

BBC

SEA EAGLES \* MADAGASCAR \* BILL ODDIE \* ECUALOR'S AMAZON

# Wildlife

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Exclusive sneak preview:  
Veolia Environnement Wildlife  
Photographs of the Year

October 2011 £3.80 US \$8.25 CAN \$10.95  
Volume 29 Number 11





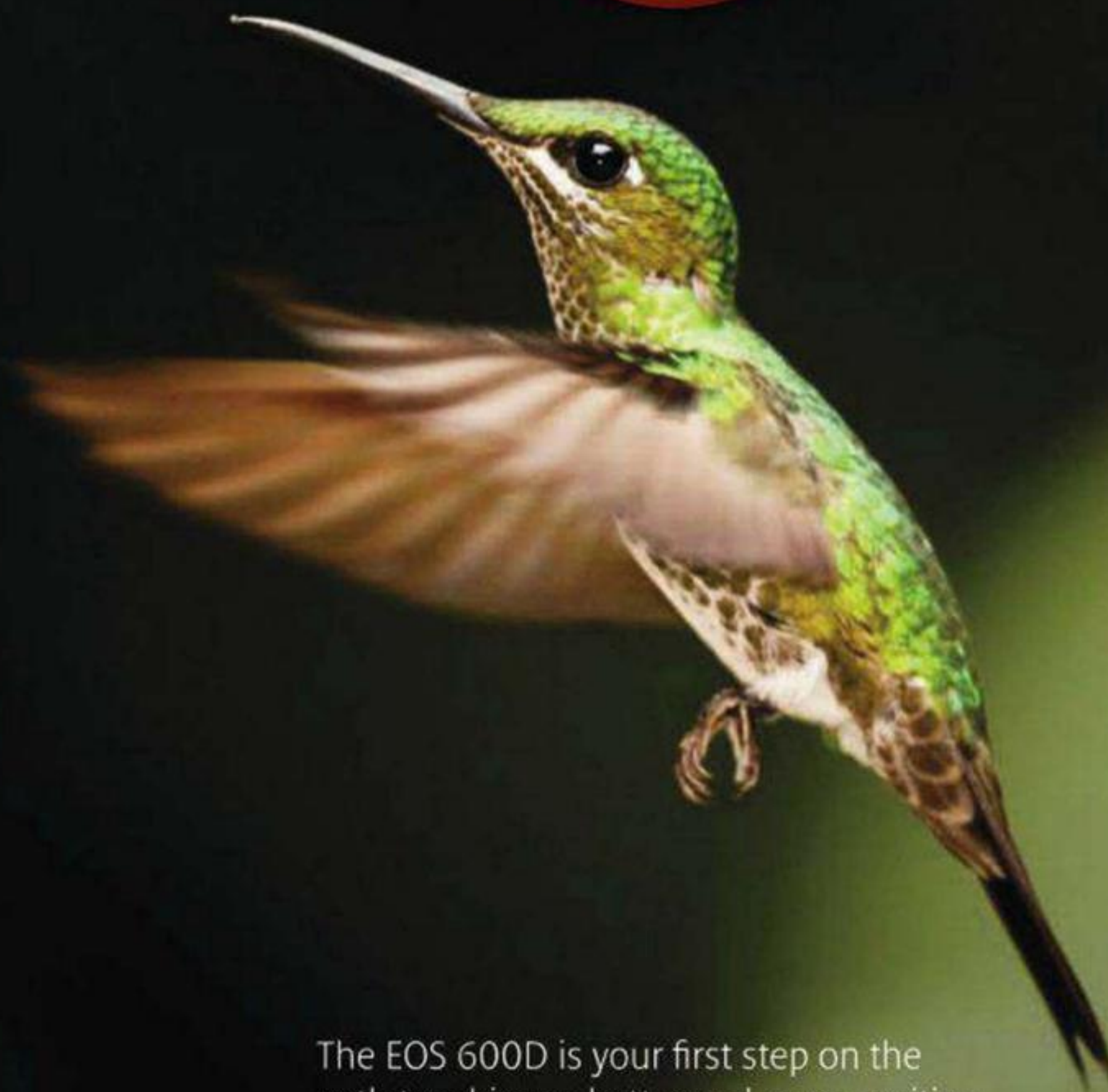
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## THIS MONTH'S CONTRIBUTORS

### MIA-LANA LÜHRS



#### Fosas, p44

Mia is studying Madagascar's largest living carnivore, the fosa, for her

PhD. "As soon as I saw my first fosa in the wild," she says, "I knew that it was for me – secretive, fascinating, mysterious and beautiful."

### KENNY TAYLOR



#### Sea eagles, p54

Until this year, Kenny's biggest thrill was seeing

sea eagles off wild coasts. "But getting close to the young eagles at the airport and in Fife is now something I'll never forget," he says.

### MARGARET ATWOOD



#### Ghosts of Gone Birds, p68

Margaret is a Booker-Prize-winning author

who has had a passion for wildlife from a young age. "We can prevent mass extinctions, especially of bird species at risk," she says.

### DAVID HERASIMTSCHUK



#### Ecuador's Amazon, p74

David blends science and photography to raise

awareness of freshwater ecosystems. "Frogs are my favourite photographic subjects," he says. "There are just so many species."

Cheryl-Samantha Owen



# Welcome

The white rhino on the cover lords it over a South African game reserve, where he is renowned for being grumpy. Photographer Wim van den Heever wasn't deterred, however, confident that by giving the feisty creature a wide berth he could avoid irritating him. How wrong he was...

Wim is one of 1,000 photographers who entered the Veolia Environnement Wildlife Photographer of the Year (VEWPY) competition for the first time this year, contributing to an impressive total of 40,940 images.

With so many pictures, choosing the winners was a challenge as gargantuan as that tetchy rhino. A panel of first-round judges whittled the entries down to 12,152, then a group of top photographers slashed them further to a shortlist of 'only' 1,082 shots. The final-round judges – which included Mark Carwardine and myself – then had the tricky task of choosing the 104 images to grace the exhibition at the Natural History Museum (opening on 21 October).

As the first images were projected, the judges sat up straighter, exchanging looks – the standard was jaw-droppingly high. Our job was going to be harder than ever.

By day two, 99 per cent of entries in the Animals Portraits category had been



Choosing the winners was a challenge as gargantuan as that tetchy white rhino."

rejected. Near-misses, badly processed and unoriginal shots had been eliminated in the earlier rounds, but now we were having to set aside pictures any photographer would be proud to have captured.

You can see some of the best – and learn what happened to Wim – in our exclusive sneak preview of the winners (p21 – and enjoy even more at [www.discoverwildlife.com](http://www.discoverwildlife.com)). And don't forget to watch out for your gorgeous VEWPY exhibition guide, free with the November issue (on sale 20 October).

This month we also introduce Madagascar's most mysterious predator, the fosa (p44); Scotland's newly arrived sea eagles (p54); the astonishing migrating red crabs of Christmas Island (p62); and the inhabitants of Ecuador's wildest rainforest (p74). Enjoy the issue!

Sophie

Sophie Stafford, Editor



## ON THE COVER THIS MONTH...

'Rhino in charge' was Highly Commended in the Nature in Black and White category  
PHOTOGRAPH BY WIM VAN DEN HEEVER/VEOLIA ENVIRONNEMENT WPOY

## HOW TO GET IN TOUCH



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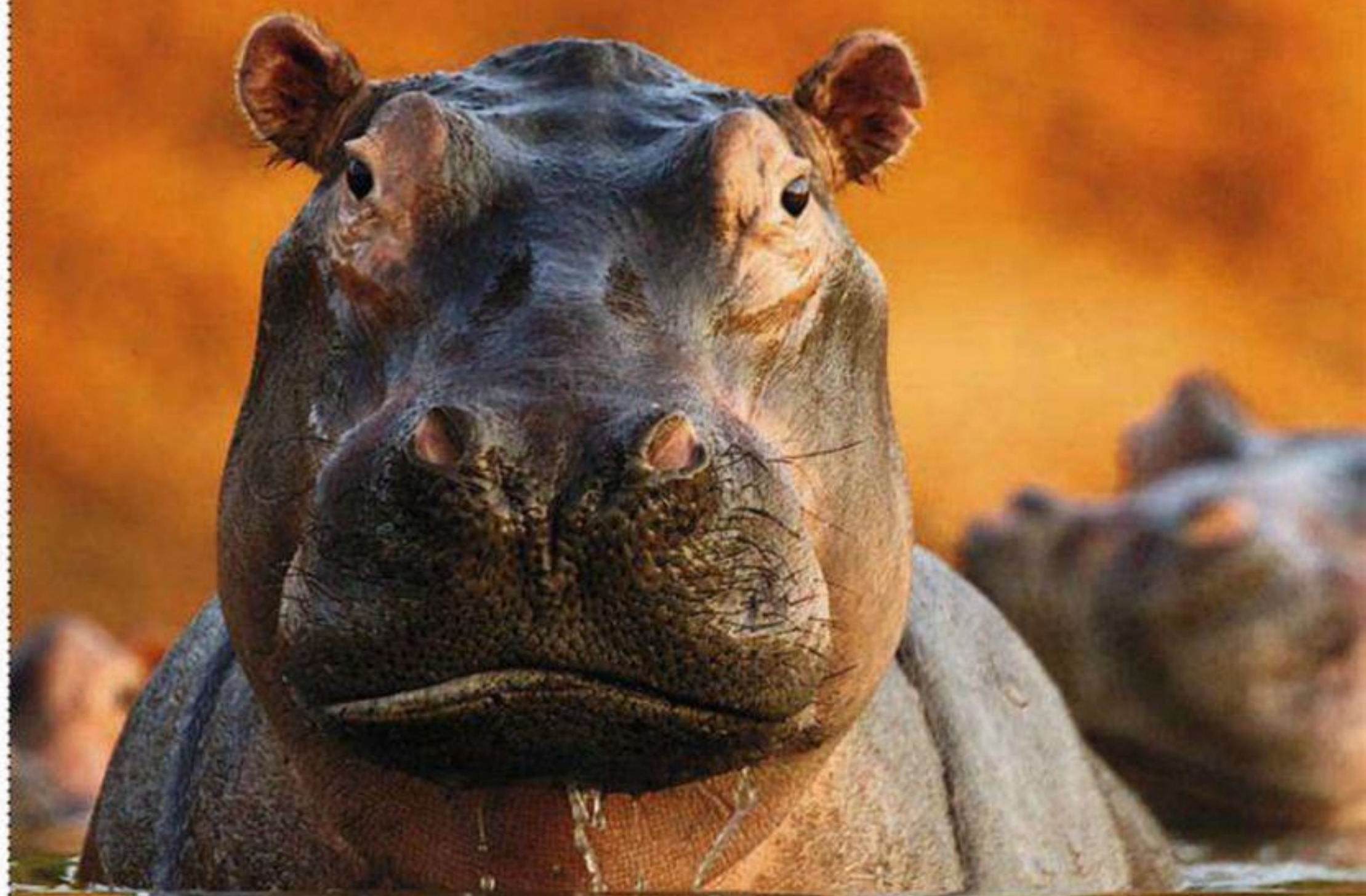
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### POOL OF HIPPOS

This photo of a grumpy hippo and friends was Highly Commended in the Veolia Environnement Wildlife Photographer of the Year 2011 competition



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**GHOSTS OF GONE BIRDS**  
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### SEA EAGLES

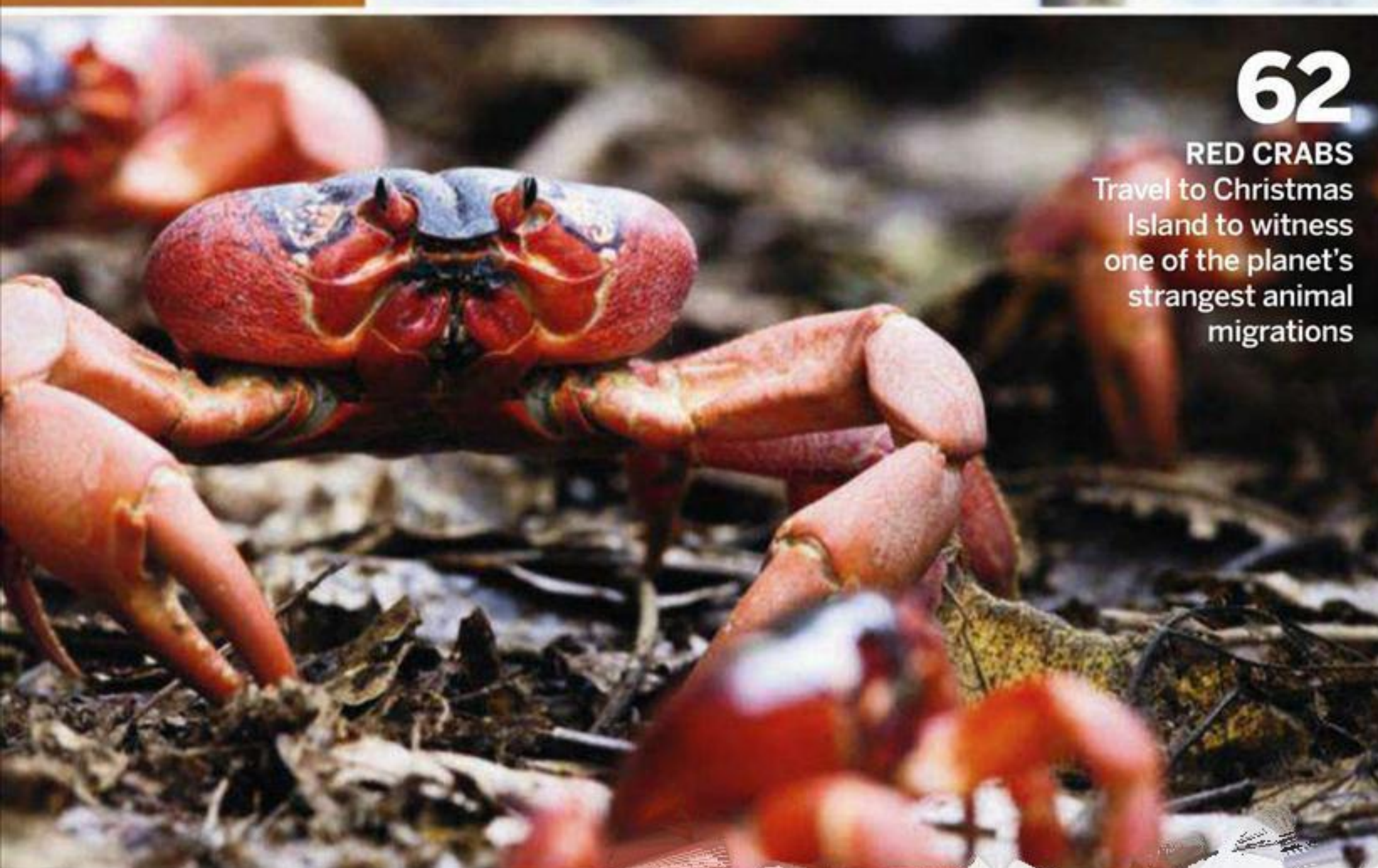
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Hippo: David Fettes/Veolia Environnement WPOY 2011; eagle: Jari Peltoniemi; fosa: Nick Garbutt; crab: Stephen Belcher; dodo: Ralph Steadman/gnostofonebirds.co

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### Discover a world of wildlife

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#### BBC WILDLIFE MAGAZINE 'ODDIE-CAST'

As warm and witty as ever, our new columnist Bill Oddie joins the podcast team this month.

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## RED SQUIRREL

# High jump

Hazelnut clamped firmly in its mouth, a red squirrel vaults a gap in the forest canopy, using the pliable outer branches of a neighbouring tree as a springboard. By October, with its autumn moult complete, this charismatic creature is again living up to its scientific name *Sciurus*, or 'shadow-tail'. This poetic description reflects the belief – once widely held – that a red squirrel uses its bushy tail as a sunshade. In truth, during the summer the appendage is much thinner and so would be of little use during a heatwave. When enduring the rigours of winter, on the other hand, it comes into its own as a shawl.

► Discover more about red squirrels at [www.rsst.org.uk](http://www.rsst.org.uk), [www.scottishsquirrels.org.uk](http://www.scottishsquirrels.org.uk) and [www.scottishsquirrel.org.uk](http://www.scottishsquirrel.org.uk)



# wild october

**species & habitats** | your local patch | things to do







## THREE TO SPOT STICKY SEEDS



Laurie Campbell

### ▲ GOOSE-GRASS

To some plants, we are merely a means of getting around: their seeds have evolved vicious hooks that snare our clothing (and mammalian fur). Goose-grass, also called cleavers or sticky willy, is one such species. It has spherical seeds covered in hooked hairs, plus trailing stems lined with minute barbs.



Keir Morse

### ▲ BEGGARTICKS

Anglers and dog-walkers have probably assisted the spread of this American plant, which is now common beside canals in the Midlands and south-east England. Its flat seeds have two prongs lined with back-pointing barbs that are hard to remove from clothing or dogs.

### ▼ GREATER BURDOCK

Like its relative, lesser burdock, this is a tenacious plant bearing huge, hooked seeds in ball-shaped clusters, which are thought to have inspired the inventor of Velcro. They are strong enough to ensnare birds such as goldfinches.



Bob Gibbons

Confident in their exquisite camouflage, woodcock sit tight when approached, exploding into the air at the last moment.



David Tipling

## WOODCOCK

# Moonlit arrivals

**T**he silent arrival begins on moonlit October nights. Over the next few weeks hundreds of thousands of woodcock will pour in from Scandinavia to seek shelter in our mild, worm-rich islands. In spring and summer, finding these handsome birds – Britain's only woodland waders – requires special effort (they skulk in thickets and damp woods by day, performing territorial flights over the treetops at dusk). But now they are much more widespread and easier to see.

Look for freshly arrived woodcock resting among coastal dunes and in copses. Their 'falls' can be spectacular; counts of more than 1,000 were made on Fair Isle in October 1976. Since they often arrive in the UK at the same time as Scandinavian goldcrests, those sprites were once thought to be the same species.

and were known as 'woodcock pilots'. Interestingly, woodcock fly inland over urban areas by night, and their feathers turn up below city-centre peregrine roosts – all that remain of midnight feasts.

While resting on the ground during the day, woodcock are brilliantly camouflaged against the fallen leaves, so are practically invisible. The only giveaways are their dark eyes, placed high on each side of the head to give an all-round view of potential danger. More often than not, the first sign that woodcock are in the area is a heart-stopping clatter of wings as a bat-like shape twists off between the tree trunks. If you're lucky, though, you may get a glimpse of the enormously long bill, which has a flexible tip for probing for invertebrates on the woodland floor and in wet fields.

► Follow this autumn's bird migration and other nature news at [www.bbc.co.uk/nature/uk](http://www.bbc.co.uk/nature/uk)



## HABITATS OF THE BRITISH ISLES

# Orchards

Strolling through a windfall-strewn traditional orchard on a sunny October day is an assault on the senses. Showy red admirals, tipsy on fermenting apples, hardly stir as you pass. Bullfinches whistle from the treetops; a green woodpecker yelps as it bounds away from an anthill. Tangles of mistletoe, a parasite of apple trees, are entwined in the old, gnarled branches.

Orchards such as this are rare nowadays. Since the 1950s, Britain has lost 60 per cent of them – victims of development. Many that remain are managed intensively, making the remaining wild orchards even more precious. Now is the perfect month to celebrate this often overlooked habitat.

► For more details about orchards go to [www.commonground.org.uk](http://www.commonground.org.uk)



## FIVE TOP SPOTS

With a few exceptions, most remaining traditional orchards are in south-west and southern England and the Welsh Borders.

1. THE MILLENNIUM ORCHARD, BEVERLEY, YORKS. A new, community-run orchard; [www.millenniumorchard.org.uk](http://www.millenniumorchard.org.uk)

2. HIPTON HILL ORCHARD, LENCHWICK, WORCS. Plum orchard managed by Vale Landscape Heritage Trust.

3. TEWIN ORCHARD, NR WELWYN GARDEN CITY, HERTS. Old apple orchard with badger-watching events; [www.tewinorchard.co.uk](http://www.tewinorchard.co.uk)

4. NO MAN'S ORCHARD, NR ASHFORD, KENT. First orchard to be a Local Nature Reserve.

5. KILLERTON HOUSE ORCHARDS, DEVON. 23-hectare apple orchard owned by the National Trust.

Windfall apples carpet the rough grass in a Kent orchard. The fallen fruit is a welcome feast for thrushes, badgers, hedgehogs and late-season butterflies.

Lisa Valder/Getty Images



## SPOTTER'S GUIDE

# Insect migrants

**A**s swallows and martins speed south, other winged migrants are flying north to the UK. Moths and butterflies that have bred in Europe, or even Africa, push northwards throughout summer and well into autumn.

Wafting over our shores on warm air currents, the visitors come in all shapes and sizes, from delicate vestal moths to convolvulus hawkmoths – huge grey phantoms that turn up in gardens to sip nectar from autumn-flowering fuchsias.

The immigrants include some of our most sought-after insects, such as the death's-head hawkmoth, a velvet-soft creature that squeaks when touched. In most years, monarch butterflies also make landfall here, having strayed from the Canary Islands or been blown from the USA by transatlantic tornadoes.

Most of these butterflies and moths will perish when winter arrives but some butterflies, such as painted ladies, do head back south again.

### ▶ HOW TO GET INVOLVED

■ **Attract moths by painting** a mixture of treacle, muscovado sugar and brown ale onto fence posts, or hang up a piece of rope soaked in red wine and sugar.

■ **Plant a floral banquet** in your garden. Trumpet-shaped blooms such as fuchsias lure hawkmoths; late-flying butterflies love Michaelmas daisies.

■ **A moth trap** is a great way to study moths; download a PDF guide at [www.ukbutterflies.co.uk/reports/als/als.pdf](http://www.ukbutterflies.co.uk/reports/als/als.pdf)

### KEY

- Common and widespread
- Local: easy to see in some spots
- Scarce: searching needed



### Painted lady ●

*VANESSA CARDUI*

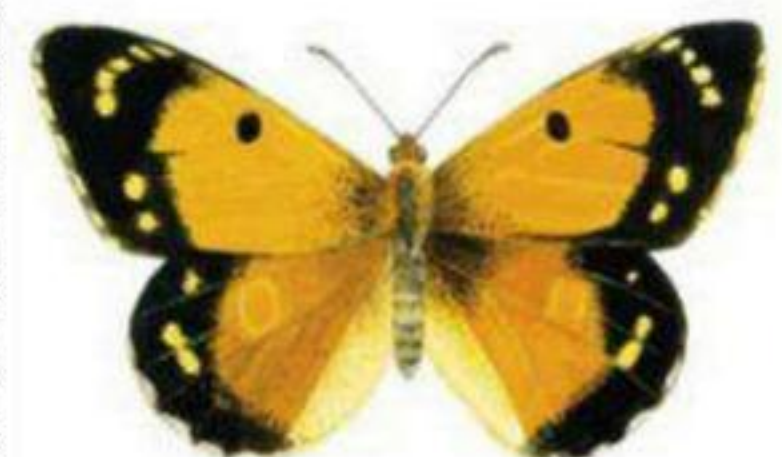
Powerful flier; can turn up anywhere, from gardens to mountaintops. Rarely survives winters in Britain.



### Red admiral ●

*VANESSA ATALANTA*

Found in most habitats, in October often on ivy blossom. Hibernates as an adult, surviving most winters.



### Clouded yellow ●

*COLIAS CROCEUS*

Open fields, cliff edges and gardens; flies until November. Its caterpillars can survive mild UK winters.



### Monarch butterfly ●

*DANAUS PLEXIPPUS*

Occurs in very small numbers in autumn, mainly in south-west England. Does not breed in UK.



### Convolvulus hawkmoth ●

*AGRIUS CONVOLVULI*

One of our largest moths. Gardens with tubular flowers such as fuchsia and tobacco plant; mainly in south.



### Striped hawkmoth ●

*HYLES LIVORNICA*

Very large. Mostly turns up near south and south-west coasts. Wings have distinctive pale veins.



### Death's-head hawkmoth ●

*ACHERONTIA ATROPOS*

One of our largest moths. Seldom seen except at coastal light-traps and bee hives. Skull pattern on thorax.



### Gem ●

*ORTHONAMA OBSTIPATA*

Gardens and many other habitats; migrants arrive in UK from late summer. Cannot overwinter here.



### Vestal ●

*RHODOMETRA SACRA*

Grassy areas, especially near coast. May rest with wings in a steep 'tent' shape. Cannot survive UK winters.



### Small mottled willow ●

*SPODOPTERA EXIGUA*

Throughout UK, most common in south. Folds wings around body at night.



### Silver-Y ●

*AUTOGRAPHA GAMMA*

Gardens and fields; often flies by night. Lands with quivering wings if disturbed.



### Clifden nonpareil ●

*CATOCALA FRAXINI*

Mainly south and south-east coasts. Rarely survives in UK; may establish temporary breeding colonies.





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by Derek Niemann  
Nature diarist and author

## QUEEN WASP

# The end of an era

In October 'big society' comes to an end for the super-sized wasps methodically patrolling our gardens. Now that their worker offspring are dead or dying, these queen wasps have abandoned their empty nests to make one last journey this year. Though nearly half as big again as workers, they otherwise look identical.

But these aren't the bothersome sugar bandits of late summer: a queen's only purpose now is to seek out a sheltered, enclosed place where she will curl up, foetus-like, to sleep away the winter. It's fun to observe where she flies, inspecting chinks in the log pile, probing a mining-bee hole in the soil or drifting into evergreen safety among the ivy. Wasps are useful pollinators, so watch but don't swat.

► Discover more about wasps at [www.bbc.co.uk/nature/life/Vespula\\_vulgaris](http://www.bbc.co.uk/nature/life/Vespula_vulgaris)



This month queen wasps are hunting for places to hibernate. Only a few will survive the winter to found new colonies next year.

## ► THREE WASPS TO SPOT



**1** **WHEN WAS THE LAST** time you eyeballed a wasp? Give it a go! Look for the striking black, bluebell-shaped mark emblazoned in the middle of a common wasp's forehead.



**2** **OF THE EIGHT SPECIES** of social wasp found in Britain, the second most plentiful is the German wasp. It has three black dots (two small and one large) above its jaws.



**3** **RURAL GARDENS MAY BE** visited by the hornet – at up to 5cm long, it's the UK's biggest wasp. It is thick-bodied, brown and orange, and drones rather than buzzes.

## GARDEN WATCH OCTOBER

■ **ODD FRUIT DROPS** from many oaks this month when disfigured acorns fall as knopper galls. In each lumpy brown growth is a tiny grub that will emerge as a gall wasp in spring. The larva secretes chemicals that induce its host tree to produce a protective casing of tissue around its body.

■ **STEP OUTSIDE ON** still October nights and you may hear faint 'tseep' call

overhead. These are uttered by redwings – nocturnal migrants streaming south and west from northern Europe.

■ **STARLINGS ARE** in their streaky winter livery now. Watch small, chattering groups gather on rooftops or telephone wires in late afternoon.

Migrant starlings fly in from continental



These are pre-roost gatherings, the prelude to much bigger assemblies in secure overnight locations such as tall office buildings.

■ **IF YOU INSPECT** your compost heap this month you may surprise a devil's coach horse. This long, black, earwig-like beetle will raise its tail in a threat gesture,

## MORE ON OUR WEBSITE

Delve deeper into the behaviour and habitats of the animals featured in our WILD pages at [www.discoverwildlife.com](http://www.discoverwildlife.com)

- David Lindo on birdwatching at your local patch.
  - How to attract beetles and bugs to your garden.
  - Enjoy photo galleries featuring red squirrels and other favourites.
  - Find out how to identify overnight visitors to your garden.
- Plus many more articles, tips and stunning photographs.

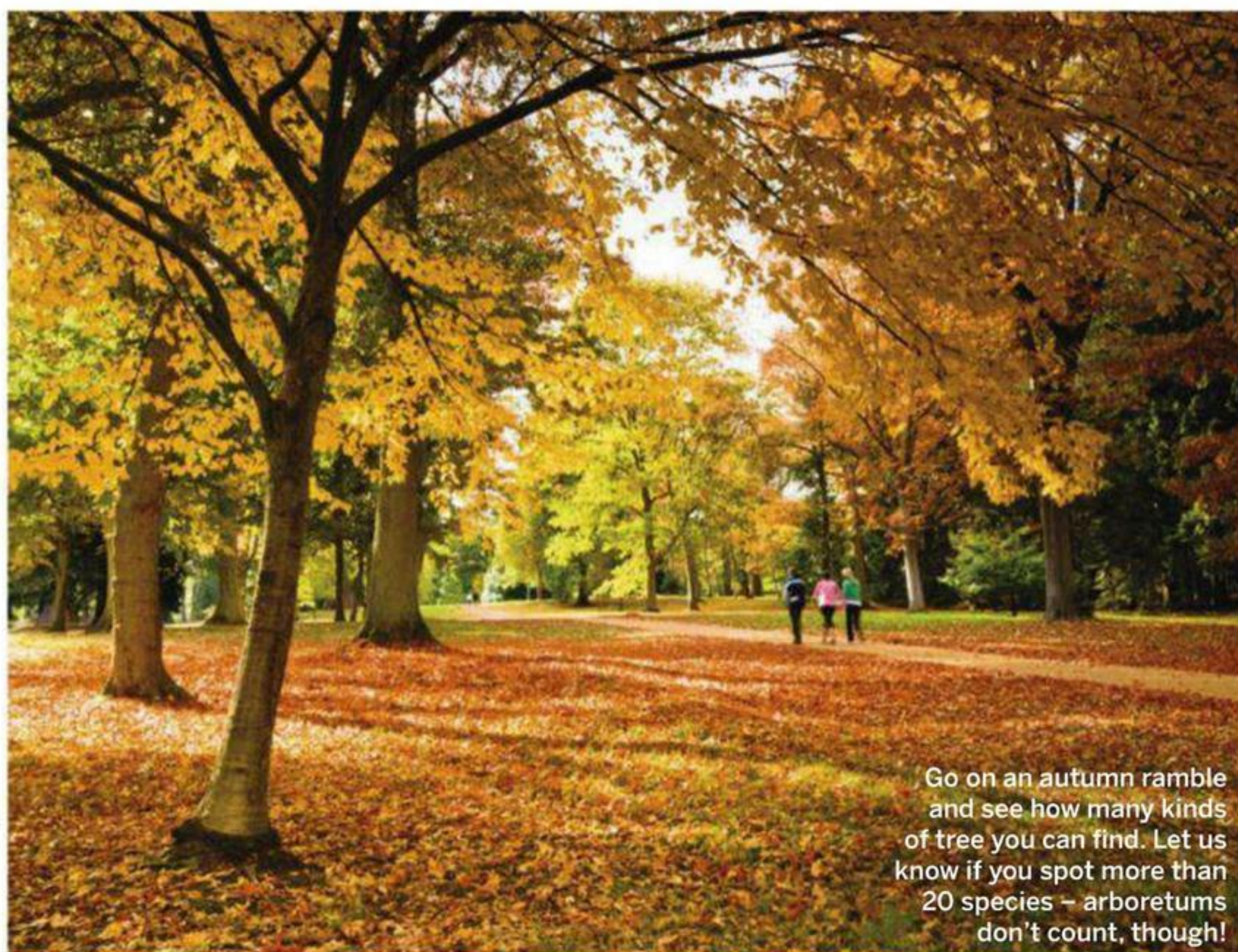




edited by **Ben Hoare**  
Features editor, [wild@bbcmagazines.com](mailto:wild@bbcmagazines.com)

**WILD OCTOBER**

species & habitats | your local patch | things to do



SFL Choice/Alamy

Go on an autumn ramble and see how many kinds of tree you can find. Let us know if you spot more than 20 species – arboretums don't count, though!

## BRITISH TREE WEEK

# Celebrate native trees

**H**ow many native British trees can you identify? Could you tell a wych elm from a hazel, and have you ever spotted a wild hornbeam or small-leaved lime? Do you know how to age an ancient tree by giving it a good old hug? (If not, the 'treehugger' index is explained at [www.ancient-tree-hunt.org.uk](http://www.ancient-tree-hunt.org.uk).)

All too often, we refer to 'trees' rather than species; likewise, we talk simply of 'woods' – but there are dozens of wooded habitats in Britain, from the sessile oaks cloaking Welsh hillsides to open wooded pasture and wonderful wet woods characterised by willow and alder.

To celebrate our rich woodland heritage, the organisers of British Tree Week (3–9 October)

have planned events up and down the country, including hundreds of guided woodland walks, from short strolls to longer rambles suitable for seasoned hikers. It's a great opportunity to get to know some of our scarcer and often-overlooked native trees. Who knows – maybe tree twitching might catch on one day?

### HOW TO GET INVOLVED

■ Join one of the free woodland walks organised by the Ramblers Association on 3–9 October; [www.ramblers.org.uk/info/events/festivals/woodlandwalks](http://www.ramblers.org.uk/info/events/festivals/woodlandwalks)

■ For details of other events during British Tree Week go to [www.britishtreeweek.co.uk](http://www.britishtreeweek.co.uk)

## 'KILLER SHRIMP' ALERT

**IS THIS CREATURE** a danger to UK fresh waters? Scientists want everyone to keep an eye out for *Dikerogammarus villosus*, a voracious omnivore dubbed the 'killer shrimp'. This stripy eastern-European invader lives under rocks in rivers and lakes – for an ID guide go to [www.nonnativespecies.org](http://www.nonnativespecies.org). So far it has been found in Grafham Water, Cambridgeshire, and in South Wales.

