

A black and white striped snake is coiled on a rocky desert floor. The background shows a sunset over a desert landscape with silhouettes of bushes and hills.

ANIMA MUNDI

Adventures in Wildlife Photography

Issue 25, Year 7 - January 2017

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BIRDING BHARATPUR India's Kheoladeo Ghana NP
A LUST FOR LEOPARDS The most elegant of the big cats
DIVING WITH GIANTS Humpback whales of Tonga

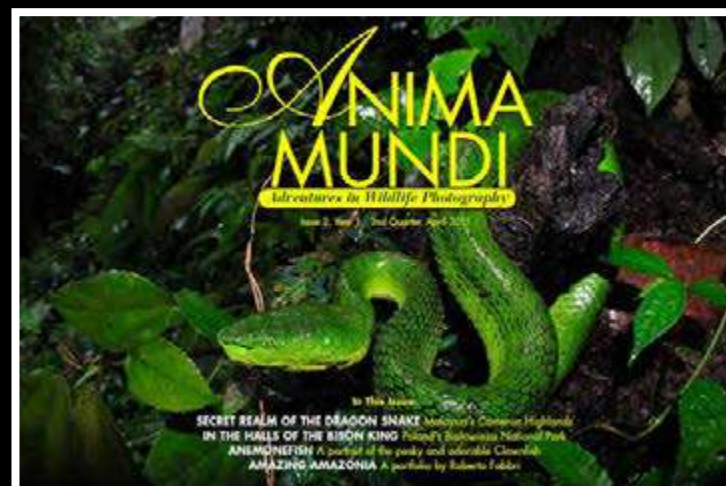
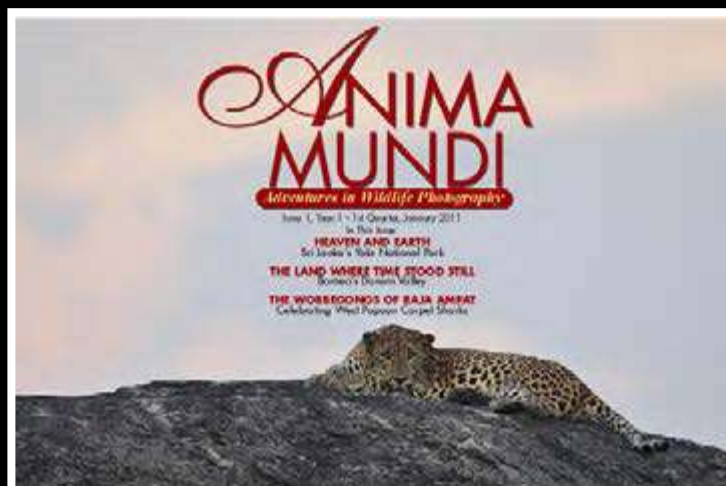


Great news!

We are happy to formally announce our collaboration with Anima Mundi Magazine.

Welcome to Andrea and Antonella Ferrari to the TH team! From now onwards, they will be Honorary Fellows and ambassadors of Tropical Herping in the ecotourism world.

So many exciting plans and deals are coming for nature, wildlife and conservation lovers. Stay tuned!



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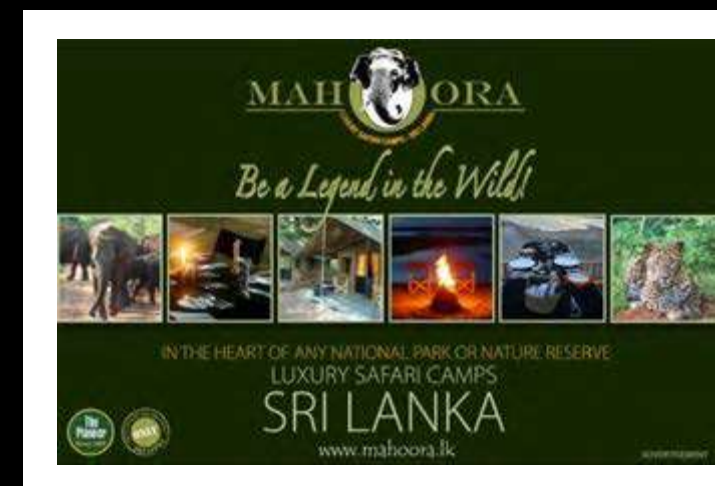
ADVERTISE ON ANIMA MUNDI - ADVENTURES IN WILDLIFE PHOTOGRAPHY

With more than 15,000 downloads worldwide per issue (as per August 2012), ANIMA MUNDI has seen its readership consistently and rapidly growing in the brief span of only two years and eight published issues. Its authoritative and unbiased travel reports and wildlife articles offer a high level of scientifically-correct information - at absolutely no cost - to thousands and thousands of nature and photography enthusiasts all over the world. Each and every issue of ANIMA MUNDI - Adventures in Wildlife Photography is permanently available for FREE downloading - our mission is the dissemination and condision of information to promote nature awareness and habitat conservation, and we are proud to reach out on a quarterly basis to a world of passionate, highly motivated, seriously interested readers who all share our passion for wildlife photography and travelling. This is a sample - among many others - of what our readers say:

Dear Andrea & Antonella,

I have just finished reading your latest edition of Anima Mundi and I was inspired to write and say how much I am enjoying your publication and following your adventures. My wife and dive/photo partner Cherie and I were so inspired by your feature on Yala National Park that we booked a Safari with Eco Team and we had a fantastic time. It was exactly as portrayed in your article and we also followed your recommendations for visiting the cultural triangle in Sri Lanka. As we were leading one of our dive tours on a live aboard exploring the Maldives last June, a private side trip to Sri Lanka was clearly not to be passed up due to your information. So, I guess it's good news for you both that others are reading and responding to your work. So, we just wanted to give you some feedback, say hello and wish you all the best with your future adventures. Keep up the great work.

Kevin & Cherie Deacon
Dive 2000
Sydney, Australia.
www.dive2000.com.au



Advertising on ANIMA MUNDI - Adventures in Wildlife Photography means reaching out and getting in personal contact with such people - passionate travellers, dedicated wildlife and nature photographers, world-famous field researchers. All sharing a common bond, all interested in serious, reliable information on wildlife and nature travelling and photographic workshops, trips and equipment. All waiting to hear from you!

Contact us for details at nautilus@reefwonders.net

■ Zebra spitting cobra
Naja nigricincta at sunset
in Namibia's Sossusvlei -
see page 8.

ANIMA MUNDI

Adventures in Wildlife Photography

To tamper or not to tamper?

As I was lovingly putting together the issue you are browsing in this exact moment, I could not help noticing the sharp difference between the technicolored, saturated sunsets and the bright, luminous blue of the skies of Namibia (see page 8) and the leaden, muggy grey of the sky above India's Bharatpur (see page 55). Both are natural, both faithfully depict the actual atmosphere and feeling of these two immensely different destinations - underpopulated, arid Southern Africa's Namibia and smoky, overcrowded, humid and often polluted Central and Northern India. I also realized that many people would be put off by the grey overtones of the latter, and would possibly criticize our photography. For a brief moment I pondered if I should color-correct in Photoshop the smoky skies of Bharatpur into a bright, postcard-like blue sky - and then I immediately discarded the idea. It is my belief that photography - and specifically even more so wildlife and nature photography - should portray its subjects in the most faithful-to-reality way possible. Artistic interpretation is better left to other forms of art, such as painting - nature's palette does not need to be tampered with as it is beautiful enough on its own, I believe. Moreover, I am really getting fed up with the obnoxious, obsessive tampering with photographs I have to face on a daily basis on social media and in competitions - artificial set-ups, forcedly posed subjects, colors and/or backgrounds completely changed and so on. It seems to me that human beings are more and

more retreating into a fake, artificial world of rose-tinted imagination, and this is something I honestly find absolutely unacceptable in wildlife photography. Nature is severely threatened everywhere even as I write these words, and painting a fake, cute, cartoonish popular image of it won't certainly do any good. Yes, wildlife photography also comes with grey, overcast

skies, flat and bad light, shy, uncooperative subjects and lots of frustrations - but when we used to scuba dive we always said that one couldn't expect sharks and mantas on every dive! It is not a matter of failure or success, but rather of something deeper and more important - are lovers of wildlife photography actually willing to accept reality? Should we all manipulate our images to get that "winning" shot? I'll let you ponder this matter while you hopefully enjoy our latest issue.

Finally, let us remind you once more that our Parting Shot column (on this issue's page ...) is now open for publication to reader's photos. So if you would like to

be featured in our coming Parting Shots and think you have clicked one or more interesting wildlife images which are worthy of publication, just email a small selection of your work to editor@animamundimag.com and we'll pick the best ones!

In the meantime...

Have a good trip!
Andrea & Antonella Ferrari
www.animamundimag.com



We appreciate your feedback
- constructive criticism, useful
suggestions and interesting
contributions are welcome.
Please drop us a line at
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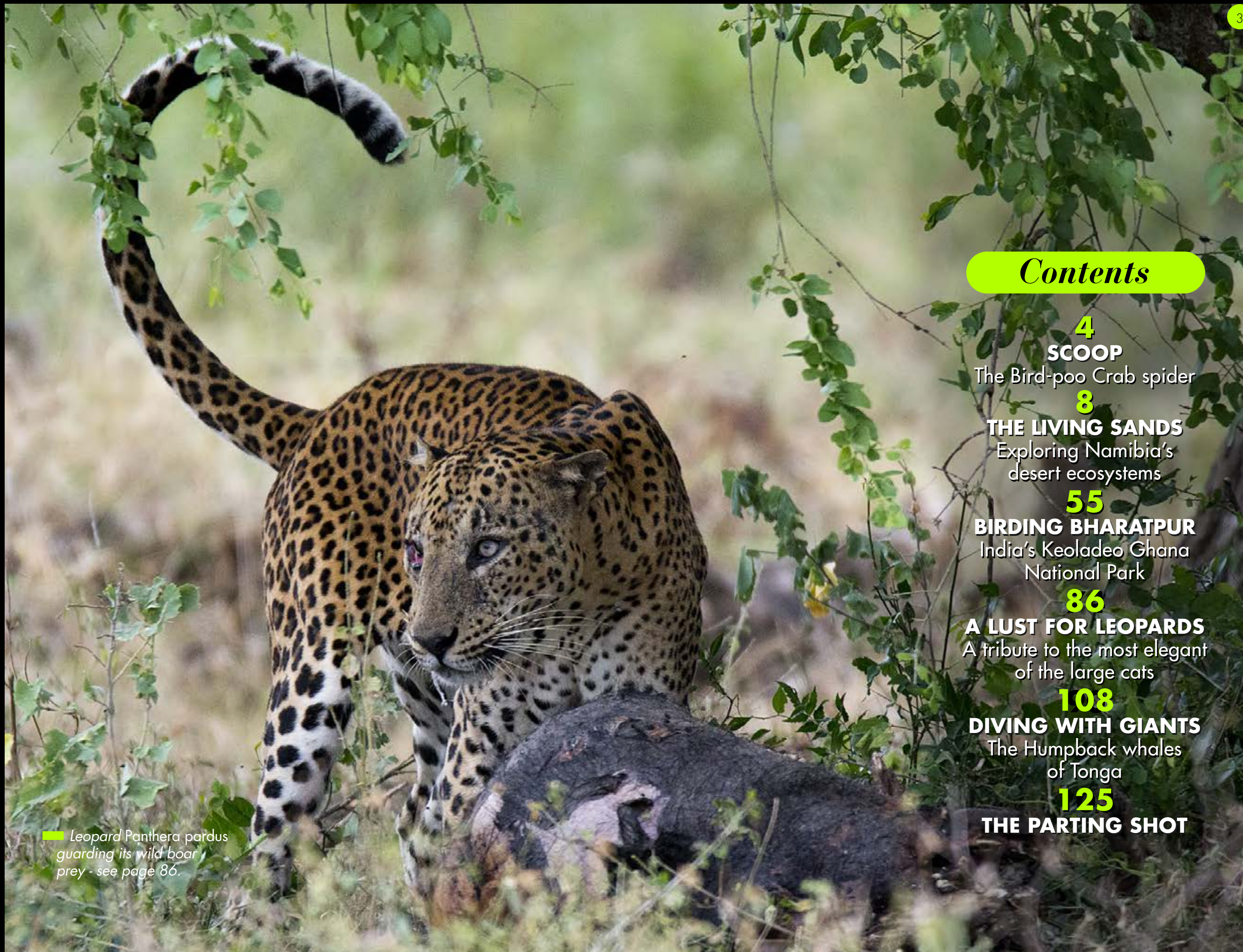
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Leopard *Panthera pardus*
guarding its wild boar
prey - see page 86.

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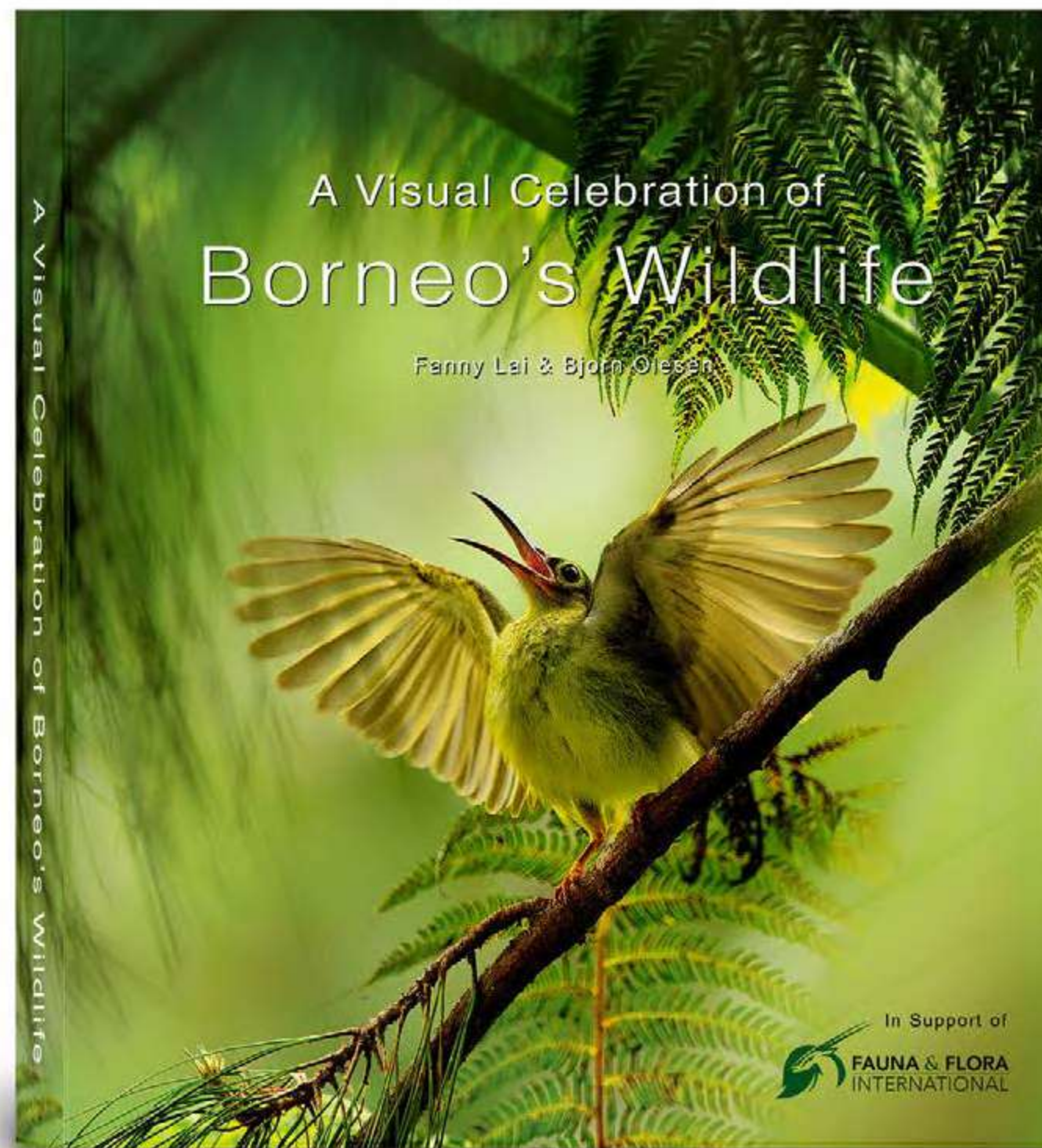


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THE BIRD-POO CRAB SPIDER

WHAT A CRAPPY CAMOUFLAGE!

A TINY SPIDER MIMICS TO PERFECTION
A FRESH BIRD DROPPING
TO ATTRACT ITS UNSUSPECTING PREY

■ This is how a Bird-poo Crab spider *Phrynarachne* sp. from Assam, North-eastern India, looks like at first sight. The illusion is faultless - and the evolutionary aspect is nothing short of magnificent.





At a lower angle the spider's actual identity becomes clearer - at least to a human observer. An approaching insect would however be easily fooled.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

Despite its almost ridiculously small size (2,098.62 hectares, equivalent to 20,99 km² or 8.1 sq miles), the remote Hoollongapar Gibbon Sanctuary - an island-like patch of forest surviving intact among the rolling tea plantations of Assam, in North-eastern India - remains one of the most amazingly biodiverse and species-rich tropical environments we have ever visited. We have already documented in detail the stunning Jumping spider-mimic or Metalmark moth *Brenthia* sp. we have observed in its undergrowth (you will find the original article [here](#)) and in

our next issue we'll be actually publishing a long, heavily illustrated trip report about our expedition there, so to finally do full justice to its extraordinary richness. Before that, however, we want to offer another tantalizing morsel about the striking and strange species one can observe while exploring its pristine woodland. As with most macro subjects found among heavy foliage, it is pure chance, spirit of observation or peripheral vision which most often reveals a new, interesting subject - and so it happened with our first encounter with the Bird-poo Crab spider

Phrynarachne sp., a tiny species which literally left us without words. Alternatively known as Bird-dropping, Bird-poop or Bird-dung Crab spider, this unidentified species (of 29 known) belongs to a well-known genus which, as the common name not too subtly implies, looks and smells exactly as a fresh bird dropping deposited on a broad leaf of the undergrowth. The mimicry is matchless and of stupefying perfection - one wonders how many times we had passed by and cursorily glanced at one of these white-brown wet-looking blobs taking them for a freshly

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The efficiency of *Phrynarachne*'s disguise can be judged by this image of an individual preying on a large Reduviidae Assassin bug. Notice - in the other images - how cleverly the tangled threads of the web mimic the splatters of a wet bird dropping.



deposited bird excrement before realizing - one again wonders how - that in fact the little glob consisted of a marvellously camouflaged Crab spider, squatting motionlessly among a ragged, tangled web which increased the similitude in appearance to what the crab was mimicking - a fresh bird dropping. The reasons for this stunning example of adaptative evolution are twofold: by choosing to camouflage itself as a bit of unappetizing excrement, the Crab spider avoids predation by its principal enemies, the small insect- and arthropod-eating birds of the forest's understory; and by mimicking a bird's dropping, the small sit-and-wait ambush predator increases its chances to attract some insect prey to such a tantalizing treat. Both functions work very well - all Bird-dropping spiders we observed were sitting quite in the open and in very exposed positions (testimony to the success of their passive defense measures) while most also featured scattered remains of prey - wings, chitinous shells and various other bits - which bore mute witness to the success of their ruse. In fact, we even observed one of them preying on a much larger (and more dangerous) Assassin bug (family *Reduviidae*) it had just tricked, and it may very well have been the iridescent sheen of a discarded, leftover hymenopteran wing which unexpectedly betrayed the real nature of the Bird-poo spider to us in the first place. ●



Bird-dropping ■
Crab spiders can occasionally be noticed in the field when the scattered remains of their insect prey are noted close to the sit-and-wait ambush predator.



