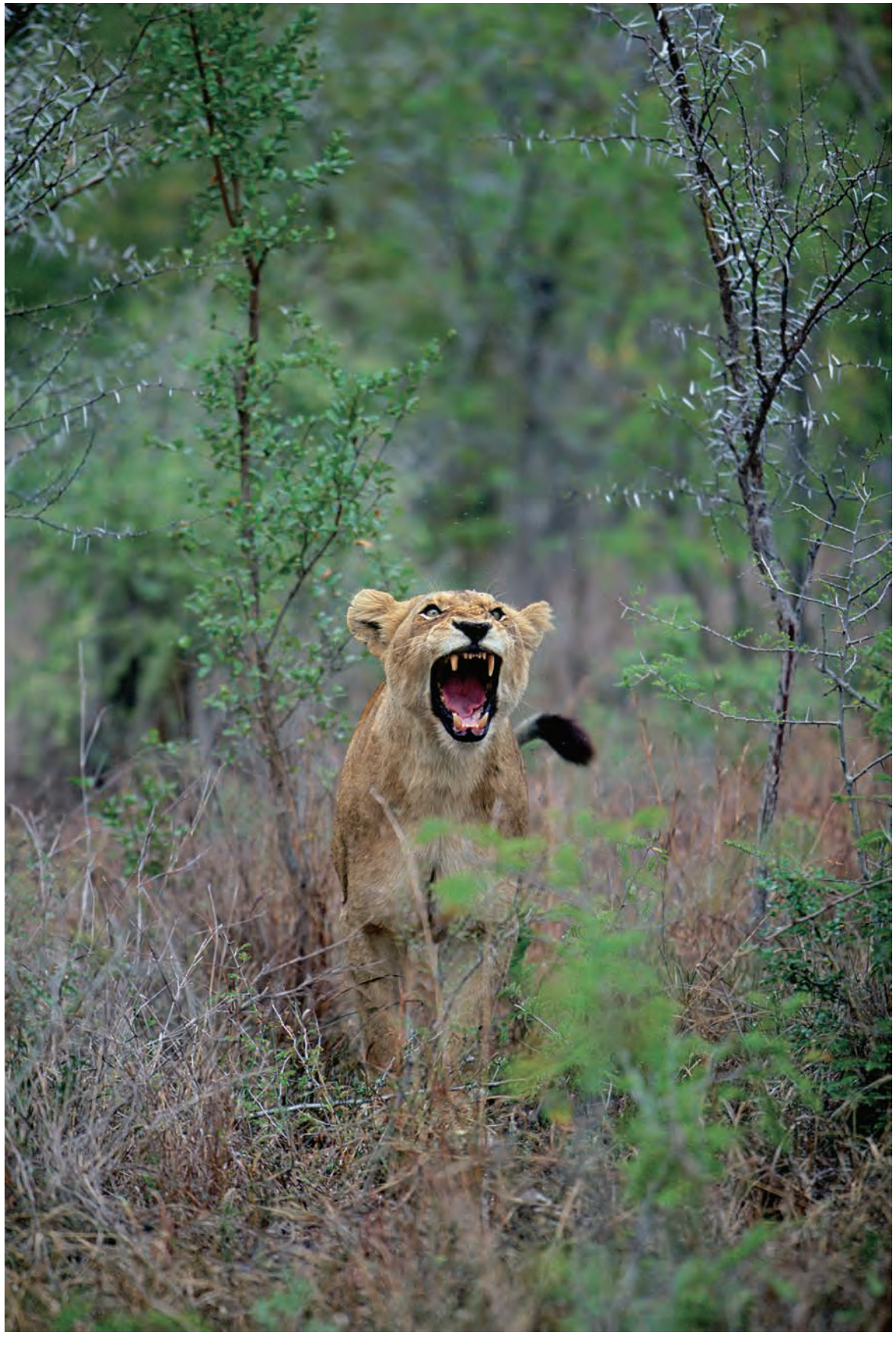
AFRICA

A cheetah chasing an antelope, racing across the African savanna, is an incredible display of engineering. With its small head, slender build, powerful hind legs, and claws built for traction, cheetah can hit speeds of 70 mph in short bursts. Unfortunately, some of these unique attributes do not help them survive steadily shrinking habitats across Africa. They face challenges from human encroachment, larger predators, killing by pastoralists who fear they will prey on their livestock and the poaching of cubs for private collectors in the Middle East.

Cheetahs are my favorite big cat, but I also have taken thousands of photographs of African lions and leopards. Lions live in large, cooperative social groups called prides. Lions primarily hunt at night and have no natural predators (you'll routinely find a whole pride sprawled out under a shade tree sleeping much of the day without worry). However, they are an enemy of pastoralists and local communities who sometimes kill them. Also, in recent years poaching pressure on lions in many areas has increased as their bones and other body parts are prized in Eastern medicines. Lions also are threatened by the loss of prey species in the bush, which may prompt them to come closer to human communities where they are more likely to be killed.

Like lions, leopards tend to hunt at night, and while cheetah are distinguished by their spots, leopards have markings referred to as rosettes. Leopards have larger heads and are much stronger and more aggressive than cheetahs. They have sharp claws and they drag their prey up onto tree branches to keep it out of the reach of hyenas. Game wardens have told me that leopards are one of the most unpredictable species and can become suddenly aggressive without obvious provocation. Like lions, they are vulnerable to pastoralists or farmers who fear them and worry they will kill livestock.

Many of my favorite shots of lions and leopards have come from Botswana's Okavango Delta, a region where a low human population density means these animals still exist in relatively intact ecosystems. But without a concerted effort, that won't continue forever.