► Dr Calum MacNeil is collecting reports and specimens of 'killer shrimps'. If you find one, contact [calum.macneil@gov.im](mailto:calum.macneil@gov.im)



Michal Grabowski

## WHAT TO DO IN ONE...

### hour

#### MAKE A WINTER HOME FOR BUGS

A plastic bottle filled with rolled cardboard is just as likely to be used by hibernating insects as shop-bought versions. Hang it up among foliage in a hidden spot near an outside light.

► For full instructions visit [www.rspb.org.uk/advice/gardening/insects](http://www.rspb.org.uk/advice/gardening/insects)



### afternoon

#### HUNT FOR HARLEQUINS

Check garages, sheds, curtains, loose carpet and unheated rooms for hibernating harlequin ladybirds.

They pose a major threat to our native ladybirds: report any you see to the UK Ladybird Survey.

Records from northern areas and Scotland are particularly useful.

► Submit your records at [www.ladybird-survey.org](http://www.ladybird-survey.org)



### day

#### SEND KIDS WILD AT HALF-TERM

To help children get involved with wild places in the half-term break, the British Trust for Conservation Volunteers is hosting a Big Green Weekend on 21–23 October.

'Tree-sure hunts' are among the fun educational events on offer.

► For more information visit [www.btcv.org.uk](http://www.btcv.org.uk)



From top: Chris Gomersall; Nigel Catlin/FLPA; BTCV



Though dumpy and drab birds individually, a huge group of knot, whether on the ground or in the air, is a spectacular sight.



WHAT TO DO IN ONE... *weekend*

## Birds of a feather

Autumn is the best time to catch the dramatic **KNOT ROOST** in the Wash on the east coast – just don't forget to set your alarm clock.

### ▶ AT A GLANCE

■ **What?** Large wader roost, primarily knot, that can exceed 40,000 birds.

■ **Where?** Snettisham Reserve on the Wash in north-west Norfolk.

■ **When?** For the highest numbers, from mid-August to November.

■ **Also look for** Pink-footed geese (right), and barn owls over the path from the carpark.



feel the rush of air from their wings as they skim low overhead. Each flock follows the same flightpath, homing in on a hidden rendezvous point behind me. As I stand watching, I realise that I am not alone: small groups of people are dotted along the shore, having trekked through the dark to

witness one of the most dependable wildlife spectacles Britain has to offer. There are plenty of waders

to look out for on the Wash in

to watch the exodus of large numbers of knot from the vast mudflats and saltmarshes. These rich feeding grounds are being submerged under one of the highest tides of the year, and the birds are heading over the shingle shoreline to a high-tide roost in the RSPB's Snettisham Nature Reserve.

The supporting cast includes black-tailed godwits, which are probing in the soft mud with their long bills, and mixed flocks of dunlin and sanderlings that head off to a gravel spit where

small numbers of turnstones, among which I spot a grey plover bending over to pluck a tiny crab from the shingle.

When the water has started to cover the final areas of saltmarsh, the last big flocks take to the air, wheeling in a great aerial ballet and flashing silver as they expose pale underwings in unison. No raptor appears this morning, but when a peregrine does give chase these dense, fast-moving formations help to confuse the hunter.

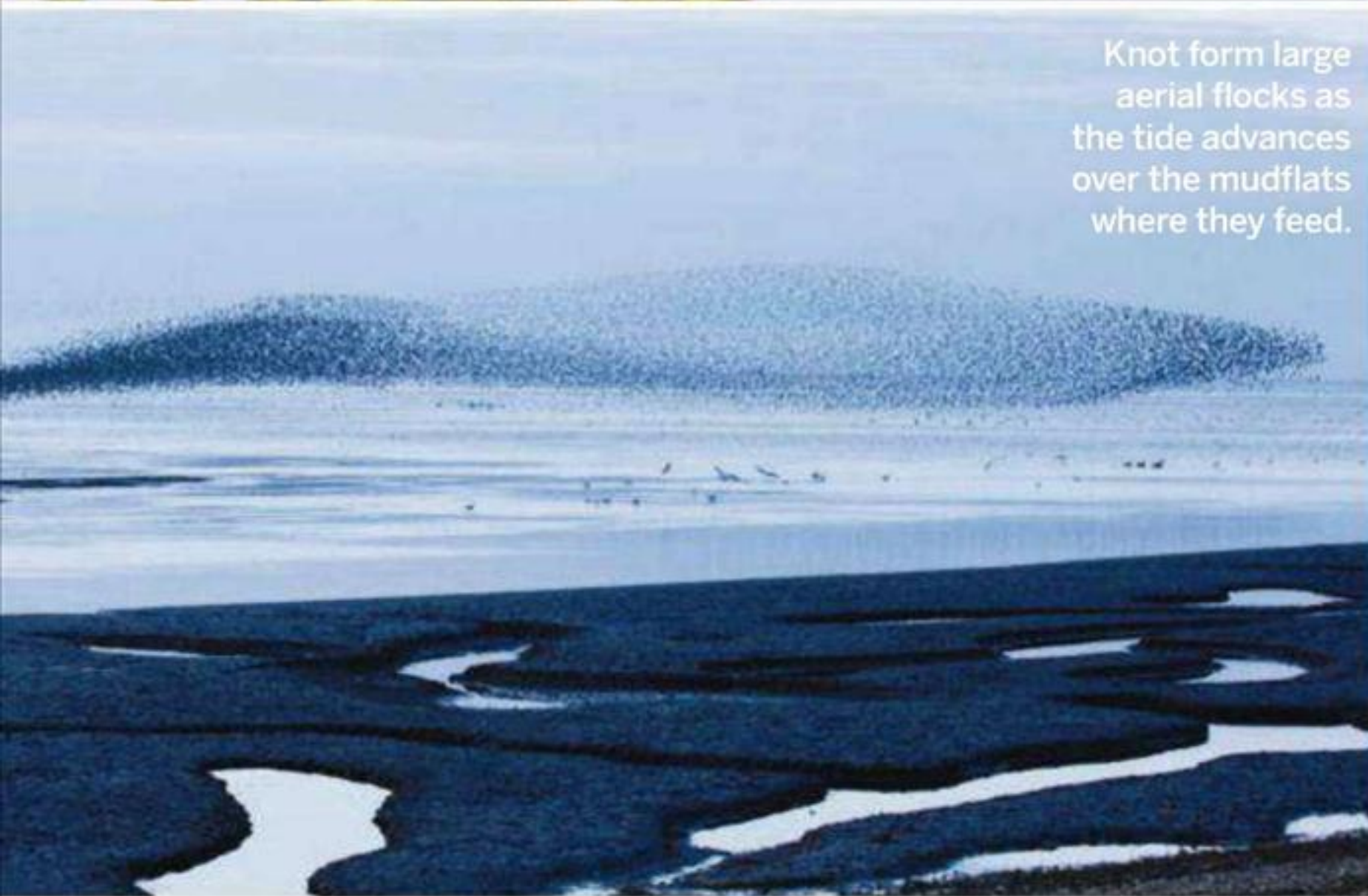
Water creeps up the shingle beach, so I hurry out to some hides that look out over a series of 70-year-old gravel pits, excavated to build concrete runways for heavy American bombers. Appropriately, the local airspace is buzzing with activity.

I join an already packed hide, queuing next to a couple of





Oystercatchers add a touch of colour to the huddled knot.



Knot form large aerial flocks as the tide advances over the mudflats where they feed.

Main: David Tipling; oystercatcher: Kevin Maskell/NHPA; flock: David Tipling; goose: Steve Round/Alamy; bearded tit: Simon Litten/FLPA

students who left London at 2.30 this morning in order to be here. "A 'birdy' friend told us to come and see this," one of them says.

With no binoculars, they ask where the knot are. "Can't you see them?" I exclaim. "They're right in front of us." And then I realise: to the naked eye, the grey mass below us does resemble a beach rather than a vast avian congregation.

But when you look closer, or through your bins, you can see thousands of heads – roughly 20,000, in fact. On the edge stands an oystercatcher, its orange bill and legs incising lines of colour onto a palette of grey.

By the time high tide arrives there are perhaps 30,000 knot settled before us. My student friends are mesmerised as the knot start moving in twittering waves, a sound that rises in pitch the faster they go. These lines flow like a river, with restless energy. Two hours pass as if it were five minutes, and then,

possibly sensing the tide starting to ebb again, a group on the edge takes flight.

Slowly but surely, in flocks a few hundred strong, the knot stream back across the beach, triggering a mass exodus of

oystercatchers. I am now dreaming of breakfast: like the

*The lines of knot flow like a river, with restless energy.*

## NOW YOU DO IT

# KNOT ROOSTS

## SEEING THE SPECTACLE

► The year's biggest **high tides** (known as spring tides) are necessary to push the waders into the gravel pits. Knot arrive from their breeding grounds in the high Arctic in August, so visit Snettisham between September and November.

► The **RSPB** publishes the best dates and times to visit here: [www.rspb.org.uk/reserves/guide/s/snettisham](http://www.rspb.org.uk/reserves/guide/s/snettisham)  
► Make sure you arrive 90 minutes before high tide to see the spectacle unfold. The RSPB also offers guided walks.

## GETTING THERE

► The reserve is signposted from the **A149 Snettisham to Dersingham bypass**. Follow this road almost to the end and, just before the caravan site, you'll see a carpark signed on the left.  
► The walk to the shore will take about 30 minutes. When suitable tides are soon after dawn, you

may have to make this journey in the dark or semi-darkness.  
► The nearest railway station is at **King's Lynn**, but it is difficult to rely on public transport because of the times of day that the spectacle usually occurs.  
► Arrange disabled access with the warden. 01485 542689

## WHERE TO STAY

**BUDGET** Gate Lodge Guest House (right), Hunstanton, is just a few minutes' drive away. 01485 533549; [www.gatelodge-guesthouse.co.uk](http://www.gatelodge-guesthouse.co.uk)

**MID-PRICE** Le Strange Arms is in Old Hunstanton. 01485 534411; [www.bestwestern.co.uk](http://www.bestwestern.co.uk)  
**Briarfields Hotel**, next to Titchwell Marsh RSPB Reserve,



is perfectly placed for the visiting birder. 01485 210742; [www.briarfieldshotelnorfolk.co.uk](http://www.briarfieldshotelnorfolk.co.uk)

## ALSO IN THE AREA

**TITCHWELL MARSH** Titchwell is good for bearded tits (right), bitterns and water voles. [www.rspb.org.uk/reserves/](http://www.rspb.org.uk/reserves/)  
**HOLME BIRD OBSERVATORY**



Holme can be heaving with migrants during spring and autumn. [www.noa.org.uk](http://www.noa.org.uk)

**HOLKHAM** Thousands of pink-footed geese bathe and graze at the marsh. [www.holkham.co.uk/naturereserve/](http://www.holkham.co.uk/naturereserve/)

## WHERE TO GO

**1 SNETTISHAM NATURE RESERVE** 01485 542689; [www.rspb.org.uk/reserves/guide/s/snettisham](http://www.rspb.org.uk/reserves/guide/s/snettisham)

### OTHER TOP WADER SPOTS

**2 BROWNSIA ISLAND, DORSET** Impressive flocks of black-tailed godwits and avocets in autumn and winter. 01202 709445; [www.dorsetwildlifetrust.org.uk](http://www.dorsetwildlifetrust.org.uk)

**3 THE DEE ESTUARY** Try Point of Ayr RSPB Reserve for curlews and godwits. 0151 336 7681; [www.rspb.org.uk/reserves/](http://www.rspb.org.uk/reserves/)

**4 HEST BANK, MORECAMBE BAY** Good wader roost. 01524 701601; [www.rspb.org.uk/reserves/](http://www.rspb.org.uk/reserves/)





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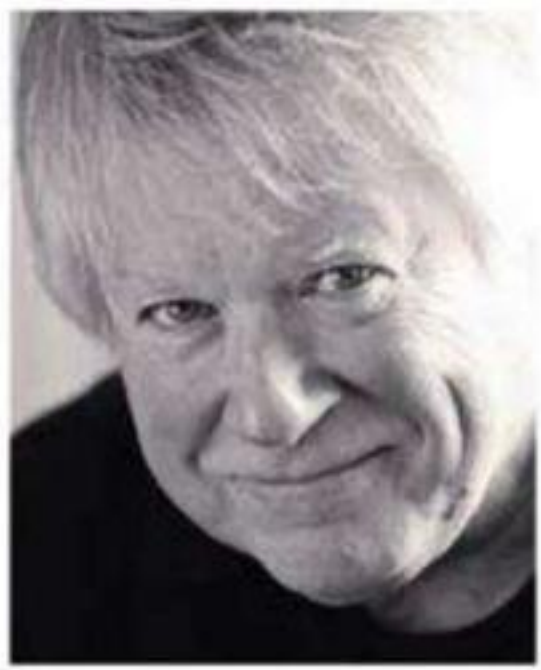
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# RICHARD MABEY

## A BRUSH WITH NATURE

We should celebrate the meanders and eddies, messy margins and tangled timber of wild rivers.

It's easy to compile a list of the Tidy Land Manager's bugbears. Vegetation that cussedly refuses to grow in straight lines. Absence of neat edges. Habitats that don't 'conform' and so can't have a clear label attached to them. Inelegantly fallen timber. Anything dead or apparently dying.

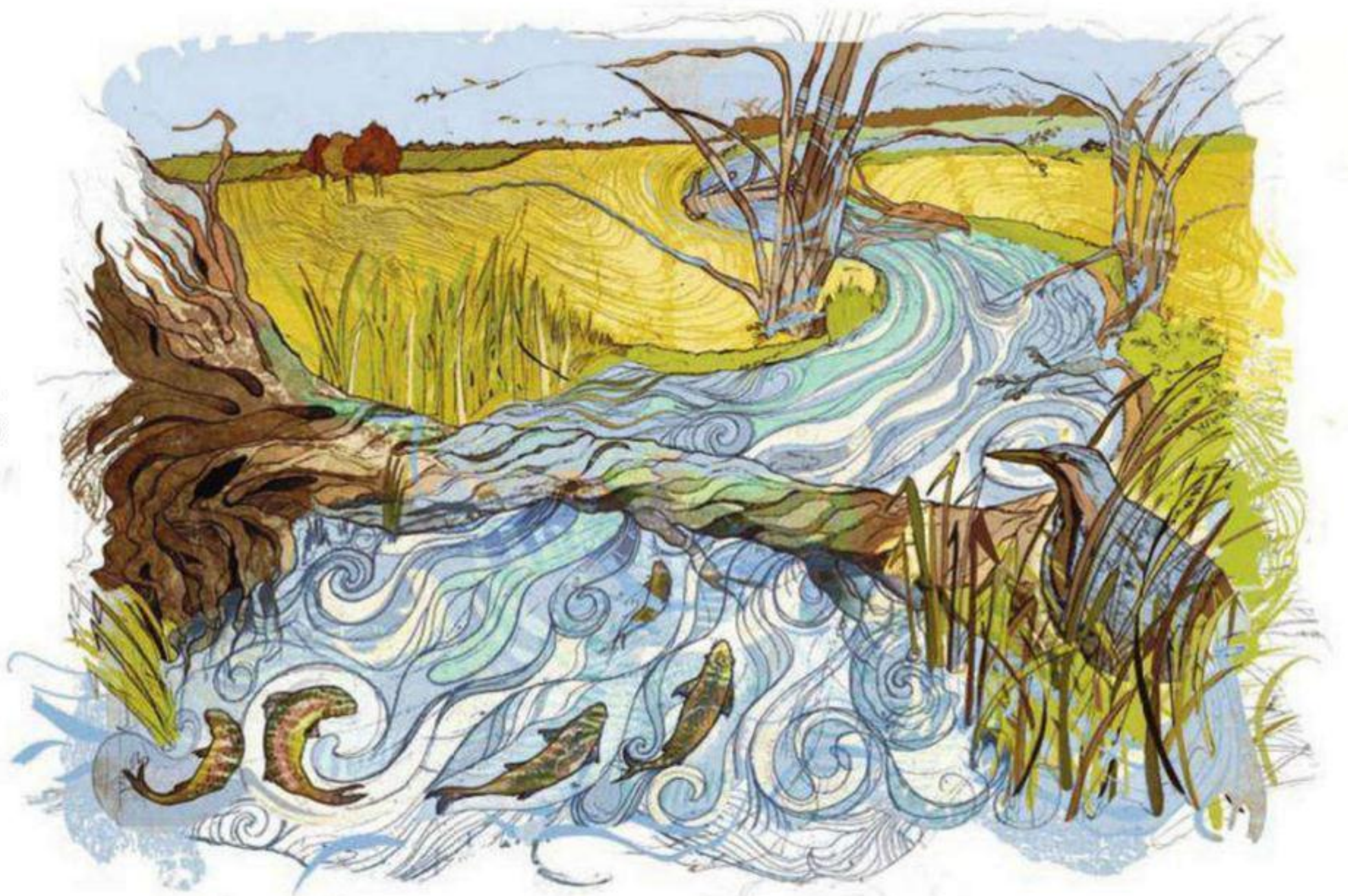
If you were to distil these ingredients you would come up with the Manager's worst nightmare: dead trees fallen into a river, causing floods, apoplectic anglers and general cultural offence.

This is what is happening at the National Trust's estate at Blickling in Norfolk. As part of an experiment in river restoration, any timber that falls into a 500m stretch of the River Bure is being left there, to see what impact it has on the waterway's structure and ecology. To provide more data, extra trunks are being pushed or chain-sawed in for good measure.

Fallen trees are, of course, an entirely proper and natural part of riverine habitats. They're among the main agents of diversification. They manipulate the current, conjuring up pools, meanders, channels and islands, and in doing so provide shelter for fish and invertebrates. And, when they start to actually move downstream – as they do in wild river systems – they become aquatic glaciers, crunching whole new landscapes into being.

The experiment at Blickling had modest beginnings. Local fly-fishers were complaining about the decline in brown trout, so the Trust's head warden, Dave Brady, asked himself what the river would itself like to become. What was missing from it? He came up with an answer: fallen trees.

At first the fishing club was horrified. But, as the river diversified and trout numbers began to increase, it was won over. Meanwhile, scientists at Queen Mary, University of London are studying the changes in hydro-geology, and Murrav Thompson of the



“To walk this stretch of the Bure in summer is like tramping through an English Amazonia.”

History Museum is carrying out a meticulous three-year survey of the changes in invertebrate life.

To walk along this stretch of the Bure in high summer is like tramping through an English Amazonia. Even small submerged or floating branches make extraordinary changes to the topography and vegetation. Leaves, twigs and waterborne sediment pile up against them. River-edge species – great willowherb, water forget-me-not, blue water-speedwell – take root in the nascent islands. Bigger pieces of timber even change the course of the water.

Thompson has been under the water just after a tree has gone in, and seen new channels being scoured out as he watched. Any sense of the bank as a sharp dividing edge between land and water vanishes. Beside the biggest natural fall – several alders piled up

zone has virtually doubled. Scrub is developing on top of the trunks, a ferocious current flows along a new deep channel and gravel shelves (ideal for fish to spawn) are building up beyond it. The reedy edges have been thick enough for a wintering bittern, and there are otter tracks in the mud.

Traditionally, disturbance was seen as the enemy of diversity and 'natural balance'. But since the Great Storm of 1987, it has become increasingly clear that habitats (which are dynamic things, not pickled ecosystems) need it. The National Trust has been at the forefront of this new thinking for 20 years, and at Blickling is showing how easy it is to turn a monotonous canal back into a wild river. ■

**RICHARD MABEY** has contributed columns to *BBC Wildlife* since 1984. On 21 November he appears at Earth Music Bristol in association with



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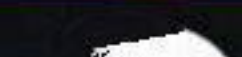
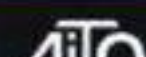
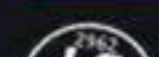
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# BILL ODDIE WILD AT HEART

Meat may be murder – but if you're a sparrowhawk, it's also natural. So what's the problem?

So there I was in my local tea room, nibbling on a croissant, when in stormed this apoplectic American. "Mr Oddie! The swans are attacking the Canada geese!" I was taken aback: it's not often that I meet anyone who feels sorry for Canada geese.

I explained that mute swans are very "territorial", stressing the word with a gentle cadence that made it sound benevolent. I also used adjectives such as "protective" and "faithful", which are admirable qualities, surely?

But she was not convinced. "They are killing the Canadas!" she protested.

I corrected her. "They are not killing them, they are deterring them."

"By killing them!"

Yes, but no, but... Clearly, I was going to have to resort to the defence that cannot be refuted.

"What they are doing is entirely natural." For a moment, she fell silent. Then she announced: "It may be, but I don't want to see it!" As she stomped out, it struck me that she couldn't have watched many natural-history shows.

Most of what wildlife documentary-makers call "animal behaviour" would be called "misbehaviour" in humans. Such content in a drama comes with a warning (or is it a promise?) that "The following programme contains scenes of a sexual nature, violence and bad language from the start."

But you didn't get a warning before *Life* because that's exactly what we expected. Cameramen, directors and sound recordists will all kill for a 'kill', a chase, a battle or a lusty rut. It's all natural and most people want to see it.



"I was taken aback: it's not often that I meet anyone who feels sorry for Canada geese."

But maybe not everyone. The ultimate decisions are down to the producer or someone higher up the chain. They okay the final cut.

You don't get to edit a live programme, however. There was adverse reaction to footage on *Springwatch* several times when I was on the sofa: the sparrows guilty of exhibitionist coupling, the blue tit that brandished the corpse of its chick and

the famished teenage barn owl that gobbled up its baby brother. On each occasion, neither the presenters nor producers knew what was coming. But if we had known, would it have been shown?

When we made *Wild in Your Garden* in 2003, cameramen were secreted all over Bristol. 'Dave' (not his real name) was so well hidden t

he was there, until he joined the supper queue. "I got some great footage," he muttered. He was dying to show someone, so he switched his camera to playback.

The sequence showed a male sparrowhawk swooping towards a bird table where a group of starlings was feeding. Dave followed the hawk as it dipped, dived and grabbed one in mid-air. He even anticipated the action by focusing on a fence post onto which the raptor pitched down with its prey, which was still very much alive.

He zoomed in as the hawk held the starling down, with one claw round its neck and the other containing its frantically fluttering wings. And he carried on filming as it plunged its beak into the bird's chest... Now, how did that lady put it? "It was natural, but I didn't want to see it."

Nobody did. It never went out. 🐾

Former Goodie **BILL ODDIE OBE** has presented natural-history programmes (both serious and

**ABOVE**  
"Territorial" and "protective": this mute swan is only doing what comes naturally.

**LEFT**  
What happened next? Suffice it to say that the sparrowhawk didn't sit down for a cup of tea with the starlings.



**ON THE PODCAST**

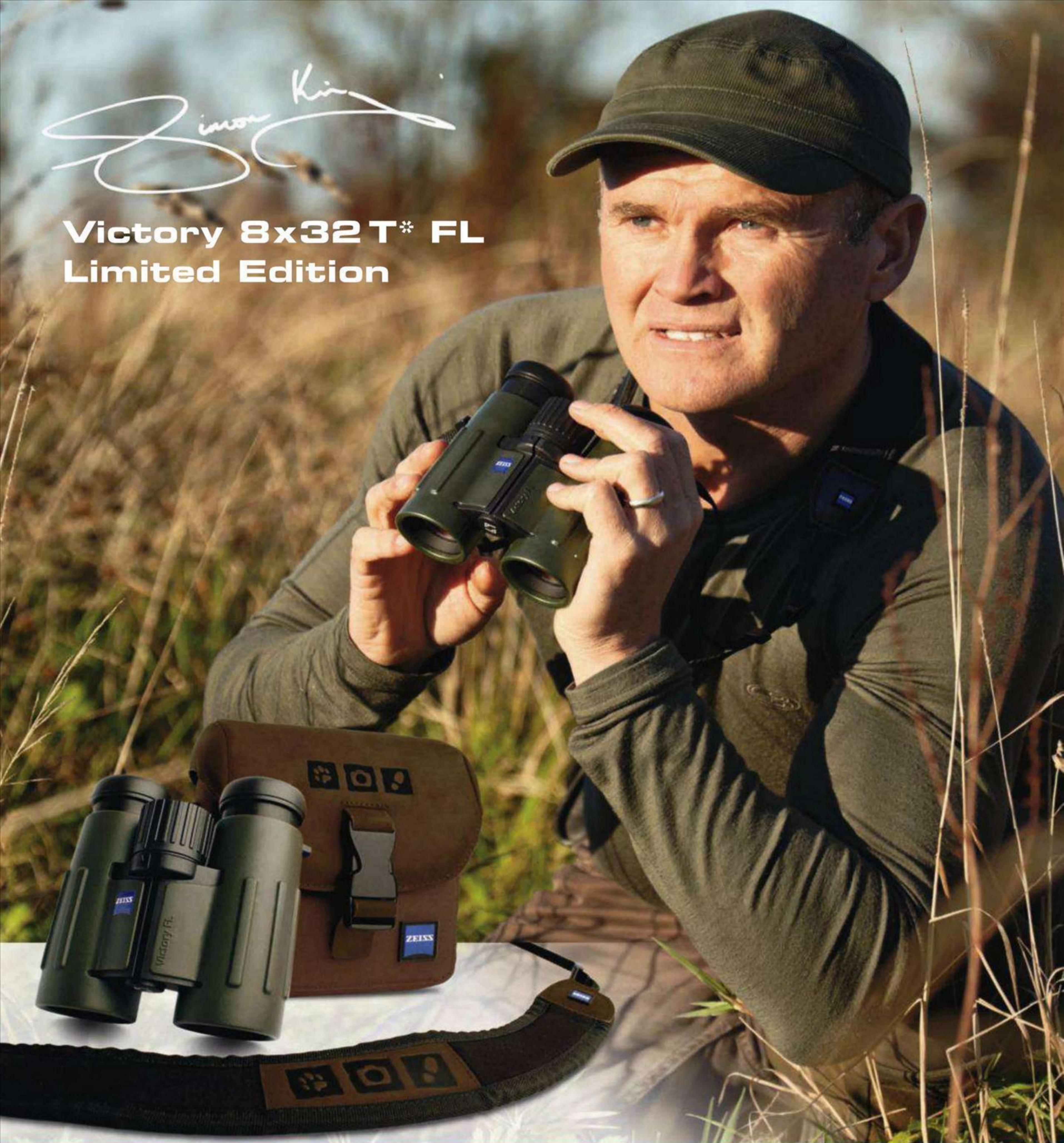
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*Simon King*

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*Simon King*





# PORTFOLIO

## VEOLIA ENVIRONNEMENT WILDLIFE PHOTOGRAPHER OF THE YEAR 2011 SNEAK PREVIEW



The beauty of the world's best international photography competition, owned by *BBC Wildlife Magazine* and the Natural History Museum, London, isn't just in the breathtaking imagery – it's also in the incredible diversity. Tiny insects dazzle alongside huge predators, while familiar British species are flanked by the exotic and endangered. Get a taste of these marvels with this world-exclusive preview of some of 2011's finest natural-history images.

*Text by Rachel Ashton and Tamsin Constable*

### LION AMONG THE SHOAL ▲

**ALEX TATTERSALL UK**

Alex encountered this "shimmering ball of fish" in the Red Sea at Marsa Nakari, Egypt. His photo highlights the contrast between the venomous common lionfish and the silvery shoal.

*Canon EOS 500D + 10–22mm lens;  
1/64 sec at f11; ISO 100; two Inon  
Z240 strobes; Patima housing.*

### JUDGE MICHAEL AW COMMENTS:

“In the eye of the lionfish, the baitfish are a feast. I love the composition of the red predator against the silvery curtain.”







## WORMING AT DUSK

KLAUS ECHLE GERMANY

It had been raining all day, and no one else was around – a fact that, Klaus knew, improved his chances of seeing a badger before nightfall.

Most badgers on Mt Schauinsland, in southern Germany, have their setts on the forested lower slopes, but they venture up the mountain to forage in the more open cultivated areas. "One endemic worm that lives here can grow to 60cm long – it may be one food that they forage for," says Klaus, who captured this shot as an adult emerges from the

misty twilight, snuffling along a well-worn badger track.

Canon EOS 5D Mark II + EF 17–40mm f4 lens; 1/100 sec at f5;

ISO 500; flash; tripod; remote control.

### JUDGE ANDERS GEIDEMARK COMMENTS:

"A beautiful narrative of wilderness meets urban landscape. Is the badger lit by the warm glow from a kitchen window, car headlight or camera-flash? Doesn't matter – it's a skilled, strong composition."





## NIGHT PROWLER

EMANUELE BIGGI ITALY

Emanuele chose Riomaggiore, a village on the Italian Riviera within the Cinque Terre National Park, as the backdrop for a photo demonstrating how nature can co-exist with humans. "I'd been searching all day and much of the evening for that perfect picture," says Emanuele. "Only when walking back up the beach to go to bed did I find it." He angled his shot to show this alert little hunter against the backdrop of the sleeping village. "Some people think Moorish geckos are ugly or even dangerous," he says, "but they are our friends, eating countless mosquitoes each night."

*Nikon D3S + Sigma 15mm f2.8 lens; 2 sec at f10; ISO 400; SB-R200 macro speedlight; tripod.*

### JUDGE SOPHIE STAFFORD COMMENTS:

“Sensitively lit and imaginatively composed, with great colour – a night on the town never looked so good. This gecko clearly has a few stories to tell!”









**DAWN STARS ▶**

**KAH KIT YOONG** AUSTRALIA

Kah Kit spotted these reef starfish seemingly glowing among the multicoloured rocks and stacks of Paparoa National Park, on New Zealand's South Island.

*Canon EOS 5D Mark II + 16–35mm f2.8 lens; 4 sec at f13; polarising filter + neutral-density graduated filter; ISO 100; Gitzo Explorer tripod.*

**JUDGE JOE CORNISH COMMENTS:**

*"The words starfish, rock stacks and twilight do not do it justice. Brilliant use of light, colour and time transforms this scene into an extra-terrestrial landscape."*



**COLD EMBRACE ▲**

**CYRIL RUOSO** FRANCE

Cyril couldn't believe his ears. Beside a frozen lake, some 2,000m up in the French Alps, he could hear a frog chorus as the amphibians started their mating rituals while still under the ice. Ten days later the lake began to melt, and the first choristers – common frogs – appeared. "I wanted to portray the mountains, the ice, the water and the cold, and create a shot to show even the most common species is extraordinary."

*Canon EOS 5D + Sigma 14mm f2.8 HSM lens; 1/160 sec at f20; ISO 200; custom-made housing; Inon D-2000 S + Canon 580EXII + Nikon SB-24 strobes; hide.*

**JUDGE ERIC SAMPERS COMMENTS:**

*"I've never before seen this set-up, and the technique was certainly complex. The result is a new view of nature."*











## SNOW KINGS

OLE JØRGEN LIODDEN NORWAY

The blizzards came every 15 minutes. "There would be a break in the wind, perhaps a ray of sun, then wham – another flurry of snow would hit," says Ole.

Not that this took him by surprise: it was his fourth trip to Antarctica, so he knew what to expect. This group of about 15 king penguins was heading back from fishing and up the beach to their colony on South Georgia to feed their chicks. Ole crouched down in the driving wind and waited for them.

"I used a comparatively slow shutter speed to catch the near-horizontal streaks of snow," he says. The penguins waddled by, taking no notice of him, pausing merely to shake the snow off their flippers.

*Canon EOS-1Ds Mark III + 24–70mm f2.8 lens; 1/320 sec at f11; ISO 400.*

### JUDGE SOPHIE STAFFORD COMMENTS:

*"This has a great sense of place. The penguins emerge dramatically from the blizzard into beautiful light that makes their bright colours really glow."*







### FALSE KILLERS, DISGUISED DOLPHIN ▲

**CLARK MILLER** USA


The arrival of a pod of false killer whales caught Clark's attention. "They're normally very wary," he says – close-up photos are rare. But these individuals came ever nearer, stopping just a couple of metres away. In the melange, he saw the bottlenose dolphin – and realised that he had the chance to capture a very special shot.

*Canon EOS 7D + Tokina 10–17mm lens at 13mm; 1/100 sec at f8; ISO 320; Nauticam housing + Zen dome port.*

### JUDGE MICHAEL AW COMMENTS:

“This is a happy picture. It reveals the joy, love and peace of oceanic mammals, smartly encapsulated in a single frame.”





## RHINO IN CHARGE

**WIM VAN DEN HEEVER** SOUTH AFRICA

This white rhino was well known for his unpredictable temperament – as Wim discovered first-hand when the animal charged. It pulled up just 3m away, snorted, and kicked up a dust storm before running back, head held high. “For a second he turned and looked at me – just long enough for me to get the shot,” says Wim.

