



ANIMA MUNDI

Adventures in Wildlife Photography

Issue 10, Year 3 - 2nd Quarter, April 2013

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ANIMA MUNDI

Adventures in Wildlife Photography

A new website for our third year

Welcome to a new issue of ANIMA MUNDI - *Adventures in Wildlife Photography*! Once again, there's plenty of wonderful imagery and fascinating narrative in store for you - we really enjoyed putting together this colorful, exotic issue during Northern Italy's coldest and bleakest months - truly a "Medicine for Melancholy" in the bitter winter months.

Start with our Scoop on page 4, and be amazed - as we have been when we first saw the photos - by our Australian contributor Heath Butler's find of a stunning snake-mimic caterpillar in the steaming rainforest of Peru; then proceed to page 8 for an in-depth and somewhat critical - but hopefully balanced - overview of one of the most celebrated destinations for wildlife photographers the world over, South Africa's Kruger National Park; after that, on page 60, be amazed by a truly unique spectacle as Italian photographer Claudio Pia braves snow-covered slopes to document the springtime, frenzied mating of Common frogs in the icy waters of a mountain pond; proceed then to page 76 for the amazing Personal Portfolio of Malaysian photographer Hock Ping Guek (better known as Kurt Orionmystery to his peers), a "macro maestro" specializing in the tiniest inhabitants of the South-East Asian rainforests; and finally, on page 88, let us take you diving in the warm, shallow waters of the Indo-Pacific reefs to be dazzled by the impossibly colorful world of nudibranchs, an otherworldly tribe of acid-filled, sex-starved sea slugs.

Once you're done reading, we invite you all to explore at will our new, fully upgraded home page at www.animamundimag.com - lots of new functions and surprises there, from regularly updated photo galleries to detailed expedition maps and from full keyed indexes to fascinating videos from our contributors worldwide. The new, multi-layered website also offers readers the option to flip through all issues directly online -

even if still we staunchly suggest to always download them in High Resolution and store them away for future reference. It will take some time and a lot of work, but we really hope the ANIMA MUNDI - *Adventures in Wildlife Photography* home page will one day become an essential, highly informative tool for all wildlife photographers and nature travellers.

On a final note, and as we successfully enter our third year of life, we'd love to share with you all a wonderful, truly touching comment about our magazine and work which we have received from Nancy Haast, wife and collaborator of the late, legendary founder of the Miami Serpentarium Laboratories **Bill Haast**, a man of vision and a true pioneer in snake understanding and conservation: "*Dedication to a worthy cause is shared by many; it is a gift from the heart given freely and often involves personal sacrifice, and whether the sacrifice is large or small, great credit and admiration belongs to all those who practice it each and every day. Every new year brings hope of better things to come, and they do; but for all those inevitable bumps in the road along the way, it is wonderful to have the images that you provide as a reminder of the great natural beauty all around us, even so. All the best for you and your family in 2013*". Could we ever ask for more?

We promise we'll do our best to keep up the good work - month-long trips to Madagascar, Namibia and Peru are in the pipeline for 2013, and fantastic contributions by several world-famous wildlife photographers and field researchers are scheduled for publication in the near future. There's lots of truly wonderful stuff being cooked for our next issues! In the meantime...

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



■ A bull African elephant *Loxodonta africana* from Kruger National Park - see our extensive feature starting on page 8.

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■ An alert and inquisitive
Black Mamba *Dendroaspis
polylepis* - one of Kruger
National Park's most
impressive species.

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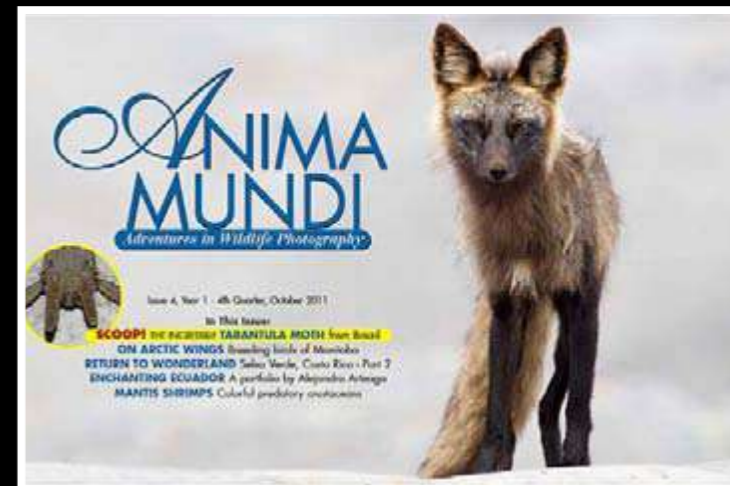
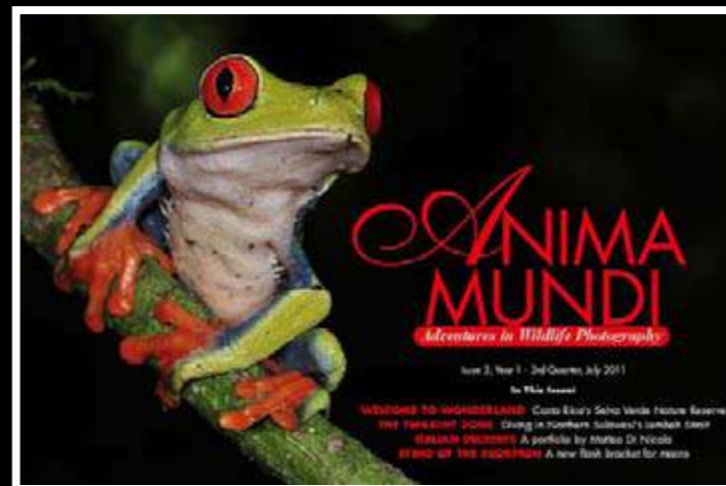
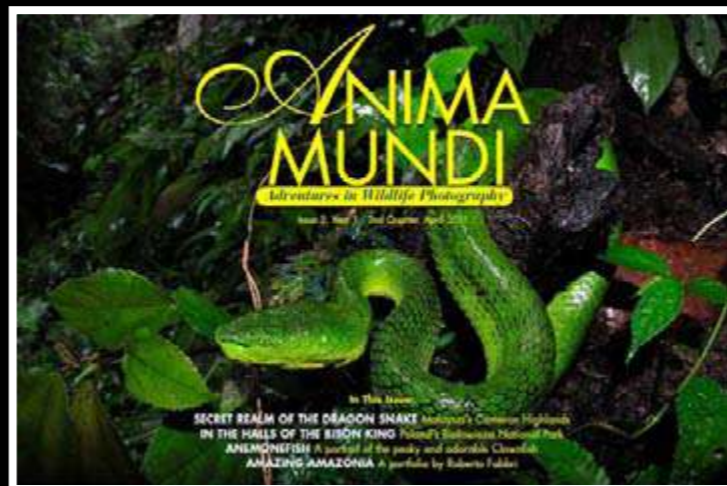
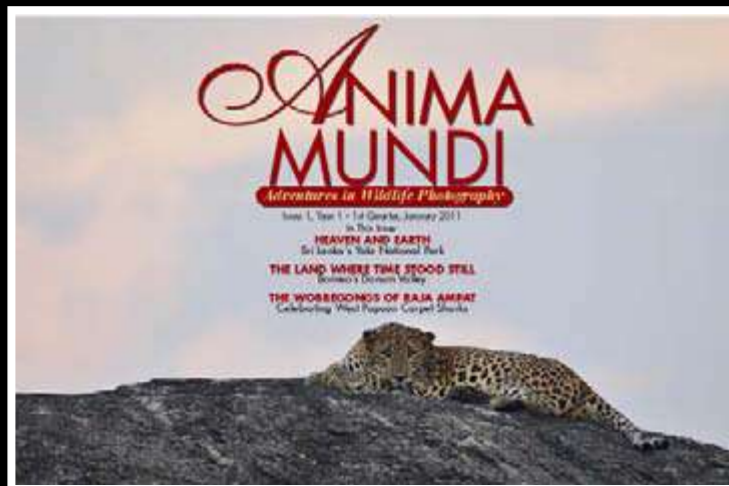
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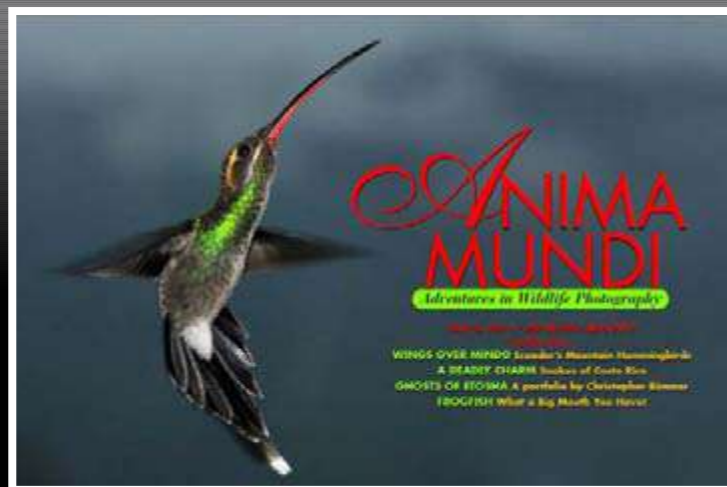
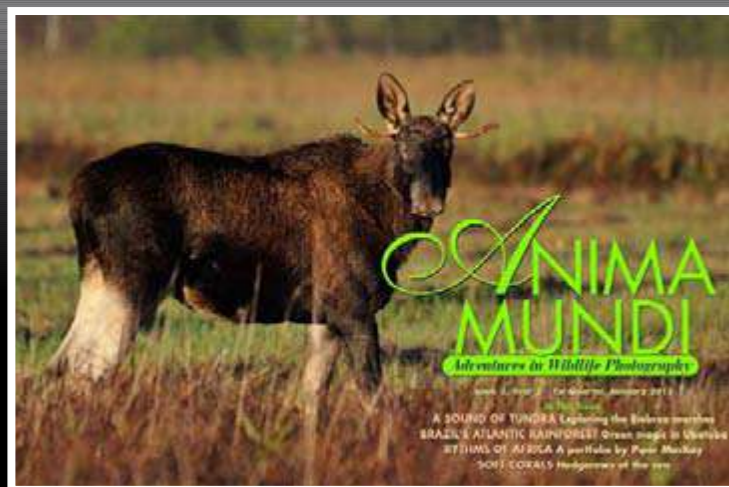


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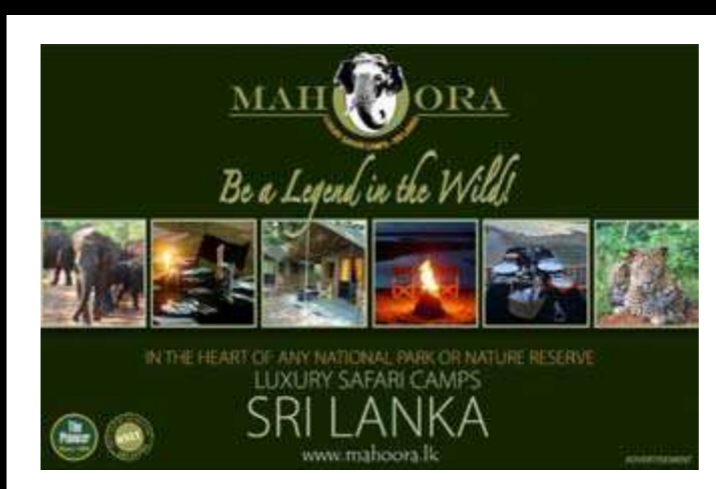
ADVERTISE ON ANIMA MUNDI - ADVENTURES IN WILDLIFE PHOTOGRAPHY

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

TO TRAVEL IS TO LEARN.

When Giovanna Holbrook took on the challenge of leading two University of Florida science professors and a group of naturalists to the Galápagos Islands in 1971, she had no way of knowing the lasting impact that experience would have on her life and on the lives of those traveling with her. The group journeyed throughout the archipelago aboard a retired navy vessel, propelled by their spirit of adventure and thirst for knowledge. At that time, the Galápagos was just celebrating its twelfth year as a national park, conservation work at the Charles Darwin Research Station was still in its infancy, and tourism in the islands was virtually non-existent.

More than thirty years later, Holbrook Travel continues to serve the needs of teachers, students, academic institutions, and nature lovers. Although many changes have taken place over the years, Holbrook Travel has taken great care to remain true to its roots. As news of environmental concerns and world conflicts continue to fill the airwaves, it seems more important than ever to help people gain a better understanding and appreciation of the natural world and other cultures through firsthand experiences. In the words of Andrea Holbrook, president: “Our goal is to try to continue the great work my mother started.”

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SCOOP!



A SPHYNX IN **WOLF'S CLOTHING**

A RARE ENCOUNTER
WITH A STUNNINGLY REALISTIC
SNAKE-MIMIC CATERPILLAR
IN THE PERUVIAN AMAZON RAINFOREST
OF TAMBOPATA NATURE RESERVE

Two close-up portraits of the *Hemeroplanes ornatus* caterpillar show its incredibly realistic imitation of the anterior third of an arboreal snake.



A full-body portrait of the specimen reveals the illusion. Widespread throughout Central and South America, the moth and caterpillar of *Hemeroplanes ornatus* are however very rarely encountered.

I have long been fascinated by mimicry in nature - the idea that natural selection has allowed one species to take advantage of the defences of another, often in a spectacular and intimately precise fashion. The beauty of mimicry, of course, is that the individual benefits by deceiving potential predators into thinking that it is something else. This tends to be something inedible, distasteful, dangerous, or simply something that is difficult to see. The individual profits from its misleading appearance, without the 'cost' of actually having to be poisonous or dangerous. In my travels through the tropical forests of the world, I have found such deception in abundance, particularly amongst the insects. Many people will be familiar with the cricket-like katydids superbly mimicking live, dead or decaying leaves; or harmless king snakes and milk snakes matching the colors and patterns of their distant but deadly relatives - the coral snakes. The most common forms of mimicry appear to be invertebrates emulating either plants or other invertebrates. Until recently, I was unaware of examples of invertebrates impersonating a completely different class of animals such as large vertebrates.