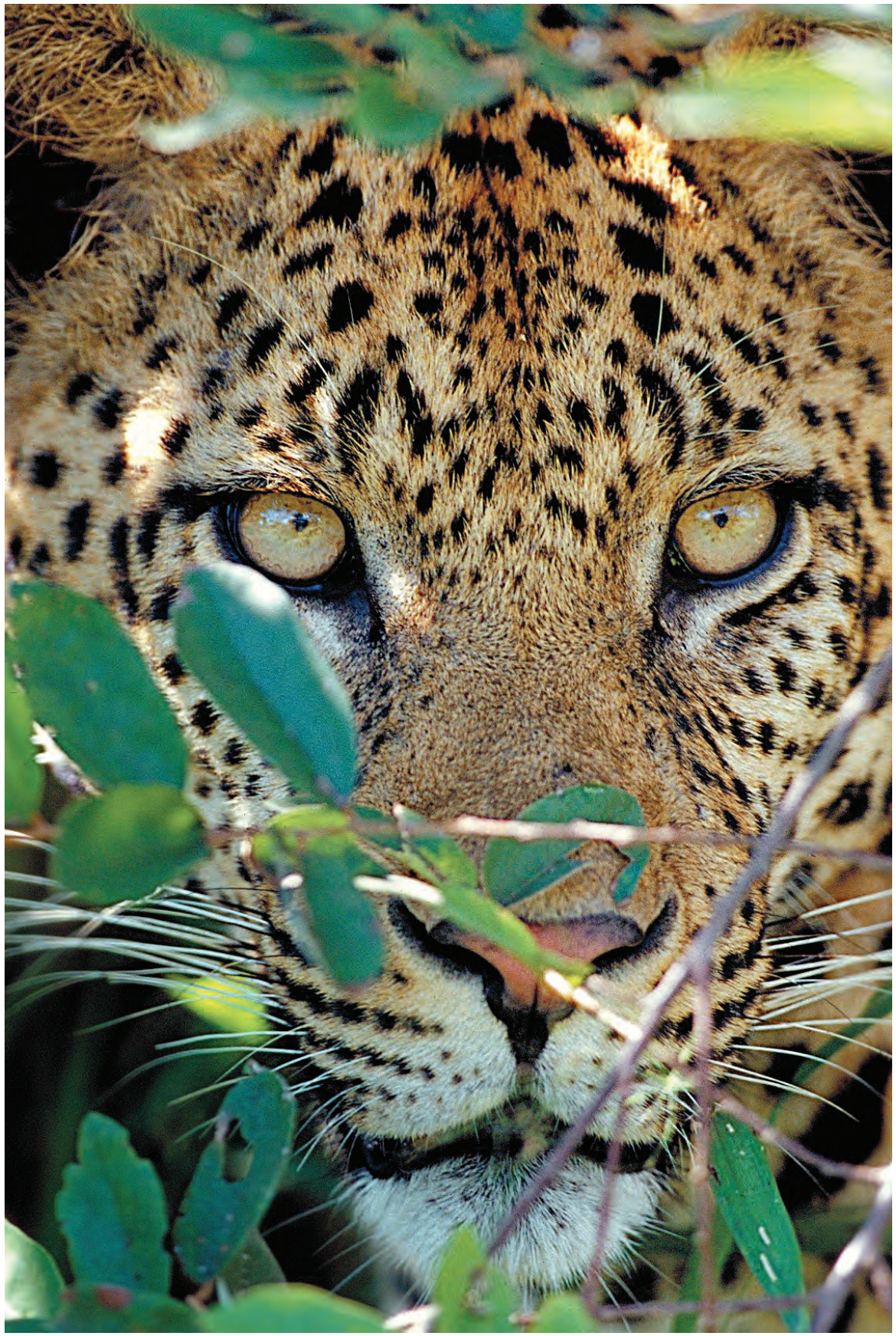
LEOPARDS

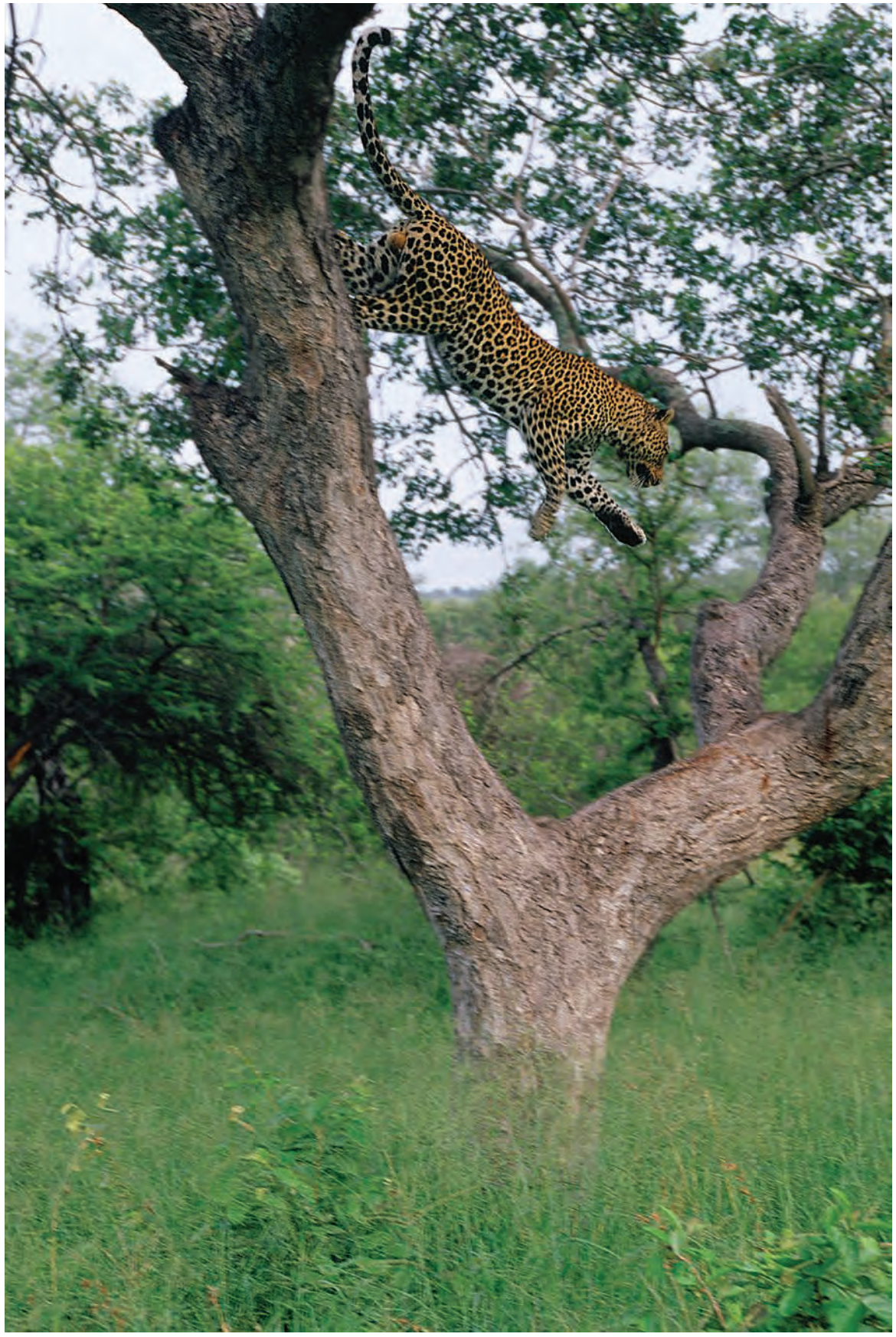
(*Panthera pardus*)