*Nikon D3X + 200–400mm f4 lens; 1/320 sec at f7.1; ISO 400.*

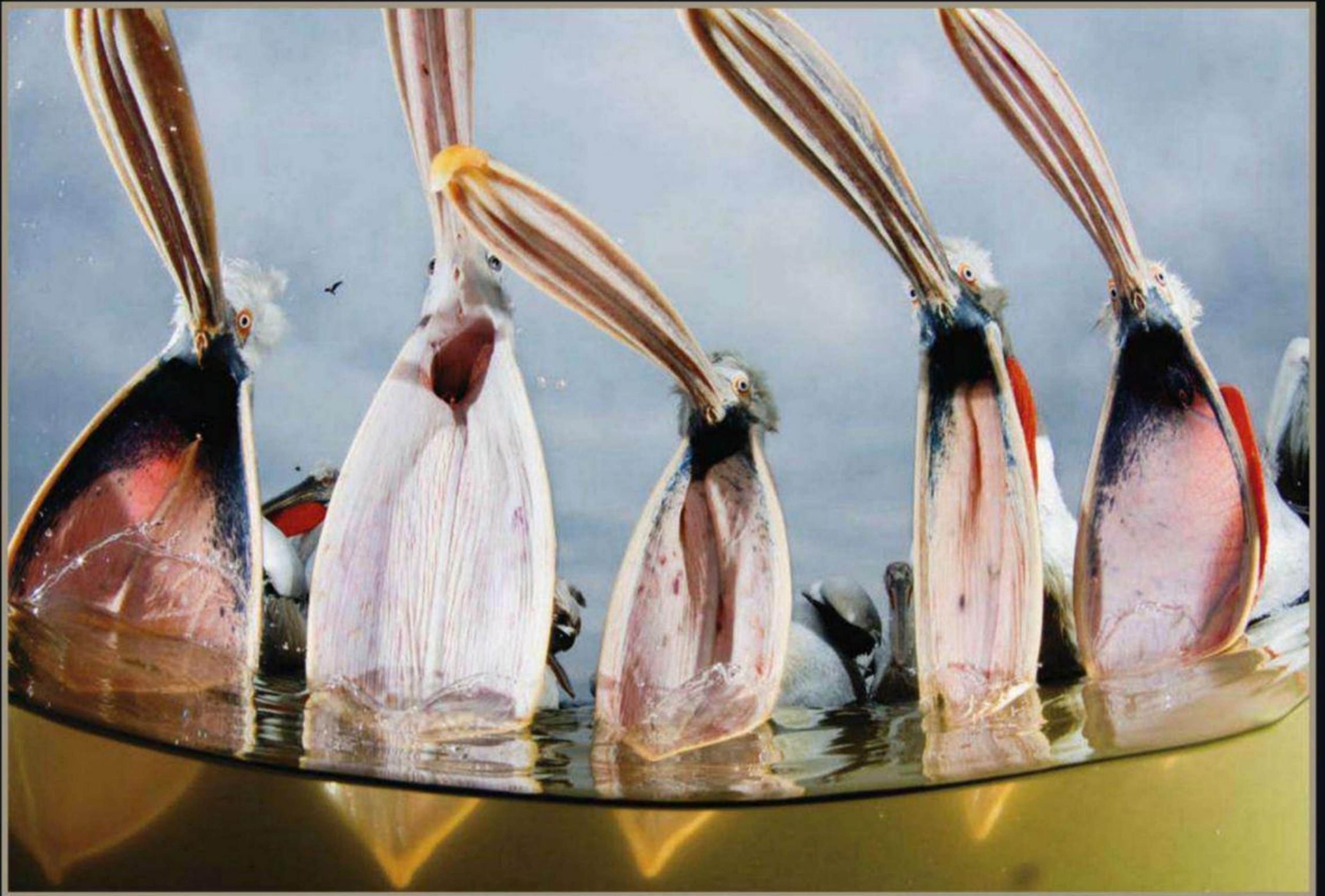
### JUDGE MARK CARWARDINE COMMENTS:

“Outstanding use of black and white adds extraordinary impact to this beautifully lit rhino. It’s a picture that really makes you sit up and take notice.”









## LUNGE FEEDING ▲

**BENCE MÁTÉ** HUNGARY

In February the Dalmatian pelicans of Lake Kerkini, Greece, are in their breeding plumage. Bence constructed a floating system incorporating an underwater camera with a fish-eye lens. "I couldn't believe my luck when the pelicans lunged forwards in unison, mouths wide open," he says.

*Nikon D300s + Tokina 10-17mm f3.5-4.5 lens; 1/320 sec at f16; ISO 500; Subal housing; three linked SB-800 flashes; floating remote-control system.*

## JUDGE MARKUS VARESVUO COMMENTS:

"With creative thinking, the photographer gives a fresh and slightly humorous view of the Dalmatian pelicans."

## NIGHT SHARKS ◀

**THOMAS P PESCHAK**

GERMANY/SOUTH AFRICA

Light shining down from a research boat into the depths of the Mozambique Channel reveals a gathering of juvenile Galápagos sharks. "Not having to use underwater strobes or a flash meant it was possible to convey a sense of the nocturnal atmosphere," says Thomas.

*Nikon D700 + 16mm f2.8 lens; 1/125 sec at f6.3; ISO 1250; Subal housing.*

## JUDGE MARK CARWARDINE COMMENTS:

"A simple ray of light turns an ordinary picture into something extraordinary. The inky blackness on either side adds to the drama."









## SLEEPING INFANT ◀

**XAVIER ORTEGA** SPAIN

Trekking through the forests of Mahale Mountains National Park in Tanzania, Xavier came across a glade where a small band of chimpanzees was gathered. They accepted his presence, and for the rest of the day he was able to observe their interactions. "It was fascinating to see so many facial expressions and gestures, and to hear them 'speak,'" says Xavier. He was particularly drawn to this mother with her small infant.

*Nikon F90 + 400mm lens; 1/125 sec at f4; Fujichrome Provia 100 film.*

### JUDGE MICHAEL AW COMMENTS:

“Asleep in the arms of love: I see our connection with our cousin in the wild. A simple, straightforward composition, yet a very lovely picture.”

### FIND OUT MORE



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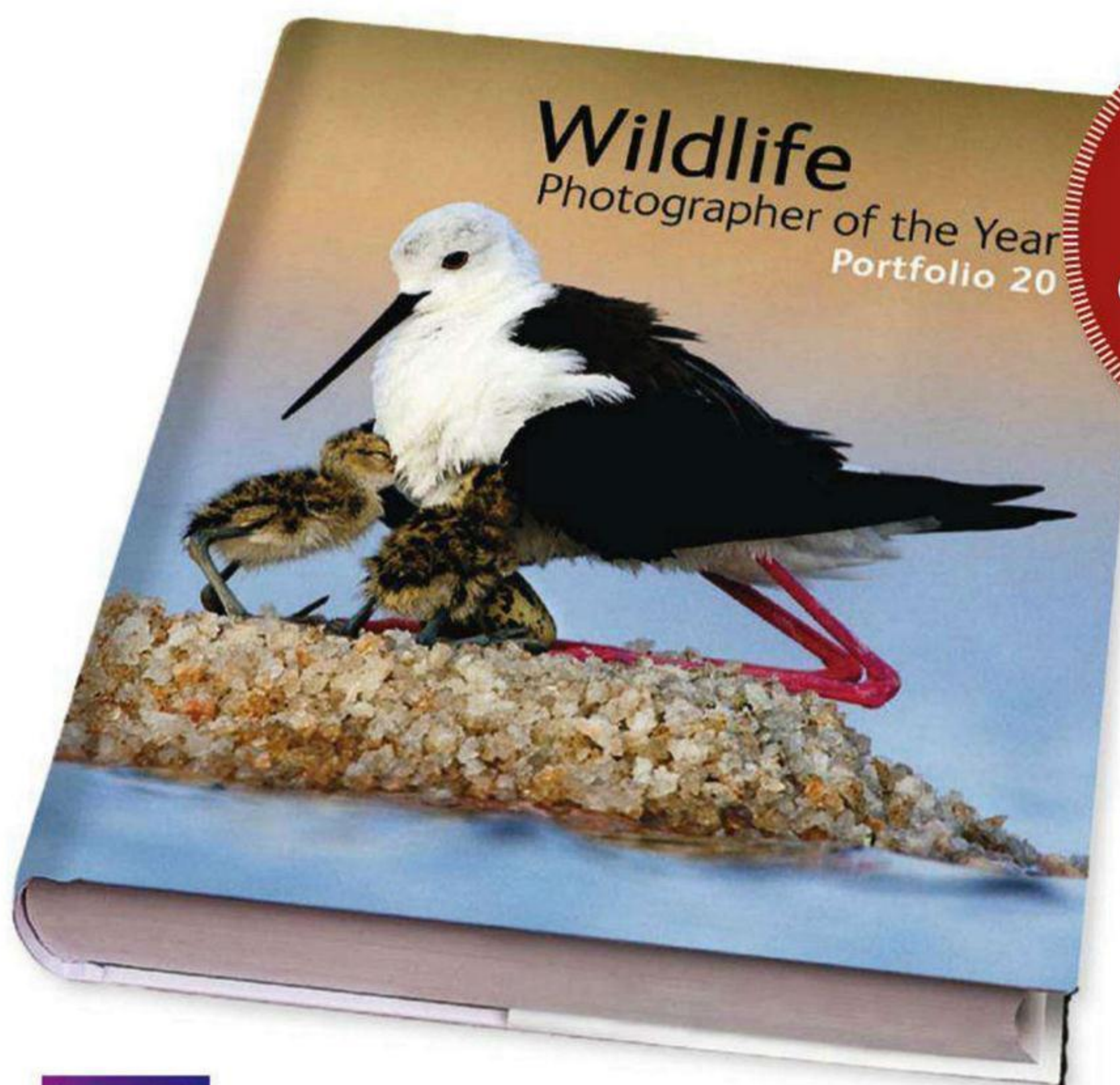


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# agenda

conservation | investigation | discoveries



edited by **James Fair**  
environment editor  
[agenda@bbcmagazines.com](mailto:agenda@bbcmagazines.com)

## ► THE BIG PICTURE

# SNARE STORY

A sun bear that appears to have lost its right forepaw to a snare epitomises the problem facing wildlife in the Belum-Temengor Forest Complex of Peninsular Malaysia. Photographed by a remote camera set up by a team from WWF, the image is further evidence that poachers are highly active in the area. "Since early August, 12 snares have been detected and deactivated," said WWF-Malaysia executive director Dr Dionysius Sharma. "And based on their size, it is very clear that they are targeting large mammals such as tigers." Between 2008 and 2010, WWF says, more than 400 animals, including tigers, elephants and pangolins, have been illegally taken from the area.

WWF Malaysia/Mark Rayan







p40

## RARE SPECIES

### FUNKY GIBBONS

New population of Critically Endangered gibbon discovered – thanks to its singing.



p41

## NEW RESEARCH

### THE MAGIC OF MIMICRY

How an Amazonian butterfly maintains its perfect impersonations.

**“You now see banner headlines on buses advertising bear bile as a cure for hangovers.”**

JILL ROBINSON,  
ANIMALS ASIA, P42



## WILDLIFE TRADE

Rising levels of affluence in China are driving demand for ivory jewellery and ornaments.

# Is China fuelling ivory crisis?

**New report suggests demand has risen since the one-off stockpile sales in 2008.**

Soaring demand for ivory by wealthy Chinese nationals is driving up the price of elephant tusks and encouraging poaching in Africa and Asia, say the authors of a new report, *The Ivory Dynasty*.

An investigation into the retail ivory industry of southern China, carried out by Esmond Martin and Lucy Vigne, uncovered a 50 per cent increase in the number of items on sale since 2004 and the widespread display of ivory for sale.

Two-thirds of the products did not have mandatory ID cards, and the authors saw little evidence of law enforcement.

The conclusions are supported by other evidence. According to the Convention on International Trade in Endangered Species (CITES), for example, China is the largest importer of illegal ivory in

In 2004, China introduced comprehensive regulations to tackle the illegal retail trade. In response, CITES permitted China to buy from African stockpiles of confiscated tusks and those from elephants that died naturally. Some conservationists believe that this one-off import of 62 tonnes of ivory fuelled demand and made it easier to sell illegal items.

Martin, who has 40 years of experience in researching the ivory industry, says that effective

law enforcement in China would reduce the illegal trade, as it has in India. “You will not see a single piece of ivory openly for sale in India today because the authorities have been really strong,” he said.

Wan Ziming, who is responsible for enforcing ivory-trade laws in China, said that inspections are “carried out frequently”, resulting in up to 800 seizures a year. An enforcement operation would soon begin in the two cities surveyed in Martin and Vigne’s report, he told *BBC Wildlife*.

CITES chief enforcement officer, John Sellar, said that the report, which was funded by the Aspinall Foundation, Elephant Family and Columbus Zoo in the US, was not altogether helpful.

“Instead of criticising the [Chinese] authorities, attention should be focused on protecting animals in situ,” he said. “Africa needs to up its game. It is anti-poaching measures that will save elephants.” **Gemma Hall**

## BACKGROUND

■ Ivory jewellery, name seals and figurines have been carved by Chinese craftsmen for thousands of years.

■ After CITES banned the import and export of ivory in 1990, carvers increasingly turned to bone and even tusks from prehistoric mammoth, which are exempt from CITES because it is an extinct species.





A female (with baby) and male northern white-cheeked crested gibbon, here photographed in captivity.

## ENDANGERED SPECIES

# Rare gibbons on song

**Listening – not looking – helps scientists find new population of Critically Endangered ape.**

Scientists have discovered the largest-known remaining population of the Critically Endangered northern white-cheeked crested gibbon in a remote area of northern Vietnam.

The discovery of an estimated 455 individuals in one unbroken area of forest represents nearly 70 per cent of the total number of this gibbon in Vietnam. It is also the only confirmed viable population of the species, according to scientists from Conservation International (CI) who discovered the gibbons in Pù Mát National Park near the border with Laos.

Historically distributed in China, Vietnam and Laos,

this rare ape is thought to be functionally extinct in China. Its status in Laos is unknown, due to a lack of research, though significant numbers may still survive, says CI.

“Gibbons persist in this area only because of its extreme remoteness,” said Ben Rawson, who led the research.

An earlier visual survey of

## BACKGROUND

- Gibbons are considered to be ‘lesser’ rather than great apes such as gorillas and orangutans.
- They differ from great apes in being smaller, exhibiting monogamist behaviour and in certain anatomical details.
- Gibbons are the most arboreal apes and can swing through the treetops at 50kmph.

northern Vietnam discovered no large groups of gibbons, so in 2010 the focus was changed to Pù Mát and a new technique was adopted – ‘auditory sampling’.

Gibbons are highly arboreal and territorial, and communicate with prolonged vocalisations as they swing through the trees.

As a result they are extremely difficult to see, so the animals were counted by recording and analysing their songs. “We found only one group visually – the rest were detected through their vocalisations,” Rawson said.

Most of the gibbons survive at altitudes above 700m. They were under strong hunting pressure in the early 1990s, but that threat has diminished, probably because few animals remain in accessible areas, Rawson added.

Michael Rank

## AGENDA interview

**ANITA DONAGHY on CURLEWS IN IRELAND**

### What's happening to Irish curlews?

There may now be fewer than 200 breeding pairs left in Ireland, compared with an estimated 5,000 pairs 20 years ago. That's a possible 96 per cent decline; if the trend continues, the curlew could be extinct in Ireland within a decade.

### What's causing the decline?

Changing land use, afforestation, commercial peat-cutting and land drainage have all led to the loss of curlew habitat.

### Is there a solution?

Farmers could curtail grazing in nesting areas during the breeding season (April–June). Maintaining wetlands and clearing scrub will help, too.

### Why should farmers help?

The curlew is an iconic bird that no one wants to see disappear. Modest payments in a few areas are also available to co-operating farmers under HELP, an EU-funded environmental scheme, so we're hopeful of their support.

### What are you doing to help?

Birdwatch Ireland has launched the ‘Cry of the Curlew’ appeal, which aims to raise €100,000. We will use the money to carry out further research, to help our conservation work and to raise awareness about the curlew's decline. **Anthony Garvey**

*Dr Anita Donaghy is managing Birdwatch Ireland's Halting Environmental Loss Project.*



## NEWS IN NUMBERS

**8.7m** The latest estimate of the total number of species on Earth – of which about only 1.2m have been formally described.

**1 million** The number of hectares of oil-palm plantations now certified as ‘sustainable’ – about 10 per cent of global palm-oil production.



**90%** The decline in the population of the grey partridge in Europe between 1980 and 2009. Half of the top 10 most threatened European species are farmland birds.



## DISCOVERY OF THE MONTH

### The genetics of mimetics

Biologists learn how copycat butterflies keep their stripes spot on.

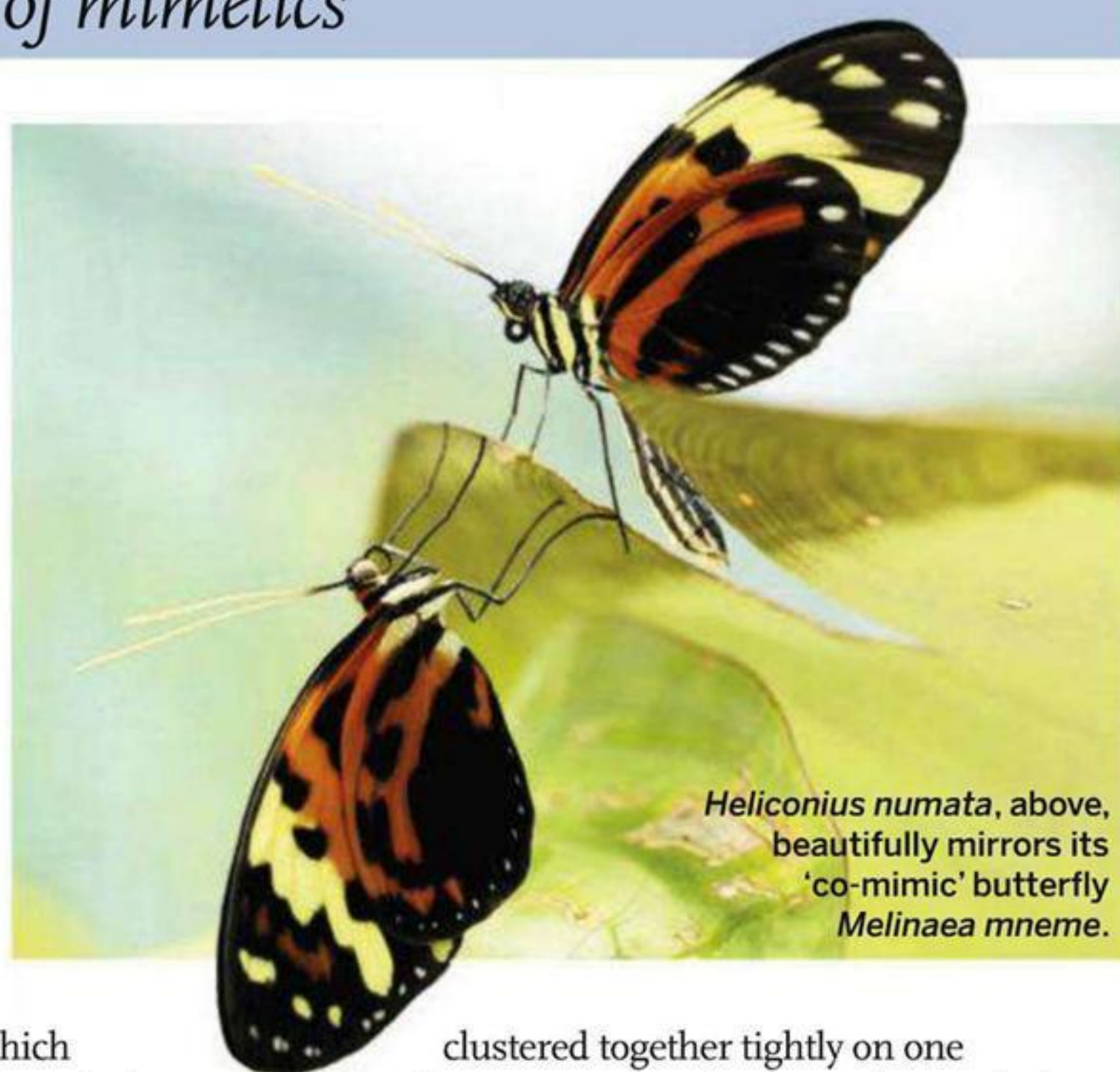
The *Heliconius* butterflies of Amazonia are masters of mimicry. These toxic insects imitate the wing patterns of other unpalatable species for mutual protection against predators – just as many stinging insects share yellow and black stripes.

One of the most versatile is *H. numata*, which comes in seven distinct 'morphs', each of which impersonates a different species of *Melinaea* butterfly.

"Walking round my field site, I might see five different morphs," says Mathieu Joron of France's National Museum of Natural History. "In some places, you see all seven."

And therein lies a puzzle. Because if *H. numata* morphs fly together, they also interbreed. And sex should mix the genes of the parents to produce offspring that aren't quite like either of them, resulting in a breakdown of the mimetic patterns.

But it doesn't. And scientists led by Joron have discovered why. They found that the many genes that code for the butterflies' various stripes, spots and splodges are



*Heliconius numata*, above, beautifully mirrors its 'co-mimic' butterfly *Melinaea mneme*.

clustered together tightly on one chromosome in a 'supergene', so reducing the chances of them becoming separated during the reshuffle of sexual reproduction.

A further barrier to mixing is that a small section of DNA in each supergene is reversed. This makes the male and female supergenes incompatible during the recombination process.

Finally, should two morphs mate, a strict hierarchy among the supergenes means that only one pattern is expressed in the offspring.

The result is a genetic switch that allows the butterfly to flit between perfect impersonations that keep their predators away – and zoologists on their toes. "You still find specimens in the wrong drawers in museums," says Joron. **Stuart Blackman**

SOURCE *Nature* vol. 477, pp203–206 LINK [heliconius.zoo.cam.ac.uk/joron](http://heliconius.zoo.cam.ac.uk/joron)

## ► POLLUTION

# Spill prompts seabird fears

As oil spills go, it was a 'small' one; nevertheless, in mid-August, about 220 tonnes of oil leaked into the North Sea from the Shell Alpha Gannet platform. Though relatively minor, the incident has raised fears about the risk to marine wildlife – and, in particular, Scotland's teeming seabird colonies – from Britain's ageing North Sea rigs. In the end, a few lightly oiled birds were spotted by Shell operators, though none were recovered. The spill is the worst in UK waters in the past decade. **Jonat**



The spill from the Alpha Gannet platform in August was the worst in UK in a decade.

## NEWS IN BRIEF



### THYLACINE DIETS

New analysis of a Tasmanian tiger's skull suggests that its jaws were too weak to deal with animals as large as sheep and that it therefore only hunted small prey such as possums. Australian researcher Marie Attard says that the species may have adopted a too-specialised diet, so that persecution by settlers was enough to hasten its demise.



### SALMON KILLERS

Pacific salmon off British Columbia, Canada, are being killed by sea lice that they catch from farmed fish, according to researchers from Simon Fraser University. Co-author Brendan Connors said that mortality rates for coho salmon living in areas of high sea lice abundance were 92 per cent, but only 2 per cent where sea lice were rare.

### SHARK FIN BAN

A bill to ban the sale of shark fins in California has cleared its first hurdle after the State Senate Appropriations Committee voted in favour of it. An estimated 85 per cent of US shark-fin consumption occurs in California, and 20,000 people signed an online petition calling for the trade to be made illegal.

Dave Watts/naturepl.com

Brandon Cole/naturepl.com



# Heart study leaves bear campaigners tasting bile

Animal welfare groups express anger at news stories linking clinical research with bear bile, reports James Fair.

Trawling the web in early August, Animals Asia Foundation chief executive Jill Robinson was shocked to see reports saying that a “bear chemical” had been successfully used to treat a heart condition known as arrhythmia.

Stories on the BBC’s website and in the *Daily Mail* both linked research using ursodeoxycholic acid (UDCA) with bear bile – a substance obtained by making incisions into the abdomens and gall-bladders of live bears.

The BBC News website ran the story with the headline ‘Bear

chemical brings heart hope’, illustrated with a photo of captive bears. But, in fact, UDCA is found in many mammals, and supplies are synthesised from cattle bile.

The stories were reporting on research conducted by Dr Julia Gorelik at Imperial College, whose work investigated and expanded on established clinical uses for UDCA (see ‘The researcher’s view’, below).

Robinson was aghast. Since 1993, she has been waging a battle against bear farming in Asia, where an estimated 12,000



Some 12,000 bears are ‘farmed’ in Asia, but less than half of the bile obtained is used in Traditional Chinese Medicine products.

bears are kept in captivity in China and Vietnam, mostly in horribly cruel conditions.

Robinson feared that the stories could lend credibility to the use of bear bile in Traditional Chinese Medicine (TCM). Though this practice has been common for thousands of years, in the 1980s a method was developed by which it could be obtained from live animals, – and bear farming took off.

“These stories may allow farmers to link bear bile with human health,” said Robinson. “They will try anything: you now see headlines on buses advertising bear bile as a cure for hangovers; they even promote it as a treatment for acne.”

“You won’t find these uses for bear bile in TCM books.”

(see box, below right). Like other businessmen, Chinese bile ‘farmers’ are trying to find new markets for their products.

According to Animals Asia, the farmers need to do so because China’s farms produce far more bile than is required for the domestic TCM market. The rest is exported – illegal under the Convention on International

Trade in Endangered Species (CITES) – or used in products such as shampoo and tea.

Science does, however, provide a glimmer of hope – research suggests that many herbal treatments work just as well as bile.

Professor Feng Yibin of Hong Kong University points to *Coptis*, a genus of flowering plant that grows in both Asia and North America, as a promising

## THE RESEARCHER’S VIEW



**Dr Julia Gorelik**  
Reader in cellular biophysics, National Heart & Lung Institute, Imperial College London

“When the stories about our research into the use of ursodeoxycholic acid (UDCA) to treat abnormal heart rhythm first came out, it was awful for me. There were 40 or 50 stories about it on the internet, and many of them were illustrated with a photograph of a bear. I don’t know why they did this, though I suppose it was to make the stories more interesting to the public.

UDCA has been synthesised for many years to treat conditions such as high levels of cholesterol and to dissolve gallstones.

Our research had nothing to do with bears or bear bile – we use commercially available UDCA developed by the Sigma Chemical Company. Medical uses for UDCA are no reason to farm bears or inflict cruelty on them, and we do not encourage this.”







alternative because its pharmacological impact is so similar to bile. But more research is needed, he concedes.

Dave Eastham, of the World Society for the Protection of Animals, says such work is key if bear-bile farming is to be eliminated. "People who practise TCM may be more likely to use herbal alternatives than synthetically produced compounds," he said.

Some progress has been made in making bear-bile farms unacceptable. In March, an advisor to the Chinese Government recommended that the practice should end.

For Jill Robinson and other campaigners, it's important that the Western media plays its part, by not drawing unwarranted parallels between research into UDCA and bear bile.

#### ▶ BACKGROUND

■ The use of bear bile in Traditional Chinese Medicine (TCM) was first recorded in the *Materia Medica* in AD 659.

■ In TCM, bear bile is considered to be a 'cold cure', used to treat fevers and inflammation.

■ Traditionally bile was 'harvested' from dead animals, but in the 1980s, China established its first farms based on a model developed in North Korea.

■ A hole or 'fistula' is cut in the bear's abdomen and gall-bladder, from which the bile drips freely.

■ It is legal to farm bears in China but farmed bile can be used only for domestic trade.

■ Wild bears are still poached across Asia for their gall-bladders. Traffic describes the trade as "a serious threat" to three species: Asiatic black bear, sun bear and brown bear.

# MARK CARWARDINE



On the wild thoughts that won't let him sleep. This month:

## Big trouble in China

I have moaned about appalling Chinese attitudes towards animal welfare and conservation many times over the years. It seems to upset some people but, quite frankly, I don't think we point an accusatory finger at China nearly often enough.

So I'm going to do it again. The latest outrage is a contemptible new fashion accessory to hit Beijing. It is a key-ring containing a live animal. Essentially a sealed plastic pouch filled with brightly-coloured water, it imprisons a turtle hatchling, a newt or two small fish.

It's highly likely that the animals trapped in these transparent tombs will run out of oxygen and die within hours or days. Yet the key-rings, which are being sold for as little as £1 each on the street, in subway stations and even outside schools, are proving to be highly popular.

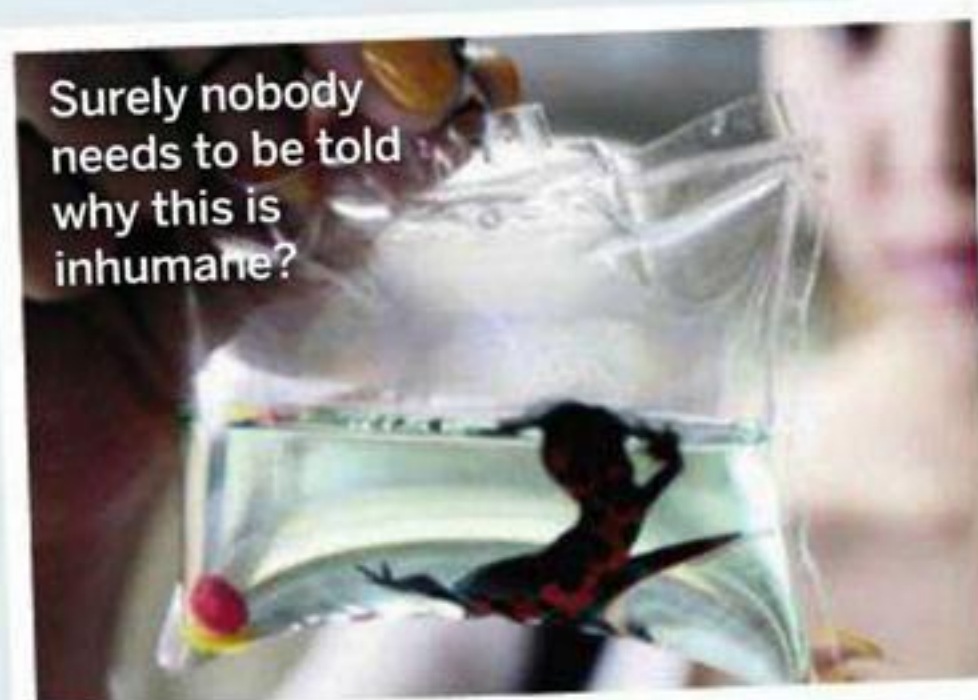
Not all Chinese people are oblivious to animal pain and suffering – some well-meaning passers-by have been buying the key-rings and freeing the animals inside, which merely fuels the trade, of course, but at least it shows some compassion.

Endangered species legislation aside, however, there is currently no law against abusing or killing animals in China.

One is being drafted, in consultation with the RSPCA, but the threat of legislation has prompted intense and heated debate among the Chinese and I do wonder if it can ever be effective or enforceable, at least in the short term.

I'm the first to admit that selling a live animal in a sealed bag is by no means top of China's long list of animal cruelties. Many years ago, I worked undercover on animal

Surely nobody needs to be told why this is inhumane?



“Endangered species legislation aside, there is no law against abusing animals in China.”

welfare issues in China and witnessed such appalling atrocities that it has affected me ever since. But what worries me is that the key-rings are encouraging a whole new generation to feel absolutely no empathy for animals at all.

Mark Carwardine is a zoologist, photographer and TV presenter.





With 'teddy bear' ears and a unique blend of features reminiscent of cats, civets, genets and mongooses, the fosa baffles and charms in equal measure.



# A mongoose in cat's clothing

Photos by **NICK GARBUTT**

It wails like a banshee, has an extraordinary sex life and even eats soap. **NICK GARBUTT** meets Madagascar's fosa, one of the strangest predatory mammals on the planet.

An adult fosa ranges over a huge area and – as befits a lithe, active carnivore – may cover upwards of 7km a day.





**T**he persistent scratching outside my tent put paid to any chance of sleep. Finally, curiosity got the better of me and I unzipped the front flap to poke my head into the cool forest air. I came face to face with one of my boots – inside the mouth of a fosa. In barely 30 seconds it was shredded.

The fosa and I stared at each other. I wasn't sure what to do: retreat into my tent or try to scare it off? I admit to being a touch apprehensive – the creature had strong jaws and big teeth. But it seemed totally unfazed. After a brief stand-off, it padded into the forest, leaving me bemused (and without suitable footwear).

This eye-to-eye meeting in Kirindy Forest, western Madagascar, in November 1999 wasn't the first time I had seen a fosa, but it was certainly the closest I'd ever come. Despite being Madagascar's largest carnivore, the animal was smaller than I had expected – an adult male stands 30–35cm at the shoulder, compared with 35–45cm for a male red fox. Yet its lithe, muscular body oozed power, much of it concentrated in its forelimbs and paws.

Fosas (pronounced *foo-sah*) have a reputation for erratic, even inexplicable, behaviour. They have been known to curl up on the embers of camp fires, ransack unoccupied tents and eat bars of soap and malaria pills as well as boot

## THE EXPERTS

### NICK GARBUTT

visited Kirindy Forest dozens of times during his mission to photograph the elusive fosa.

### MIA-LANA LÜHR

is a zoologist based at the University of Göttingen. She is one of the foremost authorities on fosas.

leather. They are also renowned for their ferocity – in the animated film *Madagascar* they are caricatured as maniacal killers – yet their true nature remains largely unknown.

The majority of sightings occur in the mating season, from mid-October to the end of November, when fosas are more active during the day and shed their inhibitions. But most are dissatisfyingly brief daytime encounters. Like so much wildlife in Madagascar, the species is an enigma.

Whenever I'm lucky enough to spot a fosa during my trips to the 'Red Island', I am invariably reminded of the unsettling feeling you get when you pass someone on the street who is vaguely familiar but you just can't place. It has suggestions of cat, hints of mongoose and intimations of stoat or even dog, yet is different to them all.

So what exactly is a fosa? In short, it's a kind of giant mongoose in cat's clothing. Fosas share a distant ancestry with African mongooses (see box, p48), but have become expert arboreal hunters, acquiring a number of feline traits. They are highly agile climbers, helped by one of their most peculiar adaptations – reversible ankles that enable them to grasp both sides of a tree trunk with their hind feet (several other Malagasy carnivores share this feature, as do palm civets and the binturong, margay and clouded leopards).

But, other than deciphering the species' evolutionary history, the scientific community has largely skirted around fosas. This is hardly surprising – solitary forest carnivores are notoriously difficult to study.