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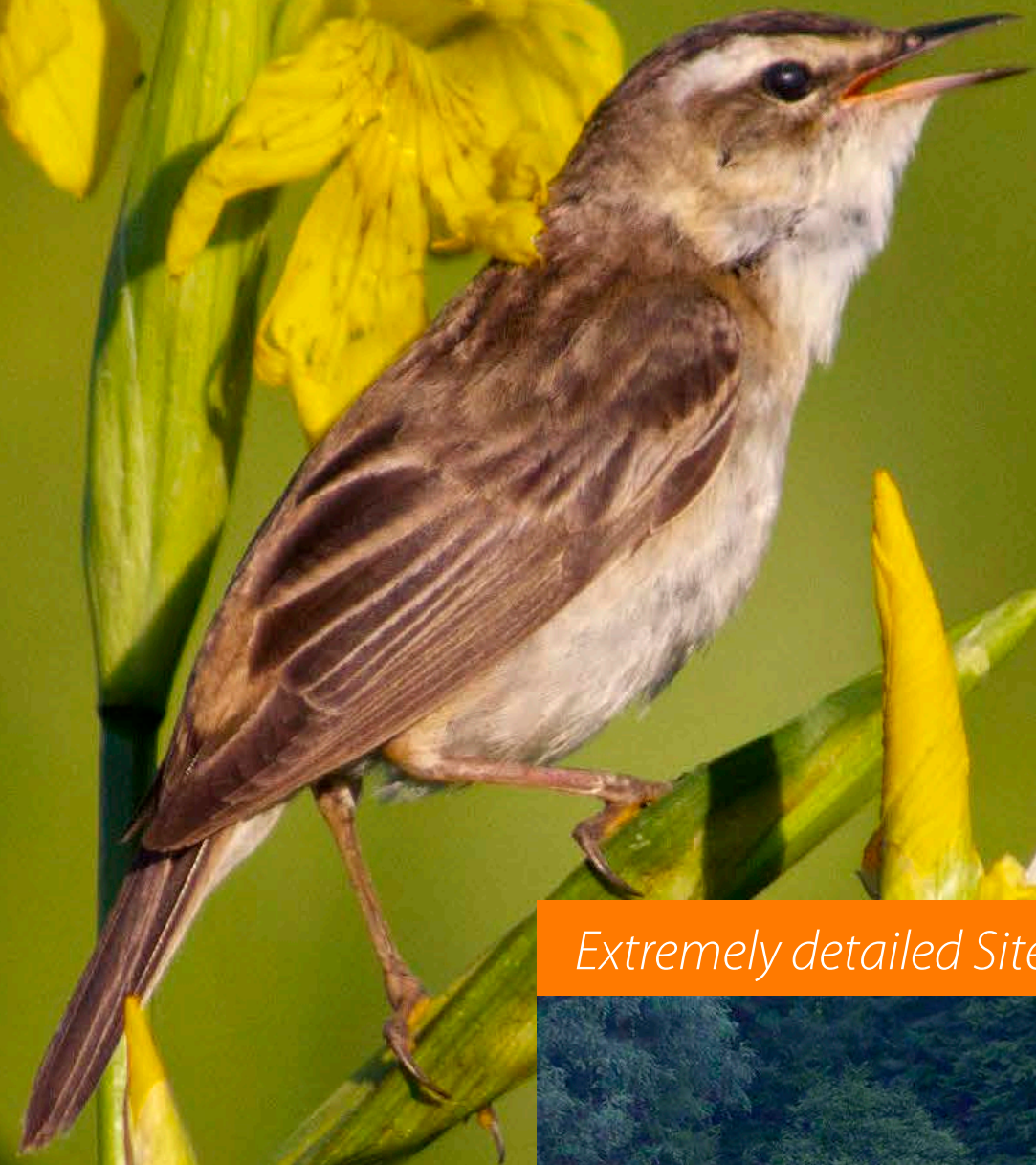
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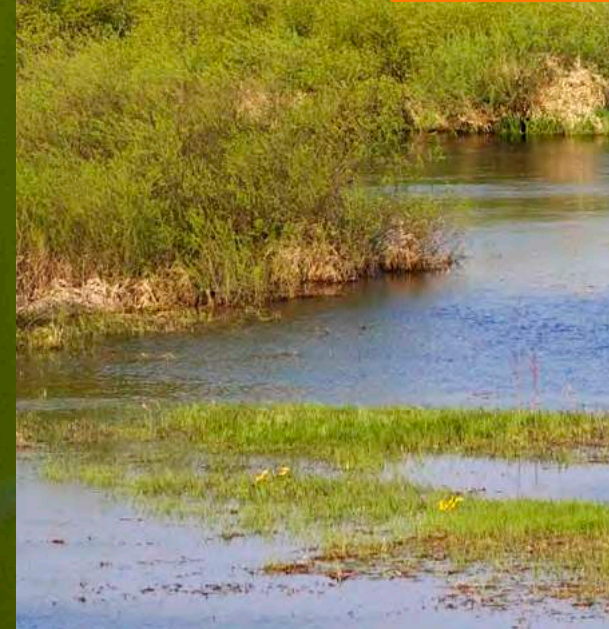


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EXPLORING NAMIBIA'S COASTAL DESERT

LIVING SANDS OF THE NAMIB

Southern Africa's unique environment of titanic dunes facing the Atlantic Ocean hosts an enormous varieties of organisms adapted to their extreme habitats



The dunes of the Sossusvlei. ■
On the opening spread, the iconic
Dancing White Lady spider
Leucorchestris arenicola.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

Visiting legendary Namibia - a desolate, dry-bone, desolately arid country facing the Atlantic Ocean in Southern Africa - had long been a dream of ours. For many, many years the alluring, unique images of its incredible landscapes, endemic fauna and unique coastal environments had been tempting us, but logistics and especially costs seemed to conspire against us. Last year - thanks to our friend and guide **Phillip Conradie of Africa Windows Safaris** - we finally took the jump, and did it. Was it worth the long wait? Did Namibia live up to its reputation? It did indeed - so much, in fact, that we have already been

there twice and we are already planning to visit a third time soon - during our first expedition there we gathered enough photographic material to publish at the very least six different articles, which will grace the pages of *Anima Mundi - Adventures in Wildlife Photography's* coming issues. Not very many destinations worldwide can boast such comfort, efficiency, reliability and above all amazing productivity - the reputation of Namibia as one of the world's top dream destinations for wildlife and photography aficionados is indeed deserved, as this and our future travel stories will hopefully be able to prove.

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*Blue or common wildebeest
Connochaetes taurinus, at dawn,
Namib-Naukluft National Park
at Weltevrede.*


Gemsbok Oryx gazella
in the Sossusvlei dunes
near Kanaan N/a'an ku sê.



NAMIBIA - WHAT'S IN A NAME?

"Namib" means open space and the Namib Desert gave its name to form Namibia – "the land of open spaces". Namibia is one of few countries in the world to specifically address conservation and protection of natural resources in its constitution. Article 95 states, *"The State shall actively promote and maintain the welfare of the people by adopting international policies aimed at the following: maintenance of ecosystems, essential ecological processes, and biological diversity of Namibia, and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future"*. This translates in real life to a veritable heaven on earth for wildlife and landscape photographers, with a variety of subjects and routes to choose from. This article will concentrate on the basic Namib desert trip across the Namib-Naukluft National Park which is most commonly done by first-time visitors, but to fully appreciate its contents a few facts must be told first. The Namib Desert itself occupies an area of around 80,950 sq km (31,200

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Horned adder 
Bitis caudalis,
near Weltevrede.





Left,
the dunes of
the Sossusvlei;
top right,
Granulated
thick-tailed
scorpion
Parabuthus
granulatus,
a potentially
deadly species;
bottom right,
Wedge-snouted
lizard *Meroles*
cuneirostris,
Damaraland.



■ A desert-dwelling Peringuey's desert adder or Namib sidewinding adder *Bitis peringueyi*, in ambush position showing caudal lure, in the sand dunes near Swakopmund.



Gemsbok Oryx ■
gazella in the desert
landscape of the
Sossusvlei near Kanaan
N/a'an ku sê.

square miles), stretching from the Usiab River (north) to the town of Lüderitz (south) and from the Atlantic Ocean (west) to the Namib Escarpment (east). It is about 1,000 miles (1,600 km) long from north to south and its east-west width varies from 30 to 100 miles (48 to 161 kilometres). To the north, the desert leads into the Kaokoveld; the dividing line between these two regions is roughly at the latitude of the city of Walvis Bay, and it consists in a narrow strip of land (about 50 km wide) that is the driest place in Southern Africa. To the south, the Namib borders on the South African Karoo semi-desert. Southern Namib (between Lüderitz and the Kuiseb River) comprises a vast dune sea with some of the tallest and most spectacular dunes of the world, ranging in color from pink to vivid orange. In the Sossusvlei area, several dunes exceed 300 meters (980 feet) in height - this unique and truly environment will be the subject of a future article.

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*Dead trees
silhouetted against the
stark background of the
gigantic dunes of the
Sossusvlei.*



Moving north from Sossusvlei, the sand gradually gives way to a rocky desert that extends all the way from Sossusvlei to the Swakop river. This area is traversed by the Tropic of Capricorn and is mostly flat, although some scenic canyons and elevations are found in several areas, for example in the Moon Valley system. While most of the soil is rocky, sand dunes are still occasionally found in this region; for example, sand dunes occupy much of the Atlantic coastline between Walvis Bay and Swakopmund. A number of unusual species of plants and animals are found in this desert, many of which are endemic and highly adapted to the specific climate of the area. One of the most well-known endemic plants of the Namib is the bizarre *Welwitschia mirabilis*; a shrub-like plant, it grows two long strap-shaped, leathery leaves continuously throughout its lifetime. These ribbon-like leaves may be several

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Namib dune gecko
Pachydactylus rangei,
near Swakopmund.





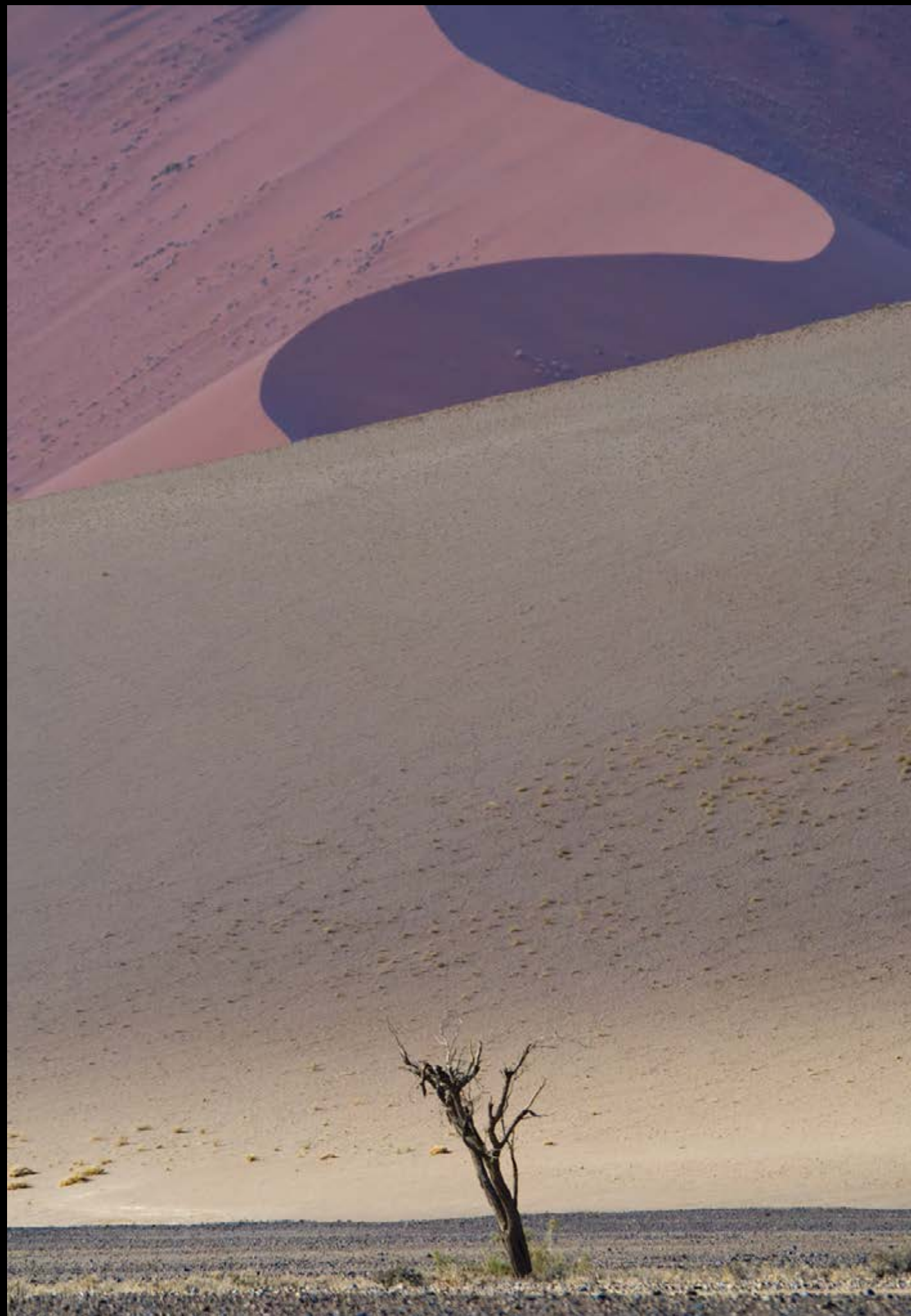
Left, Namaqua Chameleon *Chamaeleo namaquensis*; right, Peringuey's desert adder or Namib sidewinding adder *Bitis peringueyi*, in ambush position; both in the dunes near Swakopmund.



*Graceful lords
of the Namib sands*

A small herd of
Gemsbok Oryx gazella
among the dunes
of the Sossusvlei.





Far left,
Tractrac chat
Cercomela
tractrac,
Skeleton Coast;
left, the dunes
of the Sossusvlei
in the Namib-
Naukluft
National Park.

meters long, gnarled and twisted from the desert winds. *Welwitschia* is notable for its survival in the extremely arid conditions in the Namib, mostly deriving moisture from the coastal sea fogs. An area where *Welwitschias* are a common sight is found in the surroundings of the Moon Valley, including the eponymous Welwitschia Plains. The Namib fauna mostly comprises arthropods and other small animals that can live on little water, but a few species of bigger animals are also found, including antelopes (such as Oryxes and Springboks), ostriches, and in some areas even desert elephants (again, another subject of a future story). All these species have developed fascinating techniques to survive in the Namib environment. A number of endemic beetles species — such as the Namib Desert beetle — have bumpy elytrons with a pattern of hydrophilic bumps and hydrophobic troughs. These cause humidity from the morning fogs to condense into droplets, which roll down the beetle's back to its mouth. Another beetle, *Lepidochora discoidalis*, builds instead "water-capturing" webs. Black-backed jackals lick humidity from stones, while Gemsboks (also known as Oryxes) can raise the temperature of their bodies to 40 °C in the hottest hours of the day. The desert is also home to small mammals and several beautiful species

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Giant ground gecko ■
Chondrodactylus angulifer,
Namaqualand.

*Endless variations in
red, yellow and ochre*

The arid landscape of the Namib
in the vicinity of Kanaan N/a'an ku sê.

■ Giant ground gecko
Chondrodactylus angulifer,
Namaqualand, near
Weltevrede.



Horned adder
Bitis caudalis,
Namaqualand, near
Weltevrede.



■ Gemsbok Oryx gazella in the Sossusvlei near Kanaan.



of lizards, geckoes and snakes. Although the desert is largely unpopulated and inaccessible, there are settlements at Sesriem, close to the famous Sossusvlei area, and other small outposts in other locations. Namibe in Angola, and Lüderitz, Walvis Bay and Swakopmund in Namibia, bordering on the desert, are some of the main settlements in the area.

THE NAMIB-NAUKLUFT NATIONAL PARK

The Namib-Naukluft National Park encompasses part of the Namib Desert (considered the world's oldest desert) and the Naukluft mountain range. With an overall area of 49,768 sq km (19,216 sq mi), the Namib-Naukluft is the largest Game Park in Africa and the fourth largest in the world. The most well-known area of the park is Sossusvlei, which is the main visitor attraction in Namibia (and again, the future subject of another installment of our Namibia story!). Here more moisture comes in as a fog off the Atlantic Ocean than falls as rain, with the average 106 millimeters of rainfall per year concentrated in the months of February and April. The winds that bring in the fog are also responsible for creating the Park's towering sand dunes, whose burnt orange color is a sign of their age. The orange color develops over time as iron in the sand is oxidized, like rusty metal; so, the older the dune, the brighter the color.

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■ A rare encounter: Cape Eagle Owl *Bubo capensis*, on a rocky escarpment near Kanaan N/a'an ku sê.

Gemsbok
Oryx gazella,
among the dunes
of the Sossusvlei
in the vicinity of Kanaan
N/a'an ku sê.