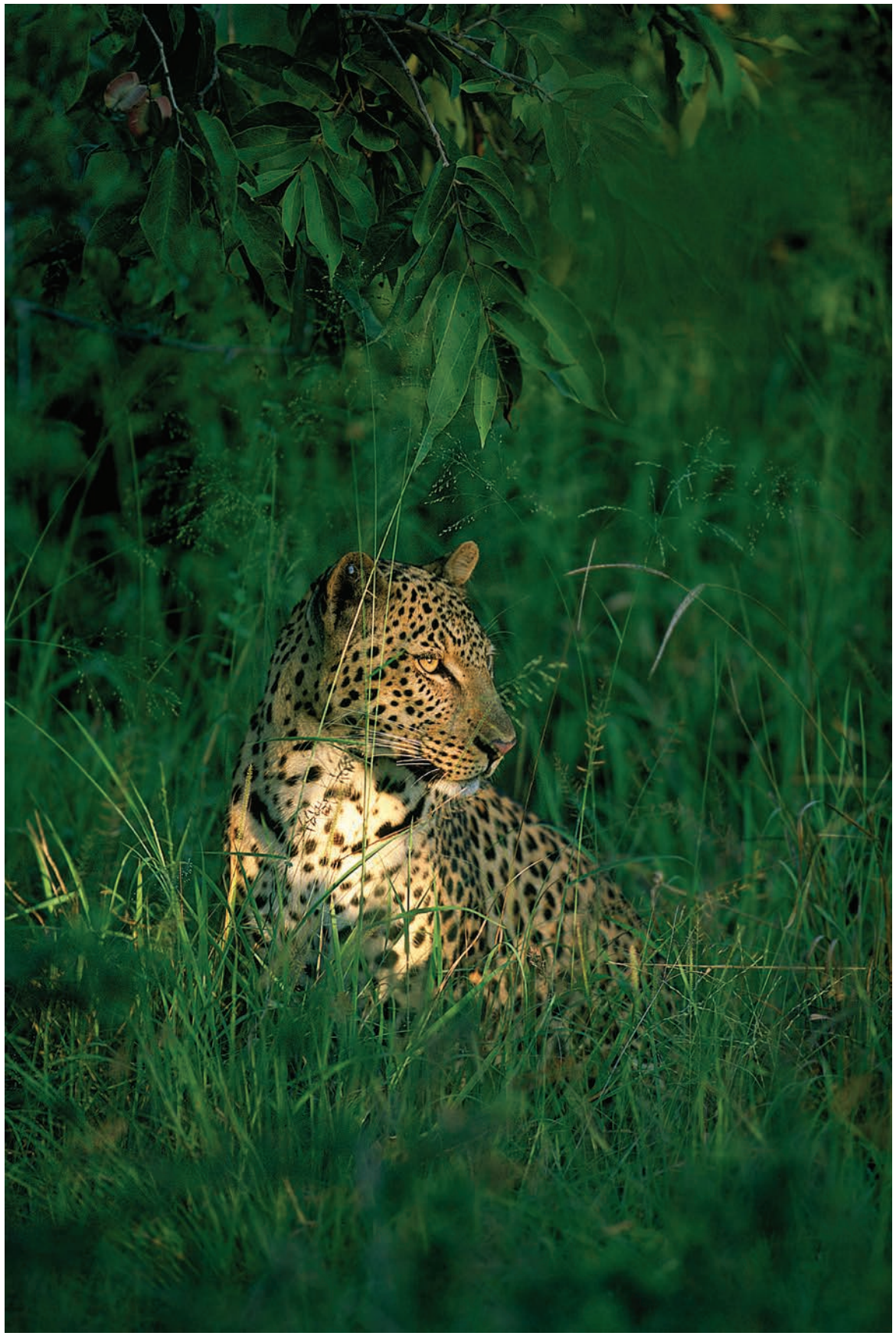
Primary populations

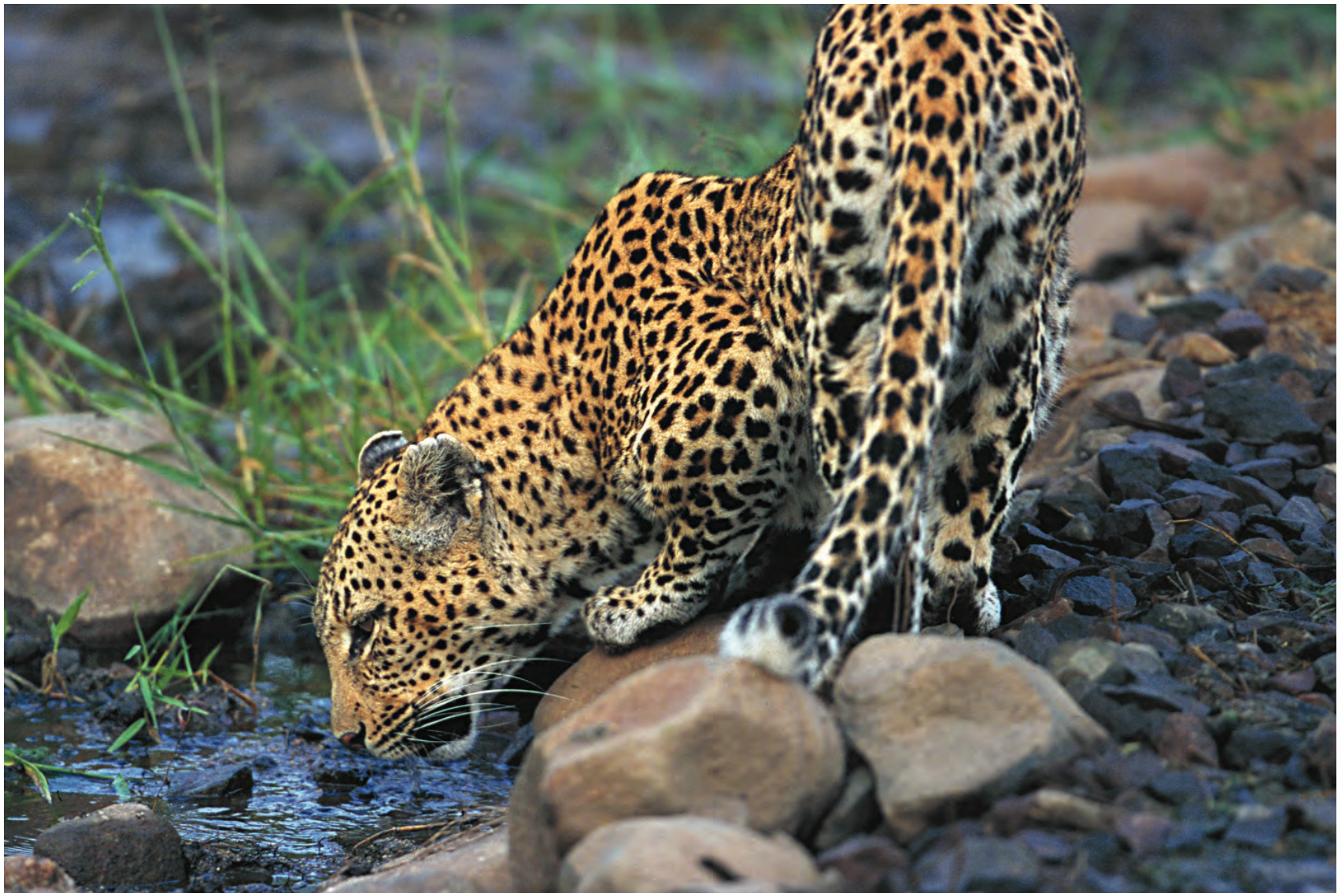
Significantly reduced populations

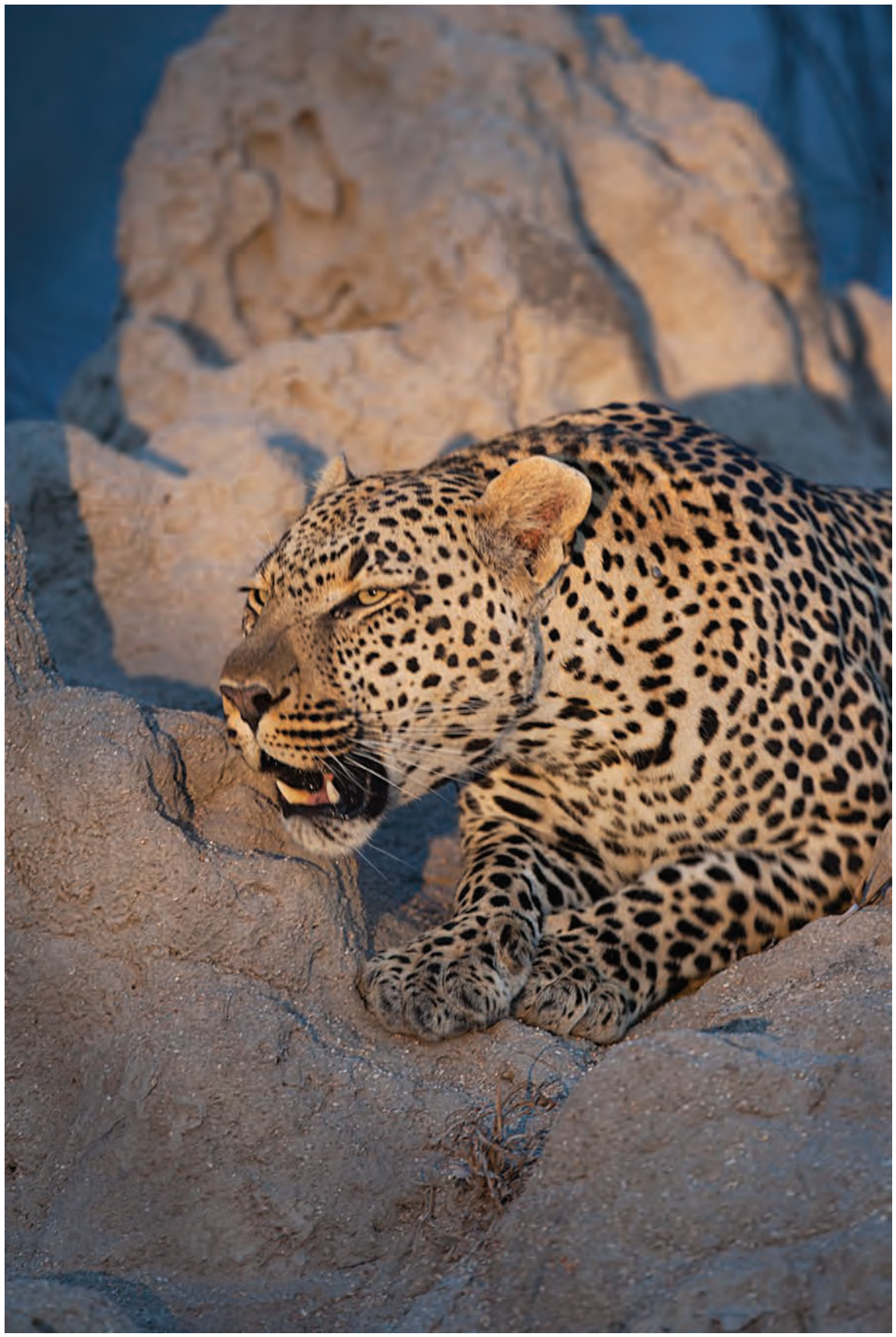
MAURITANIA
MALI
NIGER
CHAD
ERITREA
SENEGAL
THE GAMBIA
GUINEA-BISSAU
BURKINA FASO
DJIBOUTI
GUINEA
NIGERIA
SIERRA LEONE
COTE D'IVOIRE
CENTRAL AFRICAN REPUBLIC
SOUTH SUDAN
ETHIOPIA
LIBERIA
BENIN
GHANA
TOGO
CAMEROON
UGANDA
SOMALIA
EQUATORIAL GUINEA
CONGO
KENYA
GABON
DEMOCRATIC REPUBLIC OF THE CONGO
RWANDA
BURUNDI
TANZANIA
MALAWI
ANGOLA
ZAMBIA
MOZAMBIQUE
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH AFRICA