The first detailed research into fosas was carried out by Clare Hawkins of Aberdeen University over 10 years ago. She established key facts about the species' biology and ►

**IT HAS SUGGESTIONS OF CAT, HINTS OF MONGOOSE AND INTIMATIONS OF STOAT OR EVEN DOG, YET IS DIFFERENT TO THEM ALL.**

In November, the fosa breeding season is at its peak. Here, a female rolls in leaf litter to spread her scent and advertise her sexual receptiveness.







Normally exceptionally shy  
and hard to see, fosas lose  
some of their inhibitions  
at mating time – this one  
is investigating the  
photographer's remote-  
controlled camera.





behaviour. More recently, Mia-Lana Lühns of Göttingen University has made some startling discoveries that are painting these mysterious predators in a new light. For example, her GPS tracking data has shown that males range over 100km<sup>2</sup> and females cover up to 25km<sup>2</sup>.

### CALL OF NATURE

Mia's introduction to fosa was unorthodox, to say the least. "I saw my first one while on the loo!" she laughs. "I was in Kirindy to study mouse lemurs. One evening I went to the camp's WC (a hole in the ground) when suddenly something crashed through the forest." It made such a racket that Mia expected to see a big animal but instead, to her surprise, a small female fosa burst into view.

"I didn't dare move in case I frightened her away. But she seemed more interested in the smelly toilet. She sniffed my

Two adult females inspect the base of a tree before scent-marking it. Mia suspects that these two may be mother (left) and daughter.

trousers, then bit my leg. It was love at first sight – I just knew that this was the animal I wanted to study." Mia later decided that the scent of mouse lemurs – popular fosa prey – on her clothes pricked the predator's interest.

Since that fateful call of nature, Mia has notched up over 500 hours in the company of fosa, mostly during the mating season. Their basic breeding biology is now reasonably well known. Receptive females hold court in a mating tree, luring several males to its branches. They remain in heat for just a week, during which time each female may mate with a number of different partners.

But why do female fosa mate up a tree, and how do they select their lofty boudoir? Initial studies suggested that height and proximity to water were major factors, but Mia's work has shown that females don't necessarily select the tallest trees – though they do pick

## CARNIVORE CASTAWAY WHAT ARE THE FOSA'S RELATIVES?

First described by science in 1833, the fosa has puzzled zoologists ever since. The *crypto* (Greek for 'hidden') in *Cryptoprocta ferox* refers to an unusual excretory sac that hides its anus.



### FROM CAT TO CIVET

Originally, the fosa was thought to be a cat due to facial similarities, its semi-retractile claws, and its ability to miaow and purr. Later, it was aligned with other carnivores including African genets (left) and civets (family Viverridae).



### MONGOOSE LINKS

Alternatively, authorities have often linked the fosa to the mongoose family, Herpestidae (which includes the yellow mongoose, left). Recent genetic analysis has indeed revealed distant shared connections with African mongooses.

### A FAMILY OF ITS OWN

Madagascar's nine endemic carnivores, including the fosa and the ring-tailed mongoose (right), are now placed in the family Eupleridae. Their shared ancestor arrived some 20–25 million years ago.







## “SHE SNIFFED MY TROUSERS, THEN BIT MY LEG. IT WAS LOVE AT FIRST SIGHT – THIS WAS THE ANIMAL I WANTED TO STUDY.” MIA-LANA LÜHRS

ones with a good view. Whatever its magic ingredients, the same tree – even the same branch – will often appeal to several females.

For a female fosa, love in the treetops has two main advantages. From a high perch, her high-pitched, cat-like cries carry far and wide, attracting more males. And, when they arrive, she has greater control over their advances, since only one excited male at a time can crawl along the branch to approach her. If the potential suitor doesn't impress, the female simply moves to the thinner branches at the edge of the canopy, safely out of reach of the heavier male.

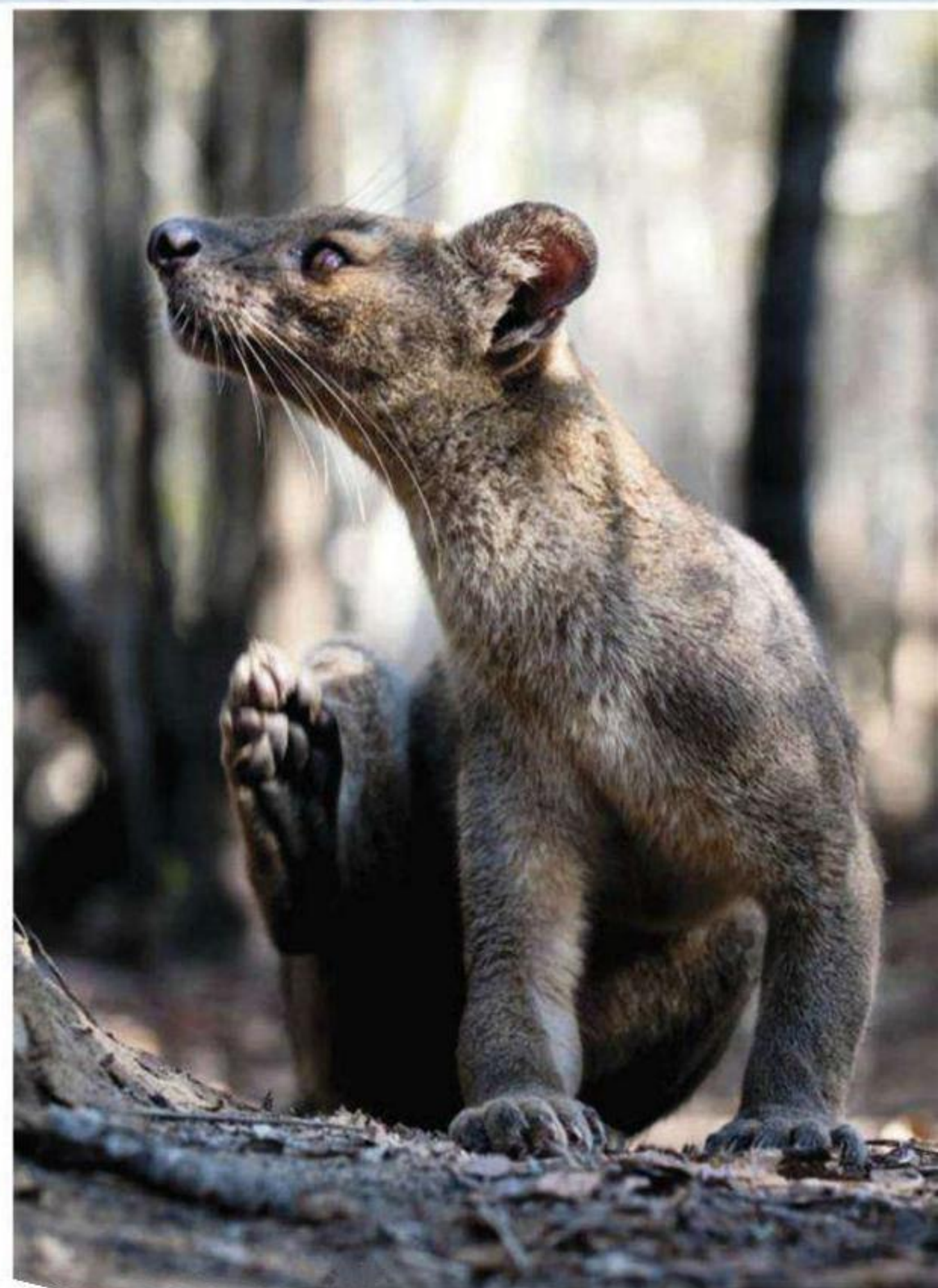
Unfortunately, male fosas don't always get the hint. Pumped up on testosterone, some of them disregard the fundamentals of gravity and continue to walk their flimsy tightrope – with predictable consequences.

### LOVERS' TIFFS

During her nocturnal vigils at mating trees, Mia has seen males tumble to the ground many times. Sometimes, when male and female are engaged in a treetop lovers' tiff, the pair fall together. One night, there was a particularly rowdy encounter in the canopy.

“A branch cracked without warning,” Mia remembers, “and the couple and the broken branch came crashing down. Both animals lay beside it.”

Top: a rare photo of a copulating pair, pictured in *flagrante delicto* in the treetops. Right: the fosa's very long hind feet and pads are adapted for climbing.





Mia thought the animals were dead, and shed a tear. But then the male came round, got his bearings and approached the female anew. "He tugged at her fur, then mounted her. In a flash, the object of his desire regained consciousness and attacked him, sending him packing. Even more remarkably, she promptly climbed back up the tree and began mating with another male."

Fosas are famously promiscuous. During their seven days in oestrus, females may 'receive' as many as 10 males (though not simultaneously), and mate with each suitor up to 10 times. This may add up to 50 or more separate sex sessions and a total of 40 hours in the act; copulation lasts from several minutes to as long as six hours. Such extreme competition has led male fosas to evolve disproportionately large penises and produce copious quantities of semen. Like domestic cats, they also have sharp penile spines, which may maintain the coital union or induce ovulation.

Both sexes are highly vocal during copulation, producing a cacophony of weird screams and squeals that can sound rather too human for comfort. But one of the most fascinating aspects of fosa courtship is female dominance. Females may weigh only half as much as males but reinforce their status with aggression vocalisations. A single call from a disgruntled female can make a male break his union with her and beat a hasty retreat down

Fosas are superb arboreal acrobats, equipped with reversible ankles and long tails for balance. One of their hunting techniques is to ambush sleeping lemurs after dark.

## DURING THEIR SEVEN DAYS IN OESTRUS, FEMALES MAY 'RECEIVE' AS MANY AS 10 MALES AND MATE WITH EACH ONE UP TO 10 TIMES.

the tree. Females can also utter a piercing, blood-curdling yelp that Mia says instantly clears the tree of males.

Aggression between females is extremely rare, however. Even unrelated females seem to enjoy taking part in bouts of mutual grooming, sleeping nestled close together. They may also join forces to chase away unwanted males.

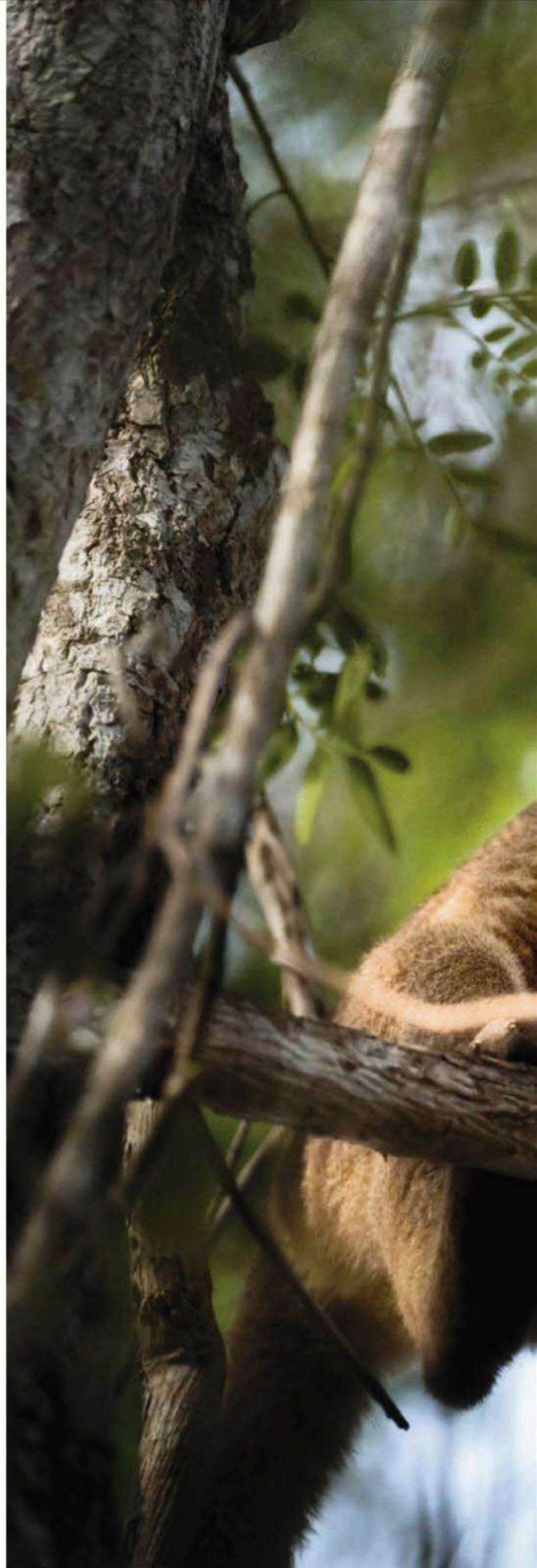
### MALE BONDING

It was long thought that, outside the breeding season, fosas were loners. But Mia's observations prove that males *can* be social and sometimes hunt as a team (I myself have seen group-hunting behaviour), though she stresses that this is probably limited to brothers, especially litter mates.

Once, Mia witnessed three males isolate a Verreaux's sifaka from the rest of its family, then chase it for over 45 minutes and exhaust it before finally moving in for the kill. "The males appeared to have a clear strategy, with each playing a different role. One would move in behind the lemur, another pursued it along the ground and the third would climb trees up ahead to intercept it."

The *coup de grâce* was swift. "Two of the males shot into the canopy, close enough for me to hear their excited vocalisations (possibly to co-ordinate the hunt). They were just out of sight when they caught the sifaka, but I could hear its final death throes." The three fosas shared the meal, though the dominant individual fed first.

Teamwork may confer a number of benefits. Since it increases hunting success, alliance members grow faster than solitary males. Being larger, they may also have an edge in confrontations with rivals and (like the male cheetahs that form coalitions) can call on











## TABOOS AND TRADE

- ▶ Fosas have disappeared from many former haunts – and may already qualify for 'Endangered' status. They suffer from a poor reputation among local people, due to a combination of *fady* (traditional taboos) and the predators' fondness for chicken and other livestock.
- ▶ In the forests of the Makira region in the north-east of Madagascar, fosas are hunted for food. They form part of a thriving illegal trade in bushmeat that includes other endemic carnivores, lemurs and tenrecs.
- ▶ Fosas are also killed for their body parts, which are used in traditional medicine.

Mia suspects that co-operation is an evolutionary throwback. "Madagascar was once home to an array of much larger prey, such as giant lemurs. Hunting in groups may have been the only way fosas could tackle this quarry."

Sadly, Mia's work has also highlighted the many threats facing this slinky, oddball carnivore. Most of Madagascar's wildlife is affected by the rampant deforestation and habitat fragmentation on the island, but the impact is particularly severe for fosas, which require large territories. The IUCN's latest Global Mammal Assessment estimates that fewer than 2,500 of them survive in the wild.

Fosas are even under pressure at Kirindy and nearby forests – considered a key stronghold – areas that have shrunk so much they may now cover less than 80,000ha. Fosa territories are becoming tightly packed; competition for prey is intensifying. In 2010, Mia recorded just 10 males in her study area, half the number she'd seen in previous years. She thinks that, at best, 100 individuals live in the Kirindy area today, but perhaps 30 (or even fewer) cling on here.

One of the main issues is persecution. "In the dry season, when prey is hard to find, fosas enter villages to steal chickens," Mia explains. "If they're caught, they're killed." Together with her colleague Moritz Rahlfs, she has recorded 12 such deaths at Kirindy in the past two years alone. With backing from the Durrell Wildlife Conservation Trust and Duisburg Zoo, Germany, Mia and Moritz are working with local communities to alleviate this conflict, and hope to establish the charismatic carnivore as a conservation emblem for the Kirindy area.

It's an ambitious goal; let's hope that they succeed. I for one would happily sacrifice many more boots (and sleepless nights) to help secure a future for a creature that, even by the standards of an island that does the term, is utterly singular.

A snarling male fosa shows off his powerful fore limbs and impressive canines, used to kill lemurs and other large prey.

### FACT FILE

## FOSA

*Cryptoprocta ferox*

### ▶ LENGTH

Head & body: 65–85cm;  
tail: 60–80cm.

### ▶ WEIGHT

Male: 6–11kg;  
female: 6–9kg.

### ▶ ID TIPS

Long, slender carnivore with a short muzzle, round ears, big eyes with vertical pupils and a very long tail. Smooth, sepia-coloured fur.

### ▶ DIET

Mostly lemurs; also hunts rodents, tenrecs and other vertebrates.



### ▶ LIFE-CYCLE

Mating occurs October–November. 1–4 young born after a 6–8 week gestation, and stay with their mother for at least 12 months.

### ▶ HABITAT

Dry deciduous forest and rainforest. Widespread, but found at very low densities.

### ▶ STATUS

Vulnerable; populations continue to decline.

### WHERE IN THE WORLD



Fosa range

### TOP SPOTS

- 1 Ankarafantsika National Park (Ampijoroa)
- 2 Kirindy Forest

MADAGASCAR



### ON OUR WEBSITE

Read our fosa blog with Mia's recording of its amazing call, and find out more about Madagascar's endemic wildlife.

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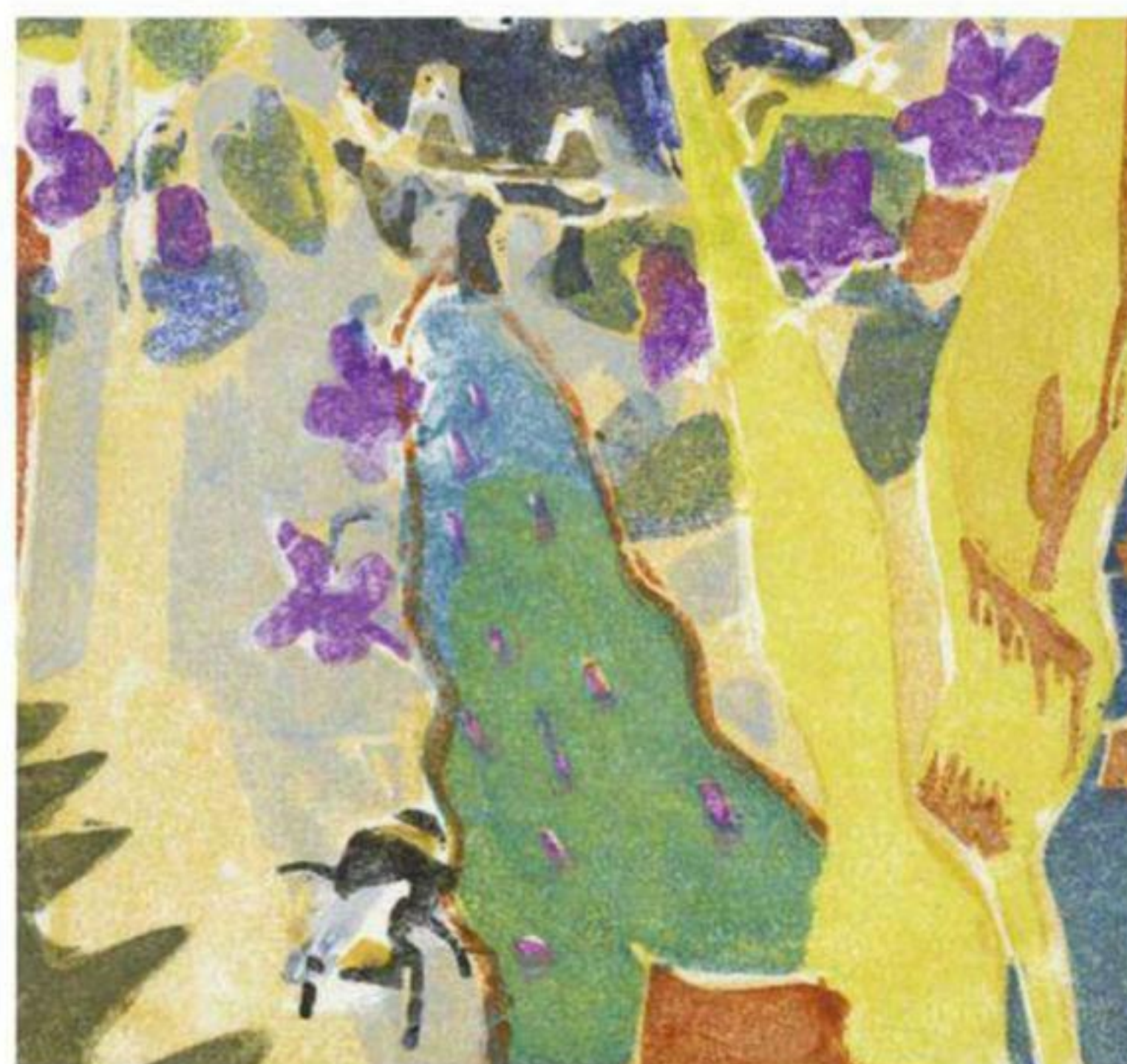


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A white-tailed eagle lifts off from a Norwegian fjord with a fish clasped in its talons. After decades of conservation effort, this spectacle is becoming more common in Scotland.

Roy Mangeršnes

# The (sea) eagle has landed



## THE EXPERT

KENNY TAYLOR lives in the Highlands, not far from the white-tailed eagles' domain. "With luck, as their range grows, I'll see them from my garden one day," he says.

White-tailed eagles – our biggest birds of prey – are back in the skies of eastern Scotland. KENNY TAYLOR charts the latest chapter in the species' recolonisation of the UK.





One of Mull's white-tailed eagles feeds a nearly fully grown chick in its Scots pine nest. Pairs mate for life and re-use the same eyrie, staying close to their breeding territory all year.

**A**t first, it looks like there's a speck of dirt on my binoculars. I wipe the front lenses, then raise them again. But the speck is still there, and now it's bigger. It seems to be moving in my direction.

The hills far behind it are imposing: I can even recognise some of the towering cliffs across the several kilometres of choppy grey sea that separate the Isle of Skye from the Shiant Isles, where I'm sitting.

Both landscape and seascape have great breadth and height here. It takes a large creature to seem part of that immensity of earth, water and sky. Whales have that scale, as if formed from the very essence of this wild seaboard. So, too, do eagles.

There's no doubting now that the bird in my 'bins' is a white-tailed eagle. Sheer size is the giveaway. An adult female has a wingspan of about 2.5m and weighs 6kg on average, making this raptor Europe's biggest eagle – and the fourth largest in the world.

The golden eagles that share some of the same airspace in Scotland are noticeably smaller in comparison. Male and female white-tailed (or sea) eagles are roughly 20 per cent heavier, and longer- and broader-winged, than 'goldies' of the same sex. The 'flying barn door' nickname is well earned.

But golden eagles often dominate white-tailed eagles at carcasses. This pecking order gives a clue to the different family trees of the two species – the latter are more closely related to vultures than they are to goldies and other 'true' eagles.

In flight, a white-tailed eagle does look a bit like a soaring vulture. But when it descends to sea or loch to catch a fish (a favourite food, together with ducks such as eiders and scavenged carrion), everything changes. Wings part-folded, it plummets downwards,

gaze fixed on an unseen target. Huge yellow legs thrust forward, it approaches the water, then rocks back, momentarily, its tail almost trailing the surface. An instant later, talons plunge beneath the surface and are pulled back. The eagle ascends with deep, powerful wing beats. A fish now thrashes in its grip; a cascade of droplets trails in its wake.

As the eagle approaching me today makes a slight shift of direction, I glimpse its pale head and the pure white feathers of its tail. It's an adult, perhaps five years old or more. And it's the very first of its kind that I've seen in Scotland. *Iolair sùil na grèine* ('eagle with the sunlit eye') is what the Gaelic speakers of this part of the Hebrides would have called such a bird, before it was driven to extinction in this country early in the 20th century.

### DID YOU KNOW...

- ▶ **Norway is home** to the largest recorded wild white-tailed eagle – a huge 9kg female.
- ▶ **A white-tailed** eagle roamed Hampshire and Sussex last winter. The juvenile was probably of Scandinavian origin.
- ▶ **In 2007–10** a total of 77 Norwegian white-tailed eagles were set free in Co Kerry, Ireland. The species' original Irish population had died out some time in the 1800s.
- ▶ **A five-year-old** girl was said to have been snatched by a white-tailed eagle in Norway in 1932. But tests show the species can lift only 2kg, so the story is unlikely to be true.

### DECLINE, FALL... AND TAKE-OFF

White-tailed eagles once bred throughout much of lowland Britain. They died out first in England and Wales, though Scotland still held roughly 50 pairs in the 1800s. The eagles were seen as unwelcome neighbours for the newly established sheep flocks and ever-expanding Victorian sporting estates. Persecution by farmers and gamekeeping interests, and the collection of eggs and skins, led to the species' national extinction. ▶



# RELOCATION DIARY

We follow 16 eagle chicks on their journey from Norway to a new home in Scotland.



JUNE  
24

## HEALTH CHECK ▲

The chicks are taken to their temporary home in a Forestry Commission Scotland forest. They are weighed and given a health check by vets (above), then are released in eagle-proof aviaries (below) with similar-sized chicks of the same sex.

JUNE  
18

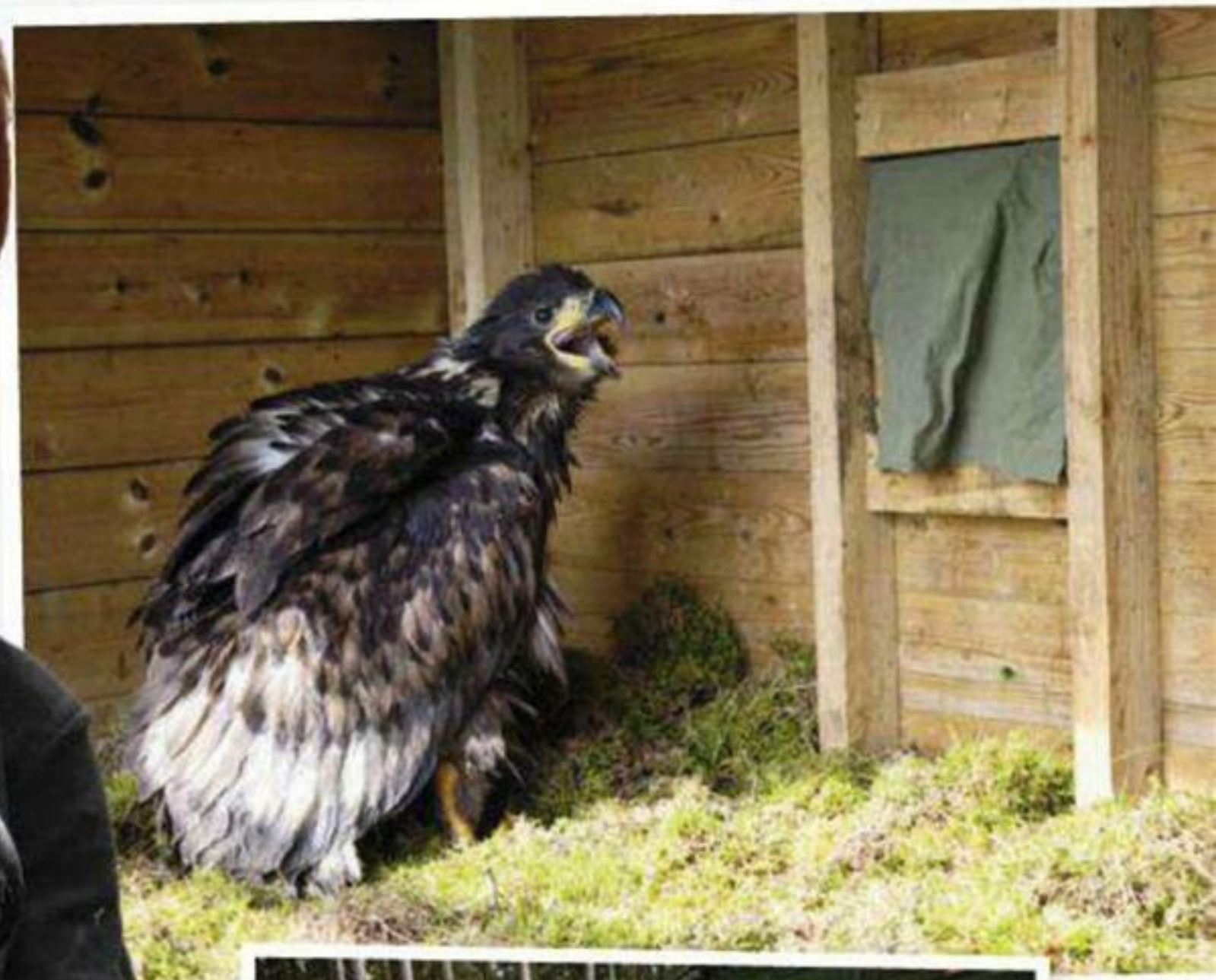
## COLLECTION DAY ▲

Gathering up bolshy white-tailed eagle chicks is no easy task. Having carried out a recce of nests in western Norway to locate broods of twins and triplets – at least one chick must be left behind in each nest so that the Norwegian eagle population is not affected – the RSPB's Claire Smith scales the trees to retrieve the selected youngsters.

JUNE  
24

## ARRIVAL AT EDINBURGH ►

The 16 eagle chicks (aged 5–7 weeks) touch down on Scottish soil in their own chartered flight. Here, Claire is showing one of the birds to the assembled dignitaries and members of the press.



AUGUST

5

## IDENTITY PARADE ▲

The birds are removed from their aviaries and placed in a line of crates ready to be tagged. Each one is fitted with a lightweight radio transmitter on its back and a pair of plastic wing tags. It is the last time that the young eagles will be handled before their release.



## CONSERVATION WHITE-TAILED EAGLE

Carrion, such as this red fox, forms a major part of the white-tailed eagle's diet. In parts of Norway, leftovers from otter kills are particularly important.





**AUGUST 11** **RARING TO GO** ▼

As the eagles get stronger, they exercise by flexing their powerful wings and sharpening their talons on the (hefty) perches. Today's inspection has confirmed that these two birds are finally ready to be released.

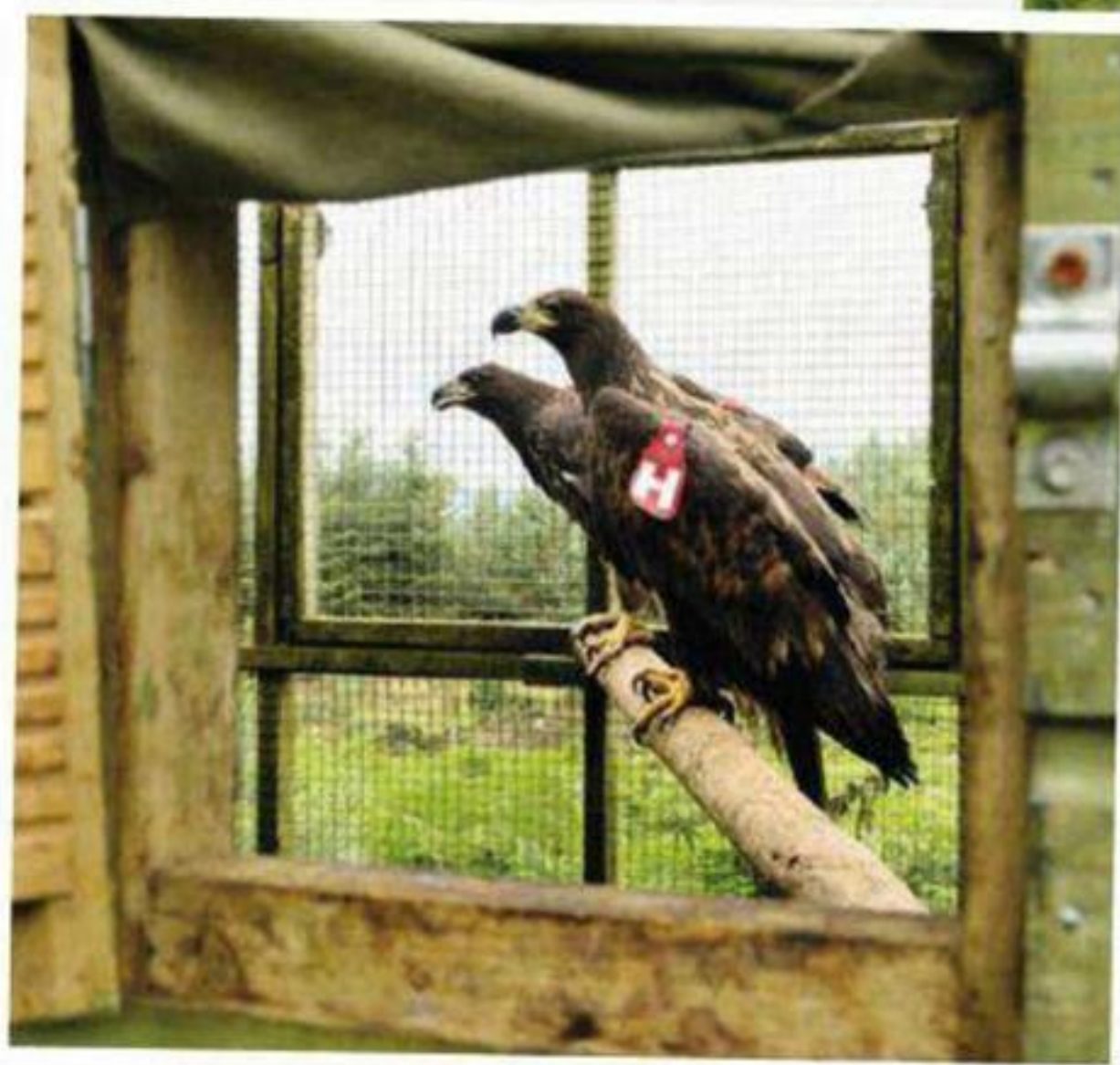


# RELOCATION DIARY

**AUGUST 11**

## A FINAL MEAL ◀

Claire gives the eagles their last supper in captivity – fresh roe venison. She will leave food in the forest for them for several weeks until they have perfected their hunting skills and can fend for themselves.