These dunes are the tallest in the world, in places rising more than 300 meters (almost 1000 feet) above the desert floor. The dunes taper off near the coast, and lagoons, wetlands, and mudflats located along the shore attract hundreds of thousands of birds. The Namib-Naukluft Park was established in 1907 when the German Colonial Administration proclaimed the area between the Swakop River and the Kuiseb River a game reserve. The Park's present boundaries were established in 1978 by the merging of the Namib Desert Park, the Naukluft Mountain Zebra Park and parts of Diamond Area 1 and some other bits of surrounding government land. The Park has some of the most unusual wildlife and nature reserves in the world in an area larger than Switzerland, roughly the size of the US

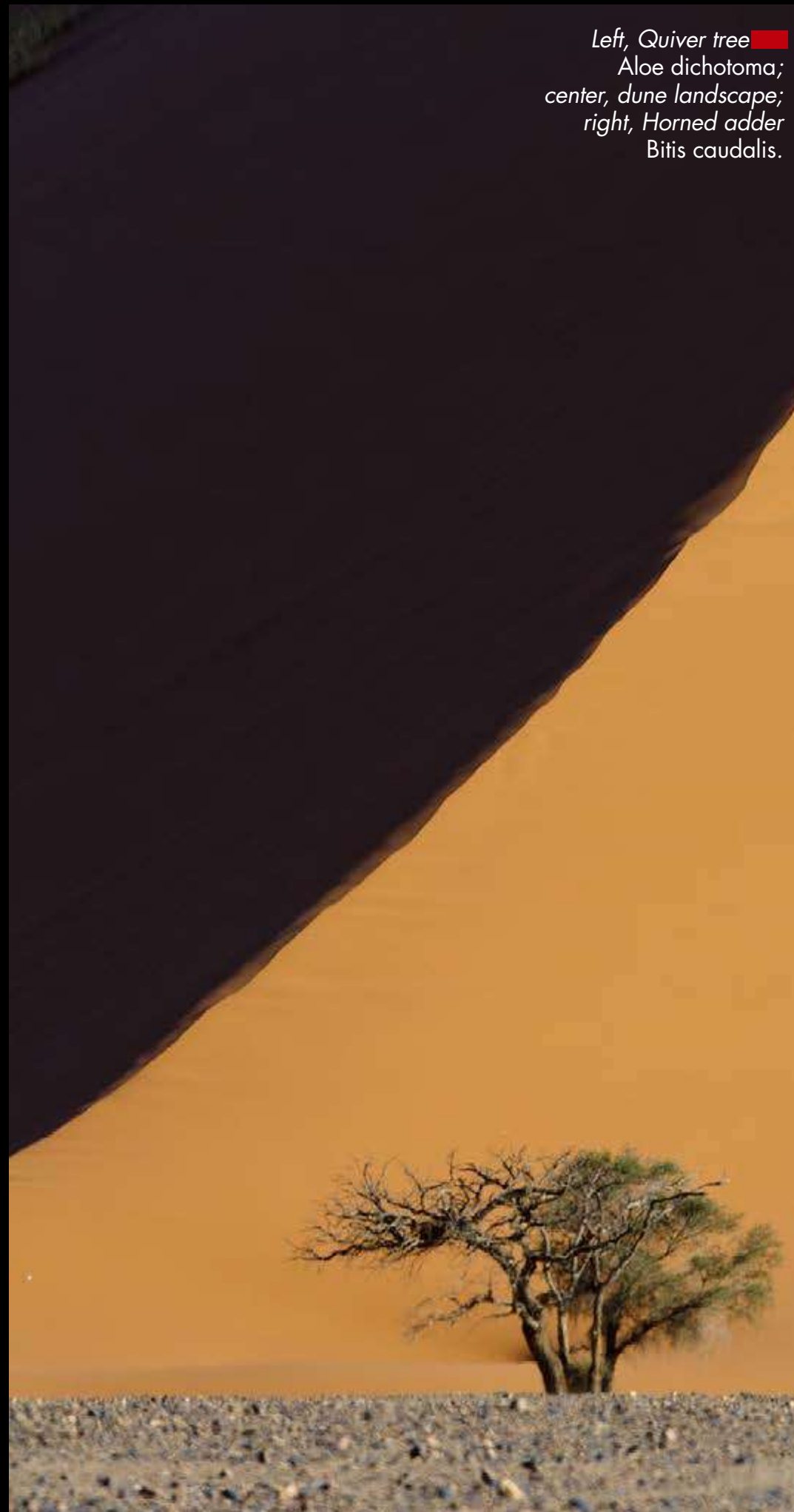
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■ The spectacular landscape
of the towering Sossusvlei
dunes at dawn, Namib-
Naukluft National Park.




Left, Quiver tree
Aloe dichotoma;
center, dune landscape;
right, Horned adder
Bitis caudalis.





Deep among the
dunes of Swakopmund,
Antonella offers an
unexpected perch to a
feeding Tractrac chat
Cercomela tractrac (photo
by Lucas M. Bustamante).



Left,  the spectacular dune landscape of the Sossusvlei; right, Tractrac chat *Cercomela tractrac*, Skeleton Coast.



states New Hampshire and Vermont combined, being characterised by high, isolated *inselbergs* and *kopjes* (the Afrikaans term for rocky outcrops), made up of dramatic blood red granites, rich in feldspars and sandstone. The easternmost part of the park covers the Naukluft Mountains.

A SUGGESTED ROUTE FOR FIRST TIMERS

The first part of our three-week itinerary - which lasted about 13 days - took us from the capital Windhoek's International airport first to luxurious Kanaan Private Nature Reserve (a 5-6 hours drive), then to Weltevrede Farm, which offers practical and comfortable accommodation to explore the dunes of the Sossusvlei and

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Photographer Lucas
M. Bustamante looks for
inspiration among the
towering dunes of the
Namib near Kanaan
N/a'an ku sê.



Three panoramic shots of Moon Valley and the Welvitschia Plains clearly illustrate the exceptionally arid, rocky landscape where the desert-dwelling unique Welvitschia plant is commonly found.

Dune panorama at
the Namib-Naukluft
National Park.




Klipspringer
Oreotragus oreotragus,
one of the few fair-
sized mammals being
able to survive here.





Quiver tree *Aloe dichotoma* with starscape - an iconic and almost obligatory image of the Namib desert at night.

Gemsbok *Oryx gazella* 
at rest among the dunes.
Right, Namaqua Chameleon
Chamaeleo namaquensis
feeding on a mealworm.



Deadvlei. From there we continued to Swakopmund on the Atlantic Ocean coast and nearby Walvis Bay lagoon (see our feature on its spectacular flamingo colonies [here](#)) - this is probably the best area to explore at ease the coastal dunes and their unique, fascinating fog-sustained wildlife. Using the quant little town of Swakopmund as a base we then visited the arid mountains nearby where *Welvitschia* can be found, and then continued to desolate, wind-swept Cape Cross (don't miss our story of the Cape seal colonies we observed there, which is going to be published in our next issue). After that we drove on to the Brandberg and its unique herds of desert elephants (again, the subject of a future article) and finally to Etosha National Park (yes, you guessed it - the subject of a few more future articles!). This is a relatively easy itinerary which will offer a spectacular overview of most Namibian endemics and great views of many of its unique environments, providing countless photographic opportunities to the discerning photographer. World-famous Etosha National Park is, of course, a different story and will require a separate trip, as we shall see - but as an easy, comfortable introduction to Namibia and its fascinating natural wonders, the above is without a doubt the best itinerary one can imagine. ●





■ Perringuey's desert adder
or Namib sidewinding
adder *Bitis peringueyi*, in
ambush position, in the sand
dunes near Swakopmund.




■ Left, a detail of the endemic and quite unique *Welwitschia mirabilis*. Right, Antonella with *Namaqua Chameleon Chamaeleo namaquensis*.



Zebra spitting cobra ■
Naja nigricincta,
near Weltevrede.



The living dunes of the  Namib towering over the Atlantic Ocean along the Skeleton Coast.



■ Left, Gemsbok
Oryx gazella;
right, an
exquisitely
camouflaged
Horned adder
Bitis caudalis.





■ Namibian Rock
Agama Agama
planiceps, female,
Brandberg Daures
National Heritage
Site valley.

 *Dune Lark* *Calendulauda*
erythrochlamys, Namib-
Naukluft National Park.





■ Left, Springbok
*Antidorcas
marsupialis*,
Namib-Naukluft
National Park,
Sossusvlei;
right, Cheetah
Acinonyx jubatus.



Cheetah *Acinonyx*
jubatus, *Sossusvlei*.



*A mesmerizing sea of
endlessly shifting dunes*


Left, Laughing dove *Spilopelia senegalensis*; center, Greater Kestrel or White-eyed Kestrel *Falco rupicoloides*; right, Pied crow *Corvus albus*.



A splendidly elegant
male Springbok *Antidorcas
marsupialis* at Weltevrede.





Left, Namibian Rock 
Agama Agama planiceps,
male, Brandberg Daures
National Heritage Site valley;
right, Gemsbok Oryx gazella
in the Sossusvlei near
Kanaan N/a'an ku sê.



The gigantic dunes of the
Sossusvlei in the Namib-
Naukluft National Park.





*The gigantic dunes
of the Sossusvlei
in the Namib-Naukluft
National Park
of Namibia offer
endless photographic
opportunities to visitors -
from early morning to the
late afternoon.*



At-a-glance travel guide

COUNTRY OF DESTINATION: **NAMIBIA**



USEFUL TIPS FOR YOUR EXPEDITION

Some simple, common sense, field-tested advice and information to make the best out of your trip and avoid hassles, worries and problems

ROUTE: Your international flight will land in Windhoek Hosea Kutako International Airport, 45 kms from the capital itself. Namibia can be reached by direct flight with a few airlines or via South Africa. The airport is small, clean and very efficient.

MEANS OF TRANSPORT: Namibia has a good network of tarmac highways and can be easily visited self-driving a rented vehicle. This ease of travelling across the land however has its drawbacks, usually severely underestimated by foreign visitors - enormous distances, tyre-damaging coarse gravel stretches and above all the need to be absolutely self-sufficient. We are convinced that for

productive wildlife photography it is much better employing a professional guide and cannot recommend enough our personal friend **Phillip Conradie of Africa Windows Safaris** - a reliable and experienced professional with a special knack for animals and a wonderful person to travel with.

CURRENCY: Namibian dollar (NAD) and South African Rand (ZAR), with Euros being accepted in most upscale lodges. It is advisable to change a reasonable amount of currency upon arrival.

ACCOMODATION: Namibia offers a wide choice of accomodation, from budget to luxurious, usually

very clean and very efficiently managed. To those travelling across the Namib-Naukluft we can safely recommend the upscale **Kanaan N/a'an ku sê Desert Retreat**, the more economical **Weltevrede Farm**, the **Alte Brücke Holiday Resort** in Swakopmund, the beautiful **Cape Cross Lodge** by the Atlantic shore and the **White Lady Lodge** in the Brandberg.

FOOD: Namibia is no place for vegetarians, even if it is the only African country where we feel absolutely safe having fresh raw vegetables and salads. An abundance of exotic meats and free-ranging game provides mouth-watering charcoal-grilled steaks of zebra, springbok, kudu and eland,

Quite simply one of the world's best photographic destinations



which are really to be tasted - even by those usually avoiding red meat (like us). Given the blistering heat, you'll love having a Rock Shandy, a refreshing drink of ½ a bottle of lemonade, ½ a bottle of soda water and a few drops of Angostura bitters.

LANGUAGE: English and German are widely spoken everywhere. Don't even hope of speaking or understanding Khoisan, the Bushmen's unique tongue-clicking language...

WORRIES: None as long as you follow the lodges and National Parks rules. Namibia is a very safe, visitor-friendly nation, but always remember that wild animals are exactly that - wild, and often dangerous.

HEALTH: A very safe destination, with high medical standards - one of the very few places where we drink tap water without worries.

CLIMATE: When to go? Not an easy question to answer! Partially covered by the Namib Desert, one of the world's driest deserts, Namibia's climate is generally very dry and pleasant – it's fine to visit all year round. Between about December to March some days will be humid and rain may follow, often in localised, afternoon thunderstorms. These are more common in the centre and east of the country, and more unusual in the desert. April and especially May are often lovely months in Namibia. Increasingly dry, with a real freshness in the air, and much greenery in the landscape; at this time the air is clear and largely free from dust. From June to August Namibia cools down and dries out more; nights can become cold, dropping below freezing in some desert areas. As the landscape dries so the game in the north of the country gravitates more to waterholes, and is more easily seen by visitors. By September and October it warms up again; game-

viewing in most areas is at its best, although there's often a lot of dust around and the vegetation has lost its vibrancy. November is a highly variable month. Sometimes the hot, dry weather will continue, at other times the sky will fill with clouds and threaten to rain – but if you're lucky enough to witness the first rains of the season, you'll never forget the drama.

BESIDES: Local tribes and indigenous culture provide much interest, even after the terrible suffering inflicted in the past (1904-1910) by Kaiser Wilhelm's Imperial Germany. The country's largest ethnic group is the Ovambo (around half the population), with the Kavango, Herero, Damara, and Caprivian peoples all having significant populations. Some of the country's smaller groups of peoples – like the San (or Bushmen) in the east and the very distinctive, red-tinted Himba in the north – still keep to their age-old nomadic or semi-nomadic lifestyles. ●

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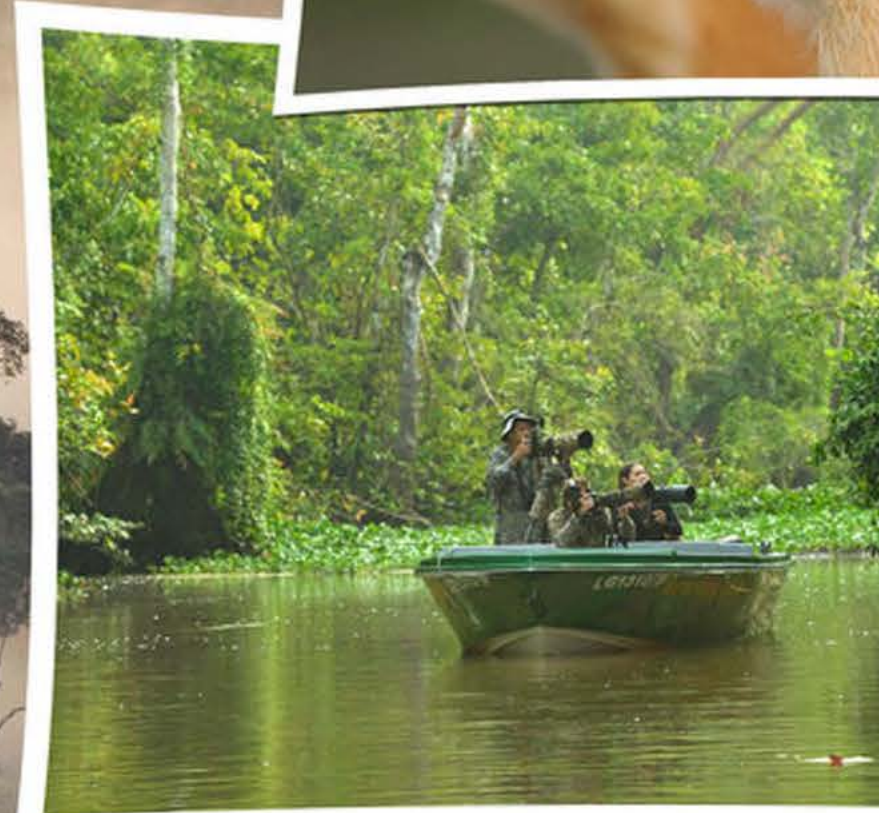
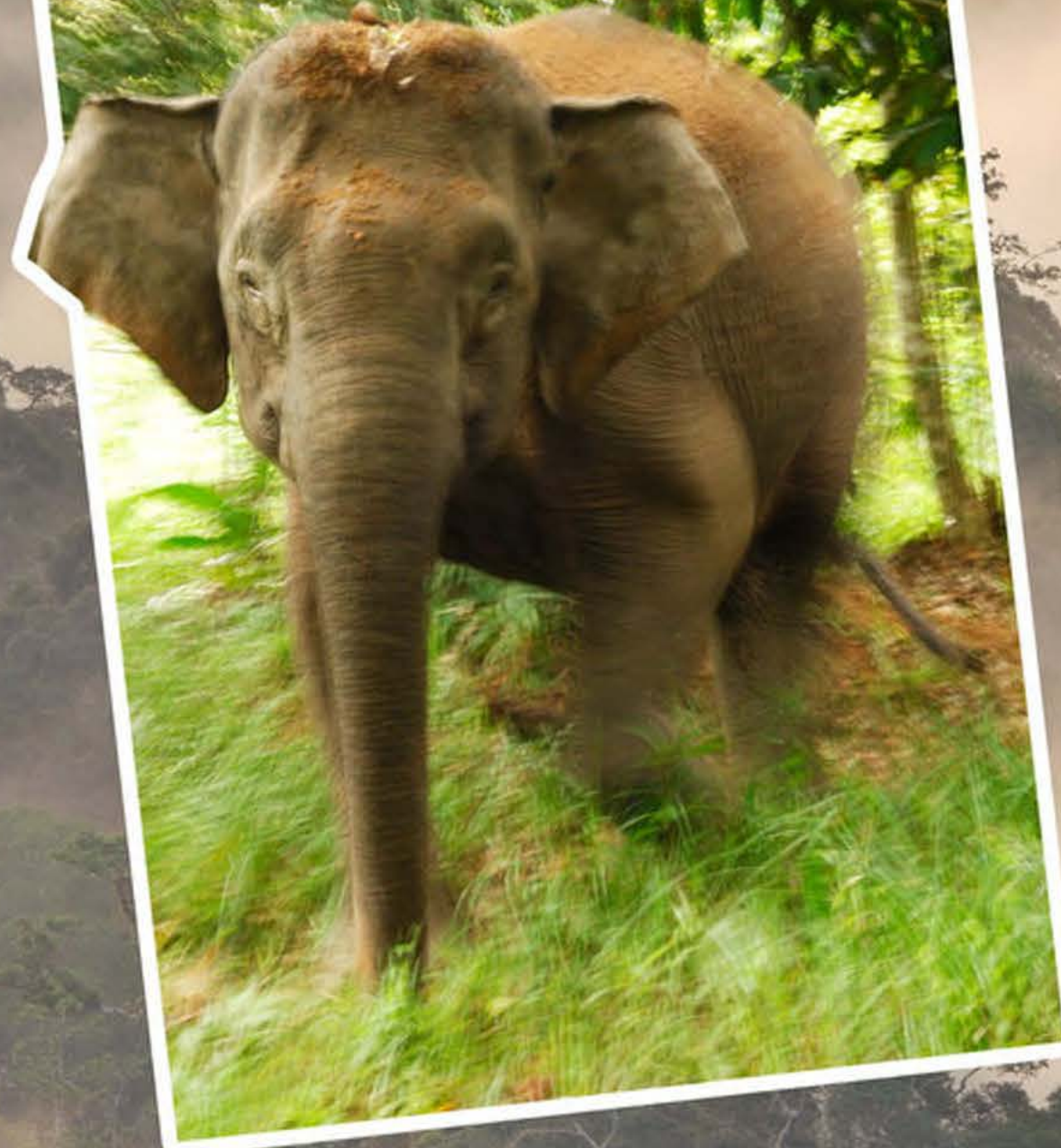


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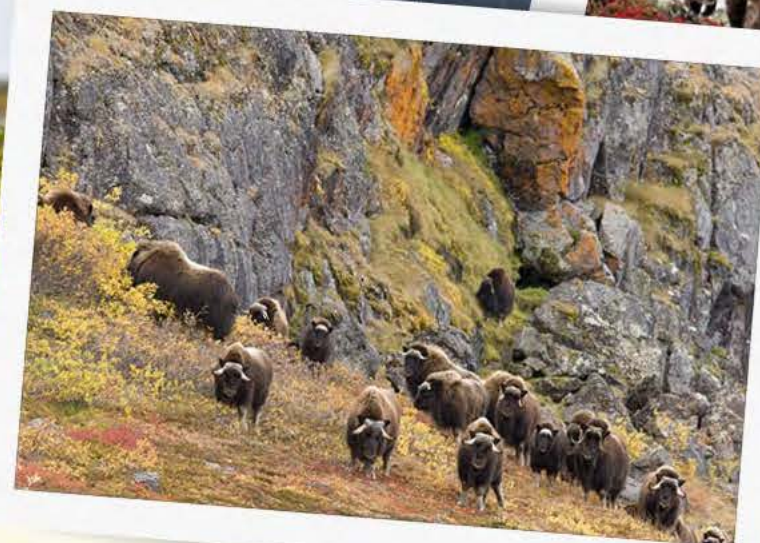
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WorldWideWonders

KEOLADEO GHANA NATIONAL PARK

BIRDING BHARATPUR



Close to many of India's most celebrated art treasures lies one of the world's most amazing hotspots for rewarding bird watching and photography



Painted Stork *Mycteria leucocephala*

Large flocks of the very colorful Painted Stork - often mixed with Black-headed ibis, as here - are a common feature of the waterlogged open plains of Bharatpur.