In October 2011, my wife and I were walking at night in tropical humid forest within the Tambopata National Reserve. Tambopata is a 1.4 million hectare reserve encompassing a tract of the Amazon Basin in south-eastern Peru. Like much of the Amazon, Tambopata has a very high diversity of insects, and is home to over 1300 species of butterfly alone. As we walked slowly along the edge of a trail I noticed a large, dark green and brown, but otherwise non-descript caterpillar clinging to a small branch. As I moved in to inspect it a little closer, I accidentally bumped the branch on which it was sitting. As soon as it detected the movement of the branch, the caterpillar sprung to life! Its head and front legs immediately retracted, the front of its body dropped downwards, hanging in the air, and within an instant the front of the body had flattened and inflated to a considerable size. Eyespots seemingly appeared from nowhere on either side of its new "face", and the whole creature swayed threateningly. Even the texture of its skin appeared to change within seconds, to become less

like the velvety skin of a caterpillar, and more scaly in appearance. Although I knew I was looking at a caterpillar, it was difficult to deny that I now seemed to be confronted with a convincingly real snake! This was *Hemeroplanes ornatus*, a Sphinx Moth caterpillar widespread throughout Central and South America. Despite its broad distribution, the moth and caterpillar are very rarely encountered. In addition to looking like a credible snake, if it continues to be threatened it will "strike" menacingly at its harasser. The snake upon which *Hemeroplanes* is modeled is unknown, although some authors have suggested the venomous Amazonian Palm Viper *Bothriopsis bilineatus*. However, my immediate thought upon seeing the caterpillar was its striking resemblance to the green colour form of the Amazon Tree Boa *Corallus hortulanus* - complete with heat sensing pits along each side of the head. For me, this was mimicry at its finest - a startling example of how a handful of species have mastered the art of deception, and relied on the appearance and reputation of something entirely different to ensure their own survival. ●



Careful observation of the caterpillar shows that the snake mimicry effect is in fact obtained presenting the ventral - and not the dorsal - face of the body to the intruder. The resulting illusion - that of a snake suddenly emerging from the foliage - is quite realistic and must be rather startling to a would-be predator.



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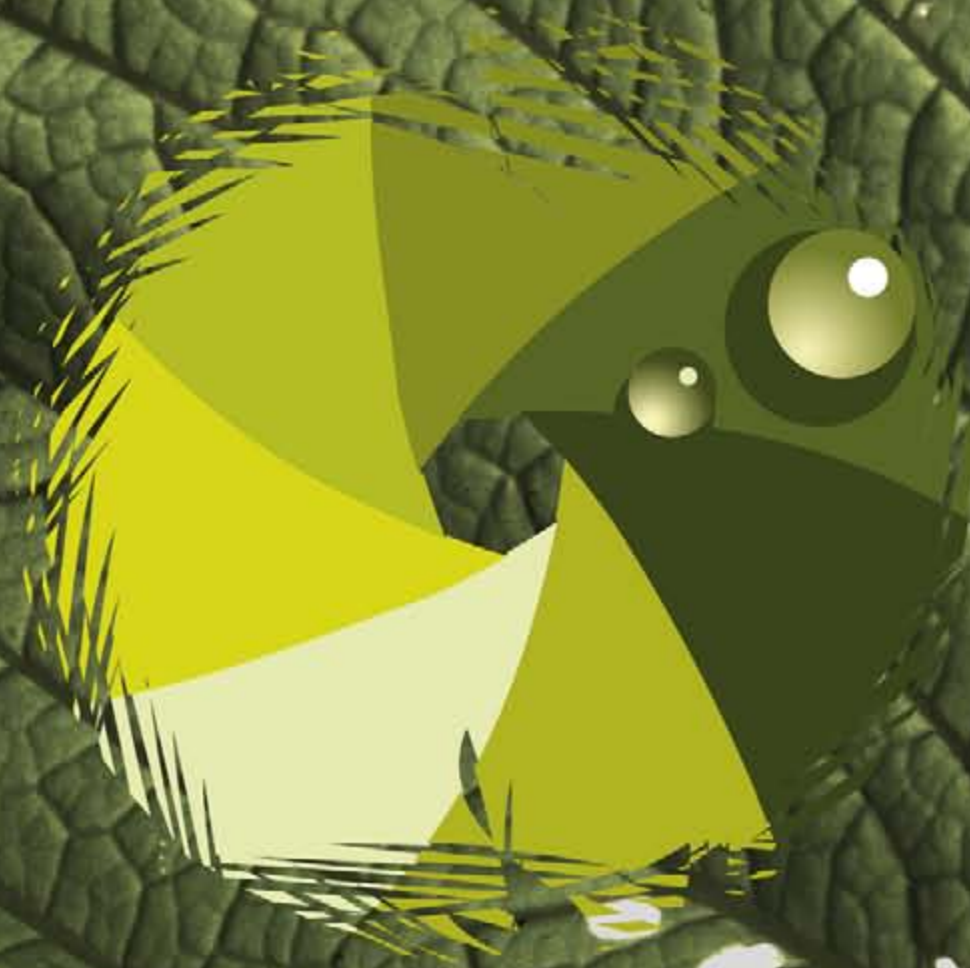


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A CRITICAL LOOK AT KRUGER NATIONAL PARK
THE SAND RIVERS

Does one of South Africa's - and indeed the world's -
most famous nature reserves live up to its glorious reputation?



Antonella scans the landscape looking for wildlife. Several scenic viewpoints in Kruger NP allow visitors to step outside their vehicle.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

The endless expanse of the South African lowveldt



South Africa's legendary Kruger National Park was first gazetted in 1898 as the Sabie Game Reserve by the then president of the Transvaal Republic, Paul Kruger. He first proposed the need to protect the animals of the lowveldt in 1884, but his revolutionary vision took another twelve years to be realised when the area between the Sabie and Crocodile Rivers was set aside for restricted hunting. This enormous and magnificent protected area is one of the most popular public-entry National Parks in the world. Its density of permanent wildlife is almost unrivalled, with hundreds of different species; 507 birds, 336 trees, 147 mammals, 114 reptiles, 49 fish and 34 amphibians. This abundance of wildlife makes Kruger National Park - on paper, at least - one of the premier wildlife-watching destinations in the world. It is quite possible to see all the classical African big wild animals during a short stay here, including elephant, black

and white rhino, hippo, giraffe, zebra, buffalo, warthog and many antelope species. Large carnivores include lion, leopard, cheetah, wild dog and spotted hyena. There are also many smaller mammals species, too numerous to list here but of great scientific interest nonetheless, and reptiles include spectacular species such as Puff adders, Mozambique spitting cobra, Black mamba and Nile crocodile among others. The subtropical landscape is quite varied, with a prevalence of flat bushveldt mixed with gigantic rocky outcrops and wide, open-banked rivers. Huge stretches of tall-grass savannah are also common. Sighting and possibly photographing the so-called "Big Five" has become something of an obsession for many people when on safari, and the Kruger National Park has more than its fair share of these, with an estimated population of 1.500 lion, 12.000 elephant, 2.500 buffalo, 1.000

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■ The spectacular panorama viewed from Olifants Camp, with the river of the same name seen here at very low water level in the dry season.





Several bridges spanning Kruger's wide rivers offer excellent opportunities to observe and photograph wildlife from vantage viewpoints. This is a hippo *Hippopotamus amphibius*.

Rocky escarpments offer excellent opportunities to observe the minute but very elegant Klipspringer *Oreotragus oreotragus*, a small antelope which is highly adapted to steep, stony habitats.



leopards and 5.000 rhino (both black and white). Rhinos are being currently killed at the rate of one a day by poachers, however, and lion populations are crashing all over Africa, making this an endangered species. However, it should certainly not be a pre-requisite of a safari to see these (or even a priority), as there are plenty of other fascinating animals and birds in the African bush. Kruger boasts a list of over 500 bird species, some of which are not to be found elsewhere in South Africa. Hornbills, starlings, vultures, rollers, bee-eaters and shrikes

typify the ubiquitous avifauna and birdwatchers can look forward to the "Big Six" (Saddle-billed stork, Kori bustard, Martial eagle, Lappet-faced vulture, Pel's Fishing-owl and Ground hornbill). The far north of the Park (encompassing the Pafuri and Punda Maria regions) is regarded as one of the birding landmarks of the country - with many regional rarities to be found - yet birding throughout the entire Park is absolutely excellent. Eagles are common - Bateleur, Martial, Black-chested Snake, Brown Snake, African Hawk, African Fish and Tawny eagle

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A multitude of different habitats and biotopes

■ A close-up portrait of an iconic Kruger species - the very irritable and often dangerous African or Cape buffalo *Syncerus caffer*.



■ A large bull African elephant *Loxodonta africana* offers a dramatic background to a Fork-tailed Drongo *Dicrurus adsimilis*. This species is often seen accompanying elephants, swooping down now and then to catch insects flushed from the tall grass by the giant's footsteps.





Stunning and yet common examples of the Kruger's avifauna. Left, the beautifully iridescent Cape Glossy Starling *Lamprotornis nitens*; top right, Little Bee-eater *Merops pusillus*; bottom right, Woodland Kingfisher *Halcyon senegalensis*.



are all regularly seen, and in summer Wahlberg's, Steppe and Lesser Spotted eagle can be added to the checklist. The Park's numerous water points (even those ugly concrete, man-made ones) make for excellent wildlife viewing, while the rest camps and picnic sites are exceptionally rewarding for birders. The far north of the Park is the wildest and most difficult area to access: however, with greater ecological co-operation across African borders, several countries bordering South Africa have agreed to take down some fences, and those between Kruger and Mozambique's Limpopo National Park and Zimbabwe's Gonarezhou have been demolished to create the Greater

Limpopo Transfrontier Park. This has resulted in a colossal and rather unique wilderness area, again at least on paper (poaching is sadly still rampant in Mozambique, and landmines left from the civil war are still inflict grieving damage to humans and wildlife alike). No self-respecting wildlife enthusiast and photographer should leave South Africa without having visited the Kruger National Park or one of the private reserves along its borders - the list of accomodations inside or bordering the Park is quite extensive and it offers a multitude of options to all, from low budget and self-catering campsites to luxury game lodges. However, as we shall see, there are a few problems.

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*A paradise for birdwatchers
and raptors lovers*



A beautiful Tawny Eagle Aquila rapax, a fairly common resident of the Kruger's wooded areas. This is a highly variable species.



From the left: male Waterbuck *Kobus ellipsiprymnus*, Giraffe *Giraffa camelopardalis*, Plains Zebra *Equus quagga* (formerly classified as *burchelli*, a species whose range is now restricted to Central and East Africa).

■ A big bull African elephant *Loxodonta africana* shows its displeasure with us. Kruger elephants are noted for their short tempers and must be approached with a measure of caution.





Left, African or White-backed Vulture *Gyps africanus*; top right, the truly dazzling Burchell's Glossy Starling *Lamprotornis australis*; bottom right, Carmine Bee-eater *Merops nubicoides*, a common resident and visitor during the austral summer.



BEAUTIFUL, YES – BUT IS IT WORTH IT?

Now, all this sounds quite wonderful – but is the Kruger a truly exceptional destination for wildlife photographers, as the promotional brochures of tour operators worldwide say? Well, yes and no. We have been there twice, in two different seasons (winter and summer), and we have once spent a full month exploring it – covering more than 4,000 kms on tarred and dust roads in the process. We might have been unlucky, but the results in both occasions have been rather mixed - as you can see from the photos which accompany this text, we succeeded in documenting a lot of species, but the truly great shot eluded us. Make no mistake, others have been much more successful than

we, and in much shorter stays! But again, it's a matter of luck - and in the Kruger luck apparently counts more than it does in most other places, which is not necessarily good news for a wildlife photographer.

To understand our ambivalent attitude towards the Kruger, one has first to fully understand its general layout and its visitors rules. The Kruger National Park itself covers an enormous area (19,485 square kilometres /7,523 sq miles) and is crisscrossed by a network of very well-managed tarred and dust roads. Visitors with their own vehicle can stay in several affordable, rather basic government-run camps and lodges (both full-board or self-catering) well sited within the Park in strategic locations, but if they desire to use their own car they can only travel around in

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Lead by the dominant male, a troop of Savanna Baboons Papio cynocephalus ursinus crosses the Letaba river.



This Leopard Panthera pardus portrait was taken while staying at King's Camp in Timbavati, as the feline's intense gaze was fixed on a herd of impalas a few yards away. The following attack was unsuccessful.

Left, Leopard
Panthera pardus
at Timbavati, summer;
right, Blue Wildebeest
or Common Gnu
Connochaetes taurinus
at Balule, winter.
Notice difference
in vegetation.



a closed (not open-topped) vehicle and must stick to the roads, with no exception - transgressors will be heavily fined, which is only good given the great numbers of people visiting the Park on their own. Given the nature of the environment (mostly lowveldt bush, ie a sparsely wooded grassy plain, intersped with small trees and thorny bushes), this can however often prove extremely frustrating for viewing and photographing wildlife, as subjects can be tantalizingly close and yet half-hidden by branches and foliage. Well-

camouflaged and cryptic species (such as lions in tall dry grass, for example) might even go unnoticed at all, as the only wildlife which can clearly be viewed at all times is that which is actually crossing the road or staying in close proximity to it. Most casual visitors are perfectly satisfied to click a snapshot of a lion lying on the tarmac, but we are not! Large animals - such as elephants and giraffe - are always guaranteed, but even buffalo or rhino can disappear with disconcerting ease and speed in such a habitat, so the best

spots for open, unimpeded sightings are those by the wide, sandy river banks or from a few well-sited permanent hides. We certainly do not condone "bundu bashing" (offroad driving in the bush, usually without caring too much about bushes and the like), but being forced to miss a good shot because there's no way to get a bit closer to the subject or to view it from another angle can be very unpleasant. For those unwilling to use their own car, the government lodges offer group game drives in large, open truck-like

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■ A Giraffe *Giraffa camelopardalis* bathed in the golden hues of the drying lowveldt at the start of winter.



■ *Left, stiff, unmistakably long eyelashes protect the eyes of the endangered Southern Ground Hornbill *Bucorvus leadbeateri* as it forages among thorny bushes and sharp grasses; right, the striped liveries of Zebra *Equus quagga* prove irresistible to photographers.*



■ A bull African elephant *Loxodonta africana* ambles among the scorched remains of a bush fire. Large expanses of the Kruger lowveldt are destroyed yearly by naturally-occurring fires.