**AUGUST 12**

## FLYING FREE AT LAST ▶

Time to test out those mighty wings for the first time. After a brief moment contemplating what to do next, the young eagles take off one by one, soaring above the trees to start their new life on Scotland's east coast.



Release photos by Fergus Gill

The last breeding pair in Britain was shot at their eyrie on Skye in 1916. The final native white-tailed eagle (an albino!) was killed on Shetland two years later.

But now the white-tailed eagle has risen again over large stretches of Scotland. A reintroduced population is thriving – indeed, it has expanded sufficiently for the raptor to become one of the new symbols of green tourism in the Highlands and islands.

The comeback has not been without controversy, however. Some farmers and crofters, worried about eagles taking lambs, have voiced concerns about the new arrivals. Scottish Natural Heritage (SNH) offers advice and assistance to landowners who have lost livestock, helping to win over hearts and minds, though not everyone is reassured.

There's no doubt that white-tailed eagles can – and do – prey on lambs, but just how common is this behaviour? One of several studies commissioned to investigate the species' impact found that on Mull, the reintroduced population's current stronghold, the eagles took only a few dozen

Meanwhile, independent survey results released this summer show that the value of the big birds to the Mull economy has tripled since 2005, growing from £1.4 million to at least £5 million annually. That's an enormous sum for an island with a human population of fewer than 3,000.

From the outset, co-operation with Norway has been crucial to efforts to re-establish a viable stock of Scottish white-tailed eagles. After unsuccessful, small-scale attempts in 1959 and 1968, the first big release scheme (involving 83 chicks reared by renowned Highland naturalist John Love) took place on the island of Rùm, near Skye, between 1975 and 1985. The second phase, carried out by

SNH and the RSPB, involved a further 59 Norwegian chicks released between 1993 and 1998 on the mainland.

In the latest phase, which began in 2006, chicks from further south on the Norwegian coast are being released in Fife, the fertile peninsula that juts between the estuaries of the rivers Forth and Tay, in eastern Scotland. As this project has grown, so, too, has the number of organisations taking an interest in a healthy Scottish population of sea eagles.

## EXPRESS DELIVERY

On an overcast day in late June I drive to Edinburgh Airport to meet the latest batch of 16 young Norwegian eagles, which have just arrived, in some style, in a chartered light aircraft. Claire Smith, the RSPB's East Scotland sea eagle officer, is already standing on the tarmac. One of the chocolate-coloured youngsters, about the size of a small turkey but with a meatcleaver beak as long as the palm of Claire's hand, hunkers down in her hand, trying to keep a low profile.

**WINGS PART-FOLDED,  
A WHITE-TAILED EAGLE  
PLUMMETS DOWNWARDS,  
ITS GAZE FIXED ON AN  
INSECT**

Opposite: Richard Costin



FACT FILE

WHERE IN THE WORLD



## WHITE-TAILED EAGLE

*Haliaeetus albicilla*

► OTHER NAMES

White-tailed sea eagle.

► WINGSPAN

Male 207–234cm;  
female 224–265cm.

► WEIGHT

Males: up to 5.4kg;  
female: up to 8kg.

► ID TIPS

Huge raptor with long, very broad wings, finger-like wingtips and a massive bill. Adults (over five years old) have pale head feathers and a mainly white tail; young are brown all over.



► LIFE-CYCLE

Breeds for first time at five years; pairs stay together for life. Female lays 1–3 eggs; young fledge at 10–14 weeks.

► HABITAT

Coasts and sea lochs; in Europe, also found on lakes, fish ponds and marshes.

► STATUS

Scotland has 200 eagles (2010 figures). Elsewhere, range extends from Europe to Russia, China and India.

Mark Hamblin

Dignitaries and senior representatives from the project partners gather for a closer look, while photographers snap away. It's a suitably regal welcome for such a magnificent bird.

Several weeks later, I travel to a top-secret location in Fife to see the young eagles in more natural surroundings. Claire leads me to a clearing in a pine forest. Unseen by the birds, which are housed in a row of green-painted huts and have no direct contact with humans during their stay, she cheerfully goes about her job as a foster parent.

Claire removes old food remains through the back of each hut, then pokes fresh provisions through a hatch. Bloody hunks of roe venison are the current dish of the day. But she'll ring the changes with trout, salmon, red deer and grey squirrel (culled in

## ONCE, A YOUNG EAGLE MANAGED TO GET SHUT IN A CHICKEN COOP. "IT ONLY ATE THREE OF THEM," CLAIRE SAYS.

Aberdeenshire in an effort to boost the area's native reds) during the seven weeks that the chicks are in her care.

### CHICKEN RUN

As Claire works she tells me that the release of these eagles is just the start of a very long process. Helped by an army of volunteers, she will track the movements of the birds using signals from radio tags fitted to each one.

Following up sightings from the public will also be a big task. And then there will be the odd sticky situation to smooth over, such as when a young eagle, amazingly, managed to get shut in a chicken coop overnight. "It only ate three of them," Claire says, evidently impressed by the eagle's restraint.

Her passion for these birds is infectious, and it shines through when she describes the drama of release day. "To me, the process seems almost magical," she confesses. "You've taken a wild chick from Norway and now it's flying over Scotland.

"It's thrilling when you first see them soaring. In the first week or so after release, they're not very good fliers," she grins. "But then, one day when you're out radio-tracking, you find you can't see the bird. Then you realise it's because it's very high, and you look up and see it, soaring far above. That's when you get a sense that the chick has finally become an eagle."

There's no doubt that the skies of Scotland are changing now, as these massive birds regain their talon-hold along rivers, lochs, glens and coasts. The white-tailed eagle hasn't simply landed. It's soaring.

And, as Claire knows better than most, that really is a kind of magic. 🦅

### FIND OUT MORE

- Read a blog about the East Scotland Sea Eagles project at [www.rspb.org.uk/community/ourwork/b/eastscotlandeagles/default.aspx](http://www.rspb.org.uk/community/ourwork/b/eastscotlandeagles/default.aspx)
- Send sightings of white-tailed eagles in eastern Scotland to [eastscotlandseaeagles@rspb.org.uk](mailto:eastscotlandseaeagles@rspb.org.uk)
- Mull Eagle Watch: [www.rspb.org.uk/datewithnature/146979-mull-eagle-watch](http://www.rspb.org.uk/datewithnature/146979-mull-eagle-watch)
- Aros Centre, Isle of Skye: [www.aros.co.uk](http://www.aros.co.uk)



One of this year's young eagles takes flight for the first time, at the release site in Fife.

Fergus Gill



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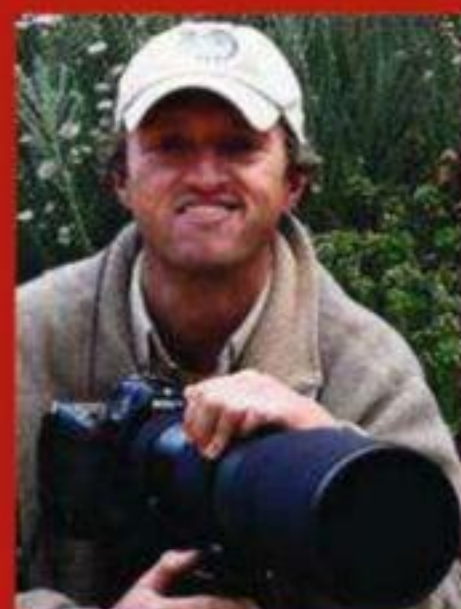
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Photos by STEPHEN BELCHER

# Pincer *movement*

Every year 50 million red crabs swarm across Christmas Island to the ocean.  
**STUART BLACKMAN** joins one of the world's most colourful animal migrations.

Red crabs spend their adult lives on land but return to the ocean to spawn. Millions of females scuttle to the shore to release their eggs (up to 100,000 each) before sunrise at the turn of a high spring tide, during the last quarter of the moon.







**T**here can't be many places on Earth where you can see one of nature's great migrations from your bedroom window. But swish back your curtains on Christmas Island during the rainy season and chances are you'll find yourself gazing at one of the most colourful – and peculiar – mass movements of animals in the world.

"They come like a tidal wave," says wildlife photographer Stephen Belcher, who spent several weeks photographing the spectacle. "A very slow tidal wave."

It's a scarlet surge composed of 50 million red crabs *Gecarcoidea natalis* – 30,000 of them for each of the island's human inhabitants. Once a year, the crustaceans leave their forest home to make a 16km round trip to the coast and back to breed. Through sheer weight of numbers, they transform the ecology of both land and sea – not to mention the lives of the islanders.

For most of the year, the crabs can be found pottering around the tropical forest that swathes this Australian territory in the Indian Ocean. They never stray far from their burrows, feeding on fallen leaves and fruits, seedlings,

## IT'S PRETTY HARD TO AVOID 50 MILLION CRABS SCUTTLING SIDEWAYS ACROSS AN ISLAND MEASURING JUST 14KM BY 19KM.

snails and carrion. With more than one crab per square metre, nothing goes to waste: the result is a forest stripped bare of ground vegetation and leaf litter. "It looks like it's been vacuumed," Stephen observes.

But the forest cannot cater for the crabs' every need. Their terrestrial prowess is a relatively recent innovation, following a long evolutionary history in the sea. To breed, they still need the ocean. Which is where they head as soon as the monsoonal rains come, usually in late October.

It's pretty hard to avoid 50 million crabs (which, when fully grown, have a carapace up to 11.5cm wide) scuttling sideways across an island measuring just 14km by 19km. Not only will you bump into them outside your home but also – should you leave the front door ajar – inside it, too.

Male crabs head the procession. Their mission? To dig burrows on the terraced coast overlooking the sea, ready for the females. Courtship is a surprisingly sensual affair involving much stroking of the females' shells by the males. Afterwards, the males retrace their steps to the forest, leaving the females to hunker down in the burrows for a couple of weeks to brood their fertilised eggs in pouches beneath their bodies.

Then there is another synchronised mass movement, this one cued by the waning moon, which tempts the females to the sheer cliffs that skirt the island. Their shells squeak as they rub against the rock and each other. "Close your eyes and it's almost

### THE EXPERT

#### STUART BLACKMAN



is a zoologist turned science writer who

has a soft spot for islands and invertebrates – a distinctly memorable combination being a crab pie on the Isle of Coll in the Hebrides.



if you're sitting amid a colony of chirruping birds," says Stephen. With the seawater lapping at their legs, the female crabs proceed to jettison their eggs into the surf. They do so with their claws held aloft and brood pouches exposed, performing vigorous wiggles of their 'hips' like shoulder-padded quarterbacks doing a belly dance. It's a dangerous time: crashing waves threaten to sweep them out to sea.

### A NATURAL WONDER?

The migration of red crabs is hailed as a wonder of the natural world. Yet accounts written by early visitors to Christmas Island hardly mention the crustaceans, raising the intriguing possibility that this phenomenon isn't entirely natural – at least, not on the scale that it occurs today.

One theory is that crab numbers were held in check by the native Maclear's rat, until the mammal's rapid decline and extinction soon after the island was first colonised in the late 19th century. A visitor in 1898 said that the rodent occurred in "swarms" all over the island. But by 1904 it had disappeared entirely, wiped out by a disease spread by fleas carried by black rats that arrived with the human settlers.

Maclear's rat isn't the only Christmas Island speciality we have lost. A close relative, the bulldog rat, met the same fate, having been seen since 1085. The

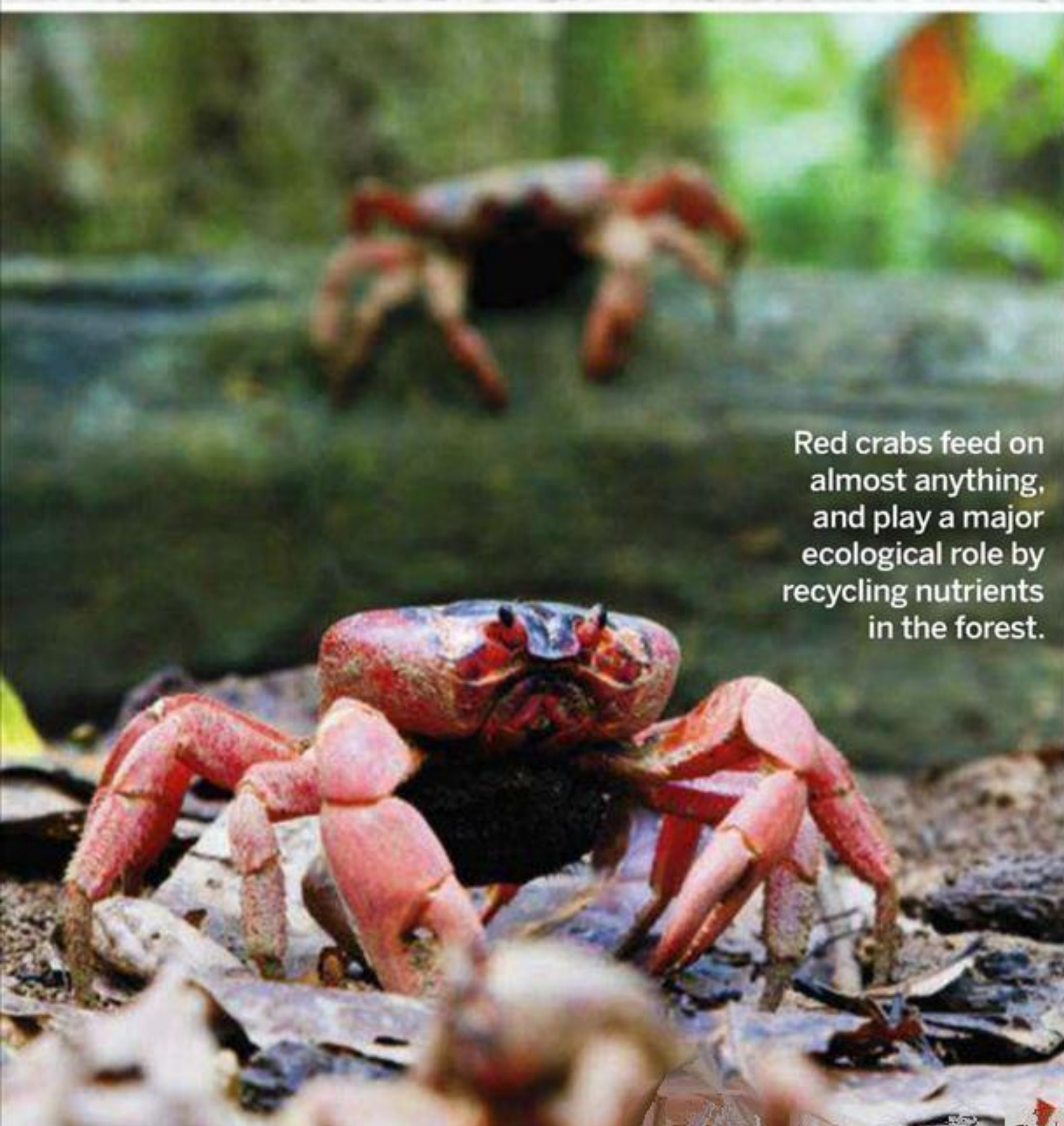
Red alert: signs help to keep crab roadkill to a minimum.

RED CRAB MIGRATION ROAD CLOSURES	
MURRAY ROAD	CLOSED
SCHOOL - DRIERS	OPEN
NW POINT ROAD	OPEN
THE DALES ROAD	OPEN
WINIFRED TRACK	OPEN
CIRCUIT TRACKS	CLOSED
BLOWHOLES ROAD	CLOSED
BOULDER TRACK	CLOSED
MARGARET KNOLL	OPEN
ETHEL BEACH ROAD	OPEN
GOLF CLUB ROAD	OPEN





With brood pouches full of ripe fertilised eggs, female crabs swarm out of their nursery burrows on the coast and march down to the sea to spawn.



Red crabs feed on almost anything, and play a major ecological role by recycling nutrients in the forest.



#### 1 MARCH TO THE OCEAN

The onset of the monsoon rains is the trigger for adult crabs to migrate.

#### 5 GROWING UP

After three or four years as juveniles, the crabs are ready to join the breeding migration.



#### 4 TREK INLAND

Swarms of air-breathing baby crabs race to the forest.



## RED CRAB LIFE-CYCLE

#### 3 DRIFTING AT SEA

The larvae spend a month as part of the plankton, then gather in the shallows.



#### 2 SPAWNING

Having mated, the female crabs wait 12 days for their eggs to develop, then cast them into the surf.





Red crabs have evolved particularly large, rounded carapaces to house their 'lungs' – blood-rich tissue lining their gill chambers that enable them to live for long periods away from water.



Christmas Island pipistrelle bat has suffered a catastrophic – and unexplained – decline over the past two decades and is feared extinct. It was last recorded in 2009.

### TRUCKS, TRAINS AND CRAZY ANTS

But the crabs don't have it all their own way. On their treks between feeding and breeding grounds, they run a gauntlet of roads servicing the island's phosphate-quarrying industry. A million crabs were crushed by cars, trucks and trains each year in the 1980s (the railway is no longer operational).

"When I arrived here in 1992, no one worried about running over crabs," says National Park project officer Max Orchard. "The mining trucks carried on as if they were not there – the carnage was horrific." Since then, Max has worked to reduce the roadkill, installing fences that funnel the crabs towards purpose-built bridges and underpasses.

"It's wonderful to see the change in local attitudes to the migration over the time I have been on the island," Max says. "Now truck drivers call to tell me about high crab numbers and request road closures." Recent surveys suggest that the fatalities are down to about 300,000 crabs a year.

A more serious threat comes from insects introduced from Malaysia or Singapore in the early 20th century, which are wreaking havoc on not only the red crabs but also the

structure of the island's forests. Yellow crazy ants – named for their colour and seemingly random movements when disturbed – were not a problem at first. But in the 1990s, they started to form multi-queen super-colonies that occupied 25 per cent of the forest.

These marauding opportunists don't bite or sting, but are able to subdue their prey by spraying formic acid en masse. Their attacks have caused the red crab population to decline by as much as a third, and the ants have inflicted a heavy toll on other native invertebrates, reptiles and nesting birds, too.

Wherever the crazy ant super-colonies rule, red crabs are entirely absent and the forest floor has become overgrown. The canopy is also under attack – from outbreaks of sap-sucking scale insects, which the ants protect in return for being allowed to 'milk' them for their sugary honeydew.

The National Park team has launched an all-out war on the ants, dropping insecticide-laced bait on the super-colonies from a helicopter. The aerial raids have reduced ant densities by over 99 per cent, and there seems to be little, if any, collateral damage to the species the scientists are trying to protect.

Back on the beaches, the great red migration enters a new but equally spectacular phase once the females have scattered their broods to the beaches. The eggs hatch on contact

Christmas Island also hosts the world's largest population of robber crabs, which sometimes eat their smaller red cousins.



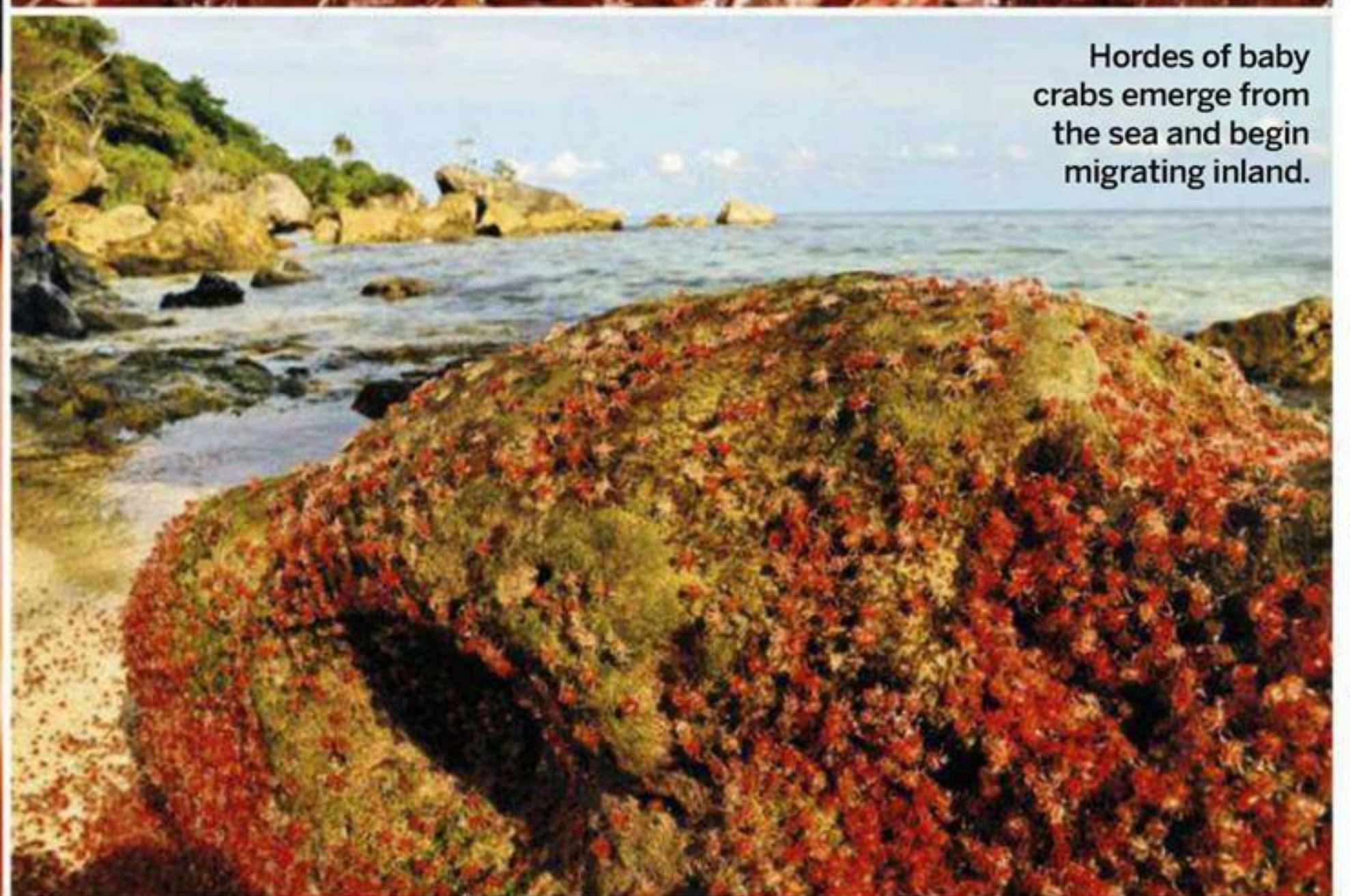




After a month at sea, clouds of prawn-like crab larvae, known as megalops, gather in dense swarms in pools by the shore.



Hordes of baby crabs emerge from the sea and begin migrating inland.



Young crabs x2: Justin Gilligan; frigatebird: Ingo Arndt/Minden/FLPA

with water, bathing the fringing coral reefs in a nourishing crustacean soup. It's no coincidence that filter-feeding giants such as whale sharks and manta rays appear here at this time. With 25 million female crabs each producing up to 100,000 eggs, there's plenty of larvae to go round and still leave enough to grow up into the next generation of crabs.

## IN SEVERAL YEARS THE CRABLETS MATURE AND ARE READY TO JOIN THE GREATEST PITTER-PATTER OF TINY FEET ON THE PLANET.

After three to four weeks developing as plankton, the shrimp-like larvae head back to shore, turning the surf pink (and making a dip in the sea a prickly experience). A final moult and they are proper little air-breathing land crabs.

The baby crabs crawl out from the sea together, reaching the forest within about nine days. Once or twice a decade, currents permitting, they emerge in such numbers that a living, breathing, writhing red carpet unfurls across the island. Among the trees, the crablets vanish as magically as they appeared. Several years later they mature and – as breeding adults – are ready to leave the forest again and join the greatest pitter-patter of tiny feet on the planet.

### NOW YOU DO IT

#### GETTING THERE

- **Christmas Island** is an Australian territory in the Indian Ocean, about 325km south-west of Java.
- Fly to the island from **Perth** (Australia) or **Kuala Lumpur** (Malaysia).

#### WHEN TO GO

- The **red crab migration** is triggered by the start of the rainy season. Your best bet is to visit between late October and December.
- Watching armies of female crabs lay their eggs is unforgettable. The event is synchronised with high tides of the last quarter of a waning moon; this year's possible dates are 22 October, 20 November and 20 December.
- A mass emergence of baby crabs will (if you're lucky) occur on beaches three to four weeks later.

#### WILDLIFE HIGHLIGHTS

- **Crustaceans** are a key part of the island fauna: the red crab is one of 20 species of land crab found here.
- The island is a haven for breeding seabirds, including several threatened species. **Abbott's booby** nests only here, as
- does the **Christmas Island frigatebird** (above).
- Other island endemics include a **hawk-owl**, **pigeon** and (very tame) **goshawk**.
- **Snorkelling and diving** here are world-class.



#### FIND OUT MORE

- [www.christmas.net.au](http://www.christmas.net.au)
- [www.environment.gov.au/parks/christmas/](http://www.environment.gov.au/parks/christmas/)



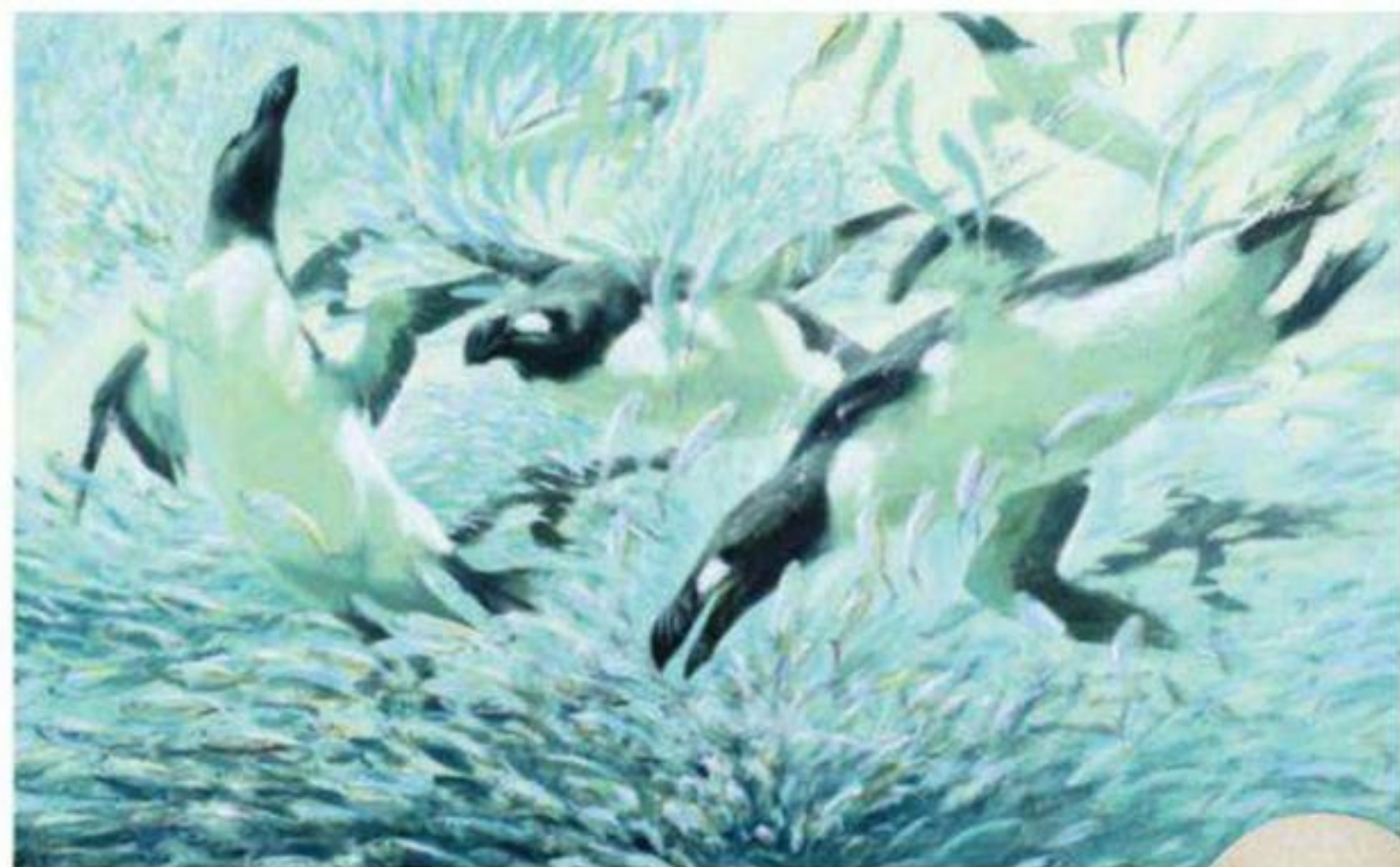




# GHOSTS

## of Gone Birds

A ground-breaking multimedia project is breathing artistic life back into extinct bird species. Novelist and keen birder **MARGARET ATWOOD** reveals why this exhibition matters to us all. Captions by **JOHN FANSHAWE**



*Great auk*

**ARTIST** Bruce Pearson ▲

**EXTINCT**  
1844

A pair of great auks killed near Iceland in 1844 were probably the last of their kind (several were possibly sighted off Newfoundland's Grand Banks in 1852). Britain's last great auk perished on St Kilda in 1840: fearing a witch, its captors stoned it to death when a storm blew up.

**THE ARTWORK** Pearson brings to life a flock of great auks cleaving a dense ball of herring, like a scene from a wildlife film that never was.

*Mauritius blue pigeon*

**ARTIST** Esther Tyson ◀

**EXTINCT**  
1830s

Originally named 'Pigeon Hollandais' for the red, white and blue Dutch flag, this lovely dove had a spiky white ruff formed by sharp-tipped feathers. It may have been hunted to extinction by settlers on Mauritius, or succumbed to forest loss and the predations of introduced macaques.

**THE ARTWORK** Tyson's oil painting portrays this island endemic in the sunlit canopy of a fruiting



What is a ghost, exactly? We don't know, though we've all met people who say they've seen one. A ghost is an entity that's there but not there, a presence that is also an absence. It's the shadow of a being once living, but now living in a different, more troubling way.

In our ghost stories, ghosts appear for different reasons. Sometimes they simply inhabit a landscape, like mist. Sometimes they are lost lovers, bent on seducing the living. They can be pranksters; or they may come to frighten, or else to warn. Often they return seeking revenge for harm done to them.

What, then, of *Ghosts of Gone Birds*?

As part of BirdLife International's Preventing Extinctions Programme, artists of many kinds were invited to create 'memorials' to bird species that have vanished from the Earth over the past 200 years. Through paintings, sculptures, music, words and performances, extinct birds come back to a kind of life.

Are these ghost artworks meant to enthrall us with their beauty, entertain us with their whimsy, frighten us with the shadow of a natural world dying at our hands, haunt us with the knowledge of our complicity in their doom, or warn us that – considering our destructive behaviour – their fate might soon be ours?

The geologically minded will point out that millions of species have become extinct since life began. True, but this is the first moment in which one species has actively obliterated so many others, and has also foreseen the possibility of its own demise.

*Ghosts of Gone Birds* is about birds, but it is also about us. For throughout our own symbol-strewn history, the bird has been the emblem of the human soul. Is it ourselves we've been killing, one bird at a time?

**Margaret Atwood**

Margaret is joint president of BirdLife's Rare Birds Club.

She knitted a scarf for the Ghosts of Gone Birds.



EXTINCT  
1700*Red rail*

ARTIST Robert Ramsden ◀

In 1638, English traveller Peter Mundy pronounced the red rail to be "very good Meat". He added that it "can Neyther Fly nor Swymme" and was easily "struck with a sticke". In the end, this Mauritius endemic was killed by its own curiosity – a fate common to many naive island birds.