Spotted Owlet *Athene brama*

The Spotted Owlet is an extremely common species in Bharatpur.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

Keoladeo Ghana National Park - formerly known worldwide as the Bharatpur Bird Sanctuary - is a famous avifauna sanctuary in the immediate vicinity of Bharatpur, Rajasthan, India, which hosts thousands of birds, especially during the winter season. This tiny (29 sq. km) pocket of biodiversity is a veritable treasure trove for students and researchers and it is one of the most celebrated migratory bird habitats in Asia. Once the private wildfowl shooting preserve of the Maharajas of Bharatpur and their guests, the Park now plays host to 388 bird species, of which over 230 are known to be resident. It is also a major tourist destination, with more than 125.000 visitors a year. It was declared a protected sanctuary in 1971, and it is also a World Heritage Site, being placed on the Montreux Record under the Ramsar Convention; according to founder of the World Wildlife Fund, Peter Scott, Keoladeo National Park is one of the world's best bird areas. Keoladeo is a man-made and man-managed wetland, and one of the most easily reached and visited National Parks in India. The reserve is locally known as Ghana, and is a mosaic of dry grasslands, dry woodlands, woodland swamps and wetlands, criss-crossed by a multitude of raised bunds, dust roads and simple, easy trails which are a joy to explore on foot, on bicycle or on a local rickshaw. The rickshaw "drivers" are in fact very well trained, often multilingual birdwatchers and

bird guides, and will make a huge difference when one is exploring the Park and searching for its wildlife. This is a very scenic area and a paradise for wildlife photographers, especially those focusing mostly on birds - photo opportunities are endless, even in low season when the air is muggy and the sky overcast and grey. It is very close to frequently visited, historically and artistically significant tourist destinations such as Delhi (180 km), Jaipur (178 km) and Agra, home of the legendary Taj Mahal (55 km), and well-connected to all by train or bus. While in Bharatpur, one can also take the extra step as we did and visit the even tinier wetland of nearby Nounera - mostly known to birdwatchers and bird photographers only - where the stupendous Sarus crane *Grus antigone* can often be seen grazing in the fields. Accommodation in the area is readily available - we can recommend the lovely and spotless Hotel Sunbird, which is comfortably close to the Park's gates and ticket office. Of course, Keoladeo Ghana was also once best known as the only wintering habitat in India of the rare Siberian Crane *Grus leucogeranus*: "The cranes sadly stopped visiting since 2002 (with this population in particular now believed to have been driven to extinction by hunting), but come October, every eye still scans the sky in the forlorn hope that the "white angels" will return to their winter home in the heart of Rajasthan...". ●



The tree-lined avenues of Kheoladeo Ghana

Walking around Bharatpur is a joy - the Sanctuary is criss-crossed by a huge network of tree-shaded, raised dirt roads and trails which overlook the wetlands and make photography a pleasure. If one does not feel like walking, bicycles and above all cycle rickshaws are a very viable, inexpensive and comfortable alternative.



Grey heron *Ardea cinerea*

Kheoladeo Ghana's location in the Gangetic Plain makes it an unrivalled breeding site for herons, storks and cormorants, and an important wintering ground for large numbers of migrant ducks. The National Park is open all year from sunrise to sunset.



Pied Kingfisher *Ceryle rudis*

The larger trees and thick bushes lining the roads and trails in the woodland swamps of Bharatpur are used as convenient perches overhanging water by many birds, offering wonderful photographic opportunities for those who are willing to move cautiously and wait patiently.



Indian Spot-billed Duck *Anas poecilorhyncha*

A very common and rather striking duck species which can be easily observed and photographed in the wetlands of Bharatpur.



Rose-ringed Parakeet *Psittacula krameri*

The most common parakeet in the Kheoladeo Ghana general area, often seen nesting - like this female - in old tree cavities.



Spotted deer or Chital *Axis axis*

Most people visit Kheoladeo Ghana National Park for the birds, but the mammal fauna is interesting even if reduced with 27 species counted. Ungulates which can be seen in the area include Blackbuck, Chital, Sambar deer (rare), Hog deer, Nilgai or Bluebull, Wild boar and feral cattle.



Indian scops owl *Otus bakkamoena*

A beautiful and splendidly camouflaged species which can be often located in dry or semi-dry palm clumps. Rickshaw drivers usually know where to locate this and other species.



Intermediate egret *Mesophoyx intermedia*

The woodland swamps of Bharatpur offer uniquely beautiful scenic spots.



The Taj Mahal

Kheoladeo Ghana is comfortably close to some of India's most beautiful and celebrated monumental works of art, like Agra's impressive Taj Mahal. Other world-famous sites relatively near are the art cities of Fatehpur Sikri and Jaipur, both well-connected to the National Park by road.



Sarus crane *Grus antigone*

A day excursion to Nounera - a tiny 250-hectare stretch of agricultural land near the outskirts of Bharatpur - is highly advisable if one is interested in observing several birds of prey, vultures and above all the stately Sarus crane, one of India's most beautiful non-migratory birds and an iconic species of wetlands.



Egyptian vulture *Neophron percnopterus*

The spreading, cultivated fields - no heavy machinery is being used here, with all work being done in the traditional way - around Nounera offer wonderful opportunities to observe at relatively close quarters more than 70 different bird species, all co-existing undisturbed and in harmony with the local farming communities.



Purple Moorhen *Porphyrio porphyrio*

Kheoladeo Ghana's extensive, man-made and man-regulated wetlands represent a much-needed oasis for thousands of waterbirds in the arid landscape of Rajasthan.



Indian palm squirrel *Funambulus palmarum*

A very common sighting on the trees lining Bharatpur's waterways and marshlands.

**Job opportunities for many locals**

These local ladies are employed by the National Park for road maintenance and woodcutting - one of the countless examples of how a National Park or Nature Reserve can contribute to the local economy. Many Bharatpur citizens work in the tourist industry - as birdwatching guides, providing transport or offering accomodation.



Sarus crane *Grus antigone*

The cultivated fields around Nounera offer good chances to approach and photograph this large, beautiful species.



Deeg Palace

Another very interesting and well preserved site which can be visited on the way to Nounera.



Lesser Flamingo *Phoeniconaias minor*

Several water bodies dot the arid landscape at Nounera - these host large numbers of cormorants, flamingos and waterbirds. Due to the dust, high humidity and smoke from countless cow dung fires, skies are very rarely blue in the Gangetic plains - our images are never color-corrected on purpose, to portray Indian skies as they are.



Indian Spot-billed Duck *Anas poecilorhyncha*

Still waters, tree shadows, floating water plants and beautiful bird species all conspire to make a visit to Kheoladeo Ghana a photographer's dream. By virtue of being one of the best bird watching sites of Asia, more than 100,000 visitors come to the National Park every year; of these about 45,000 are foreign tourists.



Lesser flamingo *Phoeniconaias minor*

A panoramic shot of Nounera water bodies and its resident waterbirds.



Black-necked stork *Ephippiorhynchus asiaticus*

Another spectacular species commonly seen in the Sanctuary, usually at a distance.



Purple Sunbird *Cinnyris asiaticus*

Smaller species are not to be ignored as they are often stunningly beautiful.



Rose-ringed Parakeet *Psittacula krameri*

One of the Indian subcontinent's most common and most easily observed birds, and yet a species of extraordinary beauty, often seen while feeding on seeds and berries - as here - or socializing and screeching noisily. A very common encounter along Bharatpur's white roads.

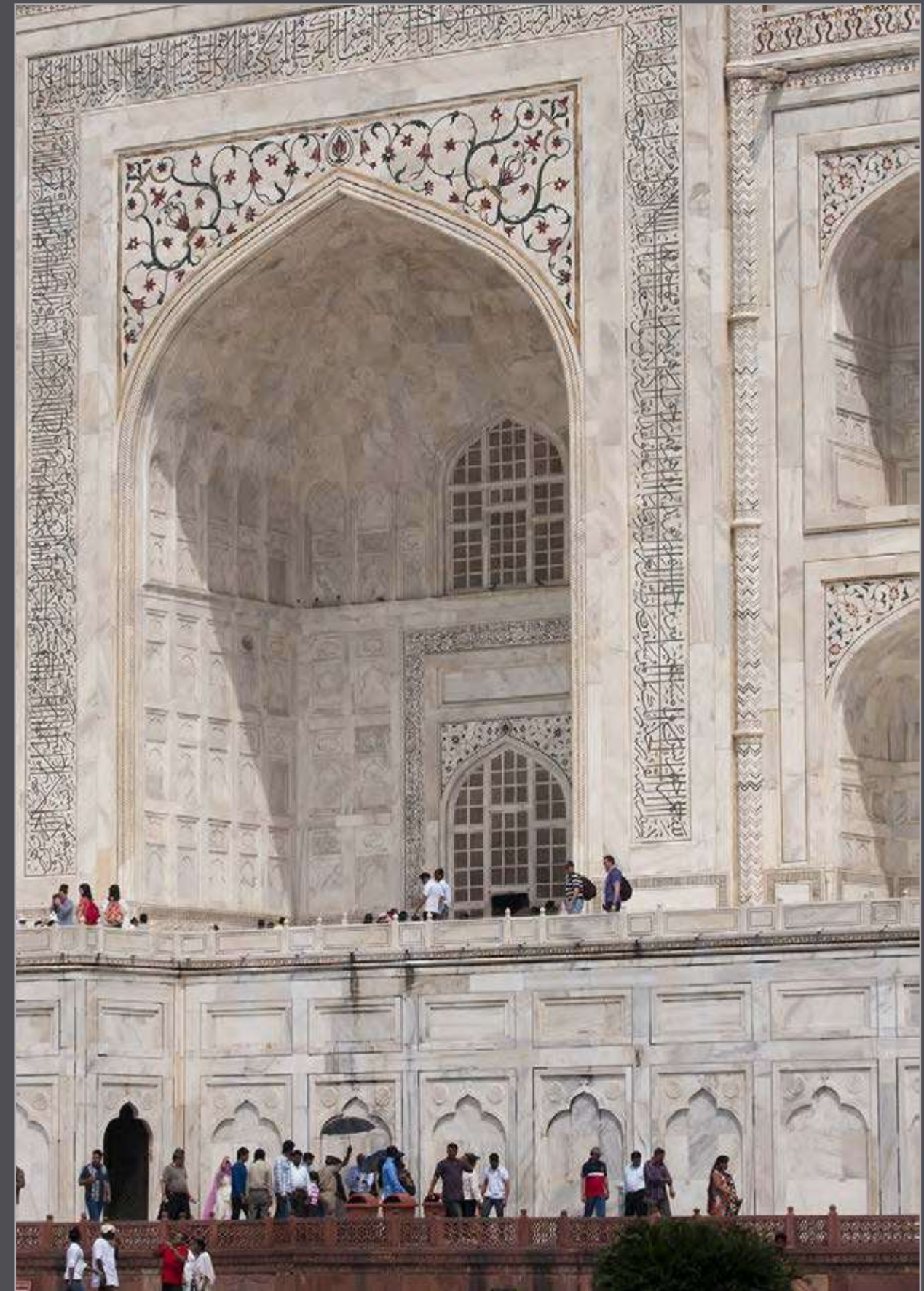


Indian Jackal *Canis aureus*

Large predators are absent from Kheoladeo Ghana, with leopards having been deliberately exterminated by 1964, but small carnivores include Bengal fox, Jackal (the most commonly observed one), Striped hyena, Common palm civet, Small Indian civet, Indian grey mongoose, Fishing cat, Leopard cat, Jungle cat and Smooth-coated otter.



Sarus crane *Grus antigone*
A great encounter on the Nounera plain.



The Taj Mahal
A day trip to this world-famous monument is not to be missed when in Bharatpur.



Wood Sandpiper *Tringa glareola*

One of the many smaller, less noticeable species haunting the local wetlands.



Spotted Owlet *Athene brama*

A commonly observed species - often in small groups, with up to seven or eight individuals lined up along a branch together.



Nilgai or Bluebull *Boselaphus tragocamelus*

Nilgais in knee-deep water, crossing the mist-shrouded wetlands at dawn, offer good opportunities for atmospheric landscape shots - these in our view are very representative of the very essence of the unique environment of Kheoladeo Ghana.



Rhesus macaque *Macaca mulatta*

A very common species - and one you don't want to get too close to as it can be aggressive.



Indian or Rufous Tree Pie *Dendrocitta vagabunda*

Bharatpur is not only about waterbirds exclusively - other species abound here.



Little cormorant *Microcarbo niger*

When exploring the still waterways of Kheoladeo Ghana one should always keep on eye on shady areas near the raised bund - these are the favorite haunts of many small herons, little cormorants and several kingfishers. In one specific area of the Park sightings of the Indian python *Python molurus* are also quite common, particularly in winter.



Rose-ringed Parakeet *Psittacula krameri*



Purple heron *Ardea purpurea*



Black Redstart *Phoenicurus ochruros*

Keoladeo Ghana's 29 square kilometers environment is a scenic mosaic of dry grasslands, woodlands, woodland swamps and wetlands. These diverse habitats are home to a minimum of 388 bird species, 379 floral species, 50 species of fish, 13 species of snakes, 5 species of lizards, 7 amphibian species, 7 turtle species, and a variety of other invertebrates.



Lesser flamingo *Phoeniconaias minor*

The man-made shallow dams near Nounera are peacefully inhabited by large numbers of waterbirds, undisturbed by the local farming communities.



Indian or Three-striped palm squirrel *Funambulus palmarum*

A very common but always interesting and attractive camera subject!



Long-legged Buzzard *Buteo rufinus*

Many raptor species can be sighted around the open plain of Nounera.



The Taj Mahal

One of the world's most photographed and visited monuments - a must-do excursion when in Bharatpur.



Sarus crane *Grus antigone*

A graceful symbol of the Gangetic plain and the tallest of the flying birds, with a height of up to 1.8 m (5 ft 11 in).



Fatehpur Sikri

Another stunningly beautiful art complex and an unmissable day trip - at the very minimum - when staying in Bharatpur.



Indian pond heron or paddybird *Ardeola grayii*

Even modest, very common species such as this one often become uniquely interesting when viewed up close and photographed in the shadow-dappled waterways of Kheoladeo Ghana. Habituated to hundreds of visitors daily, most species here are relatively undisturbed by human presence and can often be approached at close quarters.



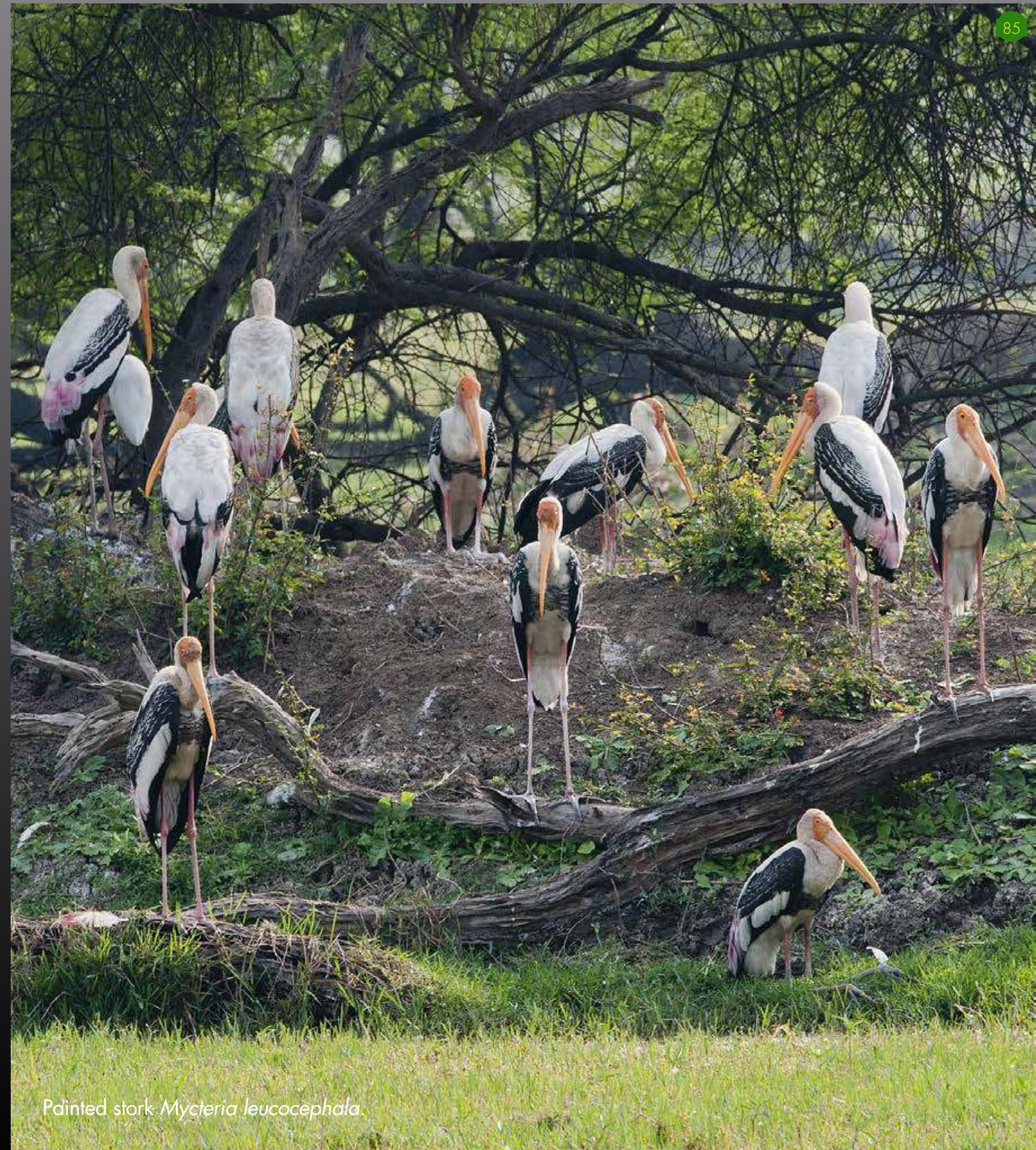
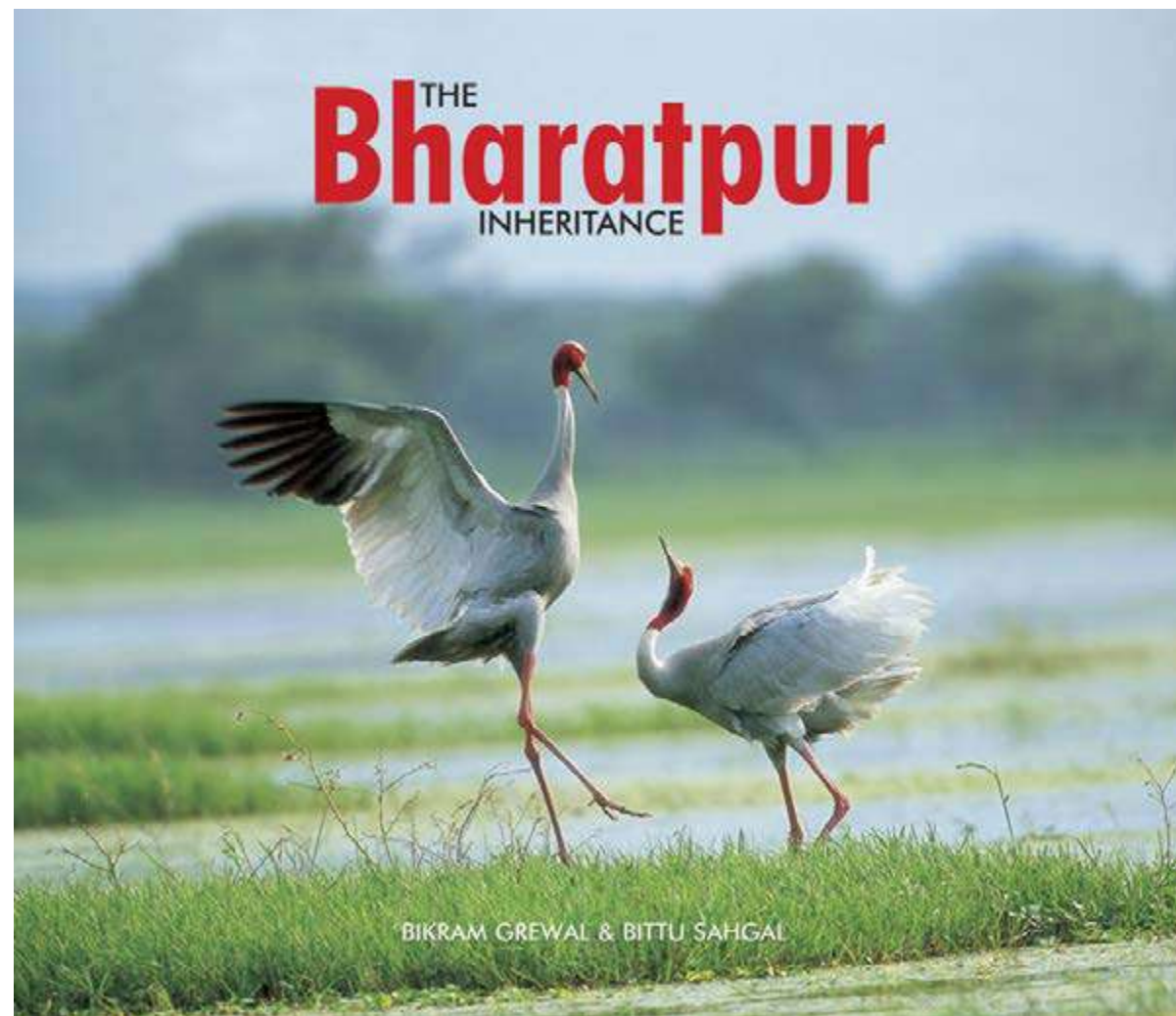
Nilgai or Bluebull *Boselaphus tragocamelus*