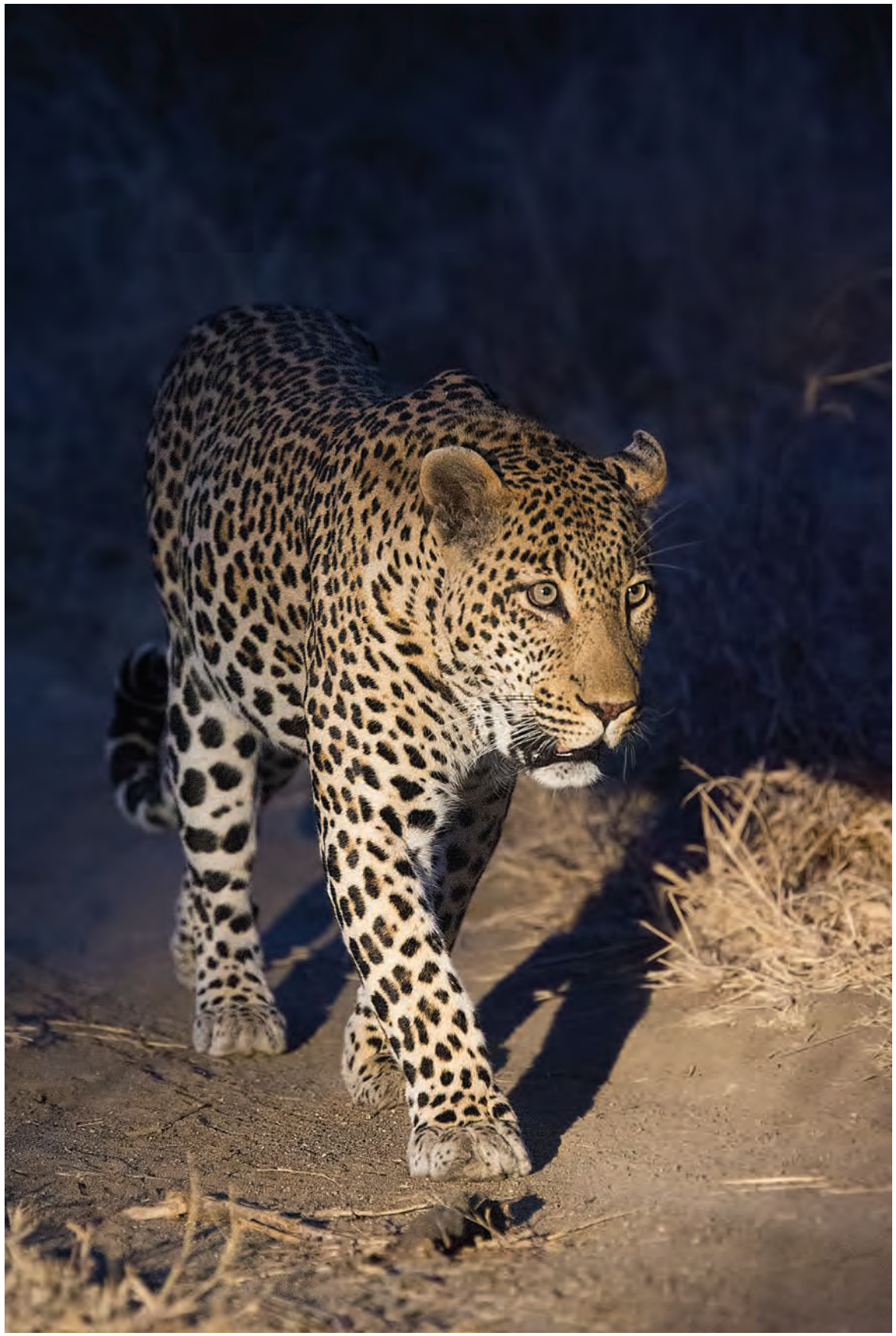


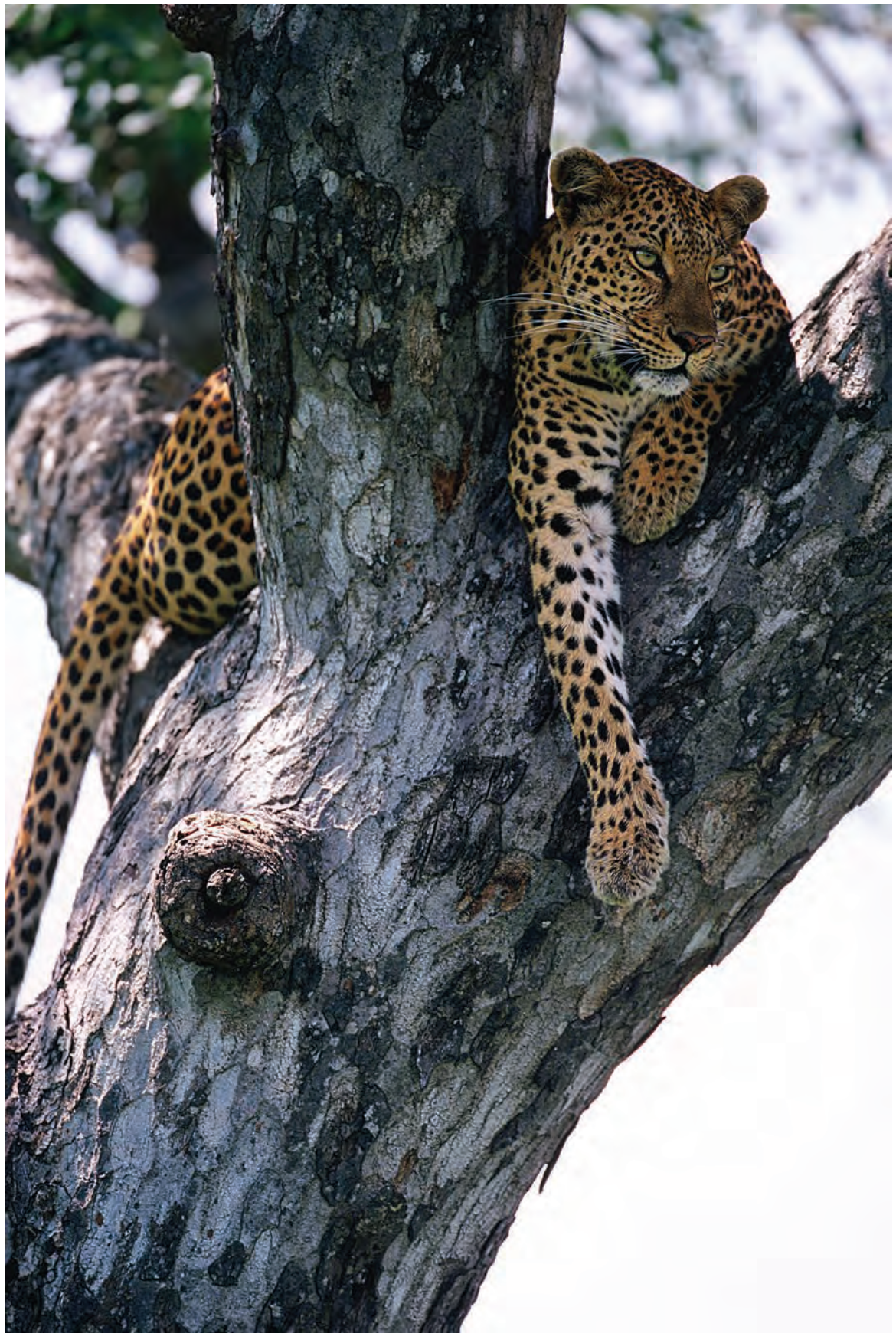










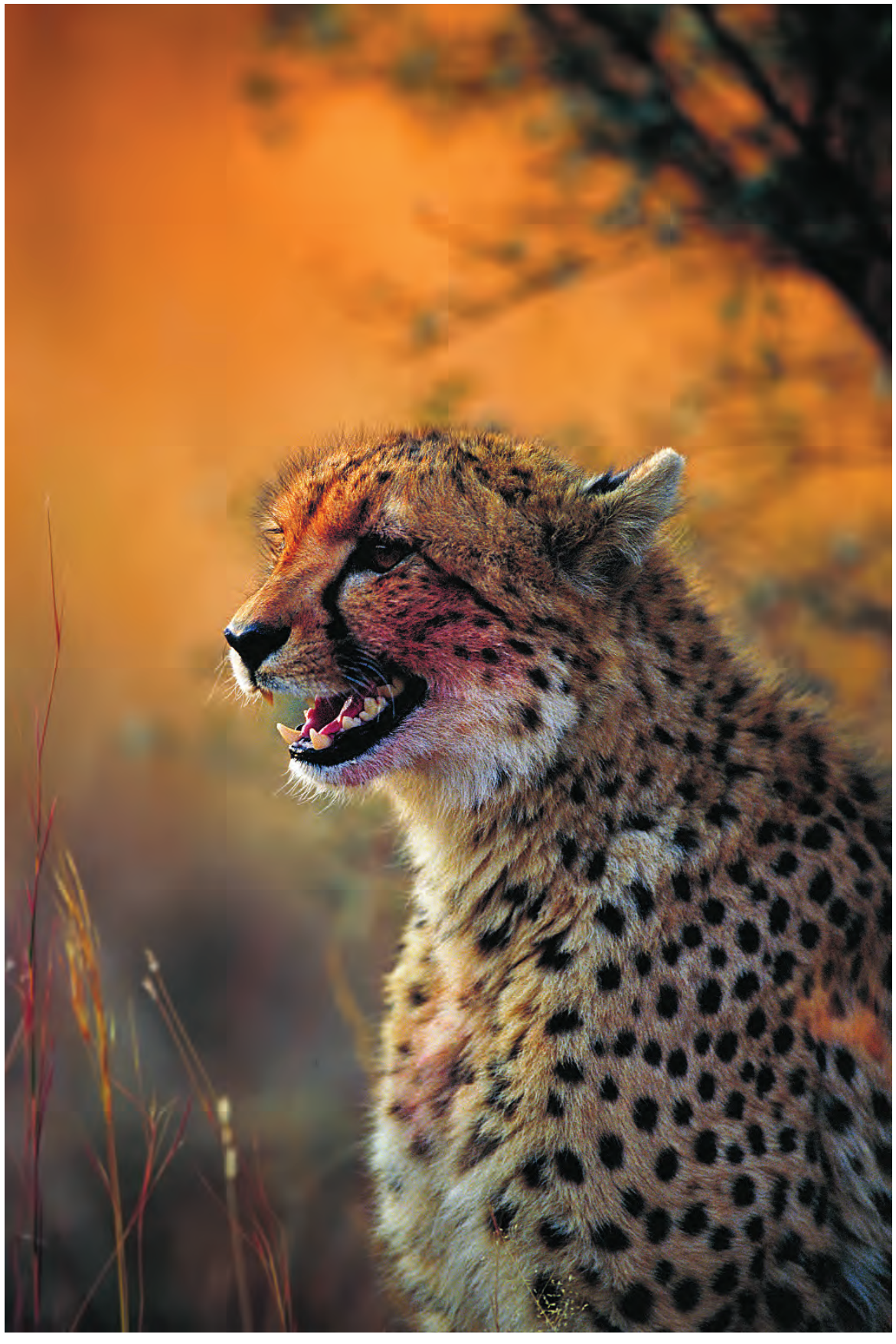