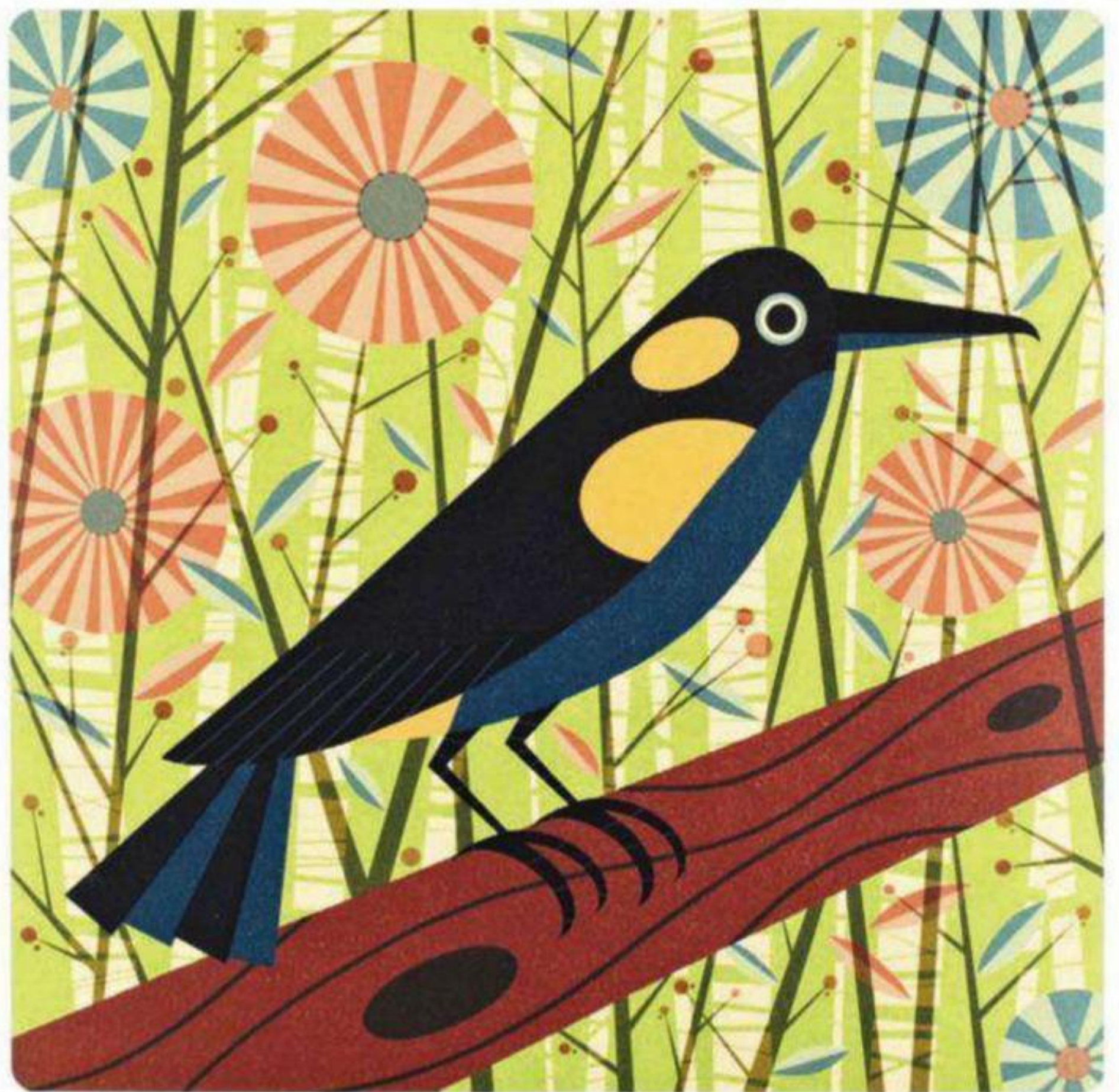
**THE ARTWORK** In Ramsden's acrylic work, a disembodied head floats over a bird's shadow. Perhaps the poor rail has been clubbed to death and is awaiting the all-too-familiar cooking pot of extinction?

*Jamaican red macaw*

ARTIST Greg Poole ▼

This parrot is a puzzling, if pretty, ghost. The first mention of it is a belated report by the naturalist Philip Gosse, who in 1847 referred to a bird shot in Hanover Parish, Jamaica, in 1764. The specimen (now lost) was later painted by George Edwards. And that is pretty much all we know about the species.

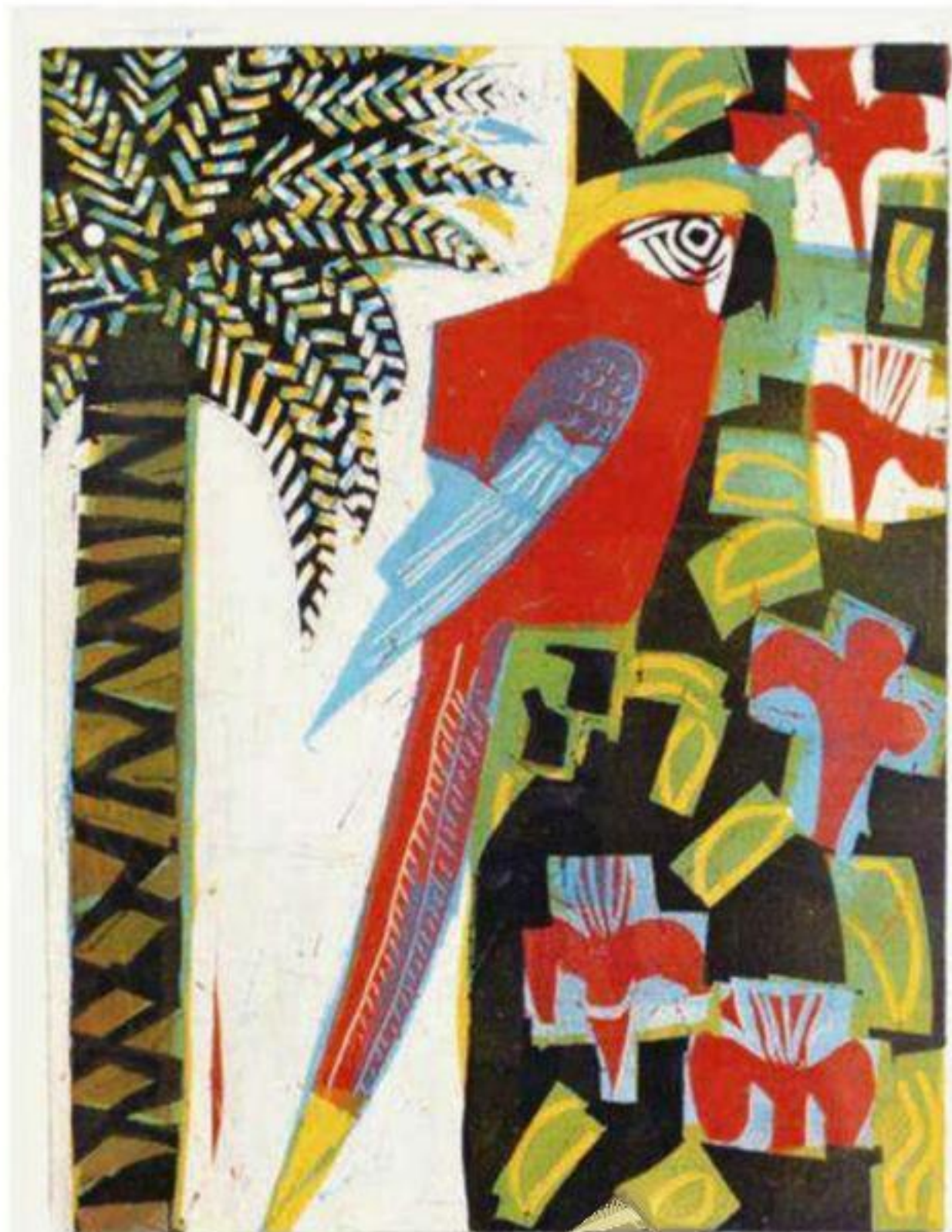
**THE ARTWORK** Poole's dead parrot sketch, a monotype, sets the maybe-macaw among the palms and hibiscus flowers of its tropical home.

EXTINCT  
1700s*Bishop's*

ARTIST Ben Newman ▲

More than 45 Hawaiian species of bird have died out in recent times, including five 'o'o honeycreepers. The local lament *Lele au la, hokahoka wale iho* ('I fly away, leaving disappointment behind') is agonisingly apposite, given that habitat loss, avian malaria and hunting have swept away much of the archipelago's endemic avifauna.

**THE ARTWORK** Newman's vivid silkscreen print shows how tempting 'o'o must have been to traditional -makers.

EXTINCT  
1904



EXTINCT  
1693

*Dodo*

ARTIST Ralph Steadman

The dodo is a little ridiculous – and, of course, the byword for extinction. Sir Thomas Herbert wrote in 1634 that its wings were “so small and impotent... they only serve to prove [it is a] bird”. He also mused, in hindsight rather aptly, that “her visage darts forth melancholy”.

**THE ARTWORK** Steadman’s caricature, *Di Dodo*, evokes a sad dodo whose grumpiness suits a bird that Dutch settlers dubbed *doedaars*, or ‘fat arse’. It also features wordplay (a hallmark of Steadman’s work) and a doodled invented bird.







## Stephen's Island Wren

**ARTIST** Rob Ryan ◀

**EXTINCT**  
1895

In 1894, a rocky outcrop between New Zealand's North and South Islands gained a lighthouse. Sadly, it also gained a lighthouse keeper's pregnant cat who, with help from her offspring, eradicated all of the island's flightless wrens in one terrible year.

**THE ARTWORK** The delicate tracery of Ryan's blue papercut, together with his simple but moving inscription, "If only", lend a poignant air to this entirely avoidable feline plunder.

## King Island emu

**ARTIST** Harriet Mead ▼

Many of these island emus, which subsisted on berries, seaweed and grass, died in fires lit by visiting sailors or were hunted for food – the great innocents were no match for modernity. The last one died in the national botanic garden at Paris, far from its native home off north-west Tasmania.

**THE ARTWORK** Subverting the name of the emu's extinct relative, the moa, Mead took the remains of an ancient grass mower and sculpted hard metal into an extraordinarily fluid bird.



**EXTINCT**  
1822



## Laysan rail

**ARTIST** Russell Maurice ▲

**EXTINCT**  
1944

Found on the Hawaiian island of Laysan, this flightless rail fell foul of the ravages of a dust bowl created by rabbits. Blurry monochrome photos and a snatch of scratchy film serve only to intensify our sense of loss. The species died out on Laysan in 1923; an introduced population survived on Midway Atoll until 1944.

**THE ARTWORK** A former graffiti artist, Maurice has created a powerful memorial featuring two Laysan rails hanging, smoke-like, in space.





## *Pink-headed Duck*

**ARTIST** Dafila Scott ▲

**EXTINCT**  
1949?

Always uncommon, this curious, long-necked duck from north-east India and Bangladesh has been missing since 1949. Occasional claimed sightings electrify conservationists, but lingering hopes for its survival are fading. Wetland loss to agriculture has been the species' undoing.

**THE ARTWORK** Scott's exquisite pastel reveals in the extraordinary coloration of this duck – the only bubblegum-pink fowl of which we know.

## *Black mamo*

**ARTIST** Jack Teagle ◀

**EXTINCT**  
1910s

This Hawaiian creeper lived in remote highland thickets and used its spectacular sicklebill to raid lobelia blooms for nectar. Introduced cattle and deer destroyed its habitat; rats and mongooses stole its eggs. A museum collector unwittingly dispatched three of the last individuals at Moanui on the island of Molokai in June 1907.

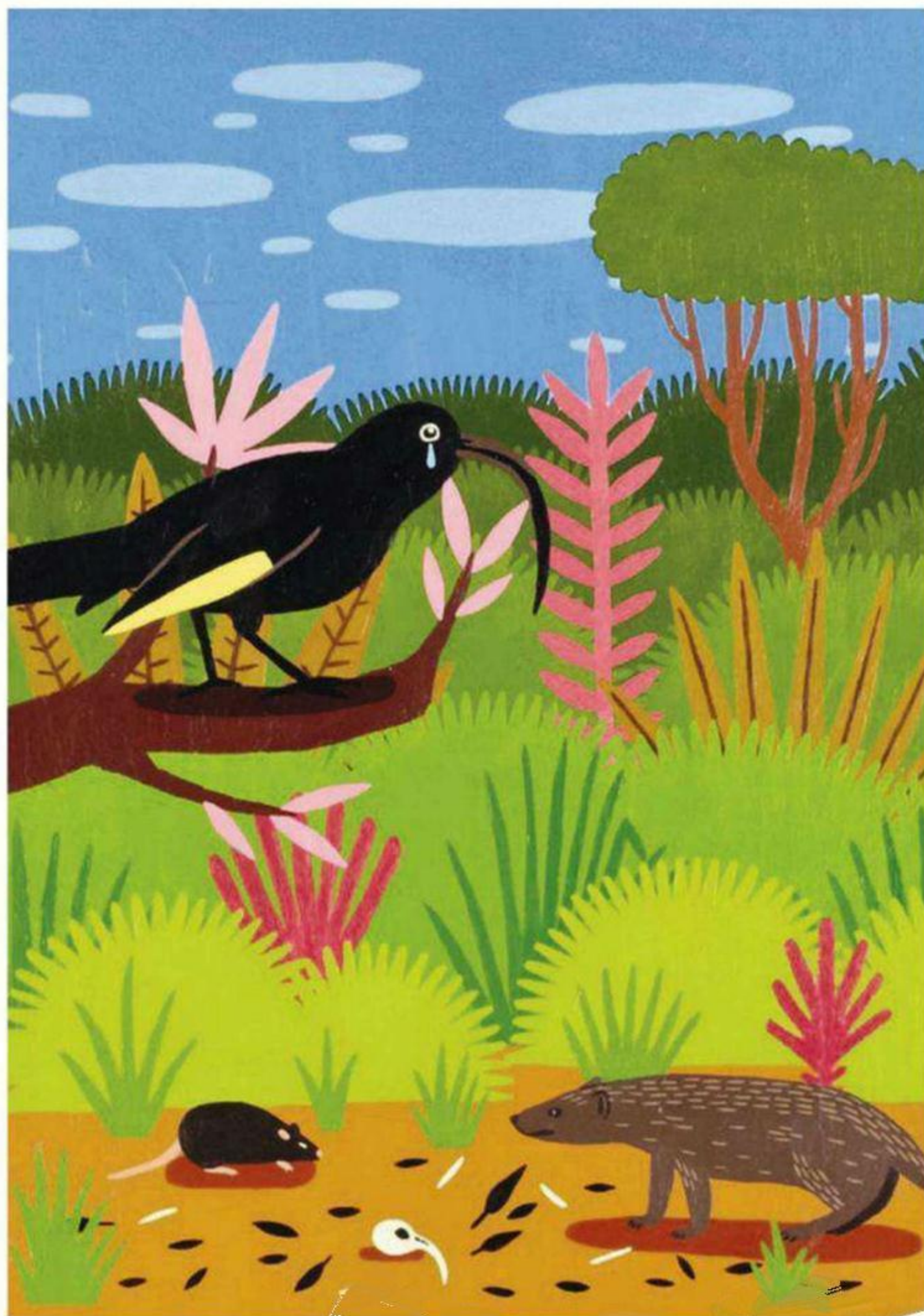
**THE ARTWORK** Deploying a characteristically luminous palette, Teagle imagines a tearful mamo looking down on remorseless all-devouring aliens.

### FIND OUT MORE

► **Ghosts of Gone Birds**, created by Ceri Levy and Chris Aldhous, is raising awareness for BirdLife's Preventing Extinctions Programme: [www.birdlife.org/extinction](http://www.birdlife.org/extinction)

► **Visit the project online** at [www.ghostsofgonebirds.com](http://www.ghostsofgonebirds.com) and [www.facebook.com/ghostsofgonebirds](https://www.facebook.com/ghostsofgonebirds)

► **Visit the exhibition**, which features these artworks and many more, at Rochelle School, Shoreditch, London, 14-23 November: [www.rochelleschool.org](http://www.rochelleschool.org)











# AMAZON ENCOUNTER

Ecuador's Yasuní National Park encompasses just a fraction of the Amazon rainforest – but hosts an astonishing diversity of species, says photographer **David Herasimtschuk**.

## ABOVE

Poison dart frogs are a common sight on the forest floor. They use chemicals from the ants and mites on which they feed to produce the toxins they secrete.

## LEFT

Kapok trees (foreground) reach heights of up to 60m and are among the most common species in Yasuní's river valleys.

## THE EXPERT

**DAVID HERASIMTSCHUK** travels widely in his native United States, as well as Central and South America in search of rare wildlife.



**S**tartling cracks and crashes resound through the darkness as a large, shadowy form approaches. I flash my headlamp towards the commotion but my light, blocked by a dense mat of spiny understorey palms, reveals nothing. Thinking the creature has retreated, I turn back to the trail – and freeze as the gleam of my lamp is reflected in a pair of eyes.

The peeping of frogs and chirping of insects fills the air as my imagination runs riot. Jaguar? Puma? Or what? But as the beast shuffles closer, my fear is overtaken by curiosity – then the long, elephantine snout and maroon mohawk of a lowland tapir emerge from the shadows.

This bizarre but beautiful creature is one of nearly 200 species of mammals that inhabit Yasuní National Park. A pristine swathe of the Amazon Basin in eastern Ecuador's Oriente region, Yasuní is one of the important intact wildernesses on the planet, with extraordinary biodiversity. Consider the tally of species numbers within its 10,000km<sup>2</sup> area: 150 amphibians, 180 reptiles, 650 birds and hundreds of thousands of insects. And in a single hectare of forest you can find 480 tree species – nearly as many as those growing in the United States and Canada combined.

This exceptional biodiversity is due to the park's location, straddling the equator and at the meeting of Andes and Amazon Basin. Tropical ecosystems are naturally species-rich, but the varied terrain here creates multiple habitat niches for a vast array of plant and animal species. This complexity









## THE DISCOVERY OF OIL UNDER YASUNÍ HAS PRESENTED THE GOVERNMENT WITH A DILEMMA: TO DRILL OR NOT TO DRILL.

### FAR LEFT

The bright-orange coloration and wild hair warn predators that this candy-floss *Megalopyge* caterpillar has a foul taste.

### LEFT

This understory *Herrania*, one of 4,000 species of plant identified in Yasuní, has 'cauliflory' flowers – that is, they grow out of its trunk.

### ABOVE

Blending in with the vegetation, a veined tree frog hides in plain sight as it waits for dusk to fall.



### LEFT

Highly nocturnal, the crested owl spends most of the day roosting in understory trees within the forest.

### BELOW

Ripping and shredding the leaves of vines and bushes, a lowland tapir forages in the heart of Yasuní.

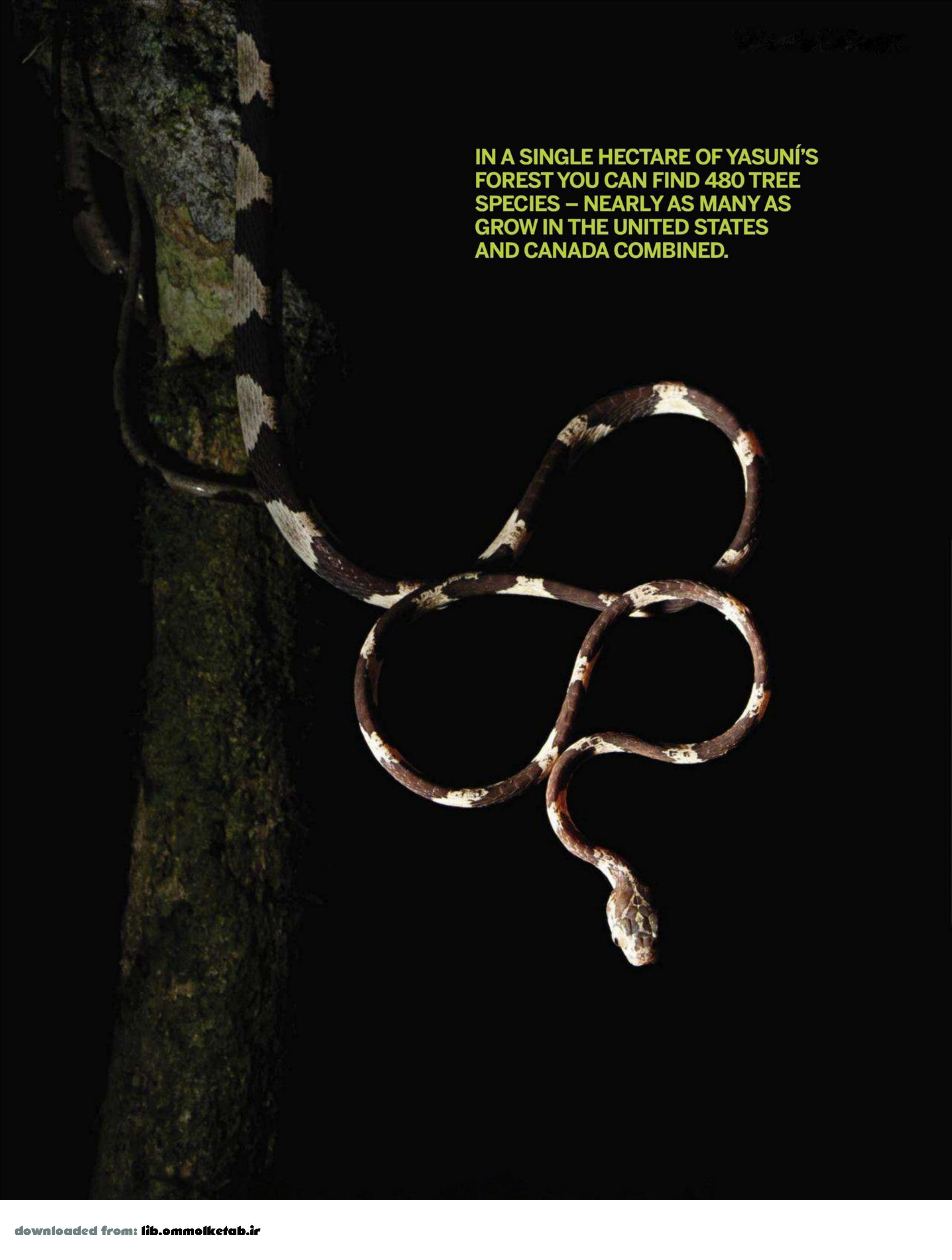


also results in a wide range of elaborate behaviours and adaptations unique to these forests.

When I first ventured into Yasuní, the understory seemed devoid of life. But once I knew what to look for, animals appeared everywhere. Dead leaves had legs, eyes and antennae, while dashes of crimson, navy, emerald and lemon-yellow hopped along the forest floor. Bright-blue wings flashed by, and lines of precisely cut, lime-green leaves marched through the leaf litter. An incredible array of life could be seen just by gazing down at my feet.

Unfortunately, the park's good health is in jeopardy. Much of Ecuador's Oriente has already been carved up by oil companies, and the discovery of billions of barrels under Yasuní has presented the country's government with a dilemma: to drill or not to drill. To its credit, Ecuador is now





**IN A SINGLE HECTARE OF YASUNÍ'S  
FOREST YOU CAN FIND 480 TREE  
SPECIES – NEARLY AS MANY AS  
GROW IN THE UNITED STATES  
AND CANADA COMBINED.**



**BELOW**

Patience and cryptic coloration allowed this small but voracious streamside lizard to catch the leg of an unlucky frog.

**LEFT**

In search of sleeping lizards, the blunt-headed tree snake uses strength and balance to support its slender body as it moves from branch to branch.

**ABOVE**

Napo Wildlife Center is a great base from which to see Yasuni's fabulous wildlife.

**TOP**

A nocturnal mouse opossum climbs through the understorey in search of insects. The marsupial's opposable thumbs enable it to move effortlessly.

the Yasuni ITT initiative, the reserves will stay untouched in exchange for financial assistance from the international community. Ecuador needs \$100 million before the end of 2011, and about \$3.6 billion in total (half of the value of the estimated reserves); so far, \$40 million has been raised.

This is the chance of a lifetime: a unique opportunity to preserve the moths that hover over a tapir's eye just long enough to drink from its tear duct, or the poison-dart frogs that piggyback their recently hatched tadpoles from the forest floor up to small pools that form in bromeliads high in the canopy. Let's hope the world takes it. 🐸

**NOW YOU DO IT****GETTING THERE**

- ▶ **Continental** flies from Heathrow to Quito via Houston. 0845 607 6760; [www.continental.com](http://www.continental.com)
- ▶ **Tame Airlines** flies daily from Quito to Coca, gateway town for Yasuni. 00 593 2 209 0454; [www.tame.com.ec](http://www.tame.com.ec)

**VISAS**

- ▶ UK nationals receive a 90-day **tourist visa** on arrival.

**ACCOMMODATION**

- ▶ **Napo Wildlife Center** offers wildlife viewing from the comfort of an eco-hotel. [www.napowildlifecenter.com](http://www.napowildlifecenter.com)
- ▶ **Shiripuno Amazon Lodge** (below) runs tours in Yasuni. [www.shiripunolodge.com](http://www.shiripunolodge.com)

**HEALTH AND SAFETY**

- ▶ **Yellow fever** vaccinations are advisable; **anti-malarial drugs** are recommended.
- ▶ Consult your **GP** or travel health clinic for advice on other immunisations.

**FURTHER INFORMATION**

- ▶ **Yasuni ITT initiative:** <http://mdtf.undp.org/yasuni>
- ▶ **Yasuni Depends on You:** [www.sosyasuni.org](http://www.sosyasuni.org)

**FURTHER READING**

- ▶ **The Birds of Ecuador, Volume 2: Field Guide** by Robert S Ridgely and Paul J Greenfield (Helm Field Guides, ISBN 9780713661170, RRP £44.99, code W1011/11).
- ▶ **Neotropical Rainforest Mammals: A Field Guide** by Louise H Emmons (Chicago University Press, ISBN 9780226207216, RRP £27, code W1011/12).
- ▶ Buy these books on p87.





# RAIN CHECK

*by Michel and Christine Denis-Huot*

According to the guidebooks, February should be one of the driest months in Kenya, nestled between the 'short rains' of October to November and the 'long rains' that fall from March to June. But that didn't seem to count for much during our visit in 2010. After many wet days in the Masai Mara, we ventured north-east to Lake Nakuru National Park. Best known for the pink flamingos that carpet its eponymous lake, this park is also an important sanctuary for endangered Rothschild's giraffes. We spotted this family grazing peacefully one typically moist afternoon; as the downpour grew in intensity they sought shelter beneath the thorny boughs of an acacia stand – and we had the unusual shot we



# exposure

The image that most amazed us this month

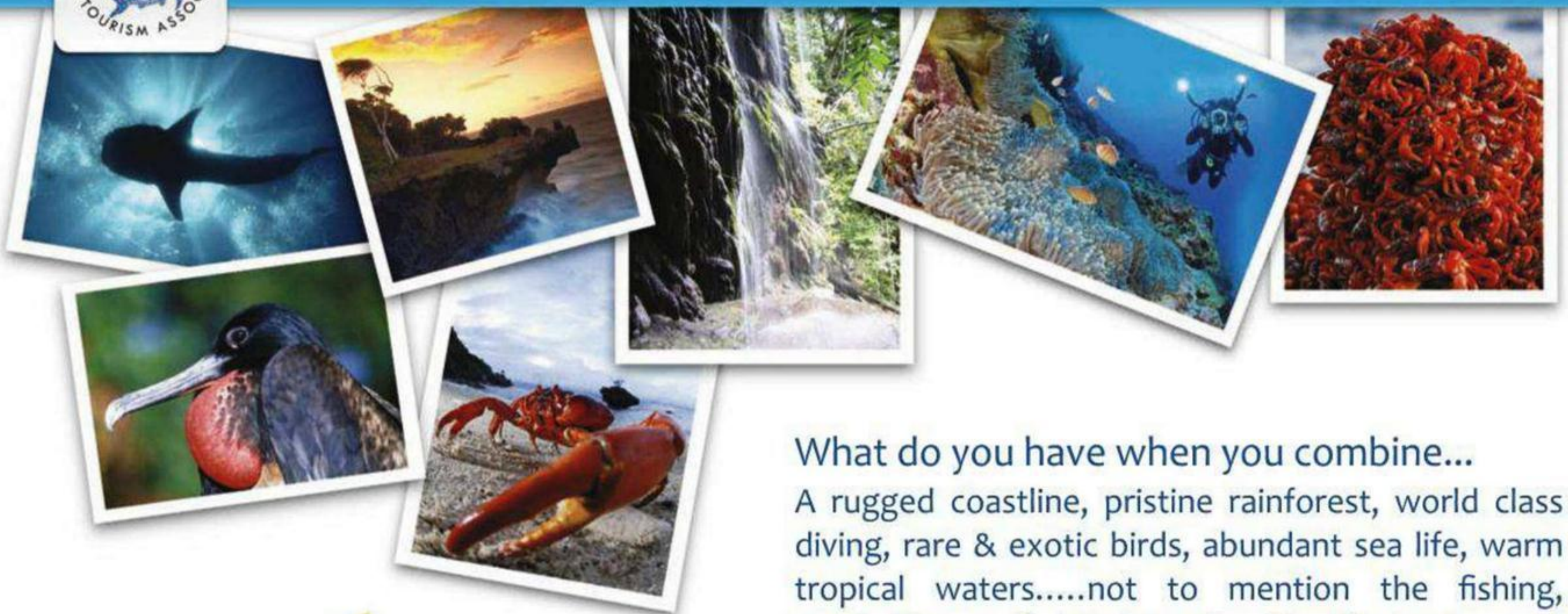






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## Essential information and expert advice

### TV Plus

Previews and behind-the-scenes insights **p83**

### Books

The month's best wildlife reads reviewed **p85**

### Q&A

Expert answers, new discoveries, quirky facts **p89**

### Photo

### Masterclass

How to take better wildlife shots **p95**

Michaela, Chris and Martin get ready for more seasonal fun.



### TV PREVIEW

## FRIDAY NIGHT LIVE

### AUTUMNWATCH LIVE/ AUTUMNWATCH UNSPRUNG

BBC2, EIGHT EPISODES, FRIDAYS  
FROM 7 OCTOBER, 8.30-10PM

Autumn took me rather by surprise this year. My maple was blushed with red long before I'd packed away the paddling pool, and crisp silver birch leaves had to be shaken from the picnic blanket.

The season's early arrival and its implications for wildlife are inevitable topics in *Autumnwatch* – or, rather, *Autumnwatch Live*, as it's now known. In its sixth year,

this much-loved extravaganza has become almost as much a part of the season of mists as the turning leaves themselves.

However, things will be a little different this time around. In addition to the new name, there's a much-anticipated new face – Michaela Strachan, whose presenting credits include *Countryfile* and *Orangutan Diary*.

Michaela succeeds programme stalwart Kate Humble, and will be joining old hands Chris Packham and Martin Hughes-Cames for live, weekly broadcasts

from Westonbirt Arboretum then WWT Slimbridge, both in Gloucestershire. "By embedding ourselves in each place for four weeks we can really track what's going on and inject more of a live feel," says producer Holly Spearing, adding: "There'll be lots of great animal behaviour to see."

Alongside updates from the home bases, guest presenters will be roaming the land to bring you more of the season's best wildlife, including Iolo Williams hunting for migrating fin whales and C' Jie Hamilton James filming

Scotland's spectacular salmon run. Michaela, Martin and Chris will also be out and about, revealing the latest animal action from the UK's most iconic natural-history hotspots, such as the Wye Valley, Spurn Point and Islay.

The interactive *Autumnwatch Unsprung* also returns to answer viewers' questions and showcase their footage. It's the season to stay in on Fridays... **Sarah McPherson**

### FIND OUT MORE



Visit the *Autumnwatch* website at [www.bbc.co.uk/nature/uk](http://www.bbc.co.uk/nature/uk)

TV  
CHOICE



Camerawoman Sophie Darlington films Sita and her youngsters.



Keith Scholey

## BEHIND THE SCENES

# BIG CATS, BIG SCREEN

Co-director **Keith Scholey** on the making of the forthcoming feature film *African Cats*.

Filmed in the Masai Mara and narrated by Samuel L Jackson, *African Cats* follows the fortunes of Sita, a female cheetah with five cubs, and Layla, an injured lioness with a six-month-old youngster. They share a common enemy – a magnificent but deadly coalition of lion brothers and their father.

### How did you choose your cast?

I already knew Sita from my *Big Cat Diary* days, and luckily she had just given birth to five cubs when we found her. Their chances of survival were slim, and we knew that their journey to adulthood would be eventful.

When looking for our lion stars we initially thought of the Marsh Pride, who had been regulars on *Big Cat*, but they were too good! They were very strong and stable – hunting, eating, doing their thing. Then we met the River Pride, which included Layla. Its leader was a distinctive but vulnerable male with a broken tooth; we knew that the pride would be taken over.

### How is this film different to a natural-history documentary?

It's an emotional story. The most important thing in a feature-film screenplay is not the plot but the characters. You need

strong opponents, which should be developed as much as your heroes. Too often, natural-history films lack proper characterisation, with 'cut-out' baddies who just swoop in for the

kill. You know nothing about their motives.

### And on the technical side?

Everything was slowed down to give a more filmic feel, and was graded [colour-altered] in a drama-led way. When you grade a natural-history film, you try to make it look real. But feature films are graded to convey emotion so, for instance, we darkened rainstorms and attacks to enhance the sombre mood.

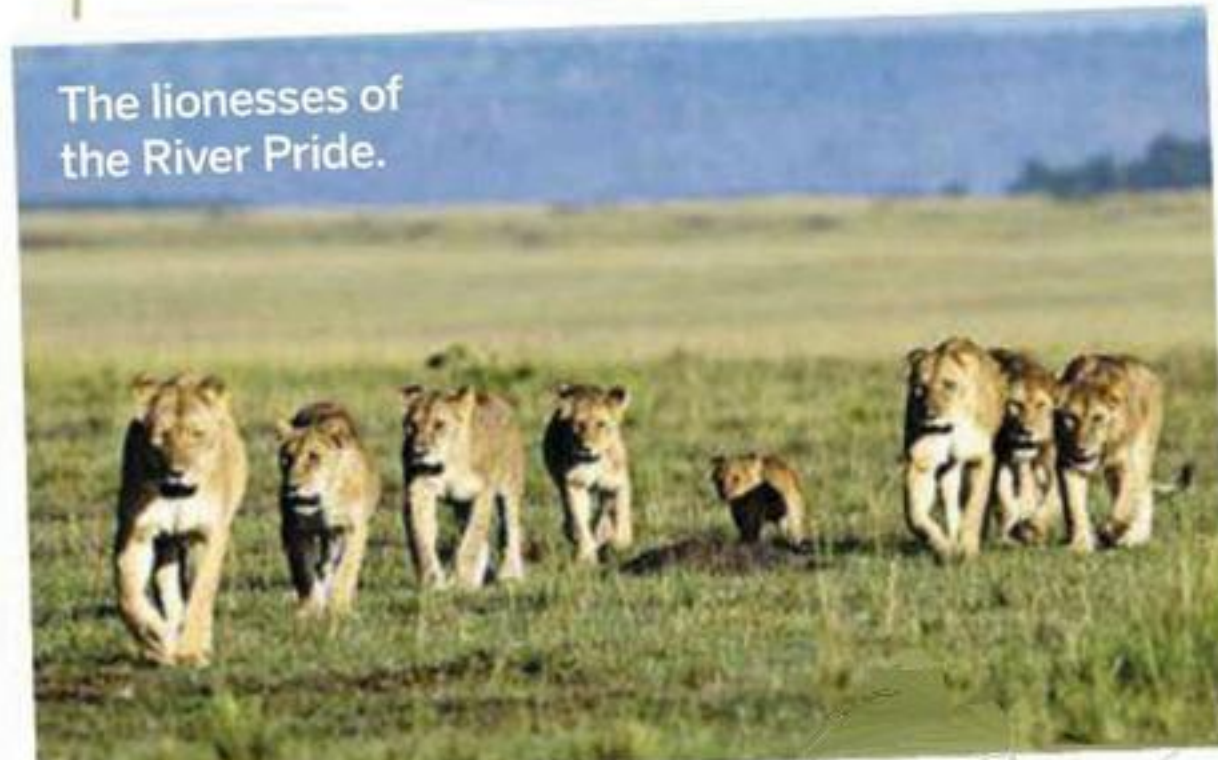
### Any practical challenges?