The beautiful Bateleur Eagle *Terathopius ecaudatus* is a very distinctive and common sight in Kruger. Its common name derives from the habit of rocking wings during gliding or soaring as if balancing on a rope.



vehicles - rather expensive and not ideal for the serious wildlife photographer. Game viewing is generally good, granted - but the fact that one is forced to stick to the tarred road and to stay inside a closed vehicle gives to the whole experience a rather unpleasant, artificial aftertaste, compounded by the crowds of noisy and rather disinterested-looking visitors which rapidly converge on the site of a sighting. Kruger National Park itself is relatively affordable, easily reached and even more easily driven around, but in our experience it seems to be lacking that extra touch in atmosphere or wildlife encounters that other, less well-promoted destinations offer today.

THE GREATER KRUGER: A REALISTIC OPTION?

The so-called Greater Kruger area is today part and parcel of the actual Park, comprising a large number of private Game and Nature Reserves which border it - most of the wildlife-proof fences which separated these enormous properties from the Park true in the past have been now taken down, allowing wildlife to roam freely. Here the situation is completely different - a large number of well-run private properties, bush camps and lodges compete fiercely for an international and affluent clientele, generally providing high quality services, often

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A rare sight as a juvenile but nevertheless enormous Martial Eagle *Polemaetus bellicosus* swoops down from its perch.



Top left, a pair of African Hoopoe *Upupa africana*; bottom left, Egyptian Goose *Alopochen aegyptiacus*; left, Grey Lourie *Corythaixoides concolor*. All three species are quite commonly observed in the Kruger NP.



*Death comes from above
when the Martial Eagle strikes*

Another unusual ■
sighting as an adult
Martial Eagle
Polemaetus bellicosus
feeds on a
mongoose it has
just killed. This huge
raptor will actually
catch and kill even
small antelopes.



■ Left, a truly beautiful adult male Greater Kudu *Tragelaphus strepsiceros*, one of Africa's largest and most stately antelopes; right, Lilac-breasted Roller *Coracias caudata*, a colorful and common resident.



A true icon
of the bush -
the African elephant
Loxodonta africana.
Sadly, the healthy
local populations are
now being targeted
anew by poachers
for the illegal ivory
trade.





Top, Southern Yellow-billed Hornbill *Tockus leucomelas*; right, Red-billed Hornbill *Tockus erythrorhynchus*; bottom, Long-tailed or Magpie Shrike *Corvinella melanoleuca*.

extremely luxurious accomodation and a greater flexibility. The names of Londolozi, Timbavati or Sabi Sands are truly legendary among wildlife photographers and nature lovers from all over the world, and wildlife and habitat conservation are taken very seriously indeed here. Private reserves and lodges offer two-hour long, well-guided game drives in open-topped 4-wheel drive vehicles and even bush walks with armed wardens, offering

truly unique opportunities to the demanding wildlife photographer. There are no proper tarmac roads inside the private reserves, and most game drives take place along white roads or even - occasionally, and only if the situation warrants it - off road, so spectacular close-up portraits of lions, leopards and rhinos are virtually guaranteed, with great chances of viewing and photographing less common but equally interesting species

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■ A lovely portrait of a female African elephant *Loxodonta africana* and her newborn calf by the Letaba river.

such as hunting dogs, hyena and even cheetas, not to mention scores of herbivores and birds. But alas, there is a caveat - with so many lodges competing among themselves in a very lucrative business, often charging exceptionally high prices and usually guaranteeing sightings of the Big Five to casual visitors (who - most of the times - will stay there for one or two nights only), one cannot wonder if there isn't a

grain of truth in the rumors of human-habituated animals, "kills" set-up for the benefit of the client and faked "lucky" encounters with feeding lions and leopards. We have absolutely no direct proof of this, and we certainly do not believe all private lodges do this, but rumors abound. It certainly is a shame hearing such stories, because there are a lot of very hard-working professionals operating in the Greater Kruger area

and several very respectable operations which have built spotless reputations in the years past - after all, even if several private reserves cover truly enormous areas, a certain behind-the-scenes familiarity with some of their resident and most confident wildlife is to be expected, and field researchers are usually fully aware of this. Wild animals - or at least some of them - get used to jeeps and humans more easily than people think. We are mentioning this

continued on page 36 >



Plains Zebra *Equus quagga*
grazing at sunset with Blue
Wildebeest *Connochaetes*
taurinus in the background -
an idyllic scene by Satara camp.

■ A large White or Square-lipped Rhinoceros *Ceratotherium simum* emerges from the thorny, stunted vegetation of the lowveldt. Rhinos in the Kruger are being relentlessly targeted by poachers peddling their horns to the Asian market, with an average of a rhino being slaughtered every day.



being fully aware that for most tourists and wildlife photographers this is not a problem at all - indeed, it might even be considered a plus by the casual visitor. For us, however, the idea of photographing a human-habituated animal from the safety of a car is a bit of a cheat (there's a fine and occasionally blurred line separating a nature reserve proper from a zoo), so we suggest choosing your lodge very carefully, trying to read between the lines and

seeing if it truly suits your needs - there are plenty of lodges and camps in the Greater Kruger where animals are really wild, difficult to spot and often dangerous. Habituated animals or not, visiting one of the many private reserves of the Greater Kruger is the only sensible choice for a seriously motivated wildlife photographer - if one can afford the cost, which will often be astronomical for a safari lasting more than a couple of days. In conclusion, two options are

possible: visit the Kruger itself on your own, keeping costs down and being prepared for long drives and possible disappointment, or visit a private reserve in the Greater Kruger, plan a much shorter visit and be prepared to spend a fortune for great sightings of the Big Five and spectacular photo opportunities. If that sounds like a tough deal, just remember most other National Parks in Africa do not even offer you the luxury of choosing between the two options. ●



A sleek female ■
Leopard *Panthera
pardus* fleetingly
crosses a Park road
at dawn - a typical
Kruger sighting .



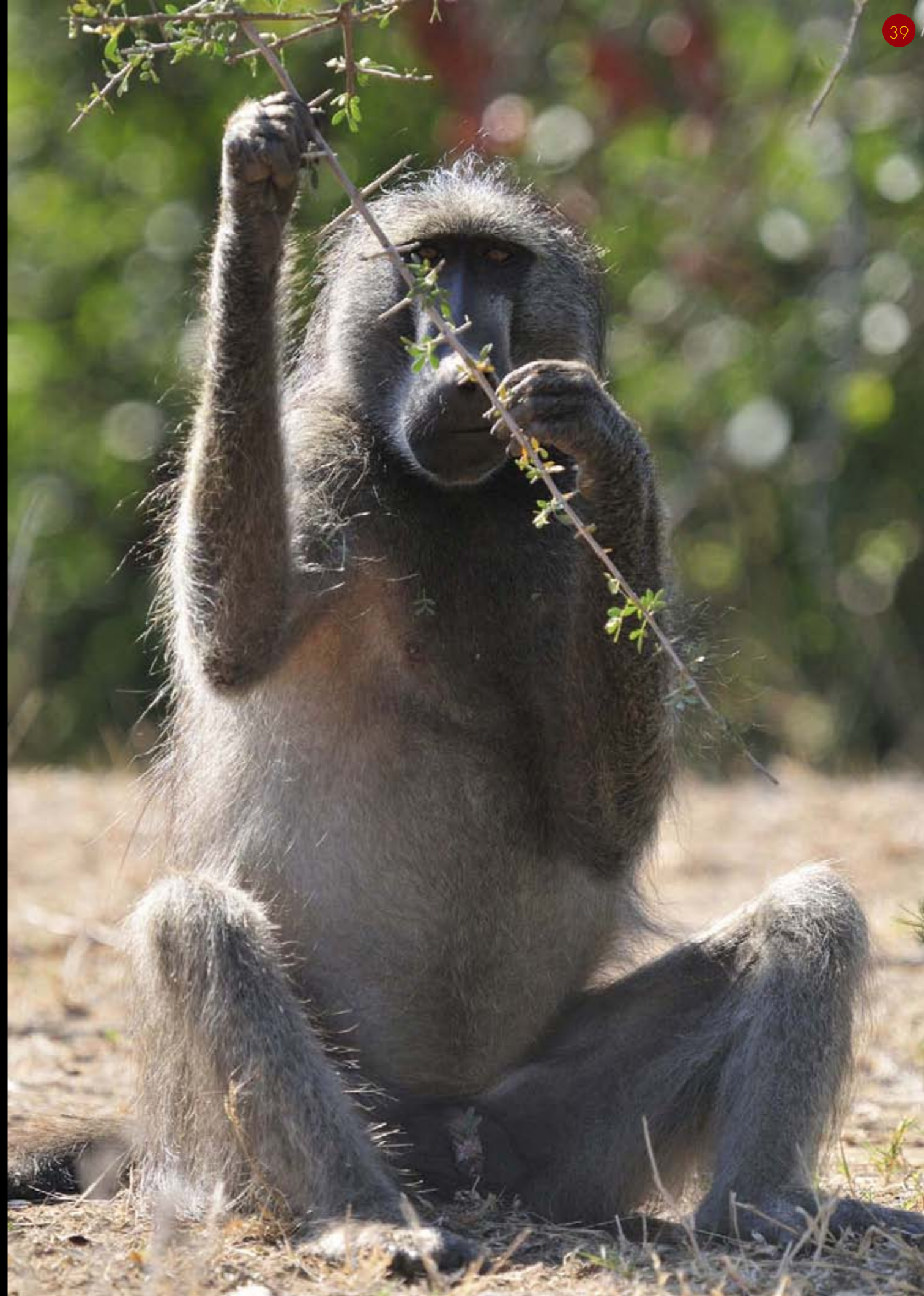
■ Top left, Black-backed Jackal *Canis mesomelas* at Balule; top right, bull African buffalo *Syncerus caffer* by the Olifants river; bottom left, Hadeda Ibis *Bostrychia hagedash* at Letaba camp; bottom right, lionesses *Panthera leo* at Timbavati. Once common everywhere, lions are fast becoming a severely endangered species throughout Africa.



White or Square-lipped
Rhinoceros *Ceratotherium
simum* at a watering hole
in Manyeleti, photographed
while staying at Pungwe.



■ Left, a baby Savanna Baboon *Papio cynocephalus ursinus* saddles its mother's back in typical jockey fashion. Right, a large male of the same species feeding. Bottom left, the very large Kori Bustard *Ardeotis kori*, an impressive resident of open woodland and dry grasslands.





Left, a male Impala *Aepyceros melampus* - a common and extraordinarily elegant species which is sadly ignored by most visitors. Right, a portrait of the stately Waterbuck *Kobus ellipsiprymnus*, another most impressive antelope species which is also often underestimated by tourists.

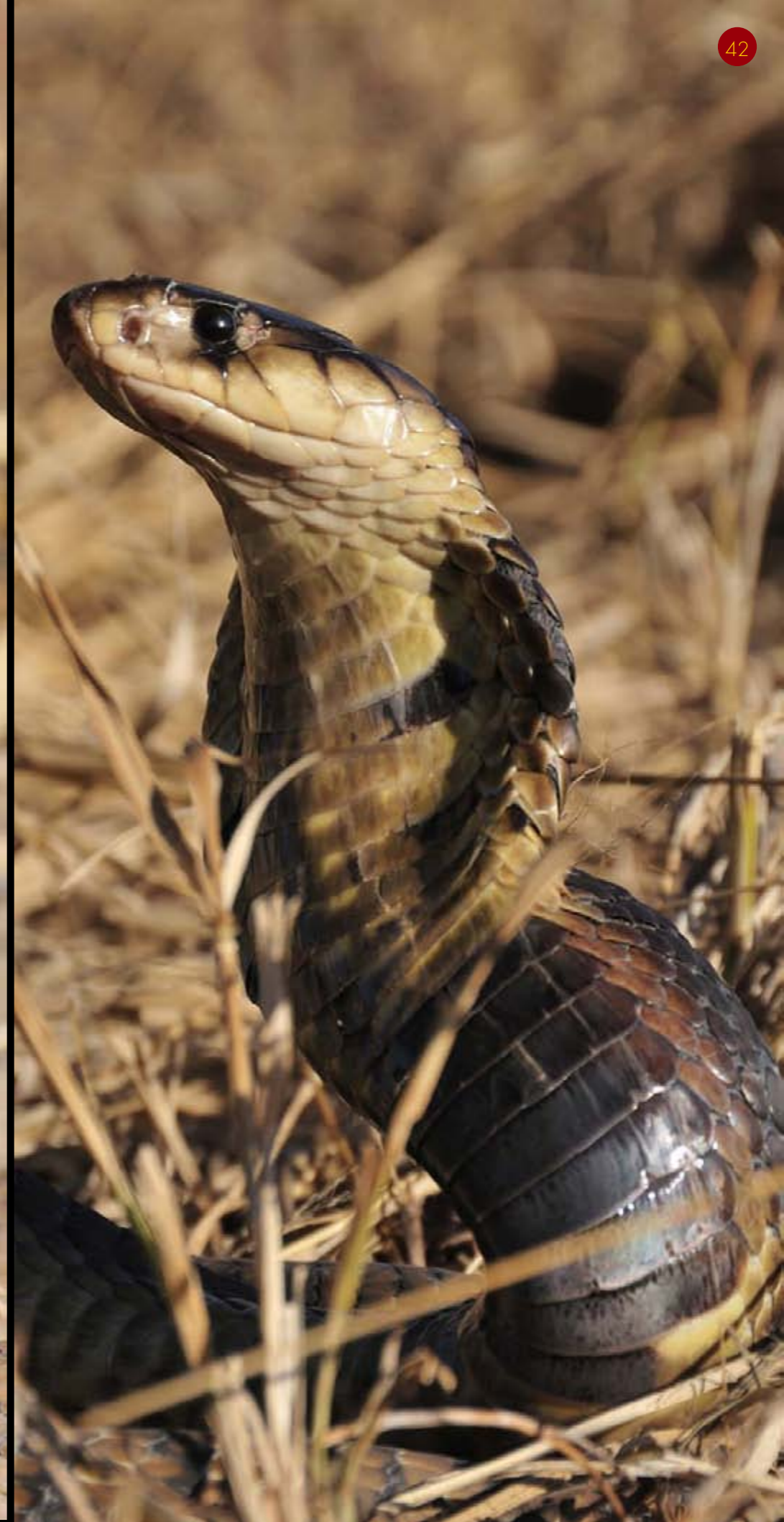


Several wide bridges spanning some of the Kruger's main rivers allow visitors to step off their vehicles, regaling photographers with excellent opportunities. This is a Nile crocodile *Crocodylus niloticus* basking on the Olifants riverbed.