For us it is the stately Nilgai - even more than the incredibly diverse avifauna - which truly embodies the *genius loci*, the guardian spirit, of Kheoladeo Ghana. Bathed in the misty, smoky atmosphere of the Bharatpur wetlands, this usually semi-ignored and rather ungainly species acquires in our eyes a new, iconic, magical significance.

The Bharatpur Inheritance

by **Bittu Sahgal and Bikram Grewal**

For those interested in reading and finding out more about Keoladeo Ghana NP and its wildlife-rich environment, we can safely recommend *Sanctuary Asia Magazine*'s stunning coffee-table book *The Bharatpur Inheritance*, edited by Sanctuary's own legendary creator (and staunch activist) Bittu Sahgal and by Bikram Grewal. The volume is illustrated with hundreds of beautiful images of the Reserve's wildlife and habitats and is packed to the brim with in-depth, accurate, up-to-date information about Bharatpur, its present, its future and the problems it has to face. *The Bharatpur Inheritance* is part of a series entirely dedicated to India's spectacular and threatened natural heritage - other titles in the series are devoted to Kaziranga, Tadoba, Corbett, Bandhavgarh, Periyar and the Sundarbans National Parks. *The Bharatpur Inheritance* and its companion volumes in the series (some sadly now out of print) can be ordered online from www.sanctuaryasia.com, the website of India's premier wildlife and natural history magazine.



Painted stork *Mycteria leucocephala*.

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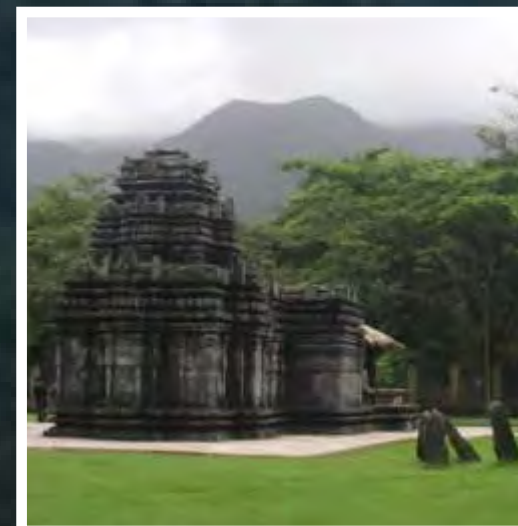
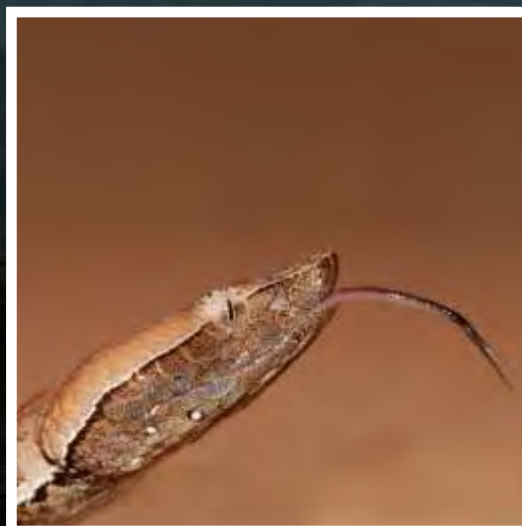
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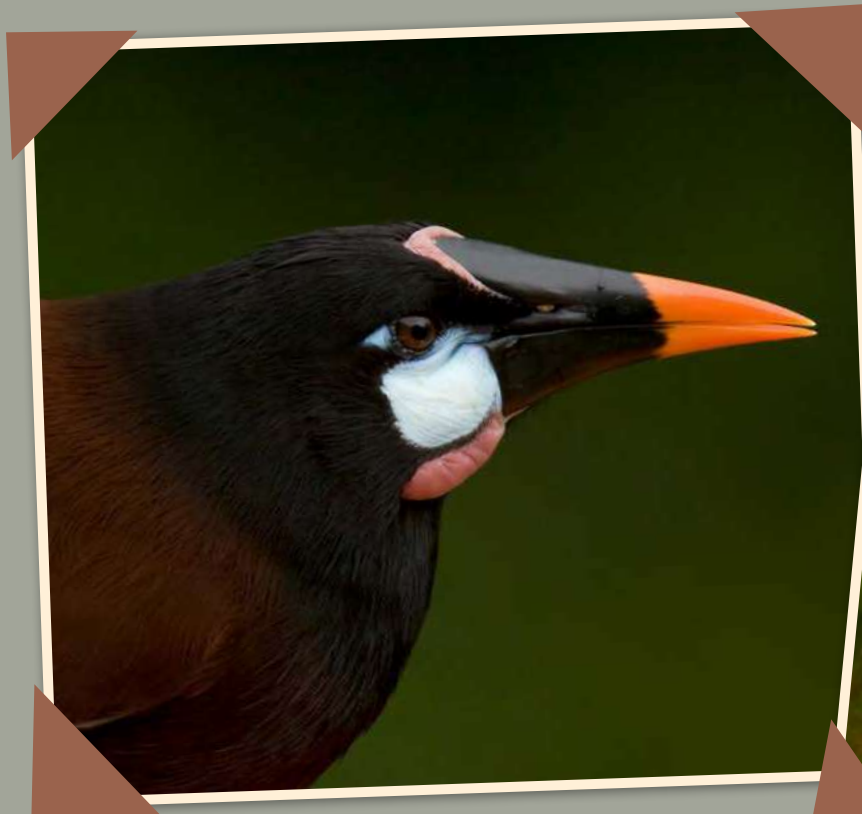


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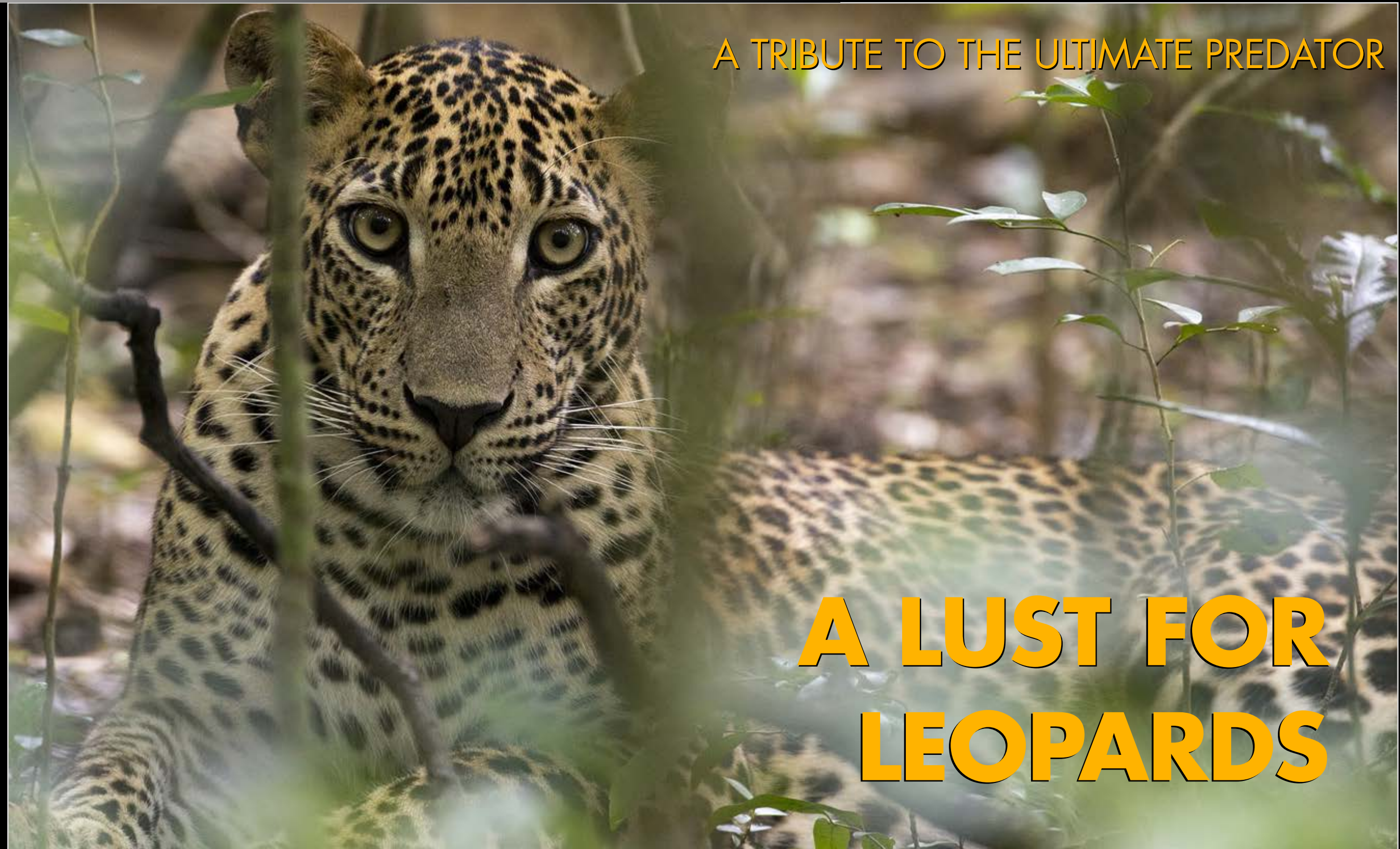
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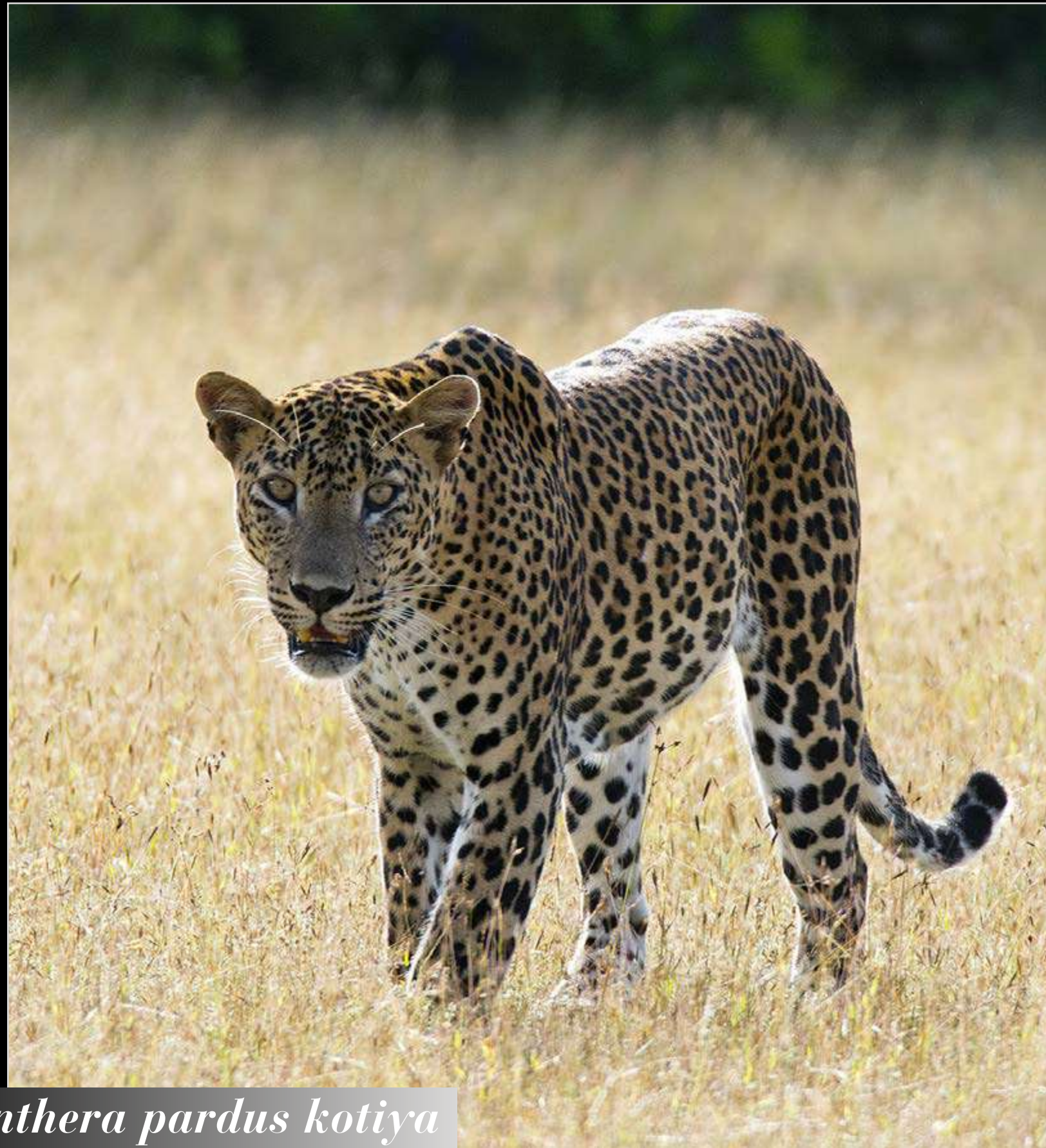
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Panthera pardus kotiya

Possibly the most beautiful among *Panthera pardus* seven subspecies, *kotiya* is endemic to the island of Sri Lanka, where it can be often observed and successfully photographed under optimal conditions in Yala and Wilpattu National Parks. Sri Lanka is possibly the world's best destination to encounter this stunningly beautiful predator in the wild. This is an adult female from Yala NP.



Panthera pardus kotiya

A large, powerful male of the Sri Lankan subspecies, photographed in Wilpattu National Park.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

We have a passion, a lust for leopards. To us, they are the most supremely elegant and graceful of the large cats. Lions are huge and scary; tigers are massive and majestic; but leopards are just perfect. We have encountered many in Africa, India and Sri Lanka - but always on their own terms, mostly briefly and thanks to a great dose of stubbornness and patience. Those you face on these pages are not the human-habituated "stars" of game reserves and fenced "sanctuaries": these cats are the real deal, and they do not grant audience easily. But when they do, it's an immense privilege, and a thrill - very few other animal sightings can beat that of a leopard lazily reclining on a smooth granite boulder, its golden coat glowing softly in the setting sun, its amber eyes sensuously glowing with an aristocratic, cool, cruel detachment. Why is that? Possibly because a leopard is not as huge as a lion or a tiger, and so we can relate to it more easily (even if they can be just as dangerous). Or maybe because they are so adaptable, clever, successful? Science tells us that the leopard *Panthera pardus* is one of the five "big cats" in the genus *Panthera*, a member of the family *Felidae* with a wide range in sub-Saharan Africa and parts of Asia. It is a big cat distinguished by its robust build and muscular but relatively shorter limbs, a broad head and a coat covered by spots arranged in rosettes. Males stand 60–70 cm (24–28 in) at the shoulder, while females are 57–64 cm (22–25 in) tall. The head-and-body length is typically between 90 and 190 cm (35 and 75 in). While males weigh 37–90 kg (82–198 lb), females weigh 28–60 kg (62–132 lb); the maximum recorded weight for a leopard is 96.5 kilograms (213 lb). Sexually dimorphic, males are larger and heavier than females. Similar in appearance to the jaguar, but smaller and more lightly built, its fur is marked with rosettes similar to those of the jaguar, but the leopard's rosettes are smaller and more densely packed, and do not usually have central spots as the jaguar's do. Melanistic leopards are known, of course, as black panthers. Nine subspecies are currently recognised by IUCN, all listed as vulnerable on the Red List as populations are declining in large parts of their range. Leopards have the largest distribution of any wild cat, occurring widely in Africa as well as eastern and southern Asia. Within sub-Saharan Africa, the species is still numerous and even thriving in marginal habitats where other large cats have disappeared. Populations in North Africa may be extinct. Data on their distribution in Asia are not consistent: populations in southwest and central Asia are small and fragmented; in the northeast, they are critically endangered. Luckily, in the Indian subcontinent, Southeast Asia, and China, leopards are instead still