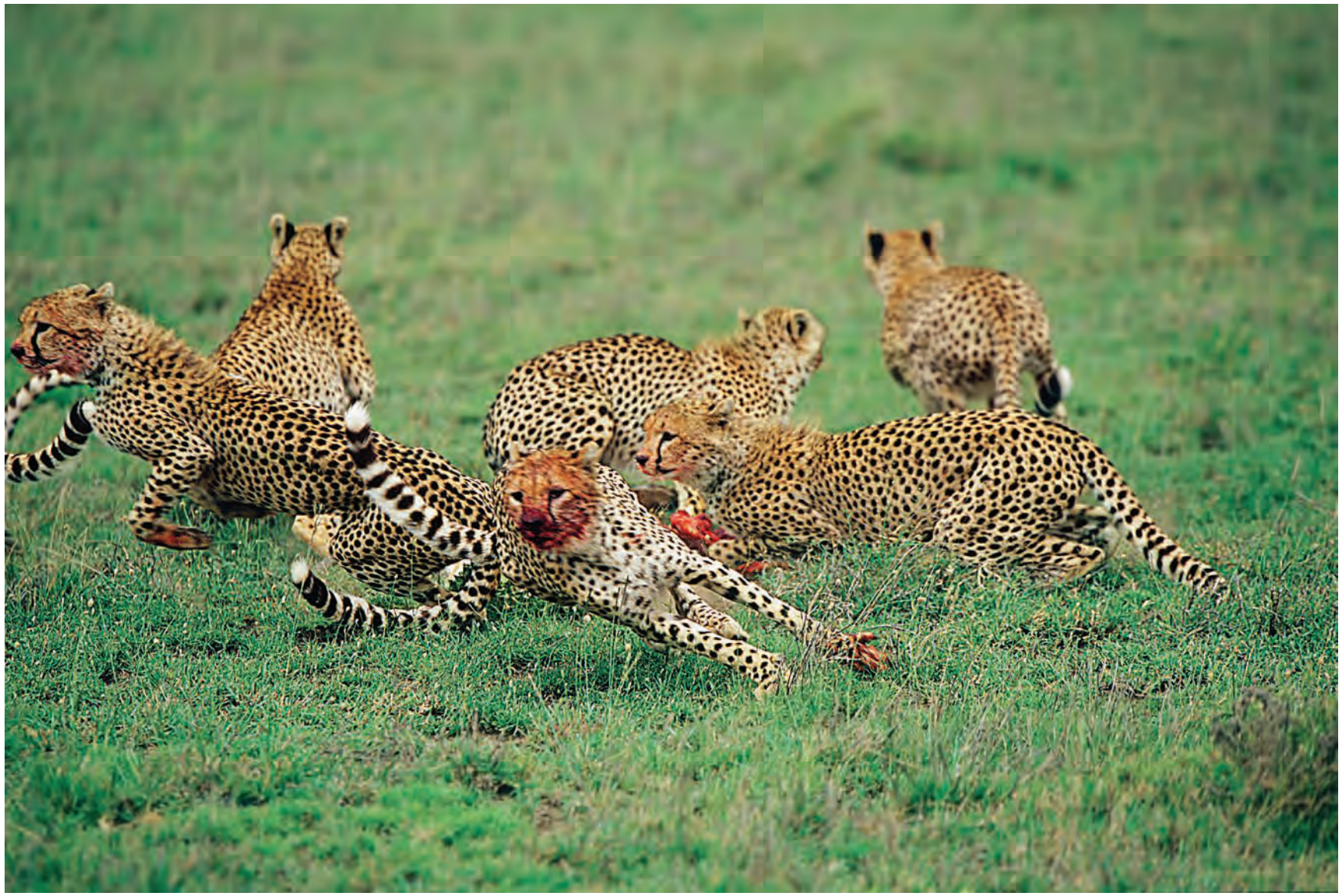
CHEETAHS

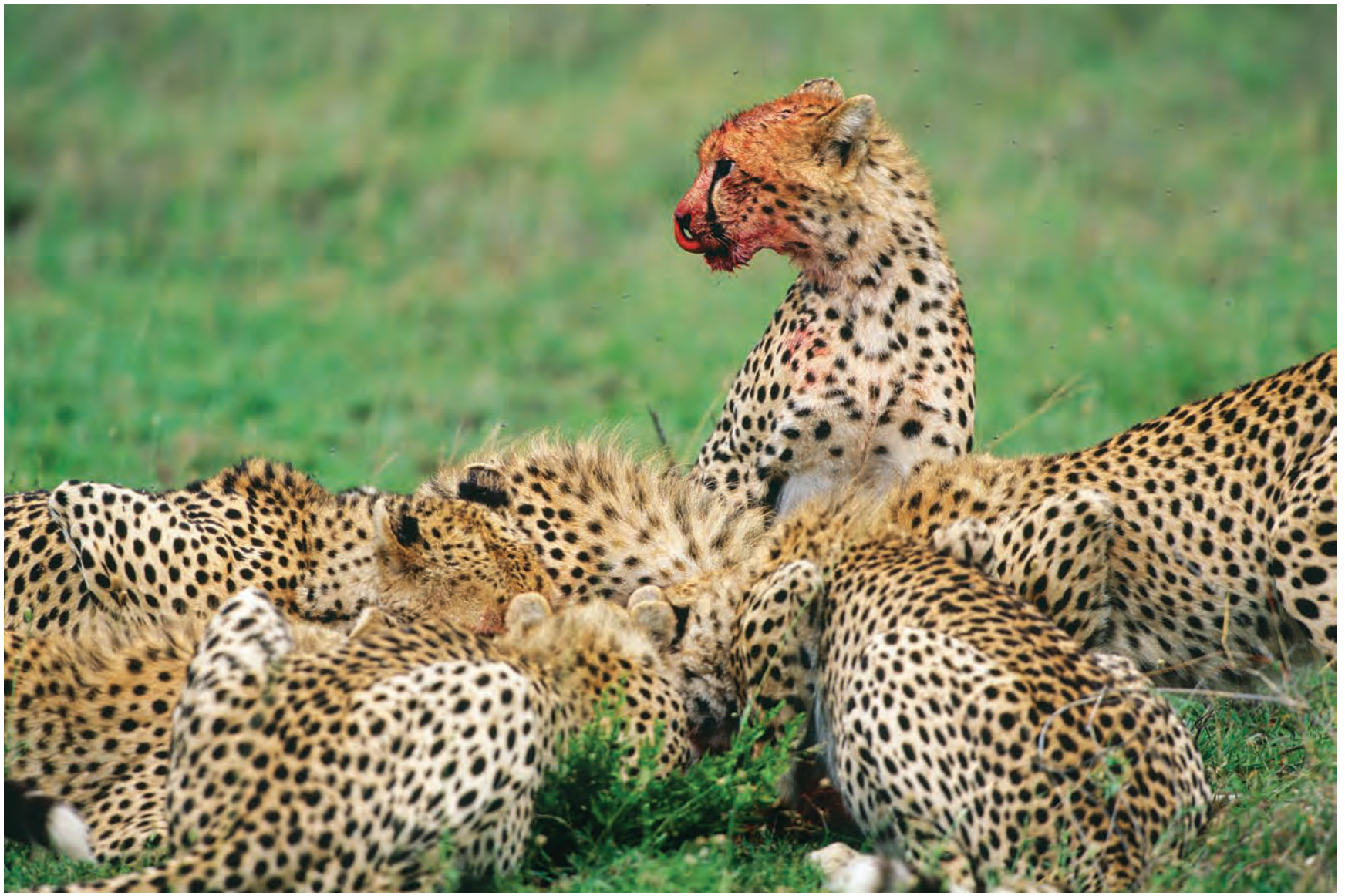
(*Acinonyx jubatus*)