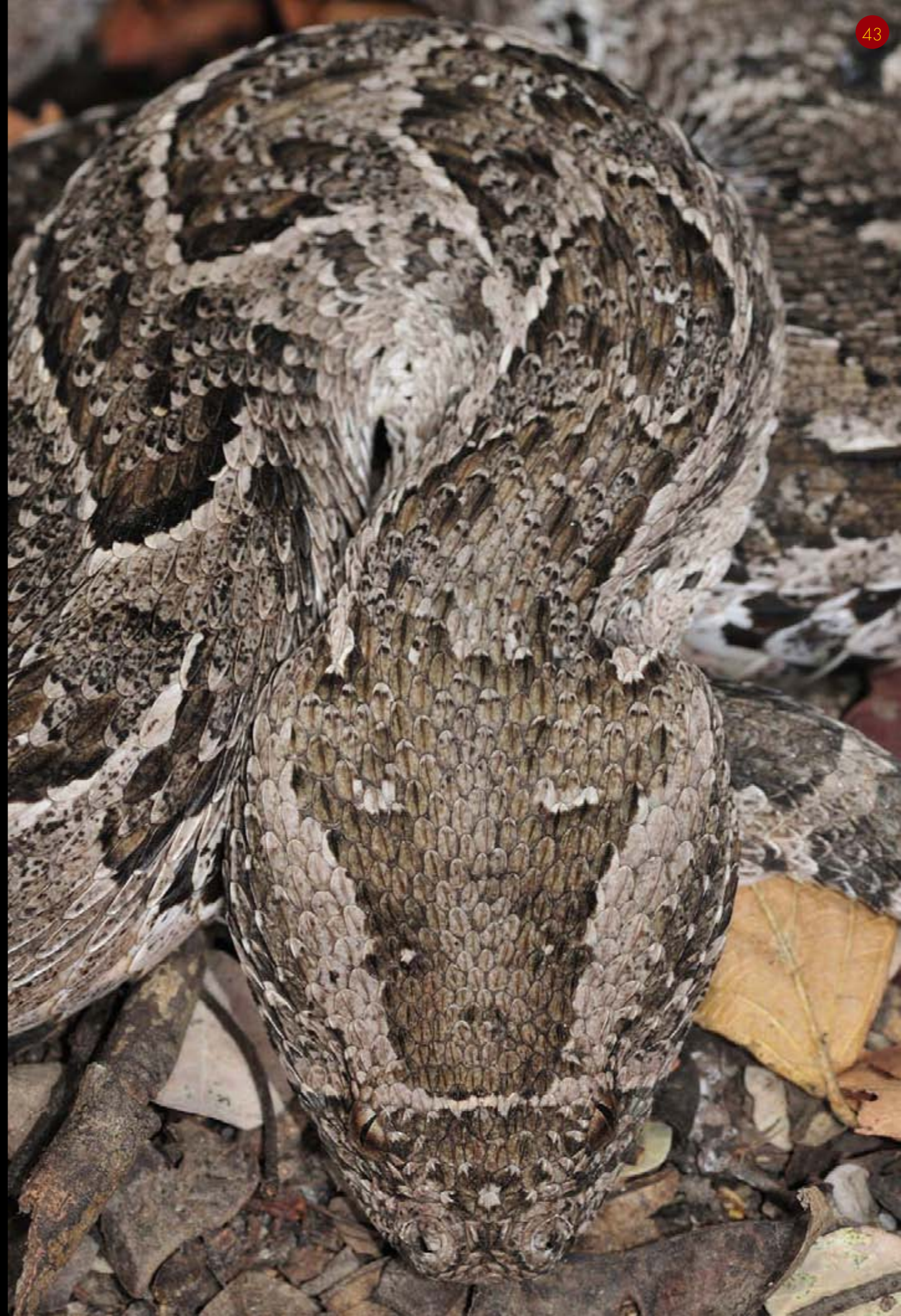


■ Kruger and its surroundings offer wonderful reptile sightings: left, Rinkhals Hemachatus haemachatus; center, Mozambique Spitting cobra Naja mossambica; right, Snouted or Egyptian cobra Naja annulifera. All three species are highly venomous and can prove extremely dangerous to man and beast alike.





Two stunning examples of cryptic coloration and pattern: left, Southern African Rock Python *Python natalensis*, a powerful and aggressive constrictor; right, Puff adder *Bitis arietans*, one of Africa's most dangerous venomous snakes.





Left, African Grey Hornbill *Tockus nasutus*, often sighted in small groups; top right, Brown-hooded Kingfisher *Halcyon albiventris*; bottom right, two female Ostrich *Struthio camelus*, a truly enormous and flightless bird 2 meters tall.





Left, Tawny Eagle *Aquila rapax* in its dark brown color morph; top right, Red-crested Korhaan *Eupodotis ruficrista*; bottom right, Three-banded Plover *Charadrius tricollaris*. Kruger can be a veritable birdwatching paradise, especially during the wet summer.



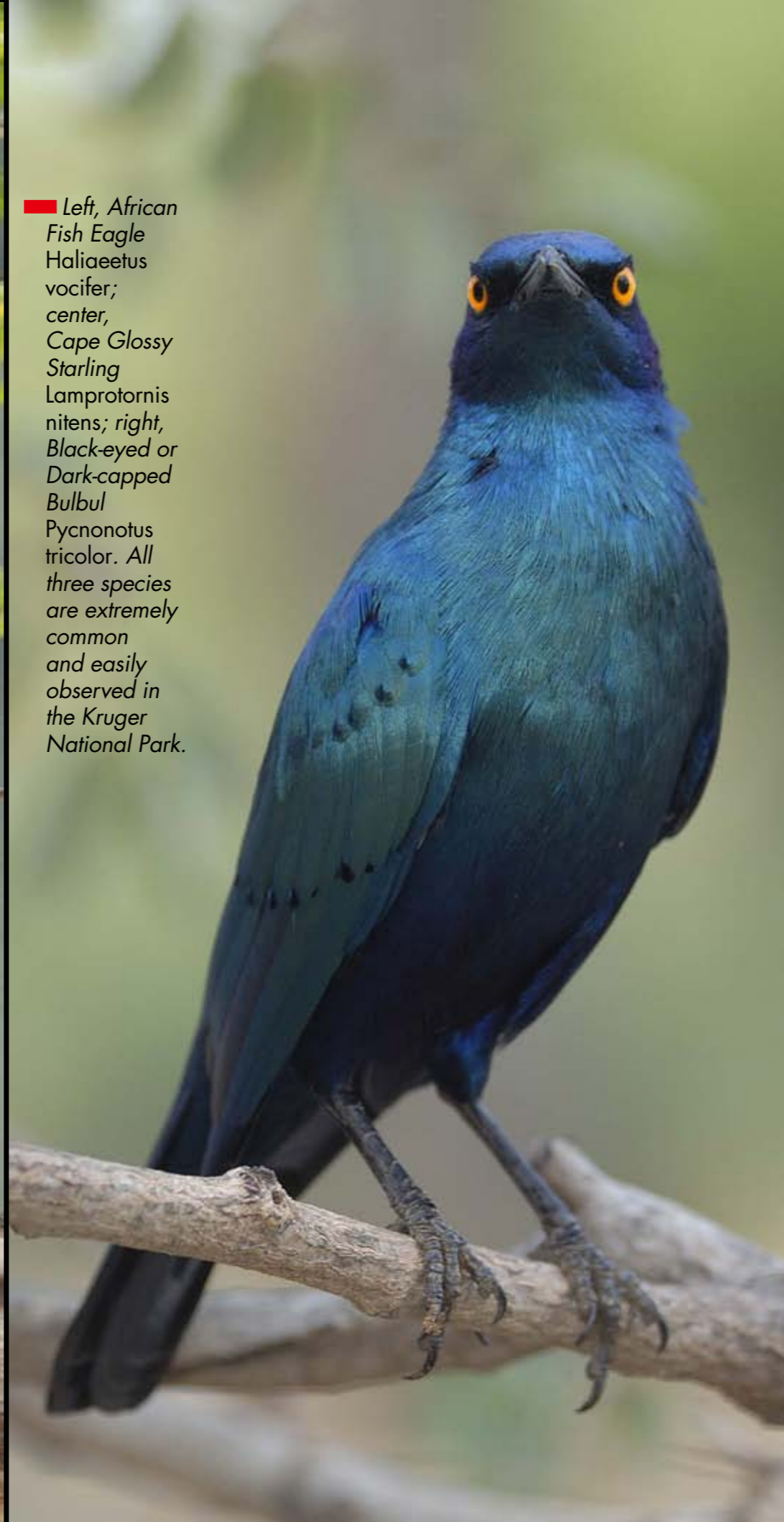


■ Left, Crested Barbet
Trachyphonus vaillantii;
center, Fork-tailed Drongo
Dicrurus adsimilis;
right, Lilac-breasted Roller
Coracias caudatus.



■ Left, a summer visitor, the European Roller *Coracias garrulus*; right, a dazzlingly iridescent resident, the White-bellied Sunbird *Cinnyris talatala*. Sunbirds can be best and safely observed in most of Kruger camps' flower beds and gardens.





■ Left, African Fish Eagle *Haliaeetus vocifer*; center, Cape Glossy Starling *Lamprotornis nitens*; right, Black-eyed or Dark-capped Bulbul *Pycnonotus tricolor*. All three species are extremely common and easily observed in the Kruger National Park.





The Snouted or Egyptian cobra *Naja annulifera* is a large and very active elapid, quick to spread a hood and bite aggressively in reaction to disturbance.



■ Top left, a massive bull African buffalo *Syncerus caffer*; top right, Goliath heron *Ardea goliath*; bottom right, the dazzling blue and turquoise flash of a Lilac-breasted Roller *Coracias caudata* caught in mid-flight; bottom left, a large Nile crocodile *Crocodylus niloticus* basking on the Letaba river banks.





■ The tree-dwelling Boomslang *Dispholidus typus* is a rather common, extremely beautiful and exceedingly dangerous rear-fanged snake, whose bite often causes death by internal bleeding. This is a male, easily identified by its bright green color.



■ Top left, a Nile crocodile *Crocodylus niloticus* in shallow water in the Letaba river; top right, the fearsome tusks of a yawning hippopotamus *Hippopotamus amphibius*; bottom right, a huge herd of African buffalo *Syncerus caffer*; bottom left, a rare nighttime sighting of a Cape Porcupine *Hystrix africaeaustralis* at Baluleni.



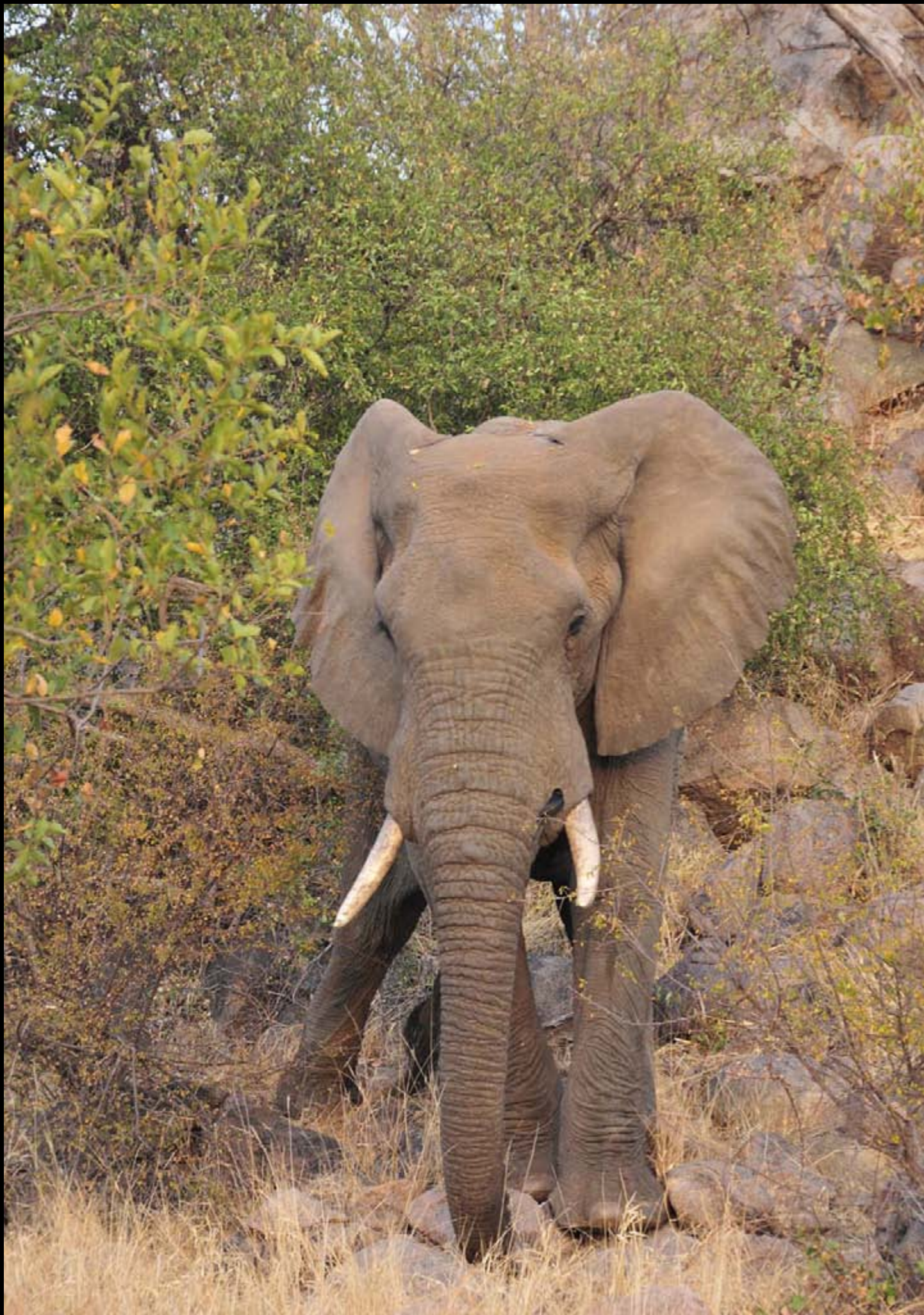


■ The huge and seriously impressive Golden Brown Baboon Spider *Augecephalus* sp. is a rare and endangered species which is very seldom seen by tourists.