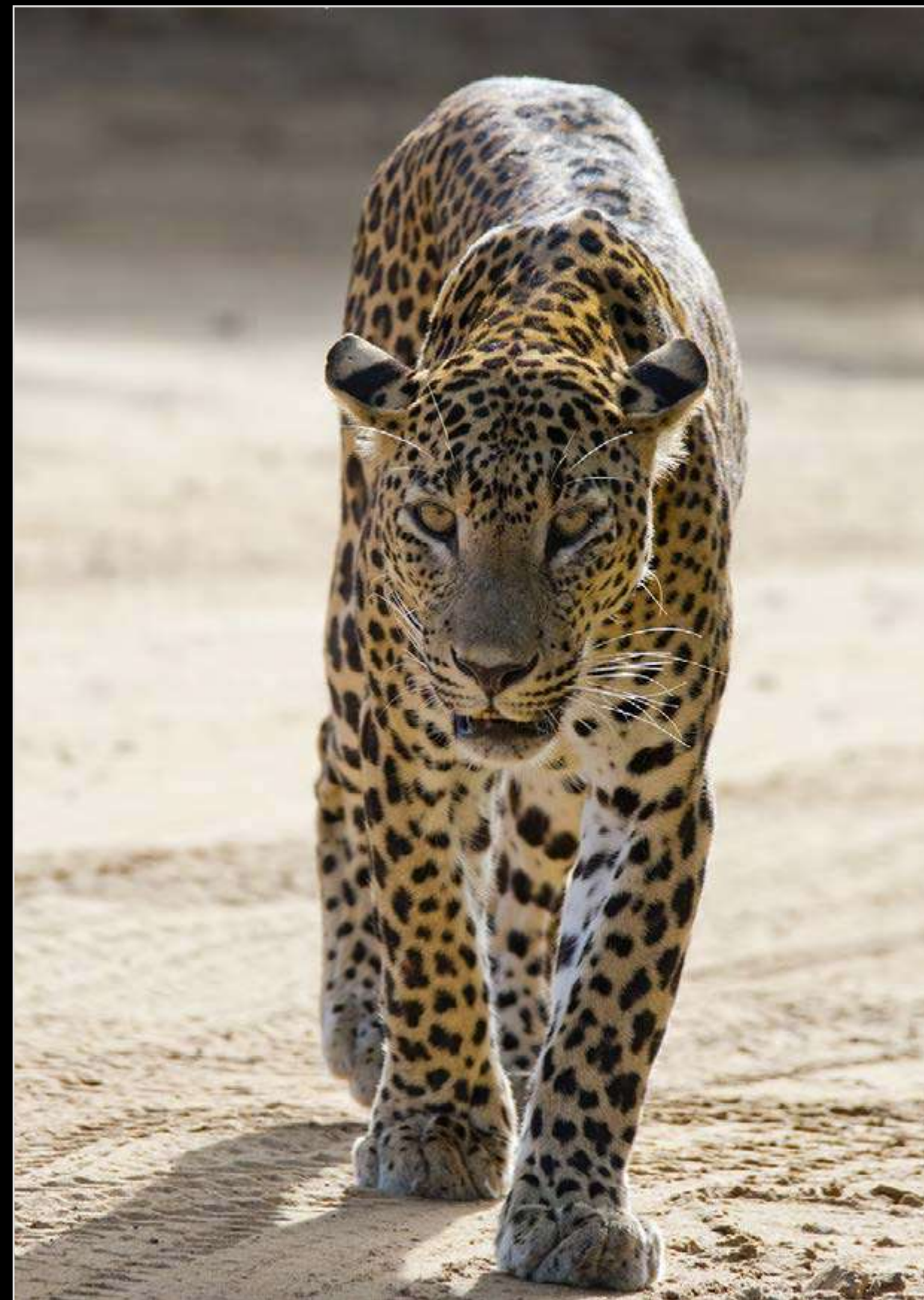
When in Yala National Park, Sri Lanka, one can occasionally admire leopards sleeping, relaxing or surveying their territory while on the enormous, smooth granite boulders which are one of the Park's most typical visual landmarks. It takes some luck - but when it happens, the results can be spectacular.

relatively abundant. Of the species as a whole, its numbers are greater than those of other *Panthera* species, all of which currently face much more worrying conservation concerns. This is because leopards are exceptionally adaptable: although associated primarily with savanna and rainforest, populations thrive anywhere in the species range where grasslands, woodlands, and riverine forests remain largely undisturbed. In the Russian Far East, they inhabit temperate forests where winter temperatures reach a low of -25°C (-13°F). They are equally adept at surviving in some of the world's most humid rainforests and even semi-arid desert edges. Leopards in west and central Asia try to avoid deserts, areas with long-duration snow cover and areas that are near urban development; in India, leopard populations sometimes live quite close to human settlements, in semi-developed areas and even inside large and heavily populated cities such as Mumbai. Due to the leopard's superlative stealthiness, people however often remain unaware that big cats live in nearby areas. At the end of the day, the leopard's spectacular success in the wild is due to its well camouflaged fur, its opportunistic hunting behaviour, broad diet and strength to move heavy carcasses into trees, its ability both to adapt to various habitats ranging from rainforest to steppe and - if needed - to run at speeds up to 58 kilometres per hour (36 mph).



Panthera pardus pardus

A beautiful adult male of the nominate African subspecies from the Greater Kruger area, South Africa. The alert stance is due to a herd of impalas grazing nearby.

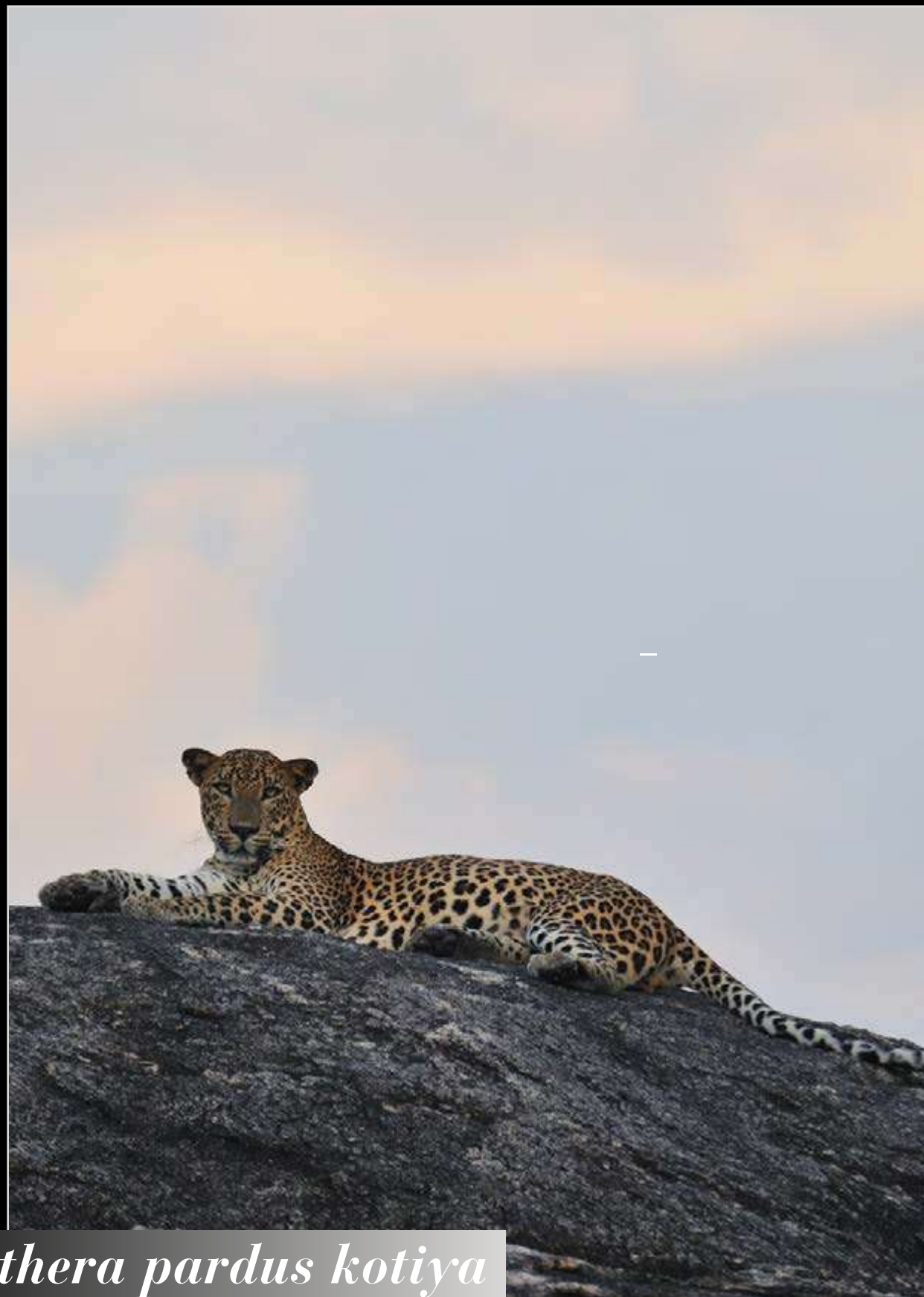


Another large *kotiya* male strides towards us and our friend and guide Mevan Piyasena along a dust trail in Wilpattu National Park, Sri Lanka.

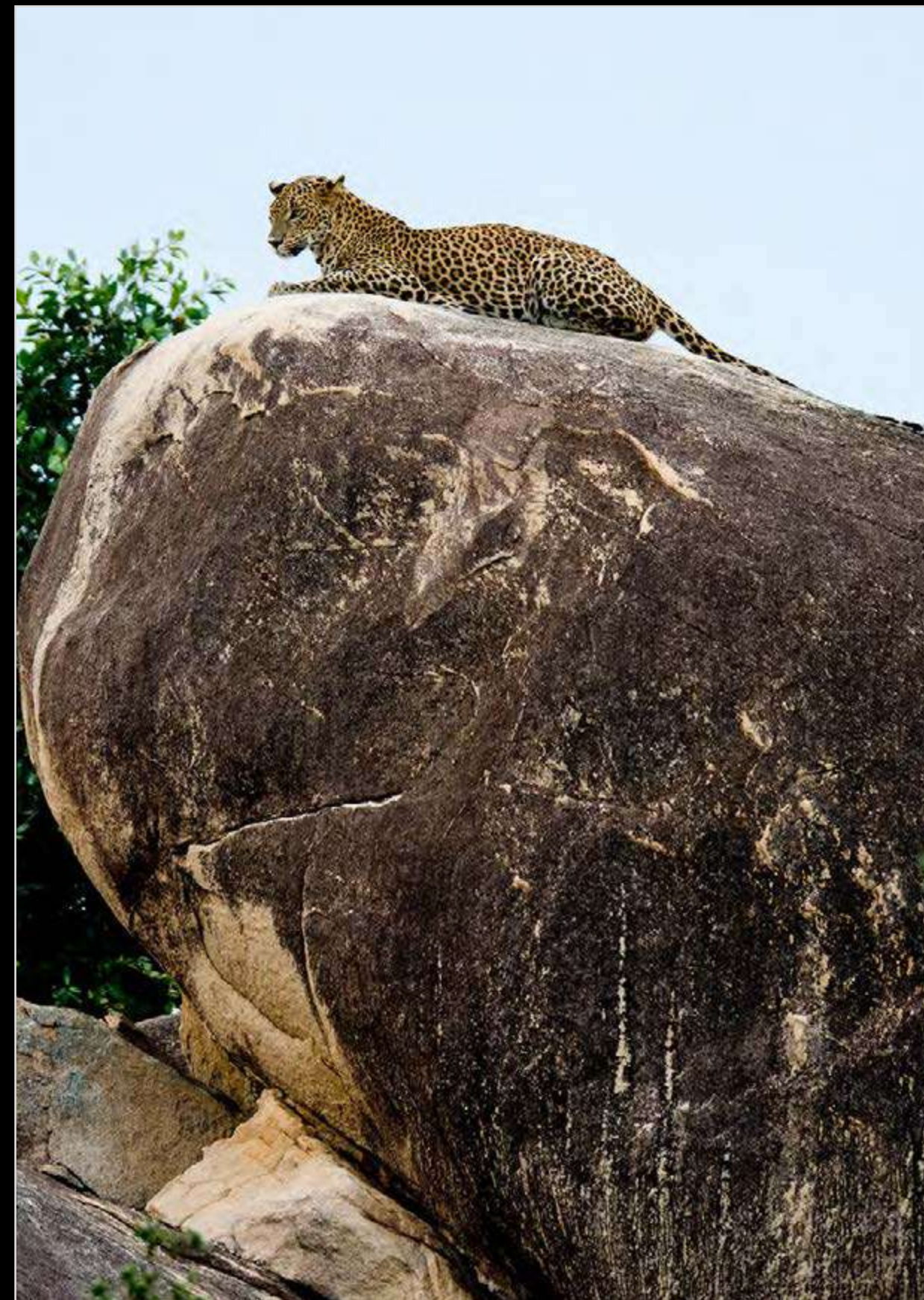


Panthera pardus kotiya

Not all adult leopards are always necessarily sensuously graceful and elegant - this enormously powerful, battle-scarred veteran of many territorial battles, locally known as Shamu, has long reigned supreme as the ruler of its range in Yala National Park, Sri Lanka. Here it belligerently protects its wild boar prey from the photographer.



Panthera pardus kotiya



Prominent rocky outcrops and boulder-strewn slopes - both in Africa and Asia - are the favorite haunts of leopards where these stealthy predators are present. These two beautiful females were photographed - the one at left at dawn, the one at right just before sunset - on the titanic granite boulders strewn across Yala National Park, Sri Lanka.



An adult female Sri Lankan leopard - and the mother of three cubs - is spotted among the Yala shrubbery as she carries a freshly killed Spotted deer *Axis axis* fawn to her progeny waiting in the bushes. Notice that she has already partially eaten the stomach of her prey, no doubt to get back some much-needed energy after the hunt. Raising cubs is a very tough job for leopards.



Panthera pardus fusca

The Indian leopard subspecies *P. pardus fusca* is native to the Indian Subcontinent. It is widespread in India, Nepal, Bangladesh; Pakistan, Nepal and Bhutan, but it is now extinct in China. It is somewhat smaller and usually with a less vibrantly colored coat than its Sri Lankan relative. This subadult was photographed in Tadoba National Park, Maharashtra.



Panthera pardus kotiya

A rare image of an adult Sri Lankan leopard pensively contemplating the wide expanse of the Indian Ocean from its rocky throne by the beach. It is the possibility of such unique encounters and extraordinary photographic opportunities which make Yala and Wilpattu National Parks our hands-down favorite destinations for wild, non human-habituated leopard sightings.

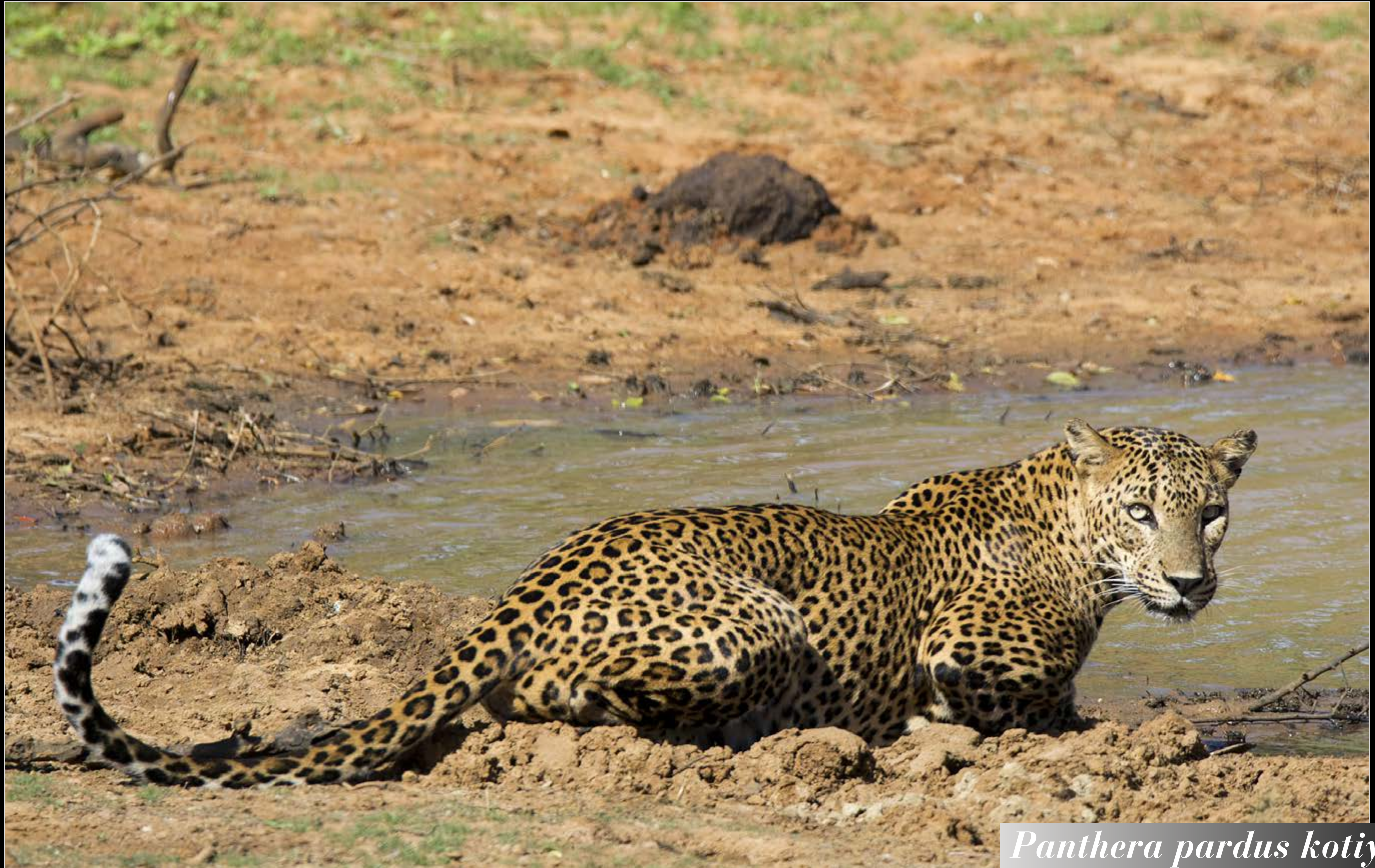


Panthera pardus kotiya

An adult male's yawn reveals the impressive canines of the leopard. These felines - unlike lions - are "clean" killers, usually subduing their prey and administering the death-bite in a matter of seconds. This is probably due to minimize the chance of being wounded by the struggling victim, as leopards hunt alone and are of a relatively small size despite being immensely powerful.