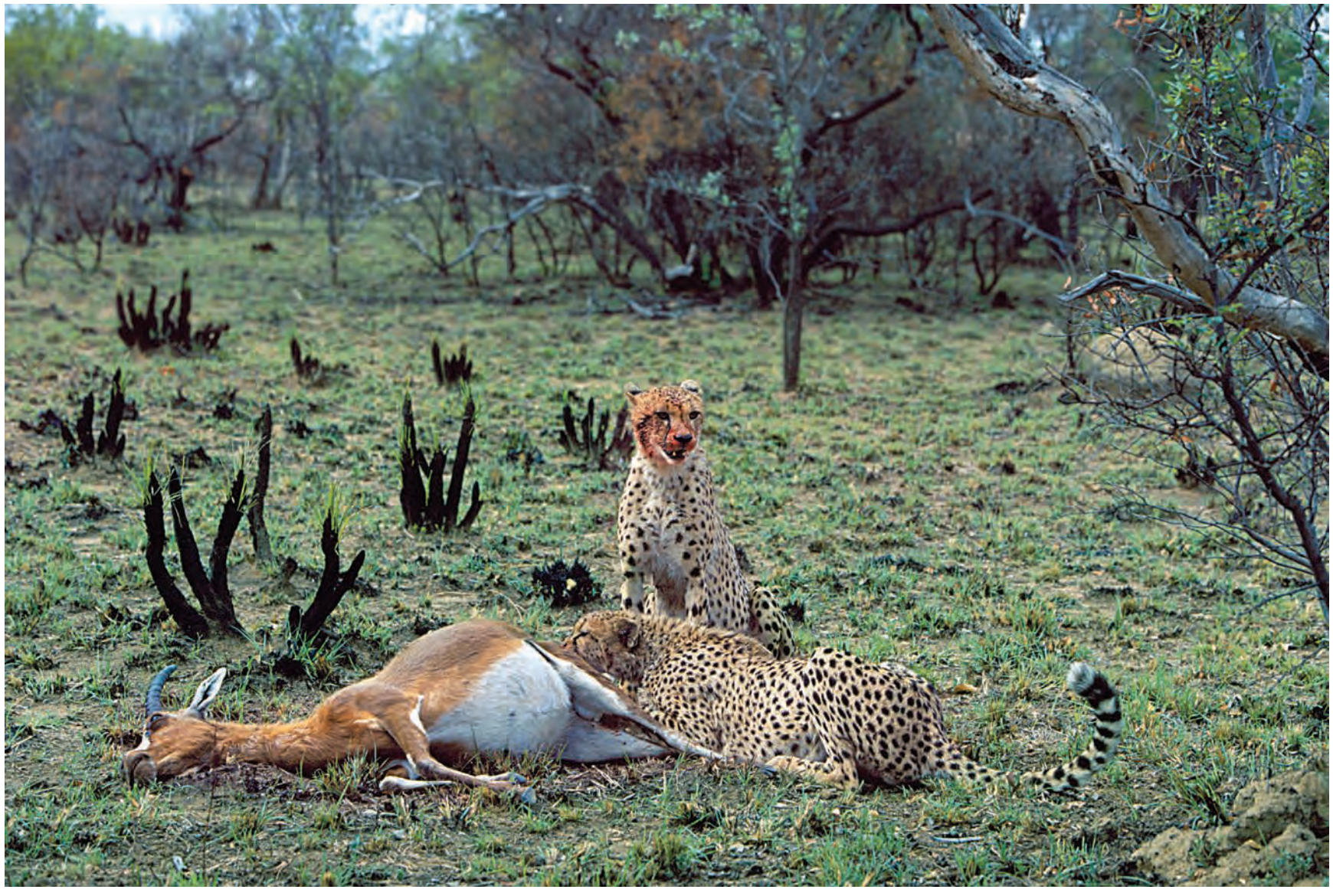
Primary populations

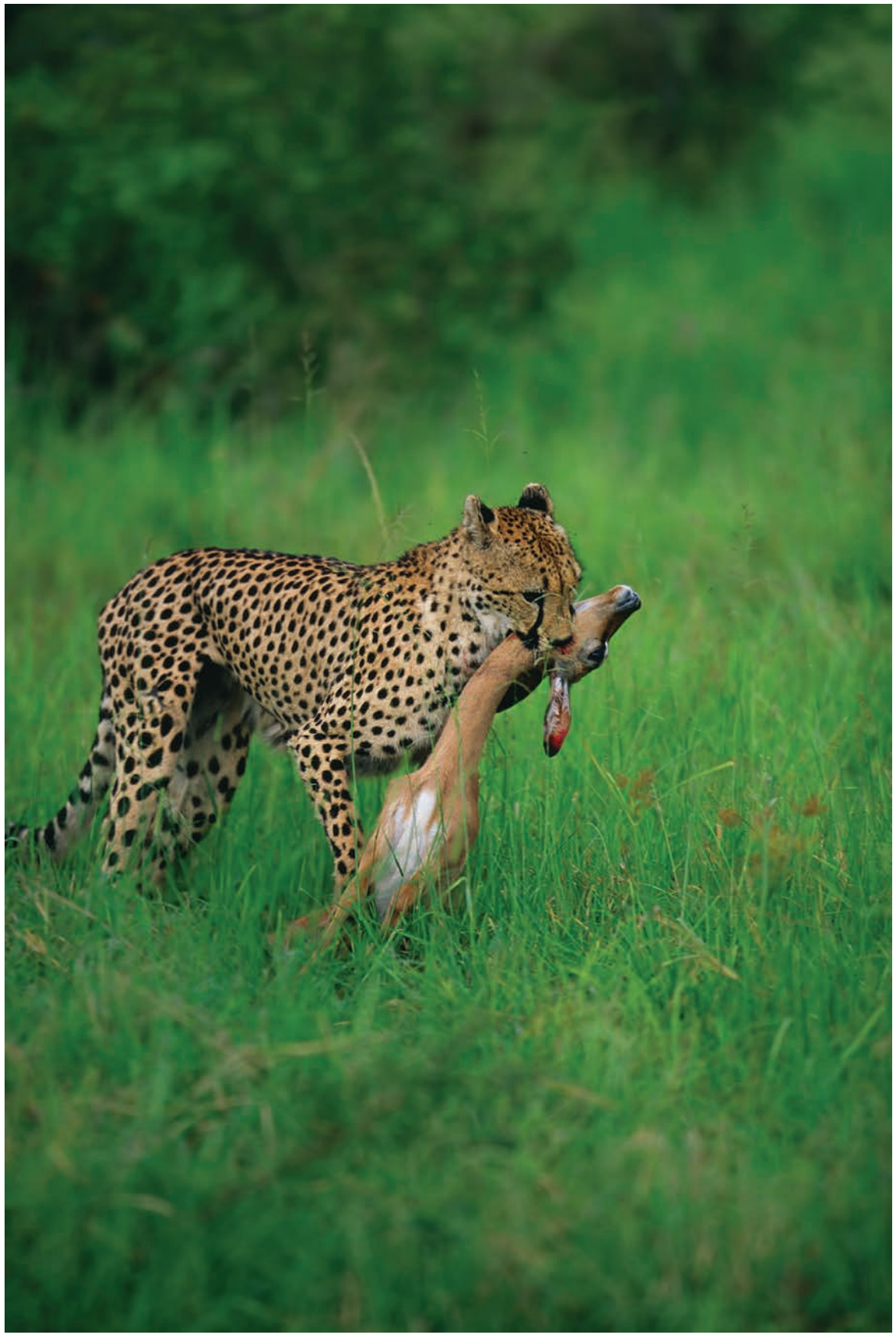
Significantly reduced populations

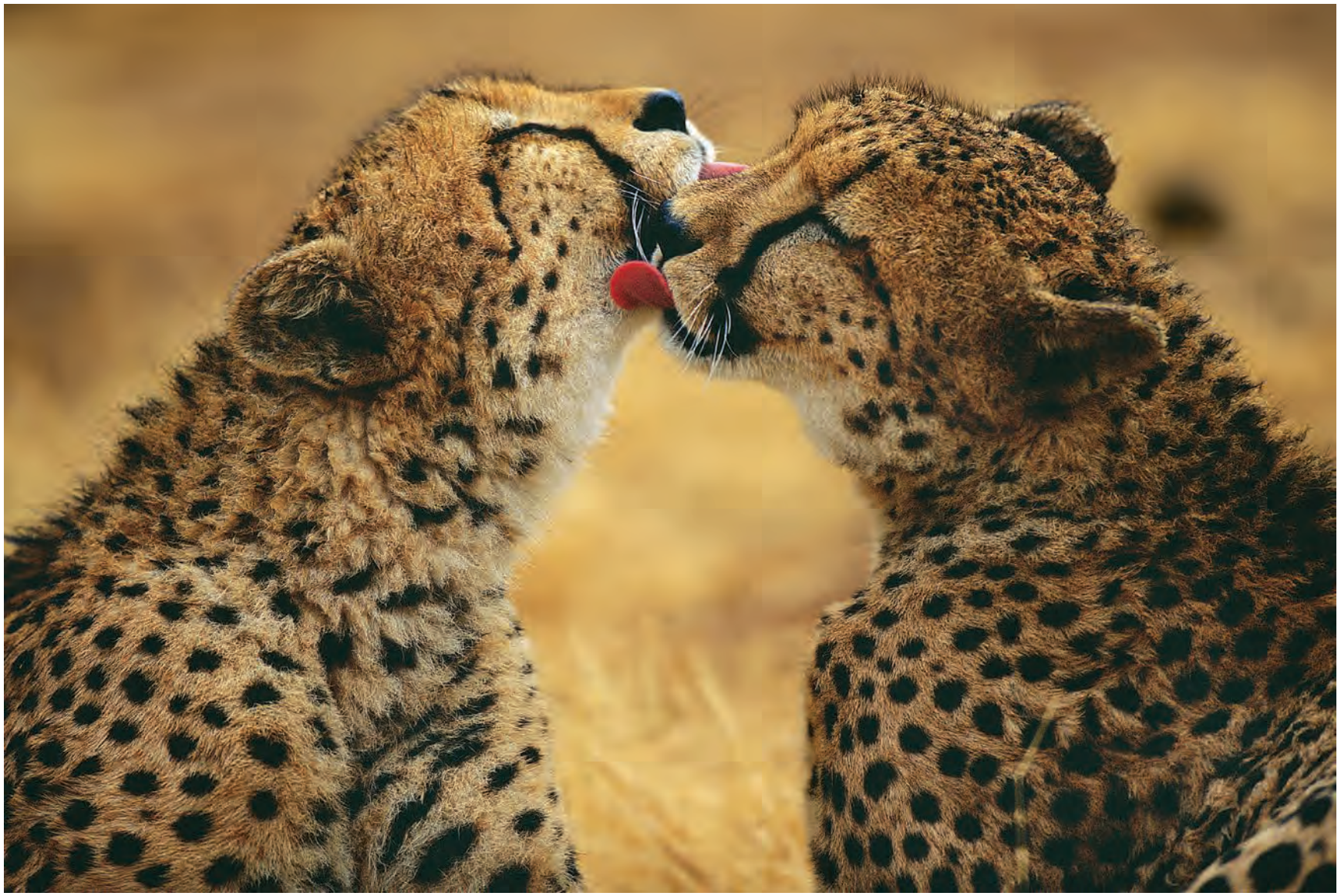