■ Left, Steenbok *Raphicerus campestris*; center, the striking flowers of the Impala Lily *Adenium multiflorum*; right, Flap-neck Chameleon *Chamaeleo dilepis*.





■ The art of blending and even disappearing in the surroundings is not exclusive of small-sized species: left, African elephant *Loxodonta africana*; right, a pair of Klipspringer *Oreotragus oreotragus*. Most lowveldt species in fact display a cryptic coloration.





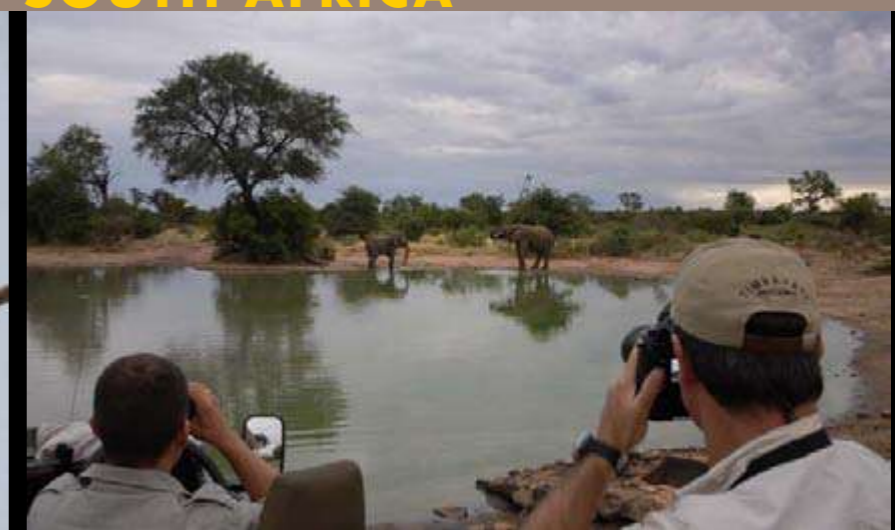
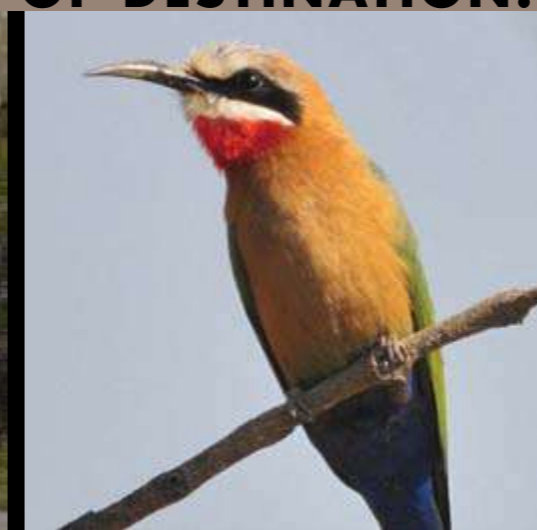
■ An image which proves beyond doubt the danger posed to hikers by the Puff adder *Bitis arietans*, a large, sluggish and heavy-bodied viperid much feared for its cryptic livery and lightning-fast bite. This very common and prolific species is widely distributed in most of Africa.

Two African vultures *Gyps africanus* silhouetted against the sunset sky at Manyaleti - an image somewhat symbolic of the demise of most of Africa's once abundant wildlife.



At-a-glance travel guide

COUNTRY OF DESTINATION: SOUTH AFRICA



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: The most convenient choice is to have your international flight land in Johannesburg at O.R. Tambo International Airport, the largest and busiest airport in Africa and a gateway for international air travel to and from the rest of Southern Africa. From there you can take a connecting domestic flight to one of the three airstrips in Kruger NP, namely Phalaborwa Airport (Northern KNP), Hoedspruit Eastgate Airport (Central KNP) or Kruger Mpumalanga International Airport (Southern KNP) depending on your lodge's location. Those interested in self driving around Kruger can arrange to rent a car at the final landing destination and drive all the way to the lodge or camp of choice.

MEANS OF TRANSPORT: Any decent rented car will suffice to self-drive around Kruger Park as the tared and sand roads are well maintained and well mapped out - there is no need to rent a 4x4 vehicle. Gas stations are also available at several camps.

CURRENCY: South African Rand, but USD and Euros are commonly accepted in all lodges.

ACCOMODATION: Pick your choice from self-catering camping sites to incredibly luxurious, exclusive bush lodges. The numbers are really too high to list them all here, so it's a matter of choosing carefully or trusting a reliable travel agent when

selecting your accomodation. We can personally recommend **Baluleni Safari Lodge** in Balule Reserve (family atmosphere, great food and hospitality, very affordable), **Pungwe Bush Camp** in Manyeleti Reserve (excellent, rustic tented camp in the mid-price range) and **King's Camp** in Timbavati (extremely luxurious and very expensive, exclusive lodge). Government camps inside the Kruger - the ideal choice for self-drivers and self-caterers - include relatively affordable accomodation at Satara, Skukuza, Letaba, Olifants and several other sites.

FOOD: South Africans have a national obsession with *braai* (in a broad sense, meats grilled on an

One of the world's top destinations for wildlife photographers



open fire), and we must admit that we had the best, juiciest steaks of our entire life in a restaurant in Johannesburg. Food at the lodges can however be extremely varied with an abundance of fruit and vegetables too - the tourist industry is highly developed here and always ready to cater to all needs and tastes. Water is also safe to drink.

LANGUAGE: Afrikaans and English.

WORRIES: South Africa has an extremely high incidence of armed robberies and serious violence in most big cities, so be warned - walking around at night or in several urban neighborhoods can be an extremely risky proposition, even for the locals. Most small towns in the Kruger area are however perfectly safe for tourists. It goes without saying that all wildlife is potentially dangerous and that all safety measures must be strictly adhered to when on safari

- this cannot be repeated often enough, as accidents do happen (especially with elephants) and people tend to be extremely careless, mostly out of ignorance. Responsible game wardens, safari drivers and wildlife guides in your lodge will explain all the details and keep an eye on you, but remember always this is the African bush - lions can actually eat people and elephants can actually stomp on them or overturn their car, so don't be silly.

HEALTH: No serious risks of dangerous tropical diseases. Malaria is occasionally mentioned between December and April - which is the end of the rainy season - but the best thing is just try to avoid getting bitten. The most vulnerable times are between dusk and dawn, and visitors are advised to stay indoors during these periods, or cover exposed skin with light clothing or insect repellants. When you go walking keep an eye on snakes and ticks.

CLIMATE: Kruger National Park is located in a summer rainfall area. Such precipitation is usually convectional and can result in heavy downpours. The summer months (which in the Southern hemisphere go from October to April) are hot, pleasantly dry and often balmy. Winters are warm and mild during daytime, although visitors going on night drives will require warm clothing and nights/early mornings can be extremely cold.

BESIDES: South Africa is a stunningly beautiful country, with marvelous landscapes and a huge variety of National Parks. An invaluable source of information about the Kruger National Park, its structure and lodges and anything else one might ever need to organize a trip there can be found at www.krugerpark.co.za/ (this is a commercial website), while the official overview can be found at www.sanparks.org/parks/kruger/. ●

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David Hemmings - President, Nature's Photo Adventures



"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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Beauty of the Beast

AMPHIBIAN BEHAVIOR

LOVE ON THE ROCKS



The frenzied mating of Common Frogs in the frozen waters of a remote mountain pond in Northern Italy - a truly unique photographic record



The Common Frog *Rana temporaria*

The Common Frog *Rana temporaria*, also known as the European Common Frog or European Common Brown Frog, is found throughout much of Europe as far north as well north of the Arctic Circle in Scandinavia and as far east as the Urals, except for most of Iberia, southern Italy, and the southern Balkans. The farthest west it can be found is Ireland, where it has long been thought (erroneously) to be an entirely introduced species.

TEXTS AND PHOTOGRAPHS
BY CLAUDIO PIA



Northern Italy, Mount
Maggiorasca, Aveto Valley - a land of
craggy hills and wooded slopes, thick
with hazelnut bushes and oak trees.

A veritable miracle of nature takes
place here every year in the month of
March, among the wide, silent
expanses of ice and snow...Emerging
from hibernation and completely
disregarding the freezing
temperatures, hundreds of specimens
of the Common Frog *Rana temporaria*
meet and jostle in the ice with only
one goal – mating.

This “miracle” lasts only a few days -
I think a maximum of four - and to find
myself in the right place at the right
time I have to drive for 70 kms and
walk in knee-deep snow for at least
one hour, carrying all the
photographic gear on my back -
sometimes even having to pull it along
on a small sled. And every time I risk
to get there and find out that the frogs
are still hibernating..it’s a bit of a bet!

As I’m getting close to the tiny alpine
pond - if I have picked the right day -
I begin to see a few pairs of frogs
hopping around in the snow. The
females carry the males on their back.

Males are much more numerous than
females, so it’s a tough battle for them
to win the back of the female for
mating. The female can carry the
male on her back for a few days, until
she decides to spawn into the water.
It’s a great effort for her, and at the
end of the mating ritual one can see
a lot of dead frogs in the water.

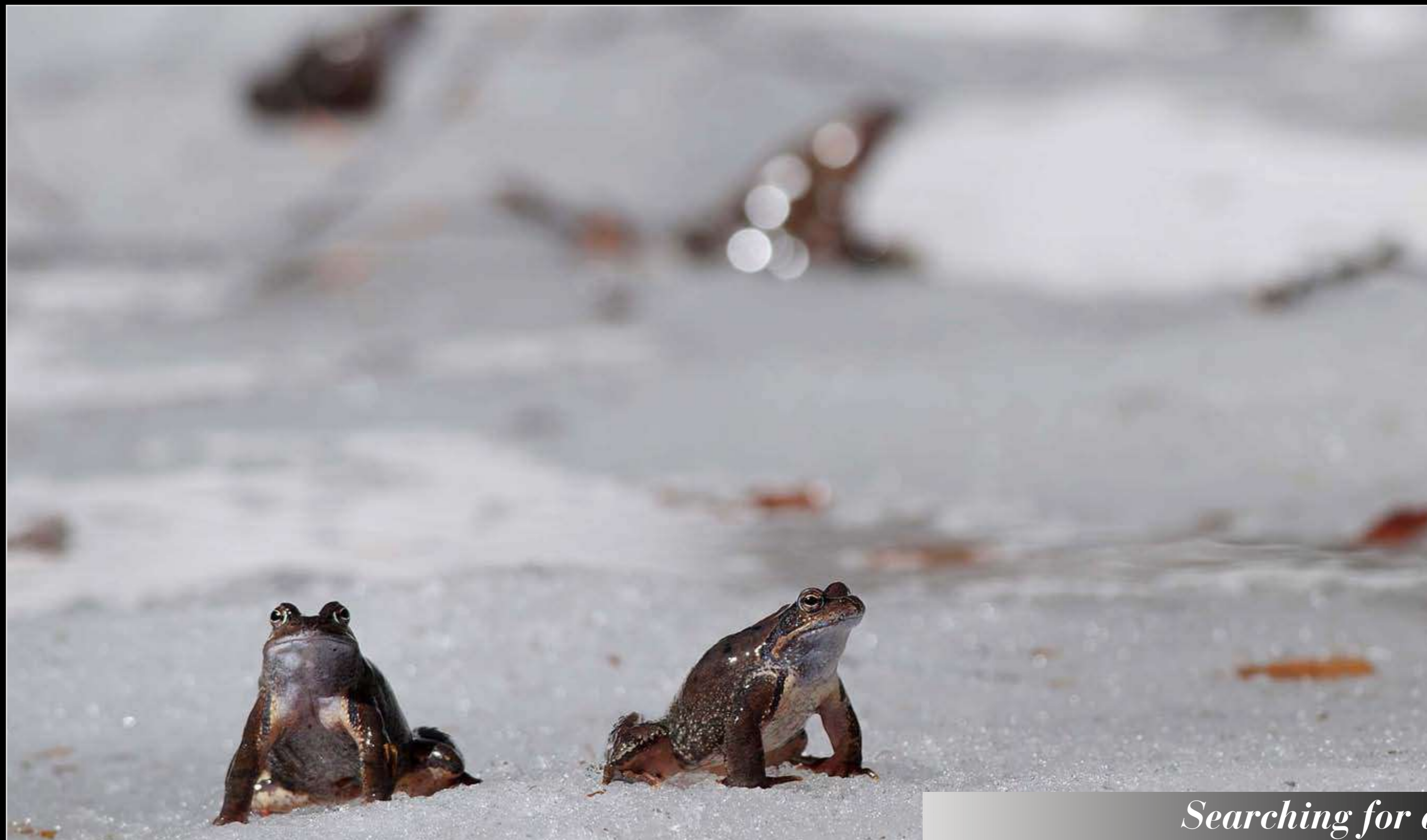
What is truly extraordinary about this
small place is the astounding number
of frogs that show up here – it’s hard
to believe so many hundreds of *Rana
temporaria* can survive in a wood
with such a small lake. This
population must actually be one of
the largest in Italy. The surface of this
little alpine lake is often completely
covered with a thick layer of eggs,
and for a nature photographer like
me this is heaven!

Then, after three or four days of
continuously mating in the half-
frozen, icy waters of the pond, the
frogs disappear among the
submerged leaves and it becomes
quite difficult to spot even a single
one of them. Until next year...

*Claudio Pia is a nature photographer
based in Northern Italy. To see more of
his work visit www.claudiopia.it*

The call of the wild

A large male - just emerged from hibernation - stands its ground in the snow, loudly croaking to advertise its presence, stake its territory and find a willing female to start the yearly mating ritual. The average weight of *Rana temporaria* is 22.7 grs. (0.80 oz). Females, as it commonly happens, are usually slightly larger than males.



Searching for a mate

The first males scan their frozen surroundings, looking for a prospective mate. Males are distinguishable from females due to hard swellings (called nuptial pads) on their first finger. These are used for gripping females during mating. Also, males' throats often turn white during the mating season. A final differentiation can be the color—during the mating season, males are generally light and greyish in colour, whereas the female is deep brown or red.



The great race among the suitors

Mating begins in the still semi-frozen water, with several males competing to copulate with a single female. Common frogs breed in shallow, still, fresh water bodies such as ponds, with breeding commencing in March. The adults congregate in the ponds, where the males compete for females. The courtship ritual involves croaking, and a successful male grasps the female under the forelegs.