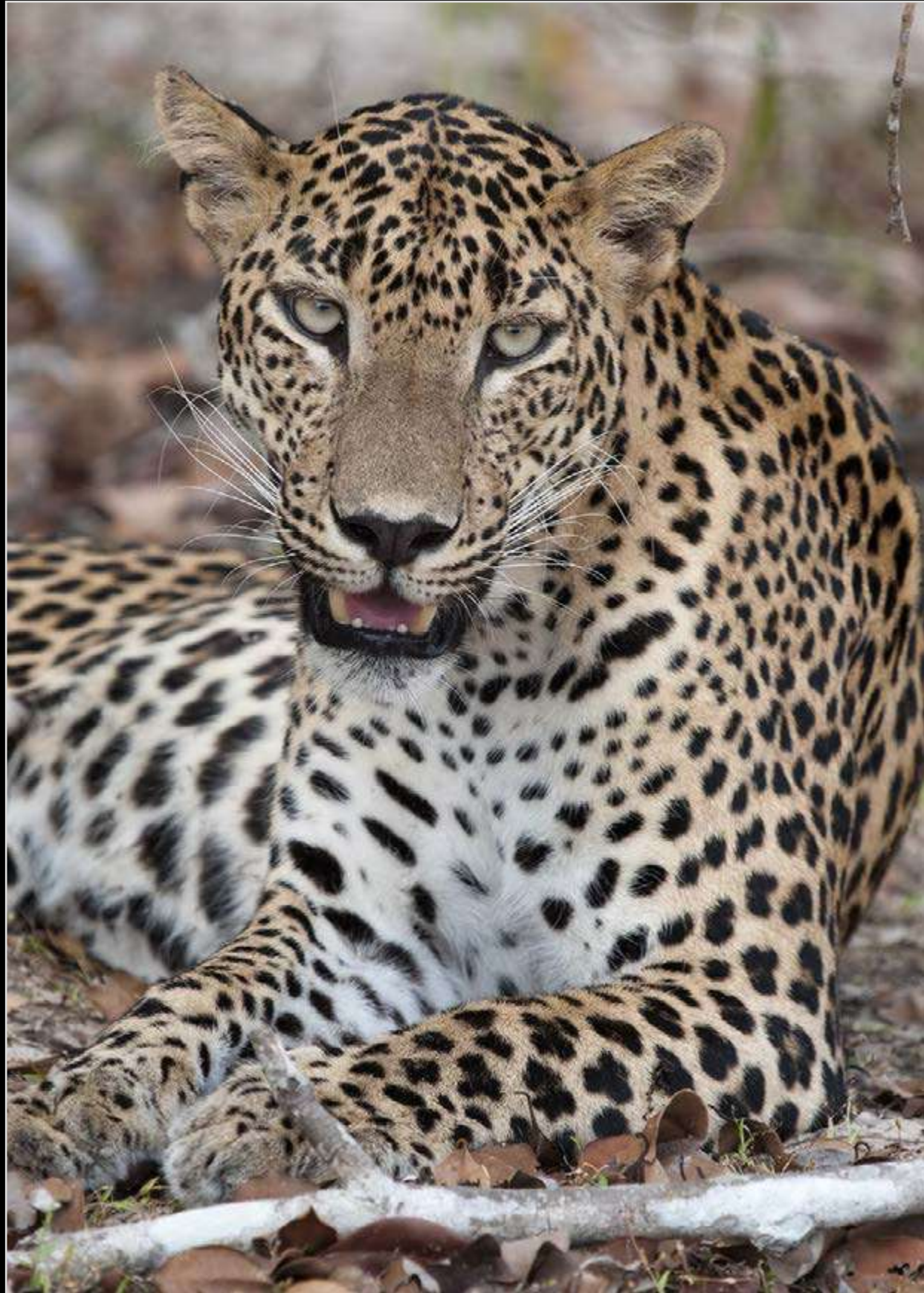


Another rare sight as an adult mother (on the left) and her two sub-adult cubs rest on a sand trail in the late afternoon golden light in Wilpattu National Park, Sri Lanka. The cubs begin to follow the mother on hunts when they are around three months old; at one year, leopard young can probably fend for themselves, but remain with the mother for 18–24 months.



Panthera pardus kotiya

Visibly annoyed by the soft clicking of the cameras while drinking from a puddle, a huge adult female interrupts her lapping to glare at us. Leopard observation often takes a lot of patience - we and our guide Mevan Piyasena had to wait for almost eight hours in the sun in Yala to finally enjoy what turned to be a brief encounter and a wonderful photo opportunity.



Leopards avoid people, but humans may occasionally be targeted as prey. Healthy leopards prefer wild prey to humans, but injured and sickly ones or those with a shortage of regular prey may resort to hunting humans and become habituated to it. In India the "Leopard of Rudraprayag" killed more than 125 people in 1926; the "Panar Leopard" killed more than 400 in 1910.



Panthera pardus kotiya

An adult male of the Sri Lankan subspecies in its prime patrols its territory in Wilpattu NP. The leopard is a carnivore that prefers medium-sized prey with a body mass ranging from 10–40 kilograms (22–88 lb), but prey as heavy as 150 kilograms (330 lb) may be hunted and successfully taken down if larger competitors such as lions or tigers are absent. Dogs are a choice prey item near villages.



Panthera pardus kotiya

Leopards tend to be generally nocturnal, but in West African, Indian and Sri Lankan forests many individuals have been observed to be largely diurnal and hunting during twilight, when their prey animals are active. Leopards are active mainly from dusk till dawn, and rest for most of the day and for some hours at night in thickets, among rocks or on tree branches.



The leopard is solitary and territorial, as are several other felids; individuals associate appreciably only in the mating season, though mothers may continue to interact with their offspring even after weaning. Mothers have been observed sharing kills with their offspring when they can not obtain any meal. At left, a young individual marks its territory.



Leopards have been observed walking 1–25 kilometres (0.62–15.53 miles) across their range at night; they may even wander up to 75 kilometres (47 miles) if disturbed.

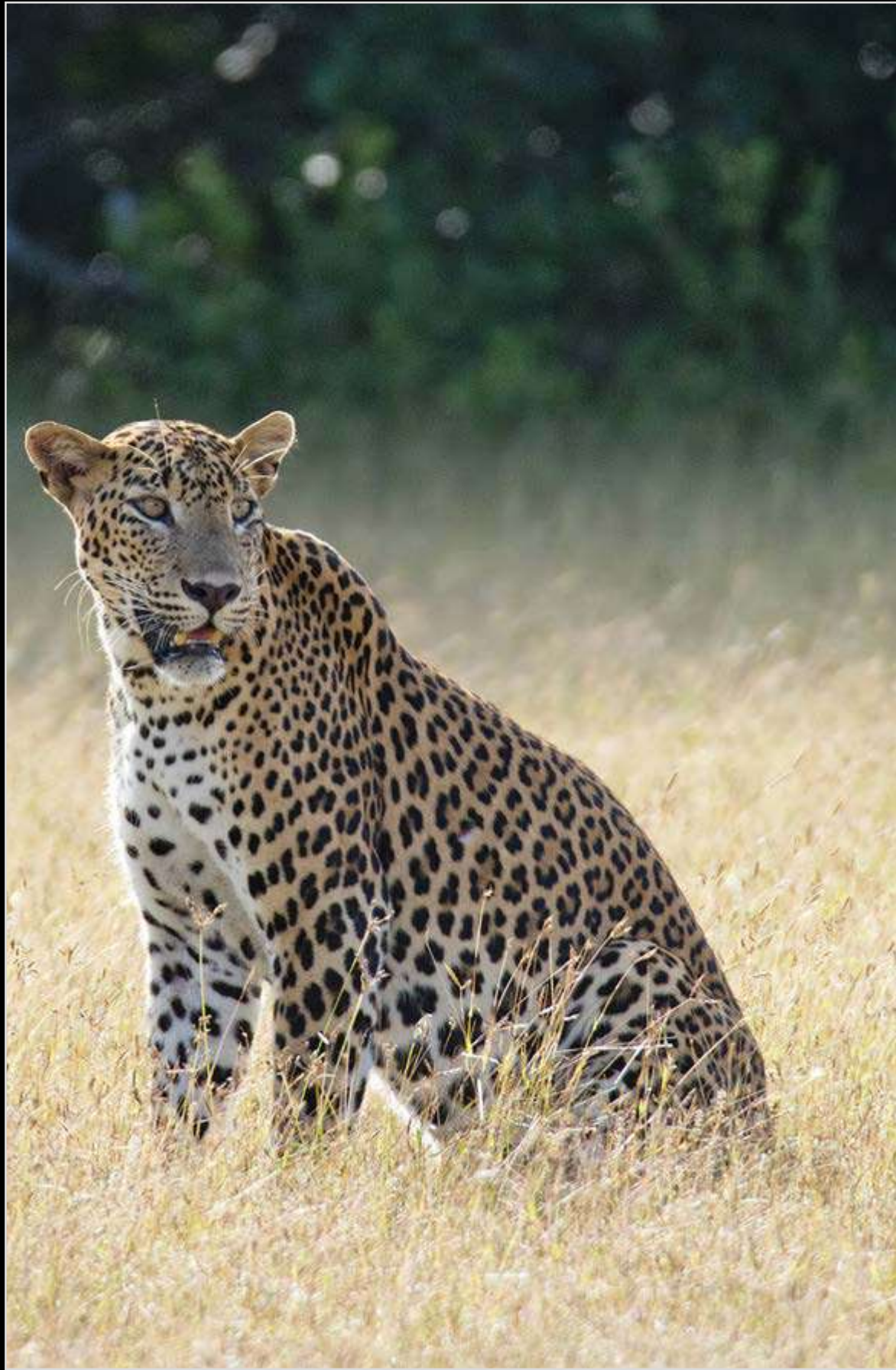


The leopard depends on its acute hearing and vision for hunting. Taking advantage of the superb camouflage offered by its spotted coat, it will stalk the prey and approach as close as possible (within 5 metres) to the target, to finally pounce on it and kill it by suffocation. Small prey are killed with a bite on the back of the neck, while larger animals are held strongly by the neck and strangled.



Panthera pardus pardus

The African *P. pardus pardus* is the most widespread subspecies of the leopards: we met this magnificent male at dawn, while on safari in the Greater Kruger, South Africa. A little-known fact is that the typical, unspotted rosettes of the leopard coat are circular in eastern African populations, but tend to be squarish in southern Africa and larger in Asian populations.



Pale yellow to yellowish brown or golden (except for the melanistic forms), the coat is spotted and rosetted; spots fade on the white underbelly and the insides and lower parts of the legs. Rosettes are most prominent on the back, flanks and hindquarters, and their pattern is unique to each individual. The white-tipped tail, 60–100 centimetres (24–39 in) long, white underneath, displays rosettes except toward the end, where the spots form incomplete bands.



Panthera pardus pardus

A beautiful African leopard female walks across a gravel road in the early morning light of Kruger NP, South Africa. Sexually dimorphic, leopard males are larger and heavier than females, with a noticeably bigger and stronger head. Males weigh 37–90 kg (82–198 lb), females weigh 28–60 kg (62–132 lb), and the maximum recorded weight for a leopard is 96.5 kilograms (213 lb).



Panthera pardus kotiya

A young Sri Lankan sub-adult - clearly in a playful mood - looks quizzically at a butterfly flying above. Leopard gestation lasts for 90 to 105 days and cubs are usually born in a litter of 2–4, with a mortality estimated at 41–50% during the first year of life; the average typical life span of a leopard in the wild is between 12 and 17 years.

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"My experience was EXCEPTIONAL! The trip exceeded my expectations in all areas. I hoped to get in a position to see owls and couldn't possibly have been happier. It was abundantly clear that David invested significant time and effort prior to the arrival of the group in scouting the area around Quebec and Ontario. He knew exactly where to go to find every species of owl. His knowledge and efforts were very much appreciated by the entire group. My primary objective was just getting in a position to photograph owls and was not expecting much in the way of photographic instruction. I was very pleasantly surprised and was very happy with the instruction. Prior to the trip I had a love/hate relationship with auto focus as it applies to photographing birds in flight. I've struggled with this for years. While I have a lot more to

learn, and need to work at honing my skills, the trip with NPA helped me tremendously in being able to photograph birds in flight. Photographing birds in flight was my main objective. Prior to the trip I was nearly clueless in comparison to my skills after the trip. You can also see from my bird list that I found the trip productive from a birding perspective as well".
Kevin McCarthy, USA

"I recommend NPA workshops! The level of services by workshop leaders was excellent. Quality of photographic instruction was exceptional and they

were always on hand to solve issues that arose, and I had more than my share of equipment issues. Quality of wildlife provided was good and I was amazed at how easily the subjects accepted new setups provided. Locations visited were right on for the species targeted. My most memorable moment was using the flash setups the first time and capturing an image of the Swordbill Hummingbird. I feel that my level of photography has improved with the custom functions that were set up on my camera for me and the resulting images that I obtained. Overall experience and

expectations were achieved and we were fortunate to have a very compatible group on our tour, which made it very enjoyable. This was my first workshop and I would recommend them to friends".
Rosemary Harris, Canada

"Great trip, great experience and great workshop leader. Great opportunity for capturing images of magnificent and uncommon (in southern USA) birds. Organizers contribute to great group dynamics and superb attitude. Cool techniques".
Eric Grossman, USA

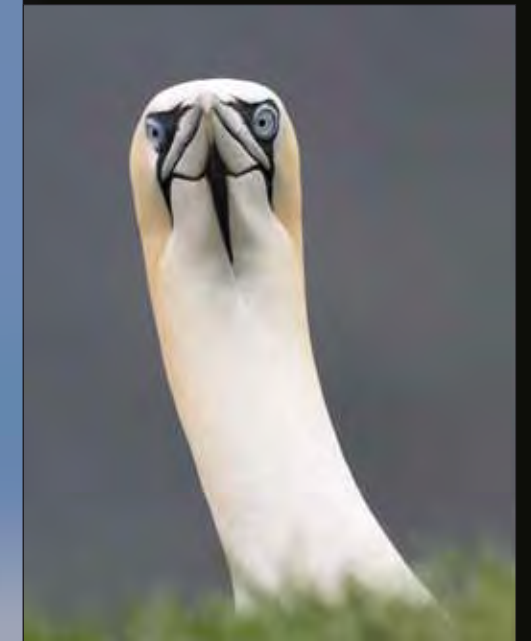
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Trip Report

THE HUMPBACK WHALES OF TONGA

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DIVING WITH GIANTS

Snorkelling in the waters of the Western Pacific ocean with courting and mating *Megaptera novaeangliae*, one of the largest living creatures of the planet



The Heat Run

A freediving photographer faces a trio of gigantic Humpback whales *Megaptera novaeangliae* in the Western Pacific oceanic waters off Tonga. Here groups of males - up to fourteen individuals at a time - which have swam over 6000km from their rich feeding grounds in the Antarctic annually compete to mate with the females in heat.



Humpback whale *Megaptera novaeangliae*
Mother, calf and a protective adult escort. A fully mature humpback whale can be as long as 14 meters and weigh up to 35 tons - a truly gigantic animal.

TEXT AND PHOTOS
BY DON SILCOCK

I had read a lot about them, spoken to numerous people who had been in one, but have to admit I was pretty tense sat on the side of the speeding boat about to experience the real thing...

My three weeks in Tonga were almost over and this was looking like the final roll of the dice if I was to photograph the full gamut of humpback whale "encounters" as they are called – interactions in the water with one of the largest creatures in the world. The heat run is the most intense of all the encounters and is initiated when a single female humpback whale signals that she may be ready to mate by repeatedly slapping her huge pectoral fins on the surface of the water. For any male whales in the area this is the siren call they have been waiting for, in fact it's the basic reason they have swam over 6000km from their rich feeding grounds in the Antarctic to the Tongan archipelago in the western Pacific Ocean. But... to win the grand prize and be the one to mate with the lone female the male humpbacks know they will have to

duel with and outwit all the other hopeful aspirants. It is a truly Darwinian contest that only the strongest and most capable males have a chance of winning - thus ensuring the purity of the blood-line. Heat runs with up to 14 male whales chasing a single female have been observed. Do the math... each of those animals is around 14m long and weighs about 35 tons, which means there is a potential physical presence of over 500 tons of large mammals swimming at speeds that can reach 15mph and all focused on one thing – procreation.

Suddenly the engines stop and the skipper is shouting at the top of his voice "*in position - go, go, go*" and go we do - straight in to the deep blue water, camera housings held in vice-like death-grips and in to the path of the heat run. To say that it is a seminal experience would be something of an understatement... I can honestly say that in over 30 years of diving I have never seen anything quite like it! Positioned properly you will be in the water about 100m in front of the whales as they appear

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**Mother and calf**

The bays on the north-western side of the Vavu'a group are sheltered most of the time, providing many calm water areas for the humpback mothers and their calves to gather. The gestation period of humpback whales is 11.5 months and the pregnant females migrate all the way back to Tonga to give birth in the warm, sheltered waters of the archipelago.

**Courtship and competition**

The so-called heat run is the most intense of all the encounters a freediver can have with the Humpback whales in the waters of the Tongan Western Pacific archipelago, and it is initiated when a single breeding female signals that she may be ready to mate by repeatedly slapping her huge pectoral fins on the surface of the water.



The fight is on

During heat runs competing males attempting to mate with an available female will often dive down and blow a bubble curtain up in to the path of another male to try and disorientate him.

out of the blue looking like a small armada of submarines, coming right towards you with the female in the lead and the males in a pack behind. The males are jostling and maneuvering for position with some trying direct charges at their rivals to try and knock them out of the race, while others will try a more covert approach by diving down and blowing a bubble curtain up in to the path of a male to try and disorientate him. There is a lot of kinetic energy going around and the heat run can go on for hours till it is all dissipated and the female is finally alone with the winner, which means that if you are lucky and have a good skipper you can get multiple “drops” as the whole spectacle unfurls before you.

I had wanted to go to Tonga for a few years having heard great things about the humpback encounters, but it’s not the easiest thing to organize and the country is a long way from everywhere. I finally did it on my third attempt and last year I spent nearly three weeks in Neiafu, the main town in the Vavu’a island group in the north of the archipelago, where the majority of the whale watching takes place. In the whale season, from mid-July through to early October, the boats leave Neiafu’s scenic Port of Refuge harbor every day but Sunday (Tonga is very religious and by law nothing happens but church on a

Sunday...) to search out the whales that gather in and around the 41 islands that make up the Vavu’a Group. The prevailing winds are from the south-east, which means that the bays on the north-western side of the Vavu’a group are sheltered most of the time providing many calm water areas for the humpback mothers and their calves to gather. The gestation period of humpback whales is 11.5 months and the pregnant females migrate all the way back to Tonga to give birth in the warm, sheltered waters of the archipelago. Those sheltered bays provide the perfect spots for the mothers to recover their strength after giving birth and feed their young calves as they prepare it for the journey south again at the end of the season. The bays also provide reasonable protection from the many predators whose *modus operandi* is to separate the vulnerable calf from its mother and then kill and eat it. What this all means for whale watching is that even on the worst weather days it is usually possible for the whale-watching boats to go out and look for mother and calf pairs in the bays, but if the wind changes it means the large lagoons and open waters to the south can be accessed and that is where the heat runs usually happen! So the chances are always pretty good for a whale encounter – be it the intensity and incredible excitement of a heat run or the

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Mother and calf

The sheltered bays provide the perfect spots for the mothers to recover their strength after giving birth and feed their young calves as they prepare it for the journey south again at the end of the season. The bays also provide protection from the many predators whose *modus operandi* is to separate the vulnerable calf from its mother and then kill and eat it.



Bringing Up Baby

Newly born calves are 3-4m long, weigh up to 1 ton and are a very impressive animal in their own right, even though they may appear quite small compared to their mothers.

heart-warming observation of a mother and her calf. In between there are the close encounters with the mature “escort” whales who guard and protect the mothers and calves by running interference between them and the perceived threat (you...), which provides for some stunning photo-opportunities. Or the “competitive groups” where an interloper tries to force out an incumbent escort whale, producing some spectacular interactions as the candidates fight it out and the mother does her best to protect her calf. Then there are the “singers” – the male whales who produce the incredible whale songs that travel huge distances underwater and are believed to play a part in the mating process. Humpbacks don’t have any vocal chords, but the singers are able to produce their complex “songs” by circulating air through the various tubes and chambers of their respiratory system while in a vertical position in the water. The singers remain almost completely motionless in a vertical position when this happens and they appear to enter an almost zen-like state.