It was hard to keep up with the lions, especially during the pride takeover – you see scuffles all the time, but true confrontations are extremely rare. And pursuing storylines, knowing that the key characters could vanish at any time, always felt like a bit of a risk...

**Sarah McPherson**

### DON'T MISS IT...

*African Cats* opens in cinemas in February 2012. Read more from our *view* at [www.discoverwildlife.com](http://www.discoverwildlife.com)



The lionesses of the River Pride.

Owen Newman/Disney Enterprises Inc

## 3 THINGS WE LOVE THIS MONTH

### APP iBAT

If you have a smartphone and a bat detector, then a bat-monitoring programme needs your help. This free app lets you record, geolocate and upload your findings to the project's website. Your data will be used to help research and conservation around the world.

► Visit [www.ibats.org.uk](http://www.ibats.org.uk)



### EXHIBITION

#### ARTISTS FOR ALBATROSSES



John Gale

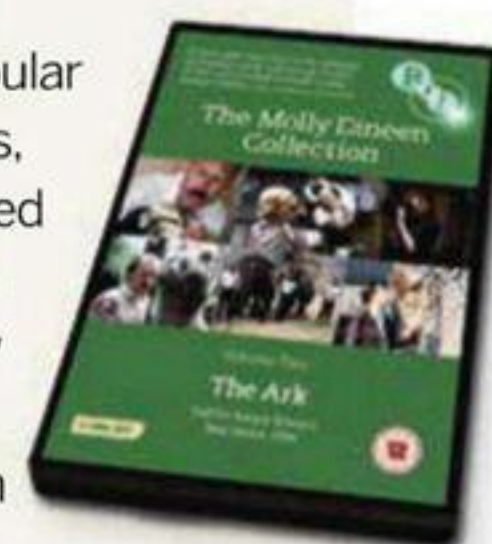
Wildlife artists John Gale and Chris Rose sailed over 1,400km and braved a hurricane to paint endangered albatrosses on the remote island of South Georgia. The stunning results will be on display in London 3–15 October; sales of these superb paintings will raise funds for the Save the Albatross campaign.

► Visit [www.galleryofbirds.co.uk](http://www.galleryofbirds.co.uk)

### DVD

#### THE MOLLY DINEEN COLLECTION VOLUME TWO: THE ARK

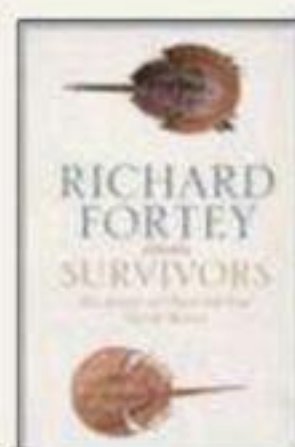
When Molly Dineen went behind the scenes at London Zoo to make a short film, funding cuts provided all the drama she could have wished for. She edited over 100 hours of footage into a popular four-part TV series, *The Ark*, which aired in 1993 and won a BAFTA. It has now been released on DVD by the British Film Institute.







A 58-million-year-old fossil ginkgo leaf.



## STANDING THE TEST OF TIME

A look at the weird and wonderful prehistoric species that still exist today.

### **SURVIVORS** *The Animals and Plants that Time Has Left Behind*

By Richard Fortey  
Harper Collins, 400pp.  
ISBN 9780007209866 (hb)  
£24.99/£19.99/£17.99 Code W1011/01

The phrase 'survival of the fittest' implies that evolution is a march ever onwards, ushering in the new and expunging the old. Not so, says Richard Fortey in his engaging new book. If it weren't for the oddities that extinction missed, we'd know much less about evolution than we do, and fail to appreciate its richness.

Fortey tours the world to see his survivors in their natural habitats. In Delaware he watches the frenzied spawning of horseshoe crabs, practically unchanged since the Jurassic; in New Zealand he

explores isolated islets where the tuatara – the last vestige of a kind of reptile that inhabited Earth before dinosaurs – still roams; in the hinterlands of China, he finds the last wild ginkgo trees; and in Queensland he sees the lungfish, testament to what fish might have been like before they sprouted legs and walked ashore.

*Survivors* is like a huge cake – rather rich for consumption in one go – but some of the writing is exceptional. My favourite is Fortey's description of the multicoloured bacterial colonies in the hot springs of Yellowstone, in tune with an ever-changing landscape, yet memorialising the earliest days of life on Earth.

**Verdict** ★★★★★

**Henry Gee** Senior editor, *Nature*



### **LAST OF THE CURLEWS**

By Fred Bodsworth  
Counterpoint, 132pp, ISBN 9781582437354  
(pb) £9.99 Code W1011/02

The story of the extinct Eskimo curlew – known as *wee-kee-me-nase-su* in Indian Cree (literally, the bird that 'likes eating berries'), and as the 'dough bird' by contemporary hunters in Massachusetts for its extraordinary fattiness – is sadly one of human plunder.

Fred Bodsworth's finely imagined account of the last individuals – at first a male, then an ill-fated pair – spans the phenomenal migration of these slender birds, with long sea, forest and mountain crossings from the Arctic to near Antarctic

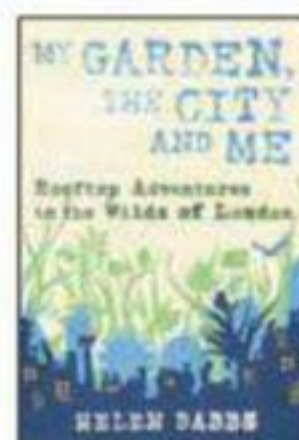
His language is unashamedly emotional – the agony of the last of a species.

With an eloquent foreword by US poet laureate WS Merwin and an afterword by Nobel-winning physicist Murray Gell-Mann, this new paperback edition of a 40-year-old conservation classic still carries poignant clout.

Whether dazzled and clubbed to death at night or blasted out of the sky by day, Eskimo curlews were once so common that hunters left piles of them to rot on the prairie. Now they are mere memories, like the pair of spotted flycatchers that nested on our house when I was a child – once-familiar birds now in steep decline. For me, perhaps, that was a micro Eskimo-curlew moment: a personal local extinction, a prompt to protest for the commonplace.

**Verdict** ★★★★★

**John Fanshawe** Author and conservationist



### **MY GARDEN, THE CITY AND ME** *Rooftop Adventures in the Wilds of London*

By Helen Babbs  
Timber Press, 160pp, ISBN 9781604691672  
(hb) £9.99 Code W1011/03

Transforming roof terraces into mini 'farms' and balconies into apiaries is nothing new; it has just become more fashionable in recent years. Books such as *The Edible Balcony* by Alex Mitchell cater for this new wave of green-fingered urbanites who are intent on utilising every centimetre of outdoor space to produce food.

Helen Babbs' offering picks up on this trend, but is not another practical guide to growing veg in small spaces. Rather, this sweet

young professional living in London and her attempts to become an aerial gardener.

Over 12 months, Babbs describes the progress of her rooftop garden and the creatures that come to inhabit her jungle of tomatoes, runner beans, herbs and nectar-dripping plants. She also touches on London's wildlife encountered on her travels by foot and bicycle through the city's green spaces.

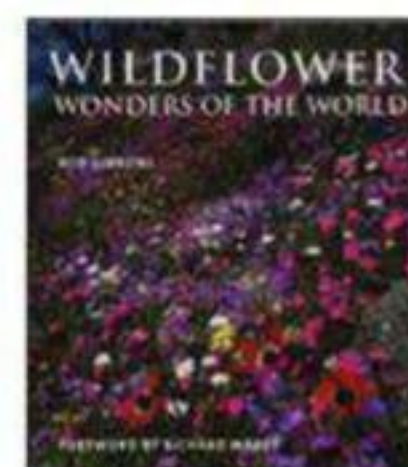
The author is a romantic gardener (and writer) who tends to her vegetables in her pyjamas and observes the weather nurturing – and punishing – her plants through the seasons. She doesn't mind that her cucumber seeds never germinate or that her garden balances "on a cloud of city noise and dust". In fact, she delights in her little patch of wild amidst the mayhem of London – and that is the book's greatest appeal.

**Verdict** ★★★★★

**Gemma Hall** Freelance writer



PICTURE  
BOOK  
CHOICE



## WILDFLOWER WONDERS OF THE WORLD

By Bob Gibbons

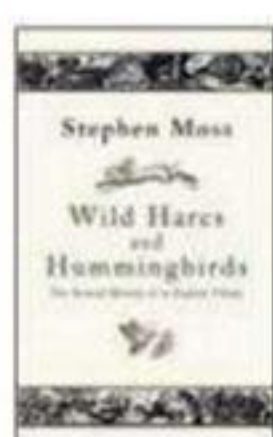
The result of Bob Gibbons' mission – to photograph floral hotspots across the globe – is as much a naturalist travel guide as a visual celebration. Hopping from Alpine meadows and Greek mountaintops to Chinese plateaux and Italian peninsulas, his guide to the world's most flowery locations makes a refreshing change from the usual gazetteers.

New Holland, 192pp, ISBN 9781847738264 (hb) £19.99/  
£15.99/£14.99 Code W1011/04

Sprinklings of pink dwarf alpenrose liven up the scree slopes of the Dolomites in north-east Italy.



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[www.discoverwildlife.com/photography](http://www.discoverwildlife.com/photography)



## WILD HARES AND HUMMINGBIRDS

By Stephen Moss

Random House, 256pp,  
ISBN 9780224086721 (hb)  
£14.99/£12.99/£11.99 Code W1011/05

Anyone familiar with Stephen Moss' columns (such as Birdwatch in the *Guardian*) and natural-history documentaries may recall tantalising references to his home patch among the Somerset Levels. In *Wild Hares and Hummingbirds*, Moss invites us to become better acquainted with the stretch of countryside that so captivates him.

To follow the monthly cycle that frames the narrative is to join the author on a walk around the village of Mark, pausing to examine its wildlife in detail, sense the changes in the air as the seasons progress and enjoy the sights, sounds and activities that make this place so special.

As you would expect from a respected ornithologist, birds are prominent in these pages, which offer fascinating insights into their behaviour. If your interests are wider, you will still enjoy a stroll through the year in the author's company, gaining at the very least an appreciation of why your own 'local' is so important. Moss has been inspired by Gilbert White. The latter would surely approve.

**Verdict** ★★★★★

**Graham Long** *Guardian* country diarist and amateur naturalist



## THE URBAN BIRDER

By David Lindo

New Holland, 224pp,  
ISBN 9781847739506 (hb)  
£9.99/£7.99/£6.99 Code W1011/06

In this rags-to-binoculars autobiography, the real interest does not lie in David Lindo's rise to his self-appointed position as 'The Urban Birder' – many might claim that title. The real crux of this inspiring story is how a son of Jamaican immigrants with no interest in wildlife, raised within sight of Wembley's twin towers, became a birdwatcher at 20 and set alone an icon.

Lindo is a relentlessly optimistic narrator, driven by an unshakeable belief that birds are his destiny. He recounts how he became smitten at the age of six, gaining an encyclopaedic knowledge by the age of nine.

He is at his best when describing the early years of adversity, which he does with self-deprecating humour. Though he does not downplay experiences of racism, it is clear that he has gained companions for whom race and colour are purely a matter of bird identification.

His story is marred a little by inelegant prose and an exclusive focus on London. But it perfectly captures his infectious and irrepressible zeal.

**Verdict** ★★★★★

**Derek Niemann**  
Nature writer and author







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## OUR EXPERTS



### STEPHEN MILLS

Stephen is a regular contributor to *BBC Wildlife Magazine* and a natural-history film-maker. He also works as a wildlife travel guide.



### MIKE TOMS

Mike is head of garden ecology at the British Trust for Ornithology. He has written and co-written several bird books.



### STEVE HARRIS

Professor of biological sciences at Bristol University, Steve is one of the UK's leading mammal experts as well as a regular in *BBC Wildlife*.



### RICHARD JONES

A former president of the British Entomological Society, Richard now works as a surveyor and a wildlife writer.



### JAMES GIBBONS

James lectures in ecology at Bangor University, where he is an expert on climate change and maintaining forest biodiversity.



### PETER MARREN

Peter is a wildlife writer and all-round naturalist with a special interest in fungi. His recent books include *Bugs Britannica*.

## SEND YOUR QUESTIONS TO

Q&A, *BBC Wildlife Magazine*,  
4th Floor, Tower House,  
Fairfax St, Bristol BS1 3BN

### OR EMAIL

wildquestions@bbcmagazines.com

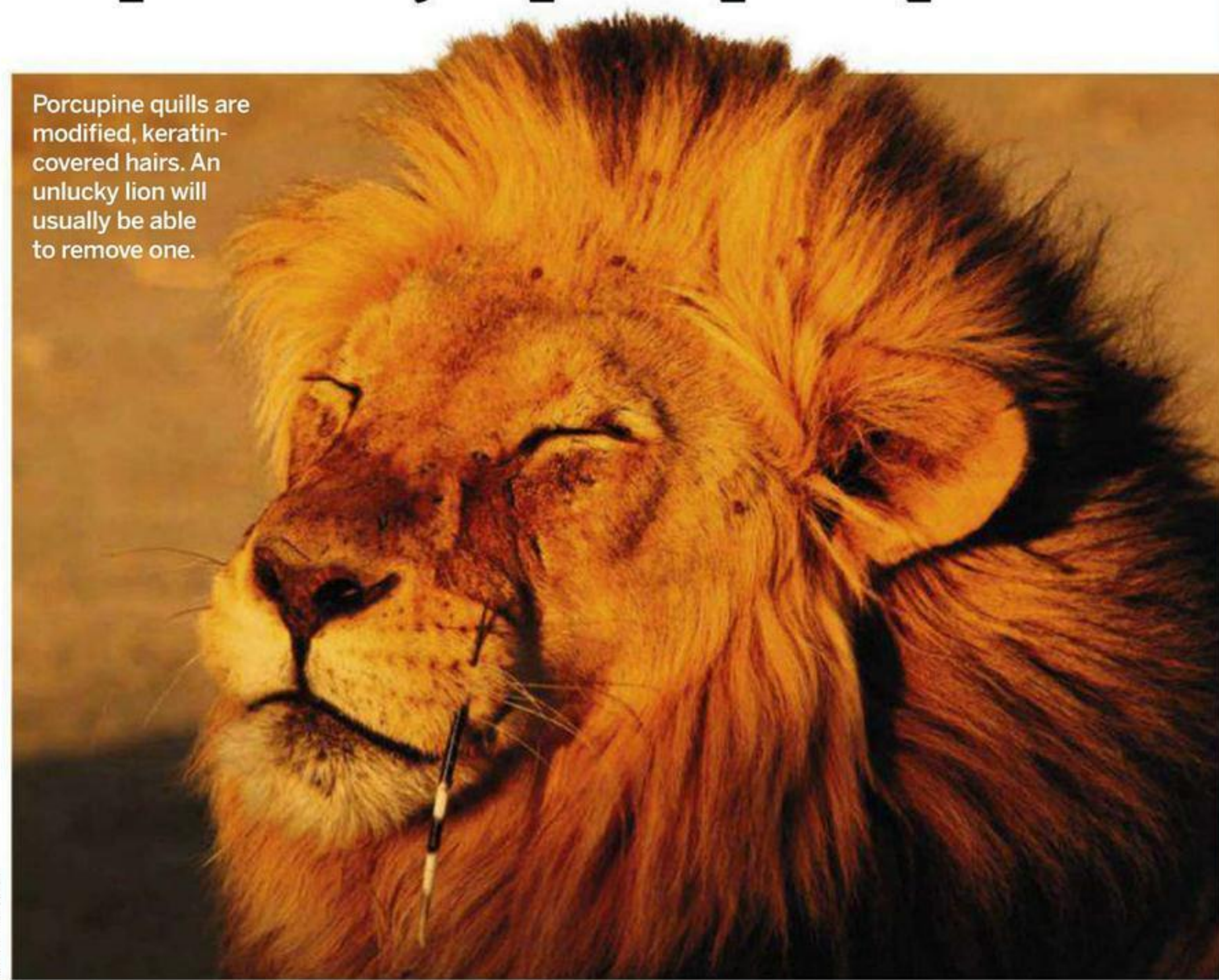
We are very sorry, but due to the high volume of questions we receive, we cannot acknowledge or answer them personally.

# Q&A

Your questions answered, plus the latest discoveries, fantastic facts and people who made natural history.

## Q What happens when a predator is speared by a porcupine quill?

Porcupine quills are modified, keratin-covered hairs. An unlucky lion will usually be able to remove one.



Bernd Wasiolka

**A** Despite their prickly armour, porcupines are hunted by predators such as big cats, birds of prey and pythons.

When threatened, a porcupine scuttles backwards into its attacker. On contact, its loosely attached quills become lodged in the assailant's fur and flesh, both distracting and hurting it. The quills are barbed so are tricky to remove and, being very sharp, can penetrate deep into the flesh.

Lions usually manage to snap the quills off or bite and lick them out but, even if they are incapacitated, most will survive since they often live in social groups and can share their comrades' kills. This welfare benefit is not available to solitary lions, nor to other cats such as leopards and tigers that tend to work alone.

Porcupine quills that uncture the skin under the

'armpit' are particularly dangerous, since they can't be chewed out and soon turn septic. Indeed, blood poisoning from quills is a significant cause of death among young tigers that haven't learned the trick of tackling porcupines. The cats usually attack from behind, but this prickly prey requires a swift blow to the front of the head.

**Stephen Mills** *Big-cat expert*



## Q Are ring-necked parakeets in London outcompeting our native birds?

Emma Randall, via email

**A** Native to Asia, the ring-necked (also known as the rose-ringed) parakeet became established here in the 1970s, and has since become a familiar sight (and sound) to people in South-East England, particularly London, Surrey and Kent. The population is now thought to number many thousands of pairs, a pattern repeated in 35 other countries across the globe.

Concerns regarding the species' arrival have centred on potential damage to horticulture, especially fruit crops, and competition with native birds for nest sites.

Parakeets are secondary cavity nesters, which means that they take up residence in holes excavated by other species, particularly woodpeckers. Because these gaudy parrots

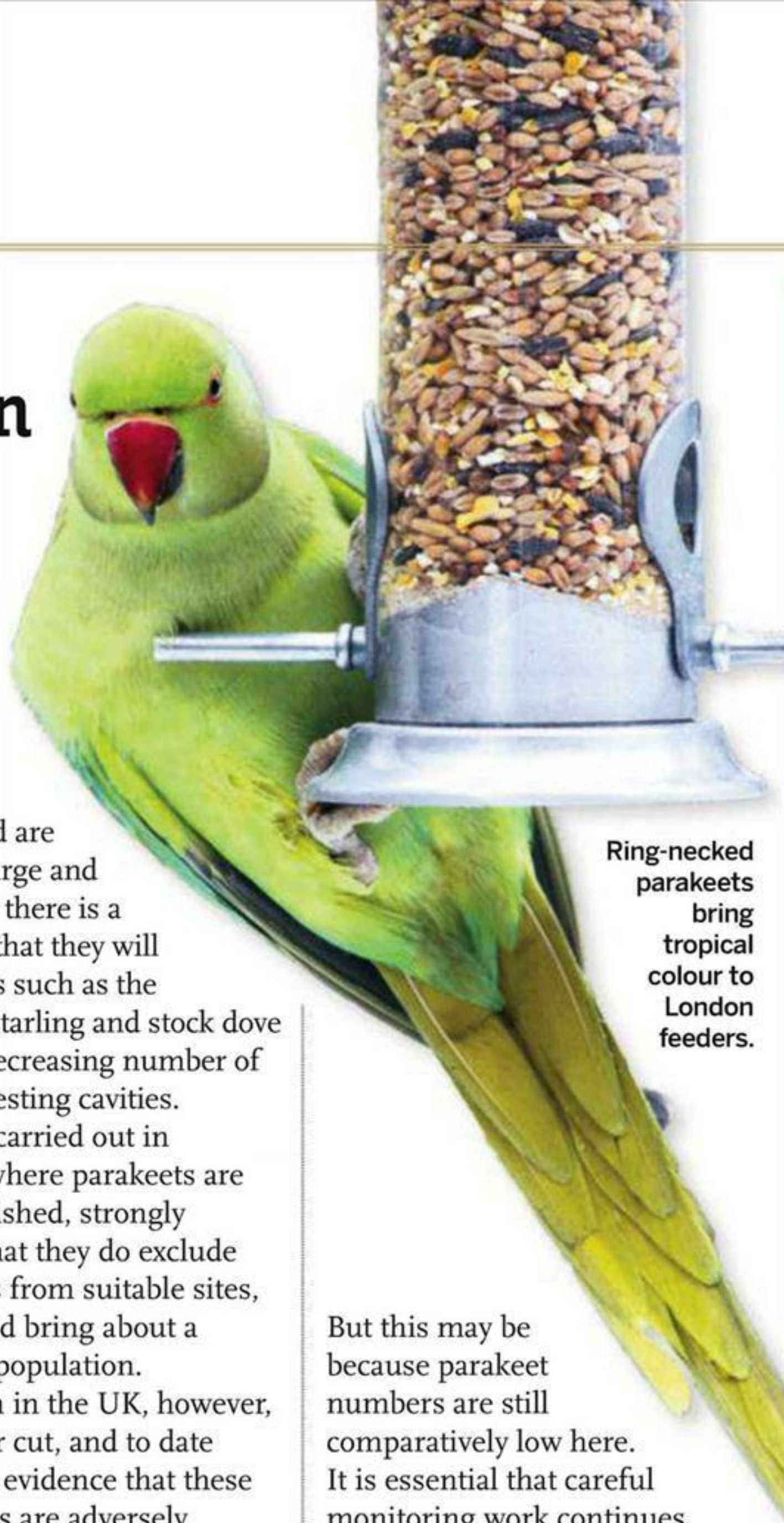
have an early breeding season, and are relatively large and aggressive, there is a real worry that they will usurp birds such as the nuthatch, starling and stock dove from the decreasing number of available nesting cavities.

A study carried out in Brussels, where parakeets are well established, strongly suggests that they do exclude nuthatches from suitable sites, which could bring about a decline in population.

Research in the UK, however, is less clear cut, and to date there is no evidence that these immigrants are adversely affecting nuthatches or any other hole-nesting species.

But this may be because parakeet numbers are still comparatively low here. It is essential that careful monitoring work continues over the coming years.

**Mike Toms** BTO



Ring-necked parakeets bring tropical colour to London feeders.

## LATEST DISCOVERIES



### COUGH AND DROP

The merest whiff of a mammal's humid breath is enough to make a sow thistle aphid *Uroleucon sonchi* throw itself from its foodplant, a strategy that spares it from being inadvertently eaten by herbivores. The aphids are also adept at finding new homes once the danger has passed.

*Naturwissenschaften*, vol 98, no 9, pp731-738



### SNAIL MAIL

The tiny Japanese land snail *Tornatellides boeningi* can survive being swallowed by birds. About 15 per cent of those eaten by avian predators emerge alive in their faeces, and it is thought to be an important method of dispersal.

*J. of Biogeography*, DOI: 10.1111/j.1365-2699.2011.02559.x

### RAT POISON

The African crested rat *Lophiomy's imhausi* defends itself with a toxin from the poison arrow tree that is traditionally used by elephant-hunters to tip their arrows. The rat chews the bark and roots, then slavers the resulting deadly paste onto absorbent hairs on its back. Even a small dose can kill a predator. **SB**

*Proceedings of the Royal Society B*, DOI: 10.1098/rspb.2011.1169

## Q I saw a squirrel and a crow stalking and chasing each other. The crow even pulled the squirrel's tail. What was going on?

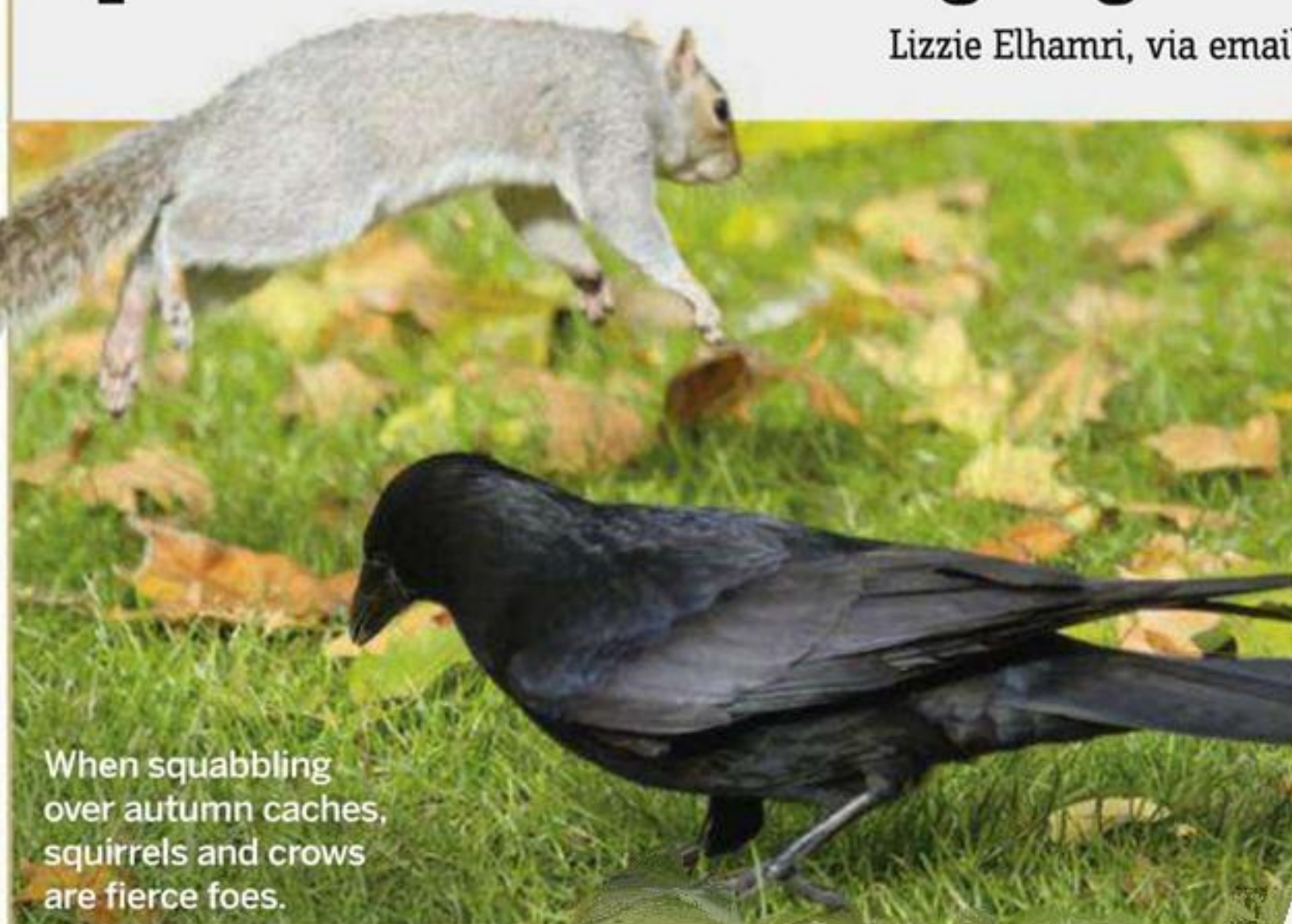
Lizzie Elhamri, via email

**A** Like squirrels, crows cache food. As well as plundering other crows' stores, they regularly raid squirrels' larders. In autumn, these canny birds sit up in the trees, watching where the rodents bury their food, then swoop down to dig it up once the coast is clear.

When squirrels recover intact stores, crows follow behind and try to steal the food. As you saw, they might tug the squirrel's tail, making it spin around so they can grab the goodies. But squirrels are tough adversaries – the corvids have to be careful.

The rivals also compete at garden feeders. Squirrels often charge at crows pecking at fallen seeds, scattering the birds so that they can muscle in on the meal.

**Steve Harris** Mammal expert



When squabbling over autumn caches, squirrels and crows are fierce foes.



## STRANGE BUT TRUE...

### Combine and conquer

**T**here are plenty of partnerships in nature, but it's not often that a single species is actually composed of two unrelated ones.

Enter the shipworm. The nemesis of early explorers and low-lying countries, these worm-like molluscs are notorious for reducing wooden boats and sea defences to a crumbling honeycomb. Though shipworms are highly competent at demolishing wood, they cannot digest it by themselves, so they work closely with bacteria nestled in their gills.

These diminutive collaborators also boost the shipworm's nitrogen intake, harnessing the gas from air dissolved in the seawater.

Many organisms, from cows to runner beans, provide a habitat for bacteria in return for help with difficult jobs, but the shipworm's relationship with its workforce is particularly intimate – these little helpers live right inside its cells and have never been found living independently.

Give them another few million years of co-evolution and they may become integral components of the shipworm's cellular machinery, just as other cellular 'organelles', such as mitochondria (the cellular power plants of all complex organisms), started out as free-living bacteria.

**Stuart Blackman** *Science writer*

Thanks to the bacteria in their gills, shipworms can enjoy boat for lunch.



Blickwinkel/Hecker/Alamy

#### SHIPWORMS AHOY!

- The naval shipworm *Teredos nautilus* is the most destructive species. It can grow to 50cm long and create burrows 1m deep.
- The drill-bit shells and rigid tunnel linings of shipworms are said to have been the inspiration for the technology used to construct the pioneering Thames Tunnel, built between 1825 and 1843.

## Q I snapped this butterfly in Ghana. What are the rear appendages?

Ted Black, via email

**A** This is a fairy hairstreak butterfly, probably *Hypolycaena antifaunus*, which is widespread in tropical central Africa. The long, pale appendages on its rear are actually wing tails – extensions of its hindwings.

Wing tails are common in hairstreaks. Aided by eye-spots on the wing edges, they give the impression of a false head. Shorter tails can resemble antennae, but this individual's broad, curled ribbons look just like front legs,

with gentle movements emphasising the disguise.

Predatory birds may be tempted to sneak up on what they think is the vulnerable tail end, but which is actually where eyes are keeping a lookout. When the butterfly takes off, it flies in the 'wrong' direction, thoroughly confusing its attacker.

**Richard Jones**

*Entomologist*



Heads or tails?

Ted Black

## Q What are these spear-like plants in my local meadow?

Celia Laverick, Suffolk

**A** These are horsetails, probably marsh horsetails *Equisetum palustre*. The few species that exist today are the last survivors of primitive plants that dominated the forest understorey more than 250 million years ago. Fossils of ancient horsetails are regularly found in coal deposits.

Horsetails are distantly related to all groups of plants, but recent genetic evidence has placed them closest to ferns. The most familiar species in the UK is probably the field horsetail *Equisetum arvense*, which can be a garden and agricultural weed.

**James Gibbons** *Ecologist*



## What's in a name?

Zyzzzyva (yes, really)



Scientists reputedly named this genus of weevils to give it pride of place at the end of the dictionary, but they apparently overlooked a genus of jellyfish-like creatures called *Zyzzyzus*. SB

Matthew Fang/Wikimedia Commons



**Q** I photographed these lichens at Loch Ken last winter. What are they, and is it usual for them to 'flower' at this time of year?

Rob Taylor, Hartlepool



The delicate, trumpet-like stalks of *Cladonia fimbriata* adorn rocks and walls.

**A** Resembling tiny golf tees, these lichens are probably *Cladonia fimbriata*, distinguished by their abruptly expanding podetia (stalks) and fine, granular 'skin'. The species is common in loose soil on rocks and walls almost everywhere, even in cities.

The genus *Cladonia* includes some of our most familiar lichens such as *C. portentosa*, used for realistic little bushes on model

railways, and devil's matchsticks, which are upright with red tips.

Lichens are not as seasonal as most fungi or green plants, and you can find the podetia all year round. These are the fertile, spore-bearing parts of the lichen that, as in your photo, rise from a mat of grey 'squamules'. Their shape is ideal for shooting microscopic spores into the air.