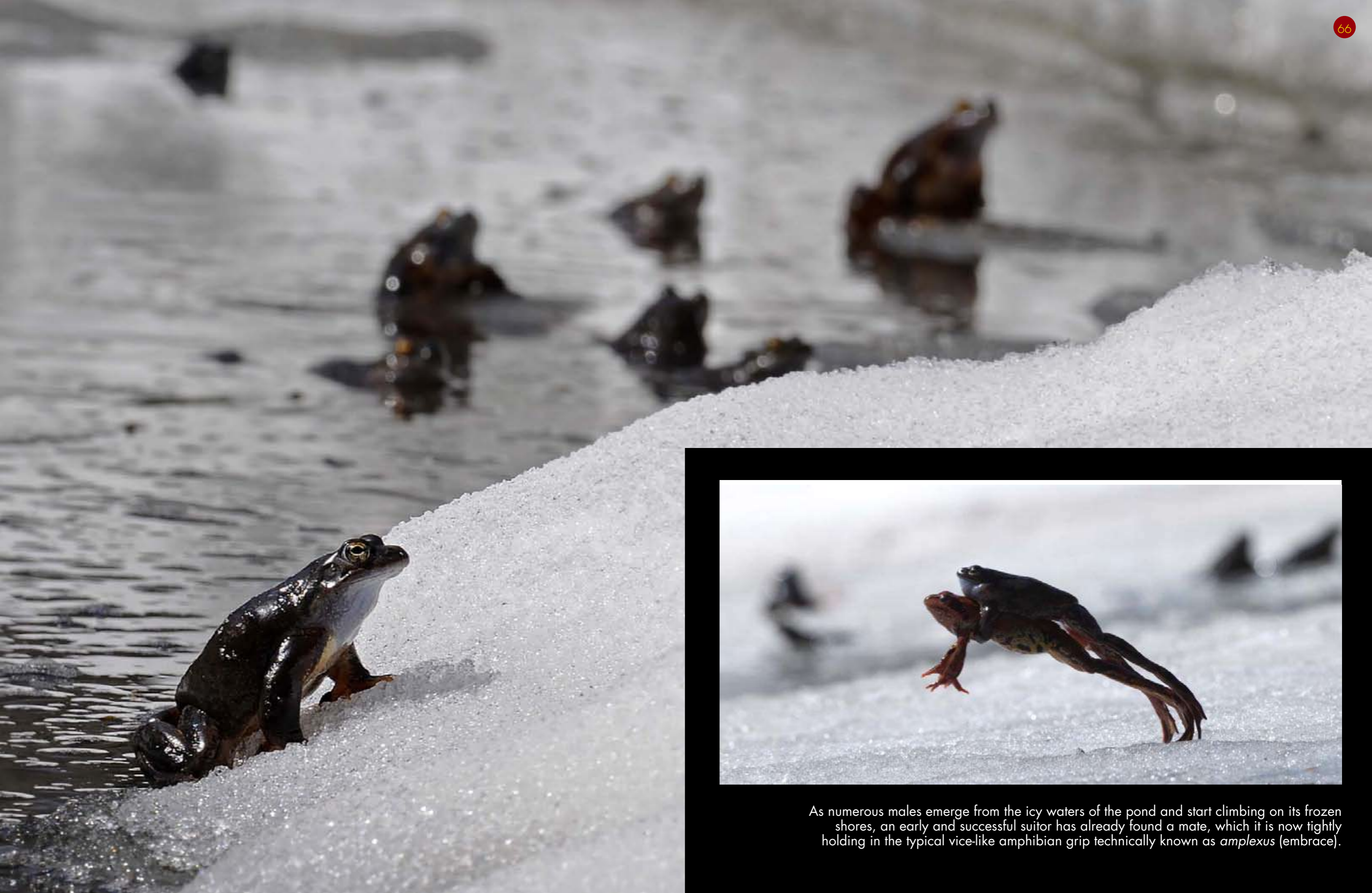
Love on the Rocks



Males on the lookout in the snow. The mating season of the species is exceedingly short - just a week in March, after which the frogs move back to their terrestrial habitat.



A female among clusters of freshly-laid eggs. The actual spawning of the species typically occurs at night, but the courtship rituals take also place during daytime.



As numerous males emerge from the icy waters of the pond and start climbing on its frozen shores, an early and successful suitor has already found a mate, which it is now tightly holding in the typical vice-like amphibian grip technically known as *amplexus* (embrace).



Wrestling for love

In a blind frenzy of desire, a male tries to embrace a pair which is already locked in *amplexus*. Females of this species are very often mated to exhaustion, drowning during the embrace or succumbing immediately after spawning. Notice the remarkable difference in color between the two grey-brown males and the red female.



In an endless sea of eggs

A male (on top) and a female are locked in a successful embrace, floating in a veritable ocean of fecundated eggs. The females, which are generally larger than the males, lay between 1,000 and 2,000 gelatinous, transparent, round eggs which float in large clusters.

Love on the Rocks

A careful scan of the image reveals an almost inextricable mass of frogs and fecundated eggs with no less than seven males and a single female. The Common Frog is found throughout much of Europe as far north as northern Scandinavia inside the Arctic Circle and as far east as the Urals, except for most of Iberia, southern Italy, and the southern Balkans.



Group mating in the sun

Adult Common Frogs have a body length of 6 to 9 centimetres (2.4 to 3.5 in) with olive green, grey-brown, brown, olive-brown, grey, yellowish or rufous backs and flanks. However, common frogs can also lighten and darken their skin in order to match their surroundings. More unusual colourations are occasionally observed - both black and red individuals have been found - and male common frogs have been known to turn greyish blue in the mating season.



Scores of mating frogs, locked in embrace, now dot the half-frozen surface of the small mountain lake, with thick masses of eggs already covering its surface.



A close up portrait of a mating pair of *Rana temporaria* firmly locked in *amplexus*, with the male on top and the female below. The lock can last for several hours.



A successful suitor

The flanks, limbs and backs of this species are covered with irregular dark blotches, and it usually sports a chevron-shaped spot on the back of the neck. The frogs' underbellies are white or yellow (occasionally more orange in females) and can be speckled with brown or orange. Their eyes are brown with transparent horizontal pupils, and they have transparent inner eyelids to protect their eyes while underwater, as well as a darker "mask" which covers their eyes and eardrums.



Locked in a deadly love embrace

A hapless *Rana temporaria* female is being overwhelmed by several male suitors, all trying forcefully - and simultaneously - to lock her in the mating embrace. Many Common Frog females will meet their death in the icy waters of the ponds in this manner during the breeding ritual.



A well deserved rest

A successful male rests momentarily among clusters of spawn. Adult common frogs will feed on any invertebrate of a suitable size, although they do not feed at all during the breeding season. Favorite foods include insects, snails, slugs and worms. Their feeding habits change during their lives; older frogs will exclusively feed on land, but young ones will also feed in the water. Tadpoles are mostly herbivores, feeding on algae, detritus and some plants, although they will also eat other animals in small amounts.



At the end of the mass breeding ritual most of the small pond's surface will be covered in the unmistakable gelatinous masses of eye-like, spawned eggs.



The remains of the day - a female which died of exhaustion lies among masses of spawn. The water is icing up again - but the survival of the colony has once more been assured.

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Macro Maestro

Kurt Orionmystery – A Wildlife Photographer in His Own Words

Malaysia's impenetrable rainforests are not only home to iconic species such as orangutans and hornbills - and a local photographer with a keen eye for details has decided to discover their smaller wonders

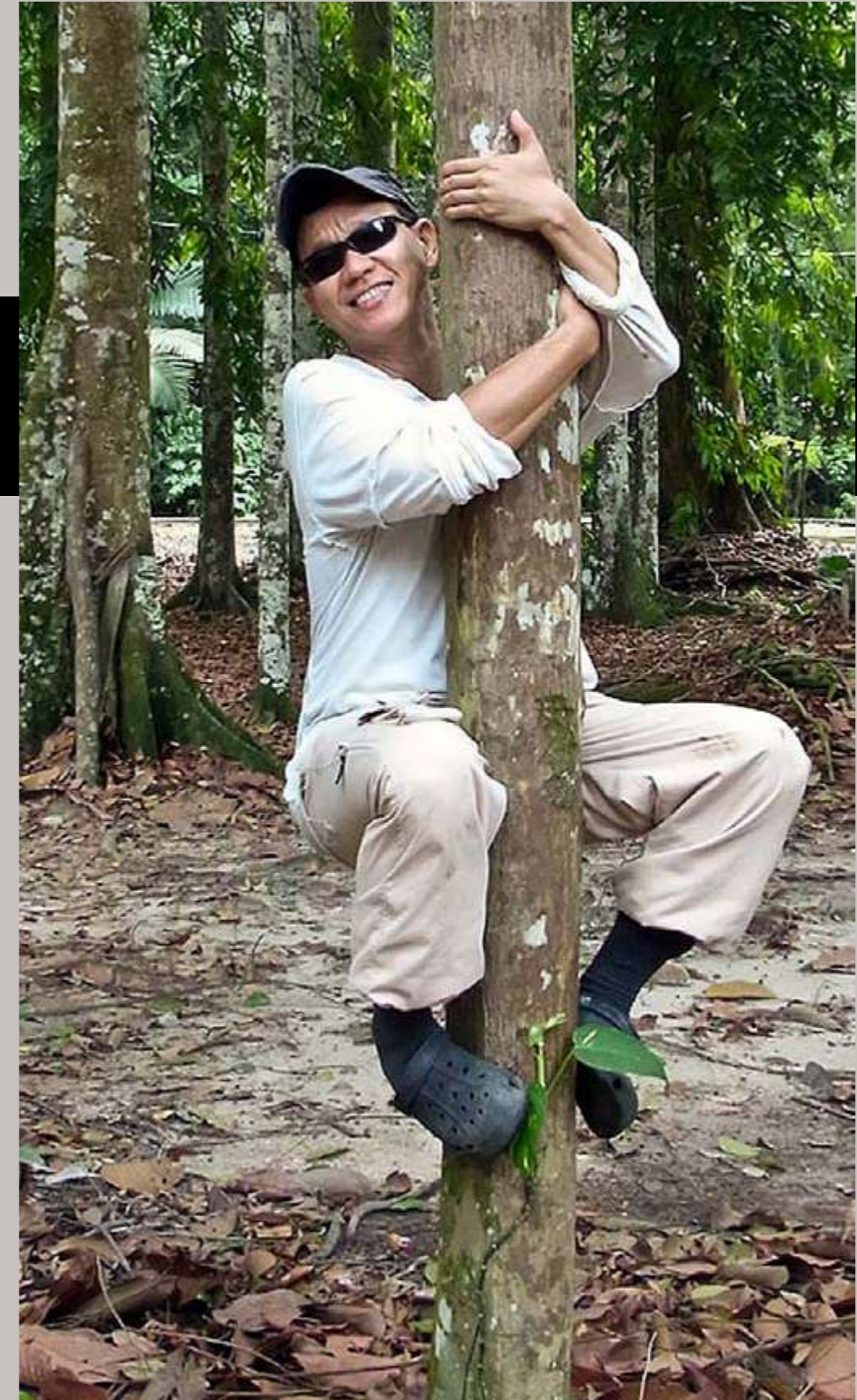
My name is Hock Ping Guek but I am known as Kurt (orionmystery) to my real life photography friends and many more in some ten macro photography forums (and Facebook!) I actively post in. I live in Malaysia and have been shooting mainly macro and nature photography since July 2007. Macro has really opened up a whole new world for me. The more I get to know my macro subjects (mainly arthropods), the more I am in love with them. Invertebrates may be small, but they are the majority. Without them, our ecosystem will collapse in no time!

I bought my first camera, a film Point & Shoot, before I went on a 2-week trip to New Zealand, in January, 1996. Not too long after that, I upgraded to a film SLR. About ten years later, in 2007, while browsing some macro images in a few local forums, I found myself amazed by the details in the insect images that we

didn't get to see with our naked eyes. That really sparked my interest in macro. I bought my DSLR and a 1:1 macro lens in July 17, 2007, and started doing macro photography seriously since then. However, after about a year, I started yearning for more magnification and the Canon MP-E65 1X-5X macro lens seemed like a natural choice for me. I switched to Canon just because of this wonderful lens. I later also acquired the Canon MT-24EX Twin Flash to complete my macro rig. All my images here were shot with a Canon 40D, either with the MP-E65 and lit with the MT-24EX Twin Flash, or Sigma 150mm, with or without a 1.4x tele-converter, with natural light. I am not sure if I have what one would call a "personal style", but I always do my best to make my arthropod subjects look good, by giving them good light and by picking the best angles to shoot from. I could spend easily 30 to 60

minutes on one subject, even more if it's something rare. I love both full flash macro as well as natural light macro. I strongly urge that you try both if you haven't already done so! I always shoot in RAW and process my raw files in Adobe Camera Raw, paying special attention to White Balance. I prefer my nature images to look natural and not overly saturated nor too contrasty! I spend around 5 minutes per image in Adobe Camera Raw, and probably another 5 minutes in Photoshop on dust spot removal and some cloning/spot healing to remove whatever that doesn't add to the image. All in all, it shouldn't take more than 10 minutes per image unless there is focus stacking (to increase depth of field) involved. My advice to anybody interested in macro? 3 P's : Passion, Patience and Practice - that's what I always tell my workshop participants. ●

<http://orionmystery.blogspot.com>





Ogre Spider - *Dinopsis* sp.

Canon EOS 40D, 1/200, f/13, Flash, ISO 100,
MP-E65mm f/2.8 1-5x Macro

Face to face with an aptly-named Ogre-faced spider
(*Denoipidae* - *Dinopsis* sp.) at night, Kuala Lumpur, Malaysia.



Temple viper *Tropidolaemus subannulatus*

Canon EOS 40D, 1/200, f/14, Flash, ISO 100,
MP-E65mm f/2.8 1-5x Macro

Four inches away from the front of my MP-E65 macro lens
to a venomous pit viper (*Tropidolaemus subannulatus*),
Pahang, Malaysia.



Spider with prey

Canon EOS 40D, 1/200, f/11, Flash, ISO 100,
MP-E65mm f/2.8 1-5x Macro

An unidentified nursery web spider
with a Hymenopteran prey I found at night.
Kuala Lumpur, Malaysia.