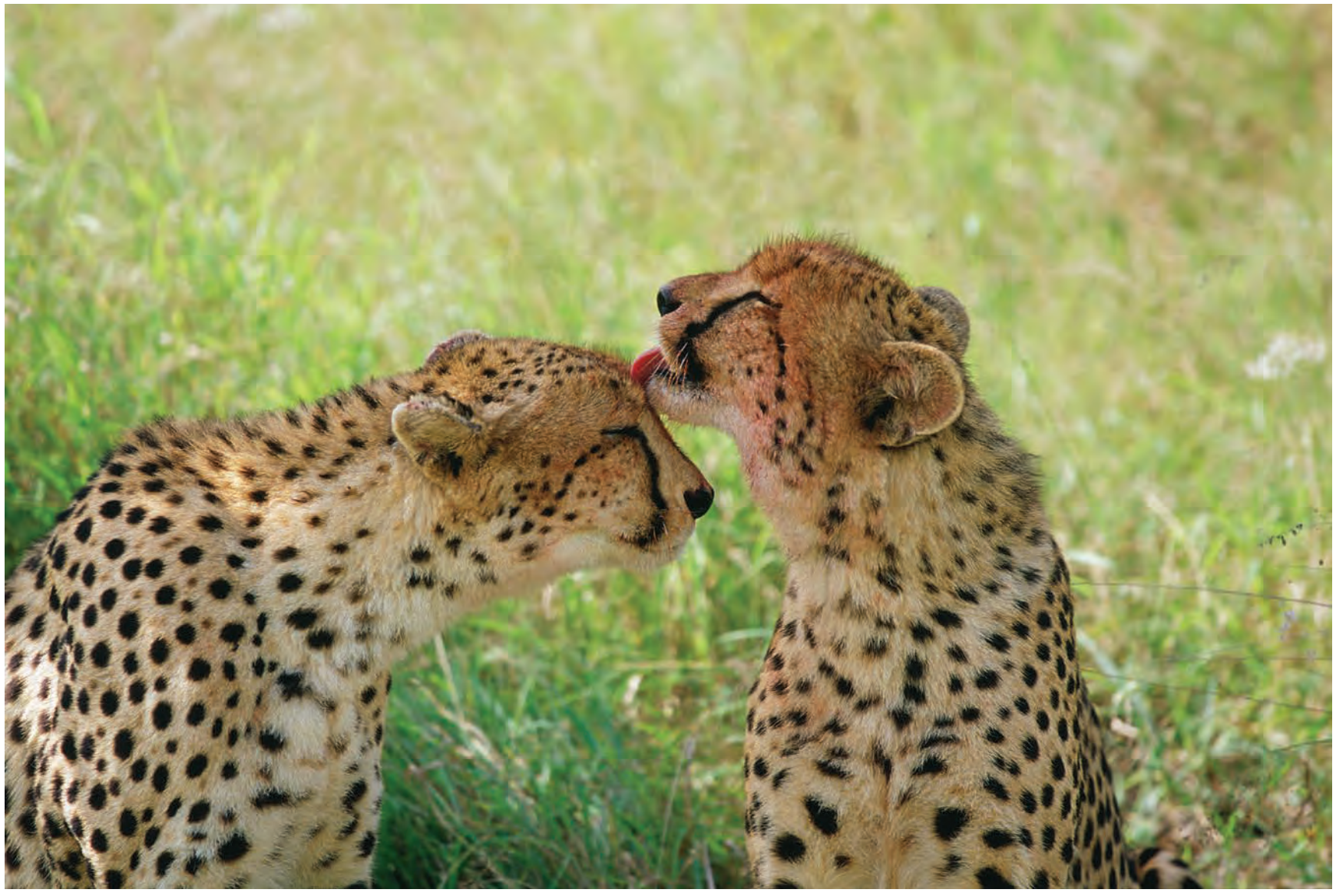


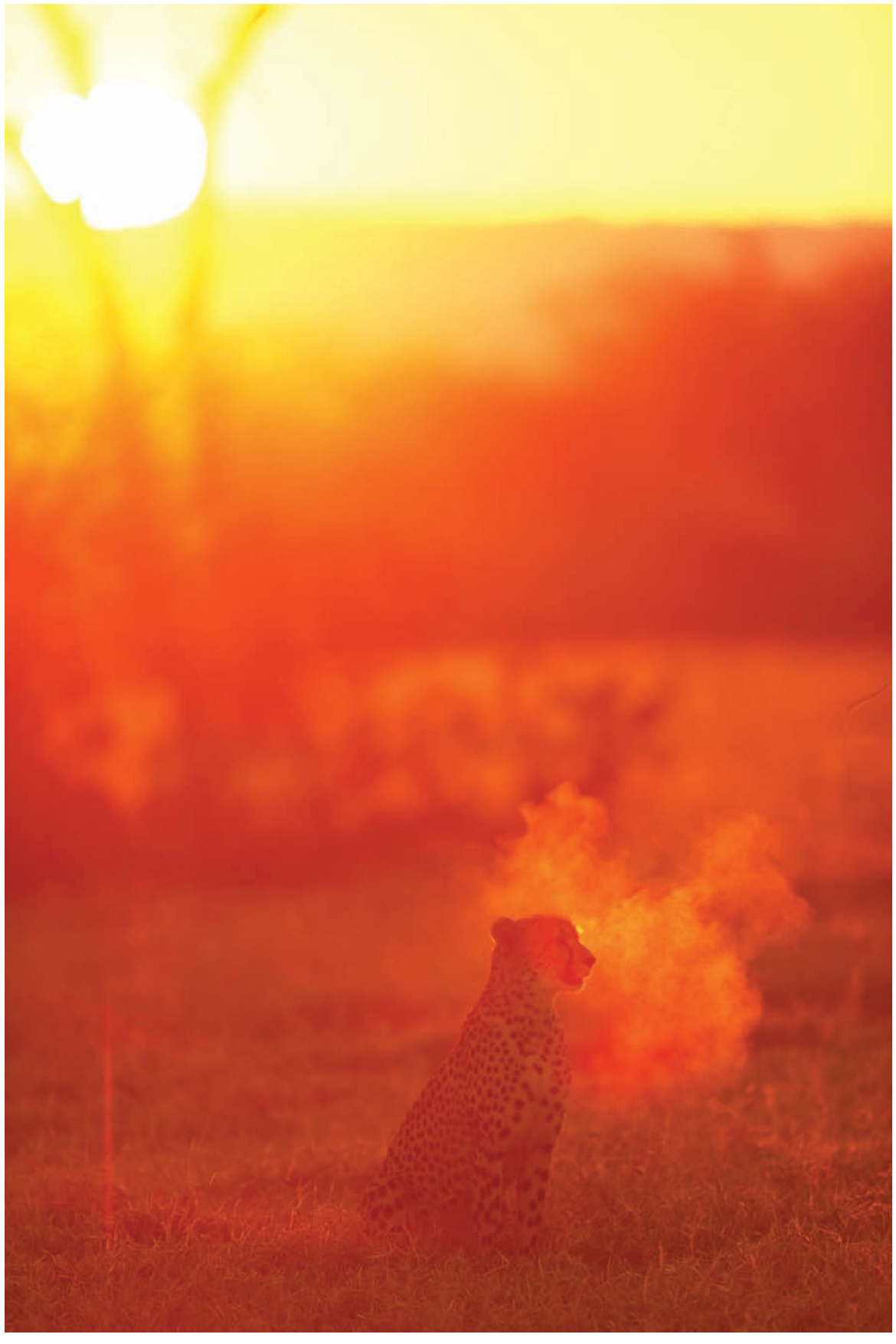


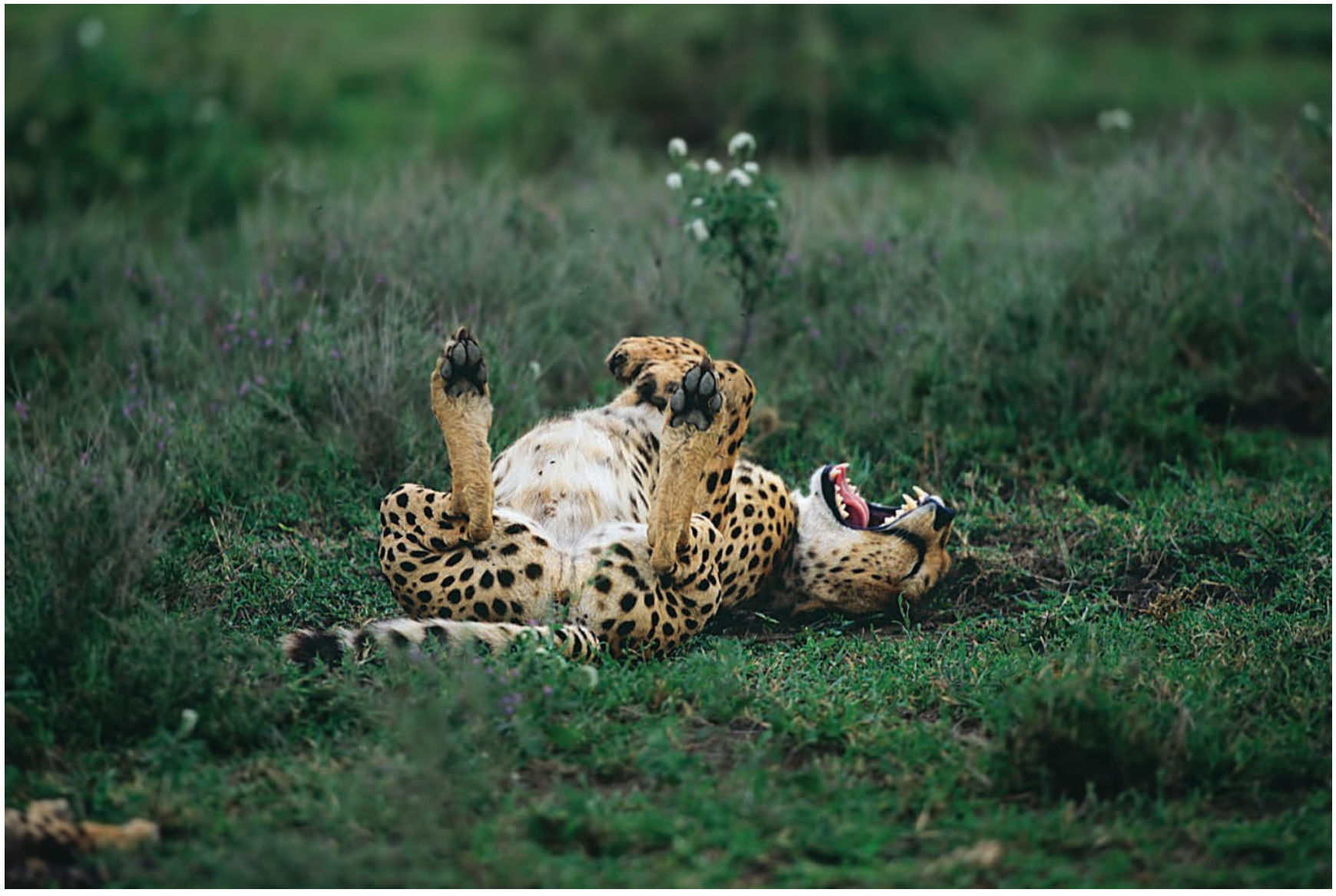












ASIATIC CHEETAH

(*Acinonyx jubatus venaticus*)