Finally, there are the encounters with “playful calves” which are probably as dangerous as in-water whale watching in Tonga gets...Newly born calves are 3-4m long, weigh up to 1 ton and are a significant animal in their own right even though they seem quite small compared to their mothers. Initially they are quite timid

and the mothers are very protective, but consuming as they do up to 200 litres of its mother’s fat-rich milk per day allows the calves to grow quickly and as they do they start to demonstrate playful behaviour at the surface such as breaching and tale slapping. It is believed that this is to strengthen the calf in preparation for the long migration south and so the mother will allow this cavorting around while watching for potential predators. The calves are very inquisitive and may come over to check you out and although not aggressive in nature the calves have very little spatial awareness, unlike the mature whales that always seem to know exactly where you are. So the risk is that you may get side-swiped by the calf’s pectoral fin or fluke as it turns or, even worse get caught in a tale slap! But the risk is well worth it in my opinion as the interaction with the calves is a sheer delight as their youthful energy and enthusiasm seems to positively radiate and makes such encounters truly memorable.

My three weeks in Tonga flew by and I learned so much about these incredible creatures from seeing them in the water and then researching the behavior I had observed. ●

Don Silcock’s images, articles and extensive location guides can be found on-line on his website www.indopacificimages.com

**Enormous escort**

The whales of the Tongan tribe are but a small part of the estimated 60,000 whales that make up the current southern hemisphere humpback population. Incredibly that population had been reduced to less than 5,000 by the time commercial whaling was formally banned in 1986 - taking the humpbacks of the southern hemisphere to the very brink of extinction.



Playful calf

Pregnant female humpback whales feed on up to 2 tons a day of schooling small fish and Antarctic krill (above right). Krill are considered one of the most successful and abundant species on the planet and are a critically important primary element in the Antarctic food-chain.



The Annual Migration of the Humpback Whales of Tonga

Winter comes early in the Antarctic and by May, as the average day-time temperature falls to around -20°C , the Humpback whales of the southern hemisphere know the time is approaching for them to head north in one of the world's largest and longest animal migrations.

The cold waters of the Southern Ocean that surround the Antarctic ice cap are an incredible crucible of marine life which sustains an amazing variety of creatures and the humpbacks have spent the summer months gorging on the huge swarms of krill that abound there. Krill are considered one of the most successful and abundant species on the planet and are a critically important primary element in the Antarctic food-chain. They thrive in the Antarctic summer because of the sheer abundance of phytoplankton - tiny organisms that live near the surface of virtually all oceans and exist by photosynthesizing light energy from the sun



Whale sightings from the surface boats taking divers at sea.

into chemical energy that sustains them. The fine balance of a profusion of phytoplankton creating an equal abundance of krill, which in turn allows the southern humpbacks to restore their body mass in preparation for their mammoth annual migration, is one of the many wonders of the Antarctic.

For the whales of the "Tongan Tribe" their migration involves a journey of over 6,000 kms which takes them up the east coast of New Zealand in to the waters of the South Pacific and then along the sub-sea volcanic arch that leads to the archipelago of 170 plus islands that forms the Kingdom of Tonga. These epic migrations are integral to the humpback whale's cycle of life and their survival as a species, as the waters of the Antarctic are too cold for newly-born calves to survive, so the pregnant females swim all the way to Tonga to give birth in the warm waters and sheltered bays of the of the Tongan islands. Once they leave their Antarctic feeding grounds there will be very little to eat – which is why they must bulk up in preparation by consuming up to 2 tons of

schooling fish per day, building up a 150mm thick layer of rich, fat blubber which will sustain them through the winter months ahead. Bulking up is particularly critical for the pregnant females who lose around 25% of their body weight by the time they have given birth, nursed the calf in Tongan waters and then guided it back to the southern feeding grounds. Come spring when the return journey begins that order is reversed with the pregnant females leaving first and the mothers and calves departing last. That first passage south, and the return journey some 5 to 6 months later, is when the calf learns the long migration path between the Antarctic and Tonga it will use for the rest of its life. Each winter the humpback whales visit Tonga in a cycle of life characterized by a remarkable annual migration north from their feeding grounds in the Antarctic to the 170+ islands of the Tongan archipelago where they breed and give birth.

The whales of the Tongan tribe are but a small part of the estimated 60,000 whales that make up the current southern hemisphere humpback population.

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Playing at the surface

Recent appraisals have put the global humpback population at around 100,000 which is 80% of the pre-whaling estimate of 125,000. The recovery has generally been so strong that some 45 years after they were formally protected, NOAA is proposing removing most of the global population groupings from the endangered list.



A loving mother

In Tonga the humpback population is well below the 80% global average and current estimates put the Tongan tribe, as it is often referred to, at around 1000 whales in total - some 50% of the pre-whaling guesstimate. The tribe was one of the last to be hunted by the commercial whalers and also suffered from the country's domestic whaling industry.



Singing in the blue

Male whales will often produce incredible whale songs that travel huge distances underwater and are believed to play a part in the mating process.

Incredibly that population had been reduced to less than 5,000 by the time commercial whaling was formally banned in 1986 - taking the humpbacks of the southern hemisphere to the very brink of extinction! Whaling was so devastating because humpbacks are creatures of habit... Those in the southern hemisphere return to the same feeding grounds around the polar ice-cap every summer to gorge on the huge schools of krill that abound there. Then, come May as winter starts to fall on in the Antarctic, they start to migrate north to their mating and breeding grounds using the same migratory corridors. A similar pattern is repeated across all of the independent but co-existent groups that make up the southern population and as the Tongan tribe starts its journey north, so do the much larger eastern and western Australian, South American, South African and Hawaiian groups. For the whalers, as the Americans would say, this was like shooting catfish in a barrel! Not only did the whalers target the humpbacks in their feeding grounds and migratory corridors they also hit them in their breeding grounds by taking advantage of the strong bond between the fast moving, deep-diving, slow breathing mothers and their surface-bound calves that need to breach on the surface and breathe every few minutes.

Nature however has an incredible potential to heal itself when we humans allow it to do so, and the recovery of the southern and northern hemisphere humpback populations (which incidentally never meet, because of the polar opposite nature of the seasons) is testament to that ability. Recent appraisals have put the global humpback population at around 100,000 which is 80% of the pre-whaling estimate of 125,000. The recovery has generally been so strong that some 45 years after they were formally protected under the federal Endangered Species Act, NOAA the US National Oceanic and Atmospheric Administration, is proposing removing most of the global population groupings from the endangered list.

In Tonga however while the humpback population has recovered, it is well below the 80% global average and current estimates put the Tongan tribe, as it is often referred to, at around 1000 whales in total - some 50% of the pre-whaling guesstimate. The Tongan tribe was one of the last to be hunted by the commercial whalers (there were richer pickings elsewhere...) and also suffered from the disproportionate impact of the country's domestic whaling industry. Although small-scale and semi-traditional in nature, the Tongan whalers used large



Jostling males join the fight

Males competing for the right to mate with an available female in the course of the so-called “heat run” are jostling and maneuvering for position, with some trying direct charges at their rivals to try and knock them out of the mating race. The mother on the right already has a baby.

canoes and handheld harpoons to hunt humpbacks and their only way to harvest the meat, oil and bones of the captured whale was to tow it back to shore. Practically this meant that the only whales they stood a chance of killing were the small 2-3 ton calves, because if they harpooned a large humpback they would be the one being towed – probably far out to sea! Already suffering badly from the commercial whalers, hunting the calves had a double-whammy impact on the already critically small numbers of the Tongan tribe, a situation that was tacitly acknowledged when the King of Tonga formally banned whaling completely in 1978 – 8 years before the rest of the world did. The decision was unpopular at the time, but given the rebound in the numbers of the Tongan tribe from their 1978 low of around 250 whales and the significant impact of whale watching on the domestic economy, there is little doubt that decision was a very wise and far-sighted one. It has been estimated that a single humpback whale returning to Tonga every year could generate US\$1 million in whale-watching revenue over the course of its 45-year lifetime leaving little doubt that a live whale is considerably more valuable than a dead one. D.S. ●

THE WORLD'S BEST PLACE TO SWIM WITH HUMPBACK WHALES



Neiafu Harbor, Kingdom of Tonga, Western Pacific.

THE KINGDOM OF TONGA

The South Pacific nation of Tonga consists of over 170 islands stretched out across an 800 km long archipelago on the western edge of the Pacific Ocean area known as the Polynesian Triangle. An interesting country with a rich history and very strong culture, Tonga is one of the few places in the world where it is possible to swim with the humpback whales that migrate to its waters every year from their feeding grounds in the Antarctic.

Physically located about 1600 km north-east of New Zealand, the Tongan islands fall in to three main groupings that occupy an overall land area of just 750 sq km – scattered across a total area of some 700,000 sq kms. Geologically Tonga is an interesting mixture of the volcanic and the non-volcanic. The archipelago lays roughly



Sunday scenes in Tonga - the only monarchy left in the Pacific.

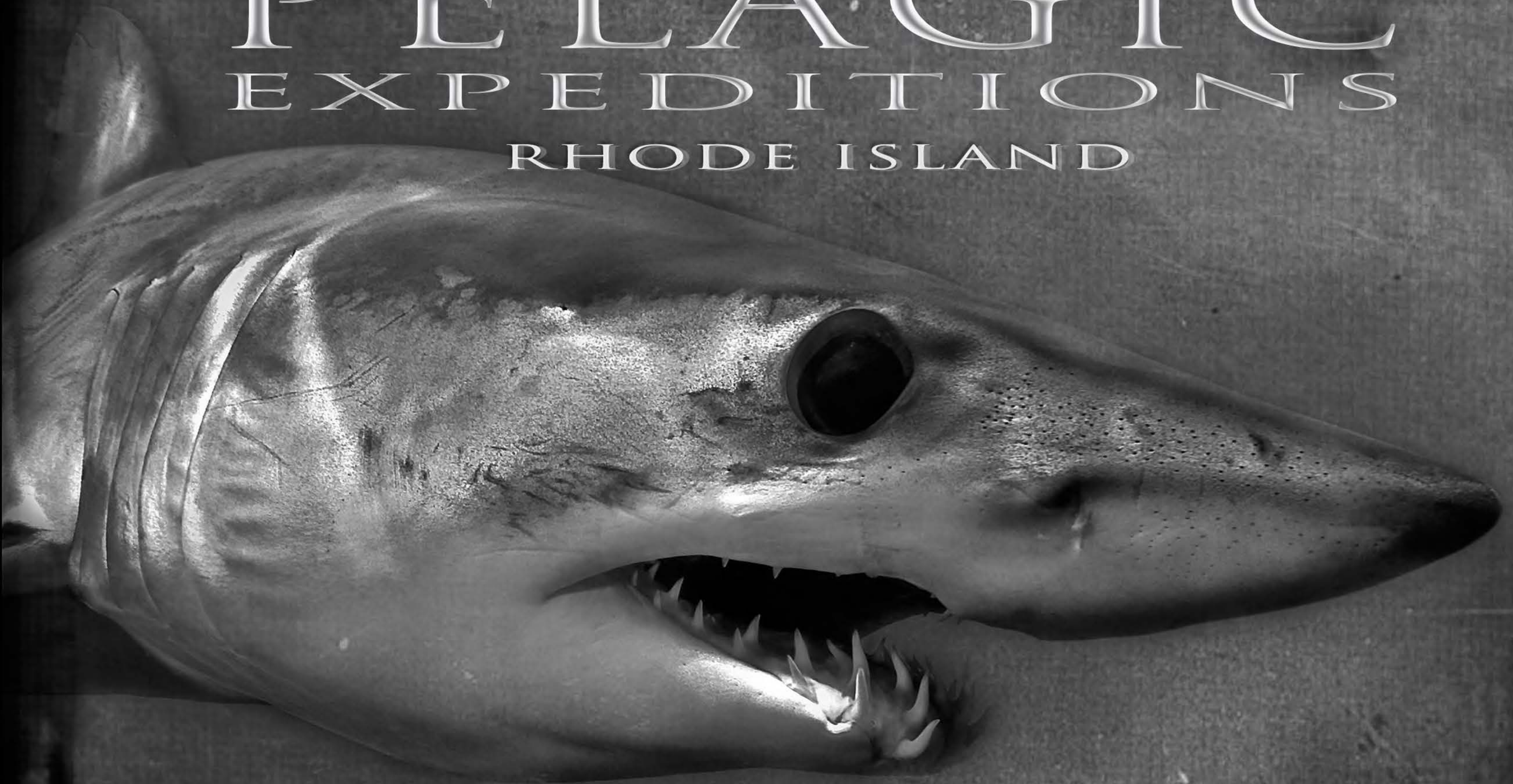
north to south and is about 70 kms across at its widest point. In the south is the Tongatapu Group, which includes the capital of Nuku'alofa on the main island of Tongatapu and the remarkable island of 'Eua to the east, while in the middle of the archipelago is Ha'apai Group and to the north is the Vava'u Group.

Culturally Tonga is very much Polynesian and the original settlers are believed to be the Austronesian Lapita people of Southeast Asia. The Lapita settled in the islands of what are now the independent countries of Tonga, Samoa and Fiji, somewhere around 3000 BC. According to oral history, around 950 AD the Tu'i Tongan empire first emerged, which reached its zenith in the 12th century, stretching some 9500 kms across the Pacific Ocean from the tip of the Solomon Islands in the west to Easter Island in the east! The expansion of the Tu'i Tongan empire was enabled by their long-distance "kalia" double-canoes, which established the Tongans as the most advanced ship builders in Polynesia. These ocean-going vessels, with their big and distinctive triangular sails, reached lengths of over 25m and were capable of carrying 200 warriors, at speeds of up to 11 knots, across huge expanses of the Pacific. Numerous wars, internal dissent, assassinations and tyrannical rulers saw the Tu i Tonga empire slide in to serious decline in the 14th century and by the 16th century the party was over!

Unique among Pacific nations, Tonga has never completely lost its indigenous governance and the islands of the Tongan archipelago were united into a Polynesian kingdom in 1845. Tonga became a constitutional monarchy in 1875 and a British protectorate in 1900, then in 1970 it withdrew from the protectorate and joined the Commonwealth of Nations. Tonga remains the only monarchy in the Pacific.

The humpback whales are present in Tongan waters from the middle of June to early October and can be seen all over Tonga, but the Vava'u group of islands in the north of the archipelago is by far the most popular area to see them.

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A d v e r t i s e m e n t

The Parting Shot



This is not a semi-failed attempt at creating a good lion shot, but rather a good memory of a very surprising behavior we witnessed recently, as we drove across Moremi Game Reserve in Botswana with our friend and guide Phillip Conradie of [Africa Windows Safaris & Tours](#). This subadult lion *Panthera leo* and his sibling were lazily surveying their territory, lying on a slight raise in the middle of a huge grassy expanse, as hundreds of beautiful Red lechwe *Kobus leche* grazed more or less warily in

the background, their lustrous coppery coats shining in the midday sun. This dangerous Eden - one's typical African bush scene - suddenly took an unexpected turn as a mature, dashing Red lechwe male started strutting straight up to the now suddenly interested feline. Bracing ourselves for the hunting crouch in the tall grass, the mad dash and the kicking, bloody finale we all expected, we were instead surprised to see the lechwe walk up to and circle repeatedly the now disconcerted big cat, as if pro-

voking it to a fight. Such was the call of courting and mating, that the antelope was clearly showing off in front of its female partners, openly defying its sworn enemy as if showing everybody who was the boss there. And it worked! In front of the lion's and our own astonished gaze, the male lechwe completed its death-defying display a few times, no doubt congratulated itself for its own bravery, and trotted off nonchalantly, presumably to deservedly reap the prize of its quasi-suicidal display. ●

IN ANIMA MUNDI'S NEXT ISSUE No.26, 2nd Quarter, April 2017

LIFE IN THE DARK

Dante Fenolio's
look into
the abyss



**MEET
THE RHINO
LIZARD**
A Sri Lankan
endemic



TREASURES OF ASSAM

A trip to
north-eastern India's
Gibbon Wildlife
Sanctuary



FROGS OF COSTA RICA

Those amazing
dendrobatids



CAPE FUR SEALS

Namibia's highly
social pinnipeds

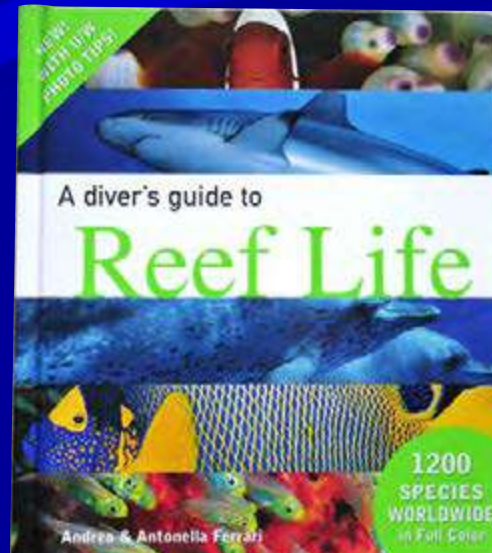
A Diver's Guide to Reef Life

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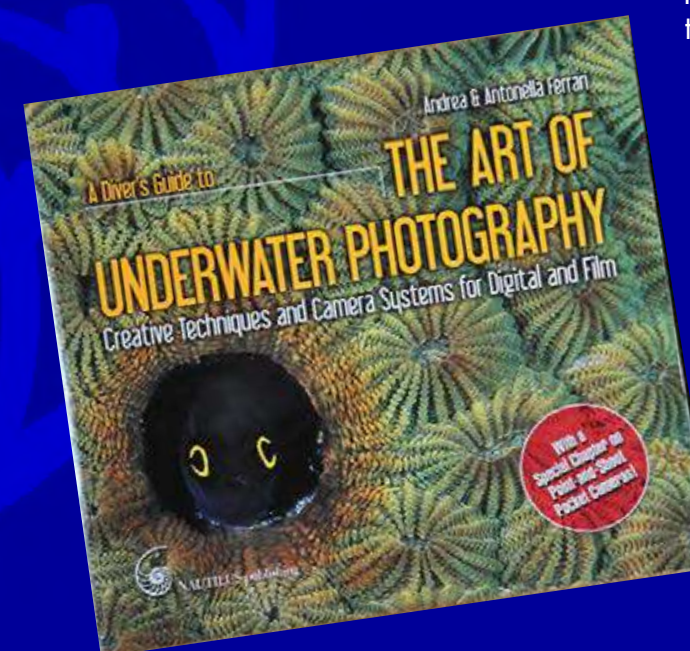
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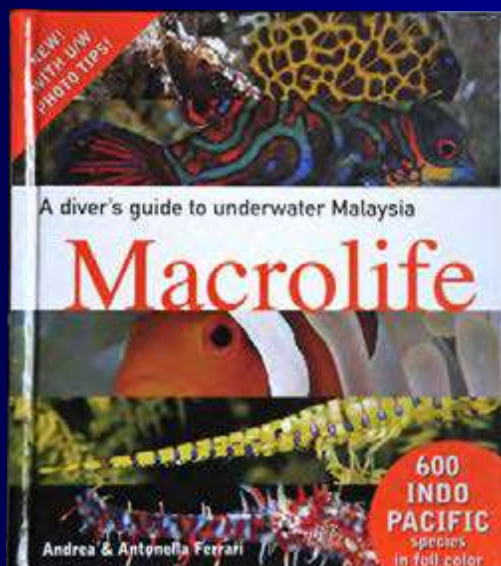
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