Lynx spider with prey

Canon EOS 40D, 1/200, f/11,
natural light, ISO 100
MP-E65mm f/2.8 1-5x Macro
A Lynx spider (*Oxyopidae*) with a
big winged termite prey at night.
Petaling Jaya, Malaysia.



Bird dropping Crab spider

Canon EOS 40D, 1/20, f/16, natural
light, ISO 800, 210mm
A Bird dropping Crab spider (*Phrynarachne*
cf decipiens?) with a wasp prey, and an
opportunistic fly, Maliau Basin, Borneo.

Jumping spider

Canon EOS 40D, 1/200,
f/11, Flash, ISO 100,
MP-E65mm f/2.8 1-5x Macro
A *Portia* sp. jumping spider,
Pahang, Malaysia.





Camouflaged spider

Canon EOS 40D, 1/200, f/11, Flash, ISO 200

Lens: MP-E65mm f/2.8 1-5x Macro

An exquisitely camouflaged *Heurodes* sp.(?) spider. Kuala Lumpur, Malaysia.



Flower mantis

Canon EOS 40D, 1/10, f/11,
natural light, ISO 200, 150mm

A gorgeous *Theopropus elegans* Flower mantis,
threatened by a fearless little spider.
Danum Valley, Sabah, Malaysia (Borneo).



Anglehead Lizard

Canon EOS 40D, 1 sec,
f/4,5, natural light, ISO
200, 150mm

A handsome male
Anglehead lizard
Gonocephalus grandis
on a tree trunk. Selangor
State Park, Malaysia.

Longhorn beetle

Canon EOS 40D, 1/200,
f/11, Flash, ISO 200,
MP-E65mm f/2.8 1-5x Macro

Portrait of an unidentified
longhorn beetle
from a highland in Pahang,
Malaysia.





Ant-mimic Crab spider

Canon EOS 40D, 1/200,
f/11, Flash, ISO 200

MP-E65mm f/2.8 1-5x Macro
A male Ant-mimic Crab spider
Amyciaea lineatipes with a
weaver ant prey. Kuala
Lumpur, Malaysia.

Crab spider

Canon EOS 40D, 1/200, f/11, Flash, ISO 100

MP-E65mm f/2.8 1-5x Macro

An orange Crab spider (*Thomisidae*)
on a purple wildflower.



Robber Fly with prey

Canon EOS 40D, 1/200, f/14, Flash, ISO 100

MP-E65mm f/2.8 1-5x Macro

A golden robber fly *Laphria sobria*
with beetle prey, Pahang, Malaysia.

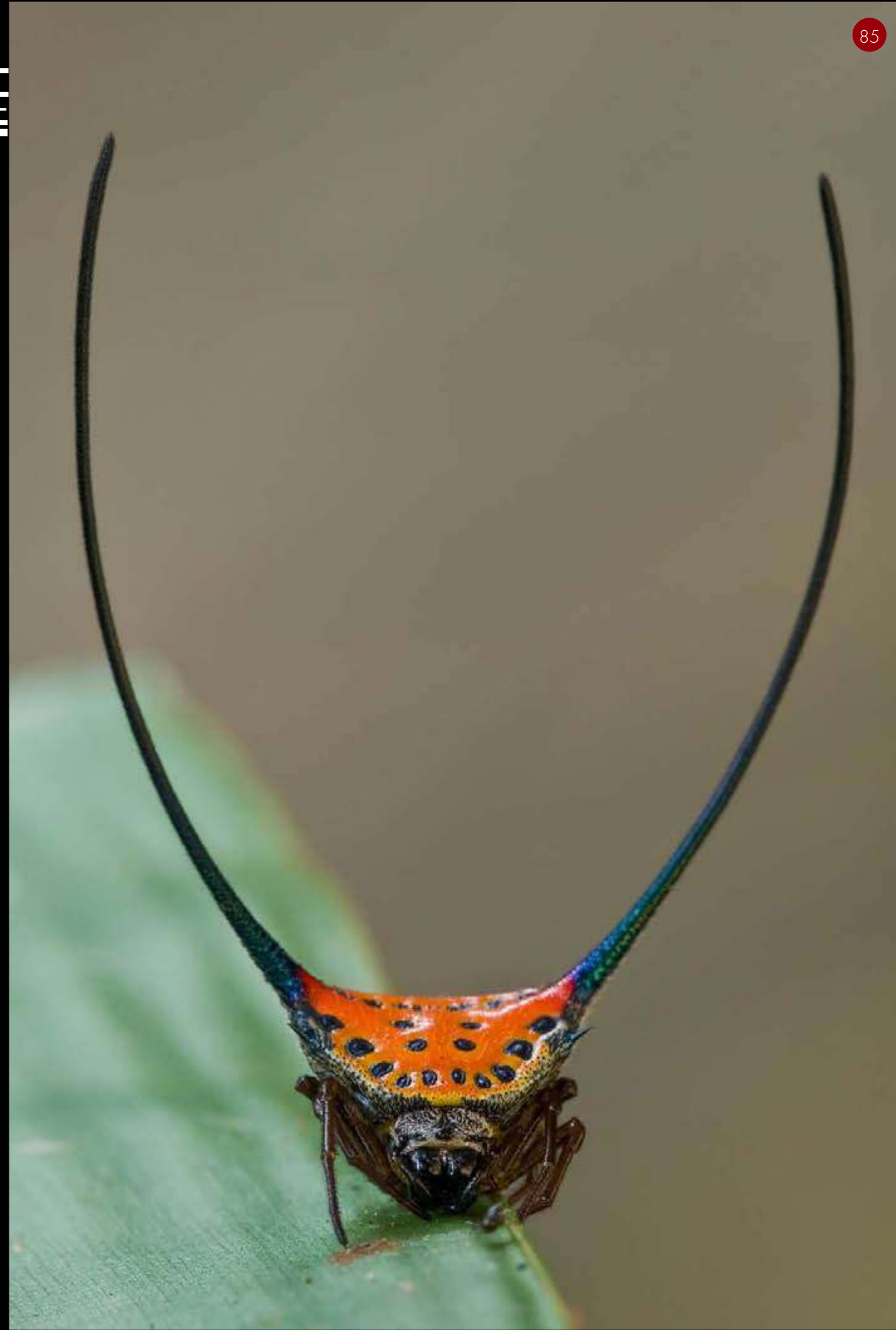
Spiny Orb Weaver

Canon EOS 40D, 1/4 sec, f/11,
natural light, ISO 100, 150mm
A beautiful Spiny Orb Weaver
Macracantha arcuata,
Selangor State Park, Malaysia.



Lacewing

Canon EOS 40D, 1/200, f/13, Flash, ISO 200
MP-E65mm f/2.8 1-5x Macro
A gorgeous new species of lacewing (*Semachrysa jade*)
I found in Selangor State Park, Malaysia.



Huntsman spider

Canon EOS 40D, 1/200, f/13, Flash, ISO 100
MP-E65mm f/2.8 1-5x Macro

A Malaysian Black and Gold Huntsman (*Thelcticopis* sp., family *Sparassidae*, Tube-dwelling spiders) and a daredevil yellow crazy ant! Kuala Lumpur, Malaysia.



Bird dropping spider pair

Canon EOS 40D, 1/200, f/13, Flash, ISO 100,
MP-E65mm f/2.8 1-5x Macro

A female Bird dropping spider *Cyrtarachne fangchengensis* and a really small male of the same species. Petaling Jaya, Malaysia.



Longhorn beetle with mites

Canon EOS 40D, 1/200, f/13, Flash, ISO 100, MP-E65mm f/2.8 1-5x Macro
Face to face with a longhorn beetle *Batocera thomsoni* with mites on its forehead. Highland in Pahang, Malaysia.

Spitting spider with spiderlings

Canon EOS 40D, 1/200, f/11, Flash, ISO 100, MP-E65mm f/2.8 1-5x Macro
Face to face with a Spitting spider (*Scytodes* sp., probably *S. velutina*) with her spiderlings. Kuala Lumpur, Malaysia.





Up Close with Nature

Nature / Macro photography blog

<http://orionmystery.blogspot.com>



An aerial photograph of the Raja Ampat archipelago in Indonesia. The image shows numerous small, forested islands of varying shapes and sizes, scattered across a vast expanse of water. The water's color transitions from a deep, dark blue in the open ocean to a vibrant turquoise and light green near the islands, indicating shallow reefs and sandy bottoms. The sky is filled with soft, white clouds, and the overall scene is one of a pristine, tropical paradise.

Raja Ampat ...

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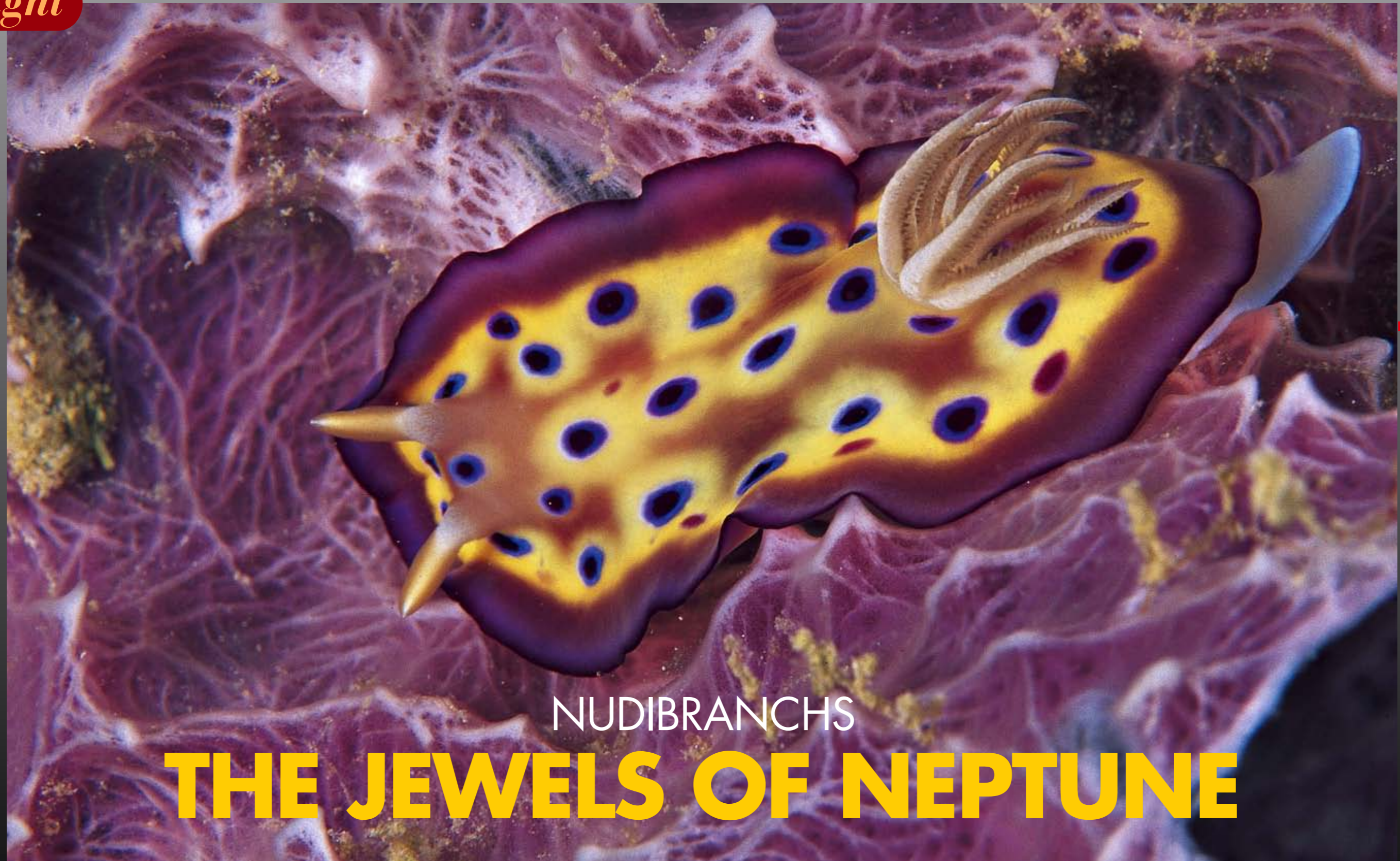




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A d v e r t i s e m e n t



A portrait of *Chromodoris kuniei* feeding on a sponge offers a clear view of its frontal rhinophores and dorsal, exposed gills.

NUDIBRANCHS

THE JEWELS OF NEPTUNE

Much loved and sought after by underwater photographers, these toxic marine slugs come in a dazzling variety of colors and shapes

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

Despite their being quite common in worldwide temperate and tropical waters and most of the times being quite spectacularly shaped and colored, nudibranchs – or “nudis” in divers parlance – are still a mysterious lot to plenty of people. What are those technicolored globs crawling in the muck? Have they got a head? Eyes, anyone? Where’s the front, and where the back? Do those things actually eat?

Well, to put it simply, they’re slugs – or snails without an external shell. About forty Families in all, counting literally hundreds of different species: in scientific lingo – which is absolutely fundamental even if most divers shamefully skip it – they’re highly evolved *gastropods* (*gastro*=stomach, *pod*=foot: critters crawling on their belly), belonging to the Class *Opisthobranchia* (*opisto*=protruding, *branchia*=gills: with external gills), ie close relatives of your common land-based, lettuce-eating garden snails. Like those drably colored pests, nudibranchs are soft-bodied mollusks which move on the substrate crawling on a fleshy belly which acts like an elegantly undulating foot (if disturbed, some of them can even “swim” some distance

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A pair of *Hypselodoris apolegma* prior to mating. Nudibranchs utilize their gaudy aposematic coloration to advertise their toxicity to would-be predators.



A telling sample of the stunning variety in shape and colors offered by the nudibranch tribe. Top left, *Chromodoris geminus*; top right, *Chromodoris splendida*; bottom right, *Halgerda willeyi*; bottom left, *Gymnodoris ceylonica*.



Far left, a mating pair of the splendidly colorful *Nembrotha purpureolineolata*. Left, a large *Ceratosoma tenue* is laying its eggs, joined together in a lace-like, colorful ribbon.