IRAN

The Asiatic cheetah is all but extinct today. In 2015, I traveled to Iran to meet with conservationists who were working to create corridors to try to save the last estimated 50-100 Asiatic cheetahs in existence. We traveled to their primary habitat in dry, rocky desert, a day's drive east of Tehran. We never saw one in the wild, but we did see images of several cheetahs that tripped motion–activated game cameras. Later, I photographed a captive Asiatic cheetah in a fenced-off preserve in downtown Tehran. Wildlife rangers had confiscated the animal from a shepherd who found her as a cub. They brought her to Tehran to protect and treat her malnutrition. The shot of the cheetah lying down with the high-rises and communications towers of Tehran behind her encompasses in one photo the challenges cheetahs face: loss of habitat and human intervention—and ultimately the loss of corridors required for survival.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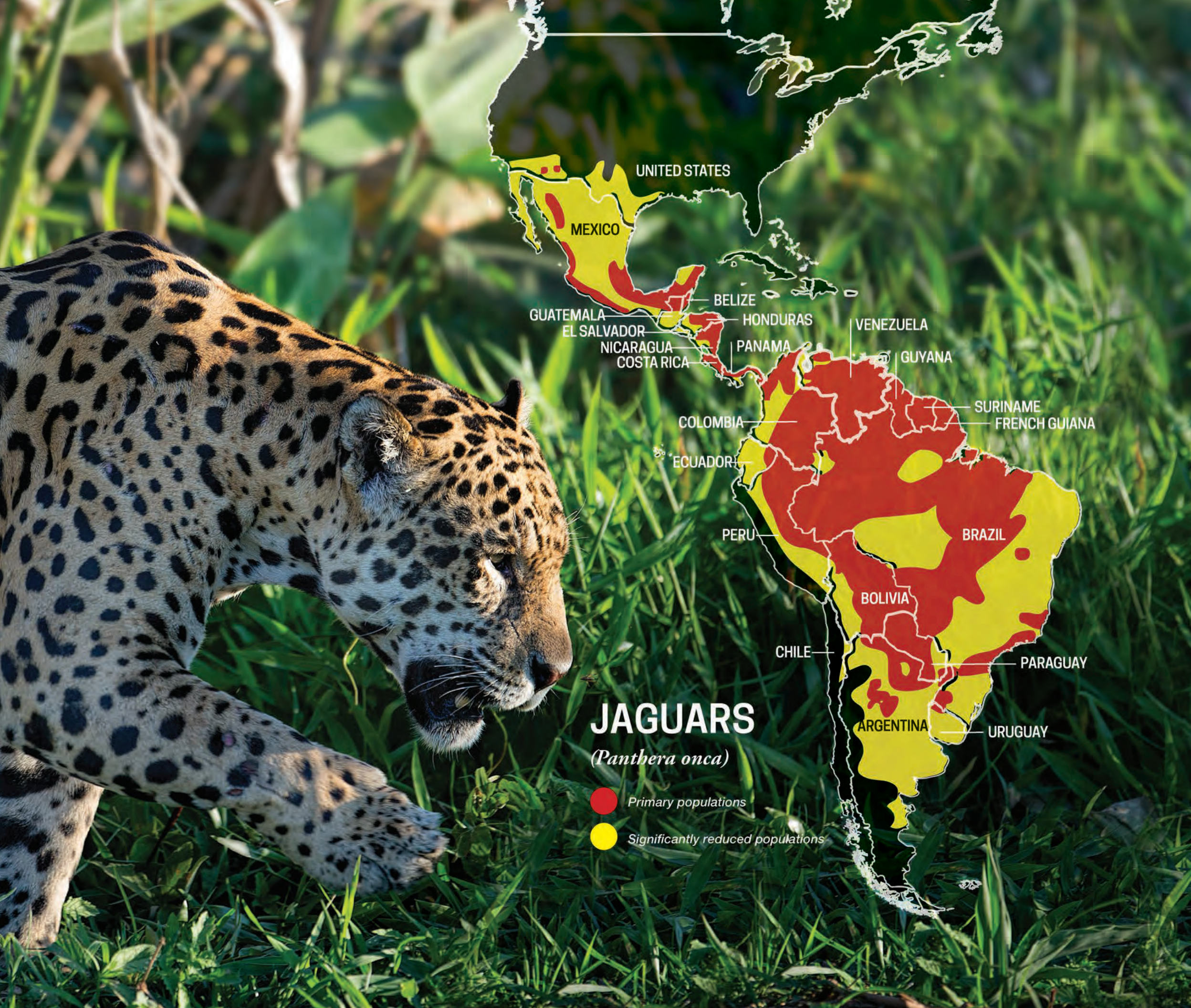
UNITED STATES
MEXICO
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EL SALVADOR
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COSTA RICA
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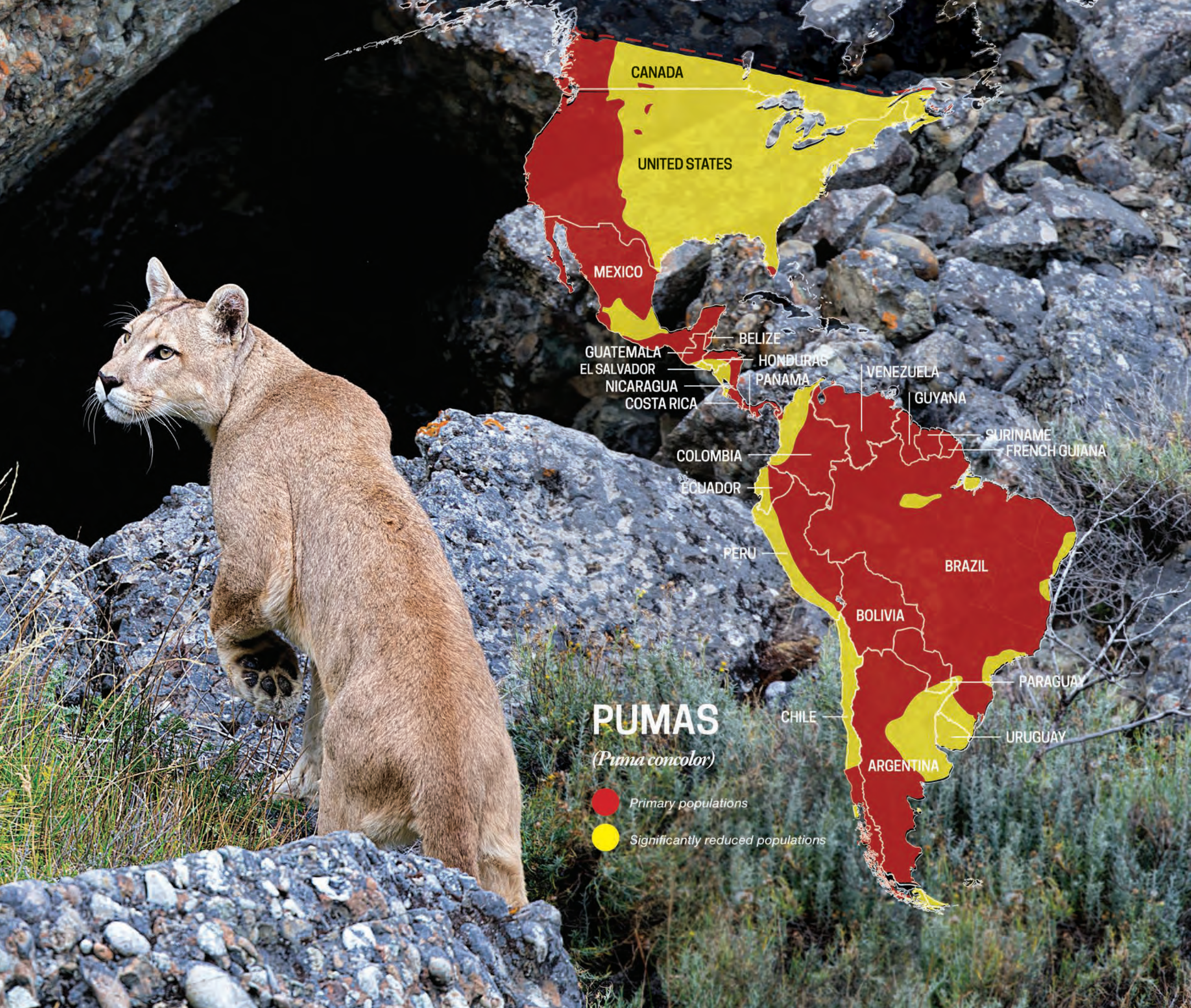
GUYANA
SURINAME
FRENCH GUIANA
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
CHILE
PARAGUAY
ARGENTINA
URUGUAY
JAGUARS
(Panthera onca)
Primary populations
Significantly reduced populations

THE AMERICAS

There are two main species of big cat that live in the Americas. In North America, the cougar, also called the mountain lion, puma and panther, exist in fairly healthy numbers in the west. However, they are largely eradicated in the east. In the south, conservationists have worked hard to save endangered Florida panthers and even built special freeway underpasses and other accommodations to help them move safely through their natural corridors.

Pumas are found all the way south to Patagonia in southern Chile. In 2016, I photographed pumas that live in Patagonia's craggy high country, filled with dramatic rocky mountain towers and year-round glaciers and alpine lakes. Pumas often rest during the day, emerging at dusk to stalk wild guanaco and sometimes domestic sheep, which has resulted in some local ranchers shooting them on sight. But as in many regions where conservationists are trying to protect big cats, the local tourism community is joining with ranchers to offer access to their land to find and photograph puma as an ecotourism attraction.

Jaguars are a large and imposing big cat, with rosettes somewhat similar to a leopard. There were once many jaguars across South and Central America; however, their numbers have shrunk as human settlements developed. They are usually shy, but in the Pantanal region of southern Brazil, I photographed jaguars roaming the banks of wide rivers during the dry season. One day I photographed seven different jaguars. Most local cattle ranchers will kill jaguars on sight, but the Pantanal is also gaining attention as an ecotourism destination, which is inspiring the government and the region to safeguard these animals. In many other South and Central American countries, conservationists have been working to identify critical habitats and the corridors between them so jaguar populations can rebound.


CANADA
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SURINAME
FRENCH GUIANA
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
PARAGUAY
CHILE
URUGUAY
ARGENTINA
PUMAS
(Puma concolor)
Primary populations
Significantly reduced populations

Photo: Laura Parker

Howard G. Buffett in Virunga National Park with Chief Warden Emmanuel De Merode and Park Ranger Mwamini Biriko Xavérine. Virunga, Africa's oldest park, is a classic example of the conflicts that emerge between the needs of people, wildlife, and the environment; Virunga is also a unique example of how creative solutions can align those interests to improve communities while protecting habitats.

FINAL FRAME

BY HOWARD G. BUFFETT

I have been taking photographs for over 35 years. I started with an old Canon that would "eat" film when I rewound it. I graduated, thanks to a gift from my wife, to a new Pentax when auto focus made its debut. I tried to return the camera for one with manual focus but I was out of luck. There are many images in this book I could never have captured without auto focus so it is a good thing I moved into the 21st century.

Photography has driven me to travel to places I would never have otherwise visited. It has put me in harm's way but has also allowed me to meet people across the world who have changed my understanding of the human spirit. Early on I was very focused on wildlife and habitats, but a friend once told me, "no one will starve to save a tree." Soon after that I visited the Serengeti for my second time. Instead of spending all of my time in a safari vehicle photographing cheetahs, I asked my guide if I could visit a few of the local villages. Most of the villages were no more than a few dozen thatched roofed huts with poorly constructed corrals for their livestock. It was my first introduction to the other side of conservation.

I visually learned how difficult life was in remote parts of Africa and saw the impact that predators had on livestock, as well as how protected areas restricted local populations from benefiting from the resources surrounding them. I decided I needed to learn more about how wildlife affected people and how people affected wildlife. The interdependence of people and habitat was emerging in my understanding and my photography.

As I continued my travels, I learned that boundaries drawn for political purposes that created new states affected both wildlife and people. Great vast areas of habitat were split up and parceled out and cultures that were thousands of years old were splintered. Families became citizens or inhabitants of different countries because someone drew a line on a piece of paper; some became stateless. The consequences have been enormous over the course of decades: fighting, famine and persecution. There was no country in Africa that was immune to the human disease of greed, and it wasn't limited to Africa.

As friends like Sarah Durant educated me, it became more and more evident that wildlife and wildlife habitat were also under attack. As I witnessed more and became good friends with individuals who have dedicated their lives to preserving nature while protecting people, like Emmanuel de Merode in Virunga National Park, it wasn't difficult to understand the critical need for wildlife corridors that would support diversity and freedom of movement. It was also critical to address the impact this would have on surrounding communities.

The images in this book are limited to big cats, but polar bears, mountain gorillas, elephants and other less appreciated species face the greatest challenge ever—surviving an ever-increasing human population that puts greater and greater demands on our world's finite resources. Corridors are the last hope for many species—ultimately all species.

The world moves at a faster pace today than ever before. It is easy to assume technology can fix anything, but it cannot replace original forests or reestablish lost habitats in their natural state. Some things can only be accomplished through Mother Nature. There is always a tipping point where the difficulty of regaining what has been lost makes it unattainable. I can attest through my experiences—losing parts of history such as the animals in this book, will diminish our future. Corridors are the lifeblood of maintaining healthy ecosystems. It is worth fighting to preserve them.