■ A side view of *Chromodoris tritos* clearly shows the salient features of this nudibranch genus: frontal rhinophores, dorsal naked gills, undulating mantle and fleshy foot used for locomotion.



away, like the famously wriggling Spanish dancer *Hexabranchus sanguineus*). With a few rather fascinating differences, however: first of all, as their name (nudibranchs: with naked gills) implies, they extract oxygen from water via their external gills, easily identified in most species as a little graceful tuft of soft, comb-like tissues protruding from their back (beware: they can retract it with surprising speed if molested). Second, the four little cutesy "horns" of land-based snails are substituted in nudibranchs by two small, similar looking frontal protrusions named *rhinophores* (*rhino*=nose, *phores*=bearers: nose-placed sensors), complex sense organs which are able to detect food particles in the water column, light level variations, smells in the current and so on. Third, lacking an external protective shell, they have developed a most fascinating way to defend themselves: most of them are able to store in their own tissues the noxious chemicals contained in their preferred food items. Since they mostly feed on horribly unpalatable items as sponges, ascidians, stinging hydroids and quite often other nudibranchs (I told you they have pretty interesting habits!), the stuff they're able to ingest is pretty powerful, being made of corrosive acid-like compounds and making them rather unappetizing for the



Chromodoris coi is a rather common and most beautiful species found in the Indo-Pacific. Note its dorsal, feather-like naked gills and the specialized sense organs called rhinophores in the front.



More nudibranch eye candy! Far left, a veritable underwater orgy with no less than four simultaneously mating *Hypselodoris apolegma*; top right, a particularly colorful variation of *Chromodoris kuniei* from Borneo; bottom right, the very common *Phyllidia ocellata*.

A triumph of gaudy colors and patterns to boldly advertise their toxicity

A very large and remarkably colorful species, *Chromodoris albopunctata* can be immediately identified by its bright orange "foot".



other denizens of the deep. These toxic substances can be stored in the body tissues or in the flailing and expendable dorsal appendages called *cerata*, typical of several species, to be loosed in the surrounding water when need arises to ward off marauding predators – or to give a nasty shock to the predator who unluckily tries to chew on them: the single specimen might be lost, but the lesson in avoiding similar animals in the future would be passed on. This, in turn, has allowed nudibranchs to evolve what is called an aposematic livery, ie a spectacular and colorful warning pattern which openly advertises their toxicity as food items. This is a wonderful advantage not only for the roving underwater photographer who happens to bump into them during a dive, but for many other quite perfectly harmless creatures, who will in fact openly mimic nudibranchs to avoid being eaten, like the Clown or Warty Frogfish *Antennarius maculatus* babies. Their feeding habits are fascinating for many more reasons: to scrape away at the rough abrasive surfaces of sponges or to implacably draw inside their gut a living, writhing fellow nudibranch as big as themselves, they have developed a rasp-like tongue (found in land-based snails also) called a *radula* and covered with more than 750.000 chitinous, back facing teeth. This

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More examples of the immense variety in body shapes and coloration offered by nudibranch species. Top left, *Reticulidia fungia*; top right, *Tambja sagamiana*; bottom right, *Thecacera picta*; bottom left, *Phillydia coelestis*. Belying their jelly-like appearance, most nudibranchs are in fact quite firm and rubbery to the touch.



Top left, the highly variable *Nembrotha kubaryana*; top right, the unmistakable *Ardeadoris egretta*; bottom right, the gaudily patterned *Chromodoris leopardus*; bottom left, *Chromodoris tinctoria*.



horrifying instrument is hidden inside a proboscis-like mouth which can be extruded at will to fully engulf very large, living prey. Luckily for us, most of them are quite small (from a few millimeters to about thirty centimetres long, but the average is between two and ten), easily found in daytime and very easy to approach.

HOW TO ENJOY LIFE AS A NUDIBRANCH

Despite being what could only be called – with a measure of desperate kindness – a technicolored blob of venomous jelly, nudibranchs are also very lucky little fellows. They seem to mostly do three things only: move around (a lot), eat enormous quantities of spicy food without paying the consequences (a lot, in fact), and have enviably long and incredibly flamboyant sex sessions (lots and lots of them, again). The matter of nudibranch sex seems to be particularly fascinating, as the little lucky slugs happen to be hermaphrodites, ie every single individual boasts both male and female organs: since both are put to good use during lovemaking, and nudis apparently also greatly enjoy group sex, the possibilities for interesting combinations seem quite endless! Well, without getting into further potentially embarrassing details, it's these three activities that

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Far left, top, *Chromodoris magnifica*, an extremely common species of tropical waters; far left, bottom, another common species, *Chromodoris geometrica*. Left, a beautiful *Chromodoris coi* laying its ribbon-like clutch of eggs.

*A living, undulating carpet
of venomous, rubbery jelly*



Dendrodoris tuberculosa is a very large and exceedingly impressive species which is however rarely noticed by divers.

make nudibranchs such interesting subjects of underwater observation and photography. They're not difficult to come by, both in temperate and tropical waters, although for some curious and unexplained reason some places just seem to be richer with them: best spots in SE Asia for truly spectacular specimens and uncommon species seem to be in coastal areas with lots of silty bottoms, like in Kapalai and Lankayan (Sabah, Borneo) or the Lembeh Strait (North Sulawesi), but you certainly can expect to see lots of them anywhere else, even on oceanic, coral-rich reefs. Just scan the bottom up close and take a good guidebook along, as nudibranchs come in literally hundreds of sizes, shapes, patterns and colors – making it great fun to collect them all on digital but making it also a headache correctly identifying them all in the field. Remember however most nudibranchs have a rather short life and some species are quite seasonal, so do not expect to see all the species you're looking for in a short stay – it takes years to build up a good collection of representative and behavioral shots. Genus assignment and naming is also in a state of constant flux like with many other animal species, and the same specimen – particularly with the less common ones - can go by two different names in two equally and perfectly respectable volumes.

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Far left, top, the strikingly patterned *Hypselodoris nigrostriata*; far left, bottom, a trio (or should we say in this case threesome?) of mating *Hypselodoris whitei*. Left, a pair of *Nembrotha cristata* are feeding on a clump of unpalatable hydroids and ascidians.



Hypselodoris jacula is a rather uncommon but truly stunningly patterned species of the Central Indo-Pacific.

SAY “CHEESE” – BUT WHERE’S YOUR MOUTH?

Now, most nudibranchs are so unbelievably showy because most of the times you’ll spot them on rather drab backgrounds – silty or coarse sand bottoms, dead coral, muck and so on. There’s apparently a very good reason for this – being soft-bodied and scaleless they probably don’t like being burnt by the live corals’ stinging cells, the so-called nematocysts. So don’t try to be creative when you find one and attempt to take that perfect creative shot by picking up the poor little fellow and placing it on a gaudy coral perch, as such a silly move would only be wildly inappropriate – both from a biological point of view and from a strictly photographic one, as you want a mildly uninteresting background to sharply set off the nudibranch’s delicate body shape and often amazingly colorful livery. Moreover, trying to pick a nudibranch up to place it somewhere else almost invariably ends up with the little now rolled-up slug wildly rolling in slow-motion and floating away in the current without ever settling down again for you. Of course there’s exceptions to the rule: nudis can and will be now and then found on living hard corals, and some species habits offer great photo opportunities: many species can be found feeding on



Far left, top, the somberly patterned *Phyllidiella rosans*; far left, bottom, the tiny *Hypselodoris emmae*; left, the large and unmistakable *Jorunna funebris* - an imposing species which is often observed in small aggregations.

brilliantly colored ascidian colonies, and the queer-looking, black-and-white *Jorunna funebris*, for example, will almost be invariably found – often in small groups – on the purple-blue vase sponges it ravenously feeds on – a gorgeously contrasting background for great close-ups.

A few more phototips: one, try to avoid that all-too-easy dead vertical shot – don't frame the nudibranch as if you were trying to dive bomb it. Try to lay down on the bottom as flat as you can and go for some creative shots – profiles or full frontals usually work nicely to show the separation between the actual body of the animal and the underlying ventral foot, or to take advantage of the soft elegance of the undulating mantle. Also, don't click away like a mad machine gunner when you spot a nudibranch – first get close, and then even closer (I'd love to say "till you see the white of their eyes" here but sadly I can't) and wait for the little slug to settle down and relax after bearing the shockwaves of your approach. Try to fill the viewfinder up with your subject without cutting out of frame any body parts, and always check for the rhinophores and the gill tufts to be extended – you do not want to photograph the animal with those tucked in. Given their small size, a



■ A portrait of a rather common but nevertheless beautiful *Hypselodoris bullockii* as it lays its lace-like egg ribbon. Classification of nudibranchs is in constant flux as new species are discovered and named on an almost daily basis.



■ Nudibranchs belonging to the genus *Ceratosoma* are some of the most impressive, largest, more colorful and strangely-shaped divers can hope to encounter. Top left, *Ceratosoma sinuatum*; top right, *Ceratosoma tenue*; bottom right, *Ceratosoma gracillimum*; bottom left, *Ceratosoma trilobatum*.

macro lens is obviously a must – for DSLR in an underwater housing users, that usually means a 105mm. And always try to nail them while they’re doing something – especially feeding or having sex. Large species like some *Risbecia* or the stiff-bodied winged *Ceratosomas* will sometimes carry around one or two Emperor shrimp *Periclemenes imperator* on their backside, a great bonus to the photographer: Spanish dancers *Hexabranhus sanguineus* usually have one or two of these tucked up close to their tufted gills, so look carefully before you click. Lucky divers sometimes even spot them while they are laying eggs – millions of microscopic pearls which build up in an extraordinarily graceful lace-like red, pink or yellow ribbon, which really livens up the shot. Take your time – your subject won’t run away in this occasion – and you’ll discover that even nudibranchs can strike graceful, glamorous poses. But beware ! Like frogfish or gobies, these critters are addictive – once you’ve photographed one, you simply have to to photograph them all, and that is going to be some serious business. ●



Often exceedingly small - ie a few millimeters long - some nudibranch species are however equally colorful and interesting, such as this stunning *Janolus* sp., whose tiny body is completely covered in toxic cerata.



The Parting Shot

Even considering the current highly endangered status of the African lion *Panthera leo* (populations have plummeted by 50% in the last two decades), it still seems somewhat ironic that twenty-seven years ago we had to travel all the way to India for our best memories of this impressive feline. As good sightings of the African subspecies are now getting few and far between - with the prides being decimated by TB and human-predator conflict - it seems strange remembering encountering several beautiful specimens of the Asiatic subspecies *persica* in the dry forest of Sasan Gir National Park, in the Indian State of Gujarat. Coexisting somewhat peacefully with the local human population, these huge beasts (now

about 400) seem more tolerant of man than their African counterpart, and it is not unusual meeting one or more when crossing the forest on foot. Yet I felt understandably apprehensive as I stepped out of our jeep and started approaching the huge lioness pictured above, the tall dry grass brushing against my knees. As I stopped less than 30 meters away, I realized I was facing the same animal which once roamed Asia Minor, and even Europe itself. The habitat of lions originally spanned the southern parts of Eurasia, ranging from Greece to India, and most of Africa except the central rainforest-zone and the Sahara desert. Herodotus reported that lions had been common in Greece around 480 BC; Aristotle considered them

rare by 300 BC, and by 100 AD they were extirpated. A population of Asiatic lions survived until the 10th century in the Caucasus, their last European outpost. The species was eradicated from Palestine by the Middle Ages and from most of the rest of Asia in the 18th century. Between the late 19th and early 20th century, they became extinct in North Africa and Southwest Asia. By the late 19th century, the lion had disappeared from Turkey and most of northern India, while the last sighting of a live Asiatic lion in Iran was in 1941. Suddenly and deeply moved, I understood how privileged I was at that moment - I was looking in the eye the lion which had faced King Agamemnon and Alexander the Great. ●



IN ANIMA MUNDI'S NEXT ISSUE
No. 11, Third Quarter, July 2013

RIVER OF LIFE
Exploring Borneo's
mighty Kinabatangan



A PRAYER
FOR A PREY
The amazing world
of Praying mantids



BORN TO BE WILD
The endangered
African Hunting Dog



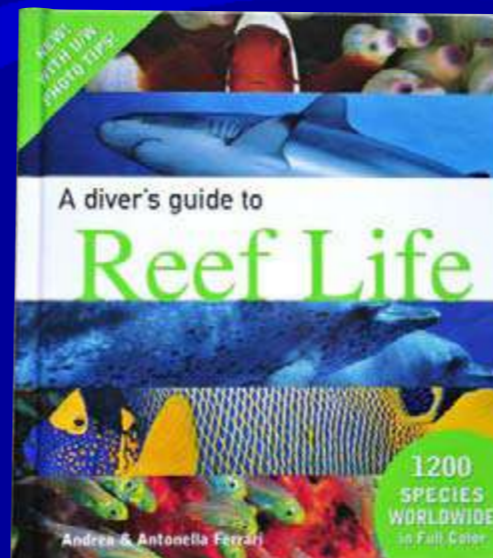
EUROPEAN EMOTIONS
Andrea Zampatti's
Personal Portfolio

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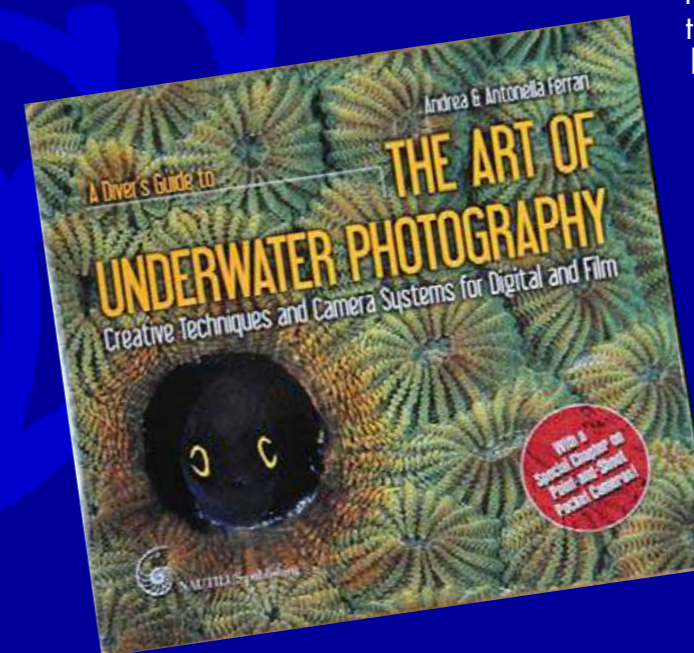
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