**Peter Marren** Mycologist

## HOW DO... birds sing?

Birdsong starts out as audible vibrations created when exhaled air passes over the membranous lining of the simple tubular voicebox – the syrinx – at the base of the windpipe. Muscular changes to the membranes' tension control the pitch, and the rate of airflow regulates volume. This raw sound is sculpted further by the shape of the throat and mouth. Sitting at the point where the windpipe splits to supply the lungs, the syrinx can produce different sounds from each side simultaneously. Some birds can even exhale through one side while inhaling through the other, allowing them to sing for longer without pause. **SB**

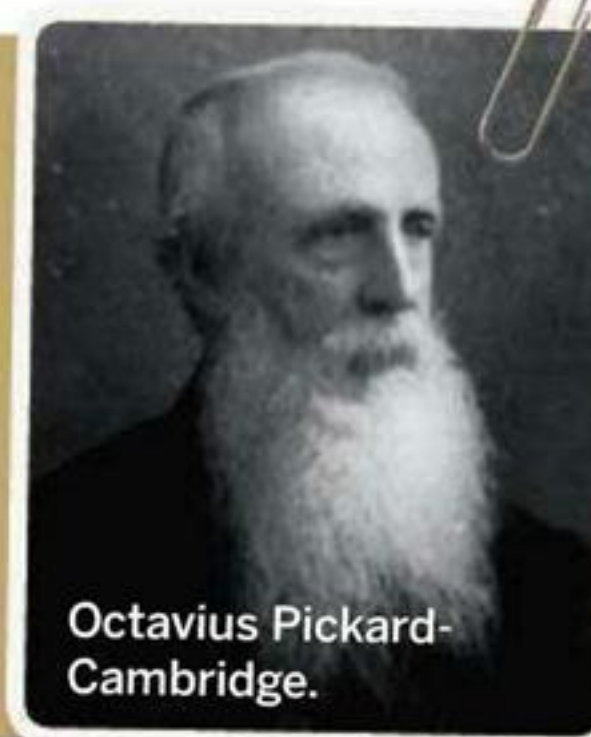
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[www.british-wildlife.com/birdsong](http://www.british-wildlife.com/birdsong)

The wren – the small bird with a big song.

## THE MEN WHO...

devoted themselves to spiders (and God)



Octavius Pickard-Cambridge.

**OCTAVIUS (1828-1917) & FREDERICK OCTAVIUS PICKARD-CAMBRIDGE (1860-1905)**

**T**hanks largely to a long tradition of amateur naturalists with the time and money to pursue their hobby, few corners of the globe have had their wildlife as thoroughly mapped, measured, prodded, pickled, pressed, stuffed and scrutinised as Britain.

The clergy features prominently among these ranks of dedicated amateurs. How better to celebrate God's creation, after all, than by recording it down to every glorious detail?

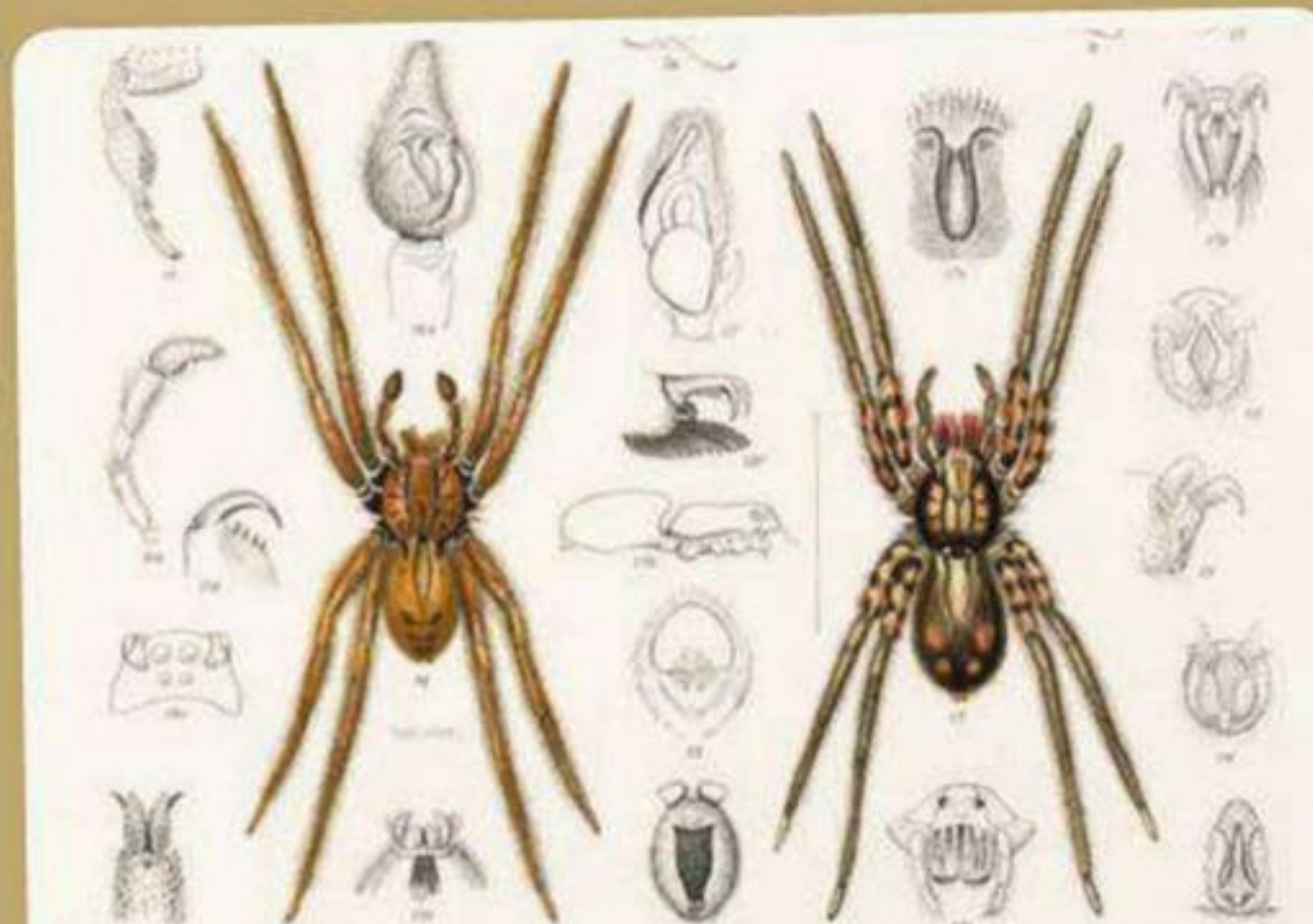
But while posterity celebrates that most famous naturalist-clergyman, Gilbert White of Selborne, the Pickard-Cambridges are barely known. This Victorian and his nephew, both from Dorset, liked nothing better than to hitch up their vestments and get down and dirty with some of the

least-loved members of the animal kingdom.

Between them, Octavius and Frederick discovered more than 200 arachnids in Britain, half of which were new to science. They also described hundreds more from around the world, including such icons as the Australian funnel-web and red-kneed tarantula.

For half a century, the duo contributed to virtually every paper published on spiders, and were leading authorities on harvestmen and pseudoscorpions.

Modern experts hail Octavius as the greatest British arachnologist of all time. Frederick might have challenged that status had he not undergone a profound personality change. He was alienated from the church and his uncle, and committed suicide during a bout of temporary insanity. **SB**



Examples of Frederick's exquisitely detailed sketches.

Illustrations by Frederick Octavius Pickard-Cambridge, taken from *Arachnida, Araneidea and Opiliones* volume 2 (1897-1905)/Wikimedia Commons; portrait: Wikimedia Commons



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# Madagascar

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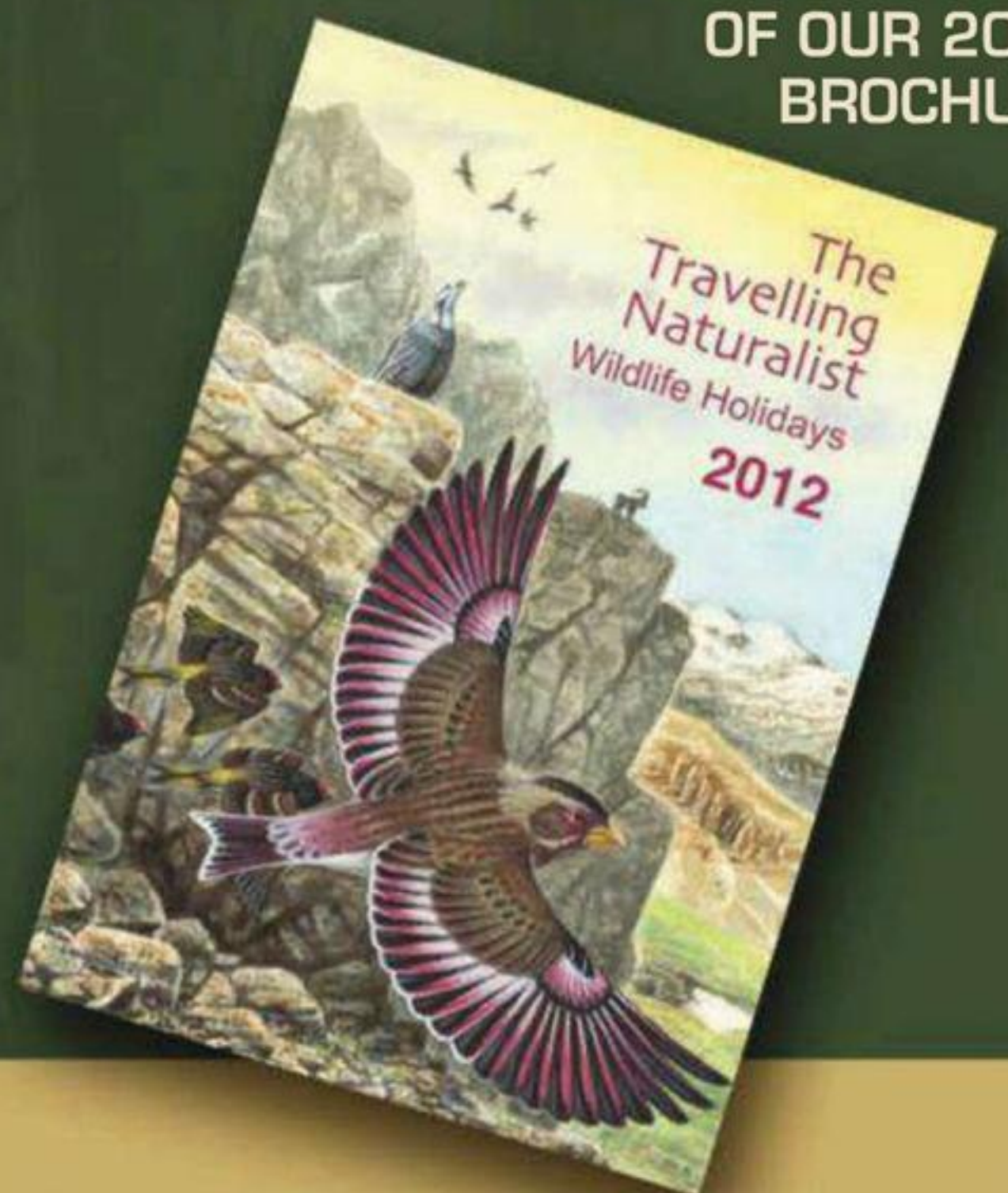
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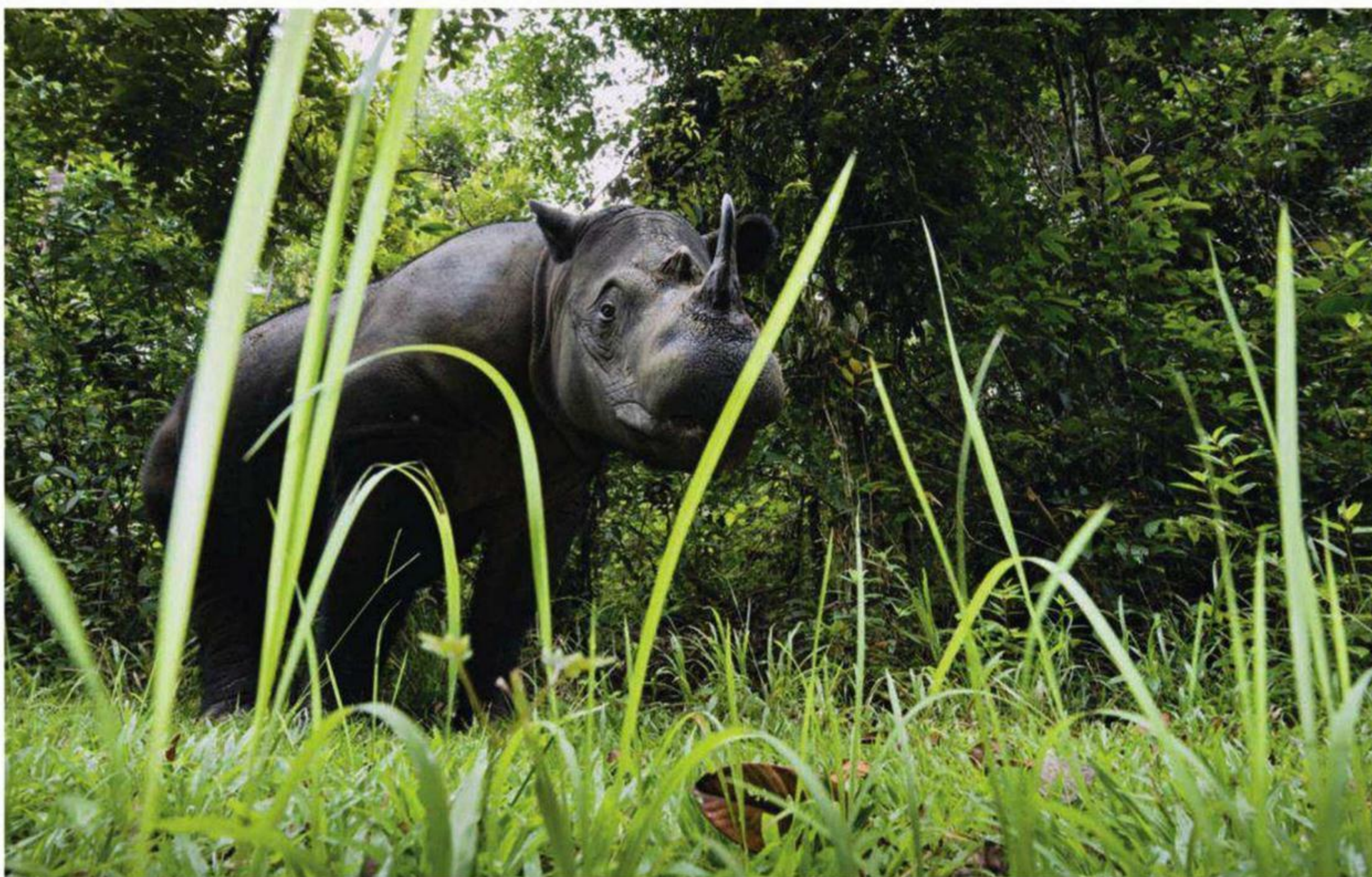
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## PHOTO MASTERCLASS

### PART 8: THE ART OF COMPOSITION



There are always new ways to present wildlife subjects. Be

creative in your approach to each and every image and you'll discover a new world of photographic potential, says wildlife photographer **Mark Carwardine**.

**H**ave a look at all of the photographs you've taken in the past year and evaluate how much the pace varies from one picture to another. Do you see a range of inspiring different styles and techniques? Or do the shots feel quite repetitive and samey? If there's too little variety, you're probably not taking advantage of the infinite number of ways of photographing the natural world.

We've already looked at several techniques for improving composition – such as keeping it simple (April), getting down low (May) and the rule of thirds (August) – but it's also important to know how to pull together all of the component parts of a picture into a rhythmic whole.

There are two great ways of learning this art of composition. First, immerse yourself in wildlife imagery – pore over books and magazines, browse websites, attend lectures and visit exhibitions – and analyse why some pictures stand out more than others.

Second, take as many photographs of the same subject as you can, experimenting with different angles, lenses, lighting, positions and techniques, to explore all of the creative possibilities on offer.

This month we'll be learning how everything in the natural world can be photographed in an infinite number of ways and, in the process, we'll be making our pictures more varied.

#### ▲ BE ORIGINAL

To achieve something different, take the time to experiment – crouching down low and intentionally obscuring this Sumatran rhino with blades of grass provided a more unusual perspective.



Like scribbles with a pen, the overlapping loops of broken wire create a variety of eye-catching shapes. The white background completes the abstract feel.

## 1 GO VERTICAL; LOOK FOR LINES

JAN-PETER LAHALL SWEDEN



There are many reasons why Jan-Peter's striking picture of Spanish sparrows

works so well: the composition is simple and has plenty of room to breathe, the curved wires form a wonderfully graphic backdrop and the vertical format suits the image perfectly.

"There is a tendency for people to shoot horizontals," says Jan-Peter, "because cameras are designed to be used most easily that way. You have to make a special effort to switch to vertical, but you should always try it as a matter of course."

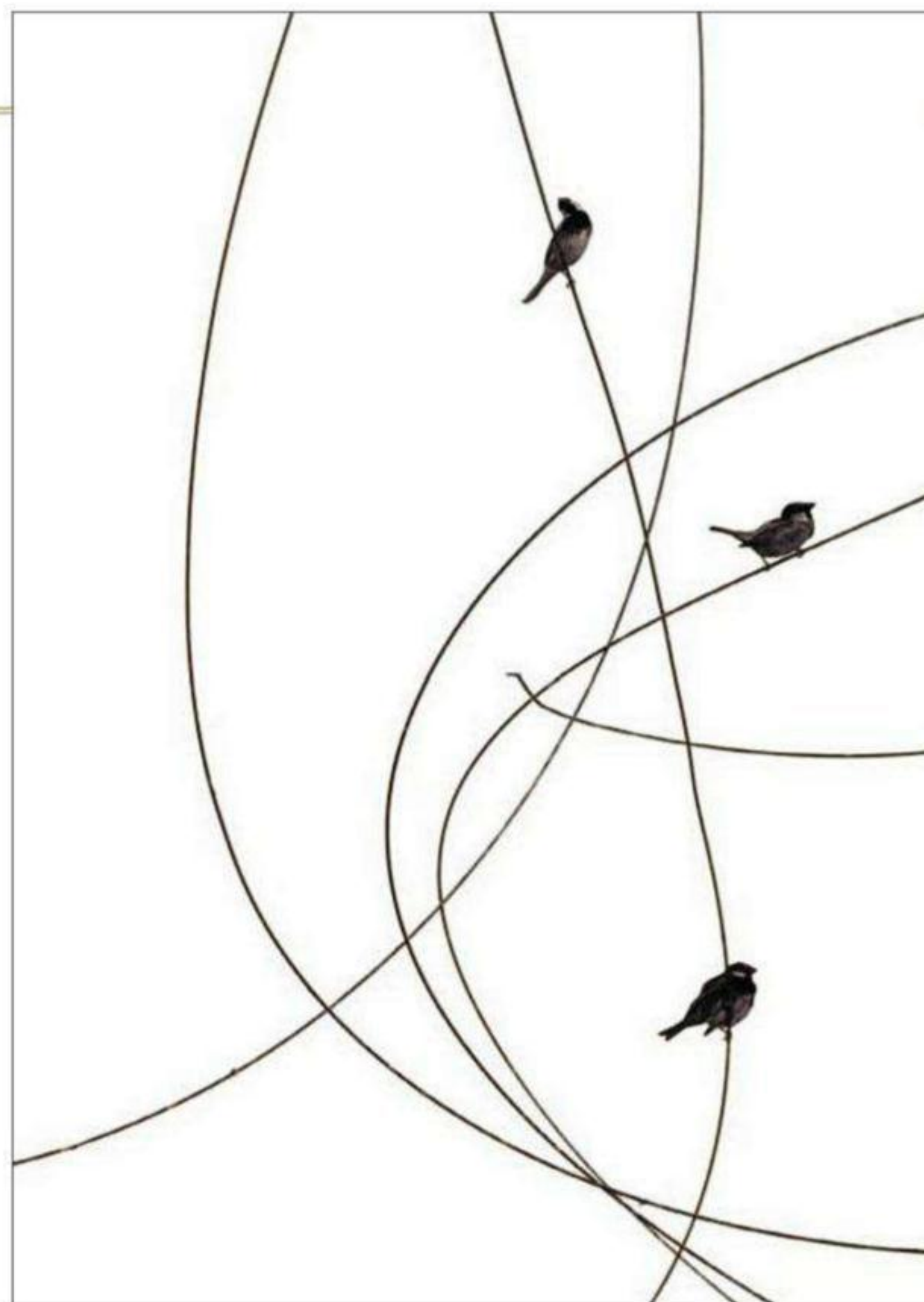
The lines in this picture are particularly striking. Our eyes are naturally drawn along lines, which, consequently, can make or break a composition. Diagonals tend to work better than verticals or horizontals; snaking lines can meander to the focal point and draw us in; leading lines (for example, a path crossing a field) can create a sense of depth and expectation; and, as in this case, sinuous lines can take us on a journey through the scene.

Once you start noticing lines and the patterns that they form in nature, you'll see them absolutely everywhere.

► [www.lahall.com](http://www.lahall.com)

### TECHNICAL SPECS

Canon EOS-1Ds Mark III + 300mm lens; 4/400 sec at f1.8; ISO 125



## 2 THINK ABOUT ARTISTRY

LAURIE CAMPBELL UK



We all have unique ways of interpreting a scene and arranging the various elements

within a frame. With practice and a little artistic flair, finding the most striking composition can become almost intuitive.

A spider's web, for example, can be photographed in many different ways. An amateur snap might show the web in its entirety with a confusing and cluttered background. But just look at Laurie Campbell's wonderfully creative interpretation.

"Shooting only part of the web focuses the viewer's attention on the silken threads," says Laurie, "while making the background dark ensures that they all stand out. I also took the picture from a low angle, which makes the lines converge to achieve a feeling of depth and distance."

► [www.lauriecampbell.com](http://www.lauriecampbell.com)



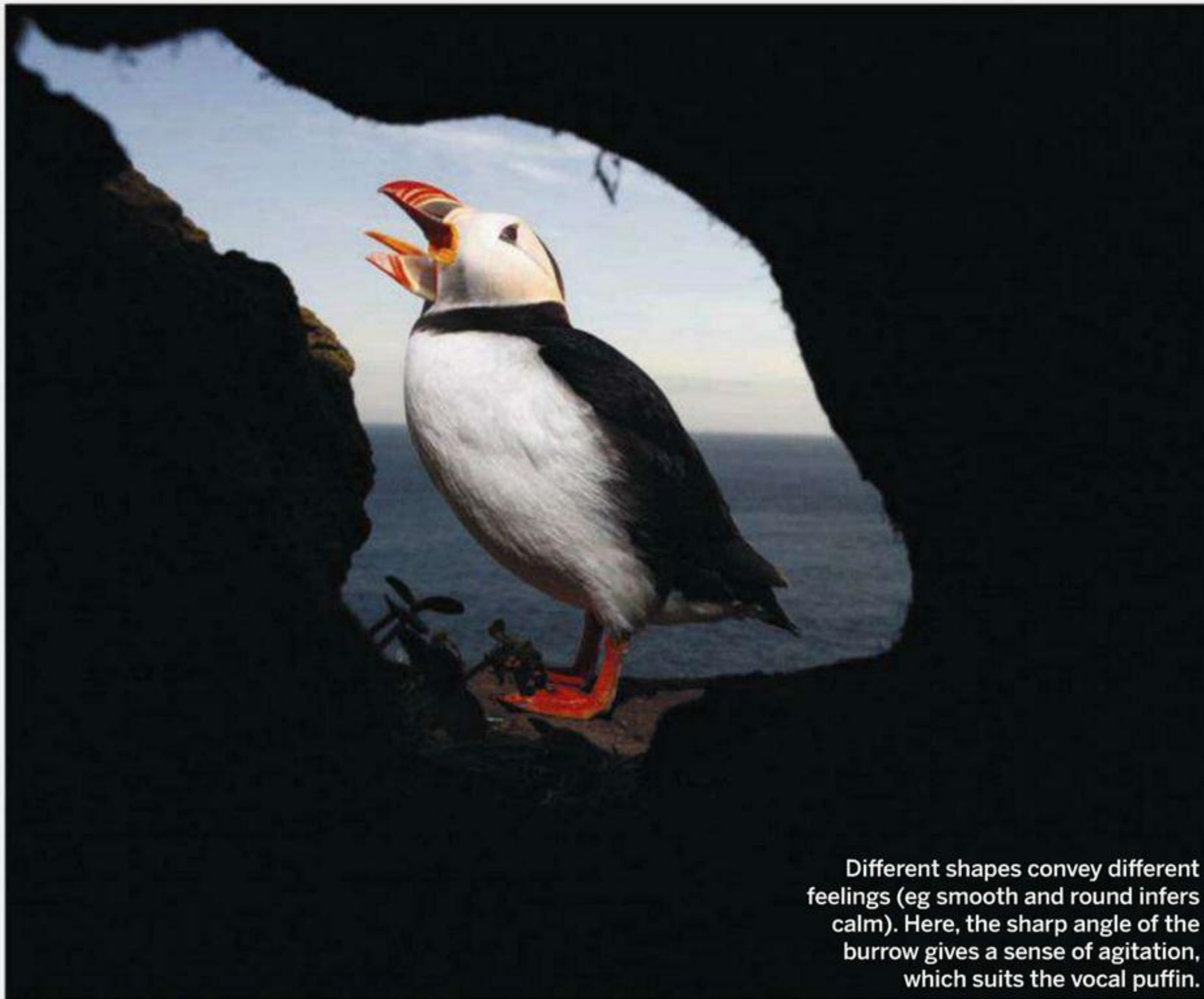
Laurie's close-up of a web is a fresh look at a common subject. The emphasis here is on the delicacy of the dewdrops, which festoon the threads like rows of glass beads

### TECHNICAL SPECS

Nikon D3X + 200mm macro lens; 1/200 sec at f7.1; ISO 100



## PART 8 THE ART OF COMPOSITION



Different shapes convey different feelings (eg smooth and round infers calm). Here, the sharp angle of the burrow gives a sense of agitation, which suits the vocal puffin.

### 3 FRAMES OF REFERENCE

CYRIL RUOSO FRANCE



A useful trick in the art of composition is to use a sub-frame within the main frame

to isolate your subject. Many objects, including branches, grass and rocks, make perfect natural frames. Alternatively, you can throw the foreground and background out of focus while keeping your subject sharp. Often, it's simply a matter of moving around to find a suitable surround.

Cyril took this unusual picture of a puffin from inside its burrow on the west coast of Iceland. "I wanted to frame the puffin in the entrance to its hole," he says, "but what I like about this shot is the extraordinary similarity between the shape of the puffin and the shape of the burrow."

► [www.cyrilruoso.com](http://www.cyrilruoso.com)

#### TECHNICAL SPECS

Canon EOS 5D + 16–35mm lens; 1/250 sec at f14; ISO 200; flash

### 4 STRIVE FOR SYMMETRY

MALCOLM SCHUYL UK



The best nature images often have some kind of symmetry. That doesn't necessarily mean that

one half of the picture is identical to the other, or that patterns are repeated evenly (though that is often the case). It indicates that there is some form of harmony.

"The symmetry here is provided by all the penguins looking and walking in the same direction," says Malcolm. "There is also an element of symmetry between the fluffy clouds and the freshly fallen snow."

Broken symmetry – for example, if one penguin in a line is walking the 'wrong' way – can create a sense of tension. But if several penguins are walking the wrong way and others are looking down at their feet or up at the sky, the image may feel complicated and confused. Broken symmetry only works when all of the conditions are just right.

► [www.wildvisions.co.uk](http://www.wildvisions.co.uk)



#### TECHNICAL SPECS

Nikon D2X + 12–24mm lens; 1/500 sec at f11; ISO 125

Symmetry is everywhere in nature. Look for it in groups, such as this band of king penguins in South Georgia, body shapes, gestures, reflections, patterns and coloration.



### BREAKING THE RULES

Once you know the rules, bending them can result in a better picture.



This daisy is soft, it's not centred, and there's a big, empty orange space. But, all things considered, it's a great image.

### 5 BUILD IT YOUR OWN WAY

JAN TÖVE SWEDEN



Composition is by no means a precise science. If you find a great image that contradicts all of the rules, you must go ahead and shoot.

This is precisely what Jan has done to turn a simple portrait of a daisy into a work of art. He has broken several traditional rules of composition – the main subject isn't sharp, for instance, and there

is a lot of empty space – but he has produced something really different and eye-catching. Far from being a detailed scientific record, the picture is all about colour and impression.

"Less is often more when composing pictures," says Jan. "What you leave out of the frame is almost as important as what you leave in. If there are too many things going on, you don't know where to look. Equally, if there is no emphasis or focal point, there is no impact. It's a matter of balance."

Despite its simplicity, his picture

still has depth. Converging lines (as in the spider's web) can help to achieve this, but Jan has used the overlapping technique, where you deliberately obscure one object with another (the petals in front of the stem). The human eye naturally recognises these layers and mentally separates them out, creating what looks like a three-dimensional image.

► [www.jantove.com](http://www.jantove.com)

#### TECHNICAL SPECS

Canon EOS 5D + 100mm lens; 1/60 sec at f2.8; ISO 200

### TRICKS OF THE TRADE

#### ► STAY FOCUSED

Don't try to include too many compositional elements in a picture – you need a clear subject or emphasis.

#### ► QUESTION THE IMAGE

Keep making conscious decisions. Should your image be vertical or horizontal? What should you leave in or out? Are there any lines? Where should you put the main subject?



#### ► BLUR THE LINES

There is a great trick often used by landscape photographers that can help to arrange all of the different elements in a picture. You simply pull the lens out of focus before you compose, and the trees, rivers, hills, rocks and branches are replaced by patterns, lines, shapes and colours. When you're happy with the juxtaposition of it all, you can refocus and take the shot.

### KNOW YOUR LENS: CHANGE IS GOOD

tech zone

Lenses can affect composition in many different ways. For instance, telephoto lenses flatten perspective, making objects at different distances appear closer together. They also have a narrower angle of view – which brings extra intimacy and makes it easier to exclude distracting elements around the point of interest – and a shallower depth of field. In contrast, wide-angle lenses exaggerate perspective and have a bigger depth of field. Best of all, they create an almost three-dimensional effect thanks to an optical illusion that distorts the relative size of objects and the distances between them.



The distortion produced by the wide-angle lens makes the rowan berries in the foreground appear unusually large, while the other elements seem further away.

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# Namibia

the wildlife photographer's dream...

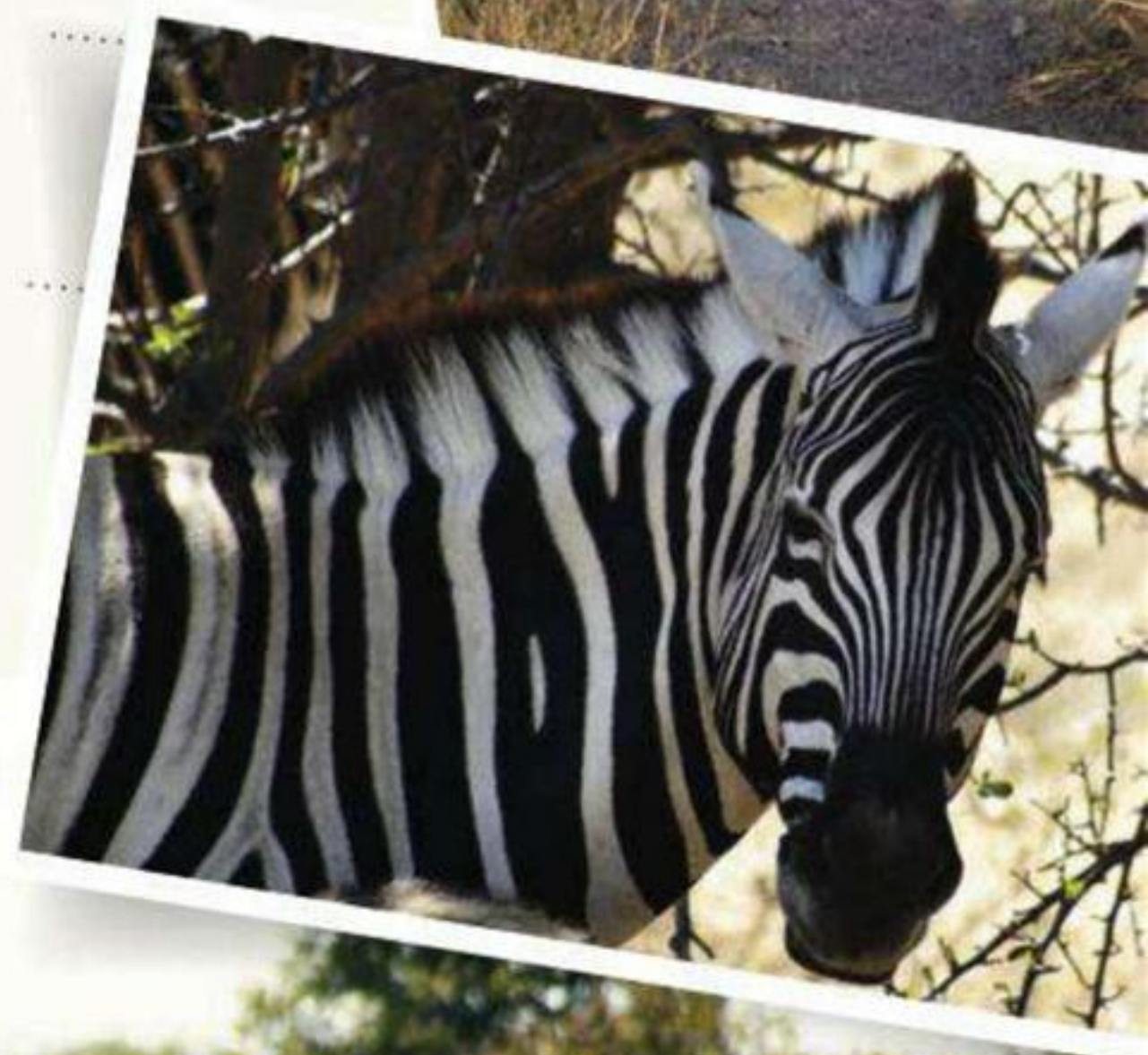
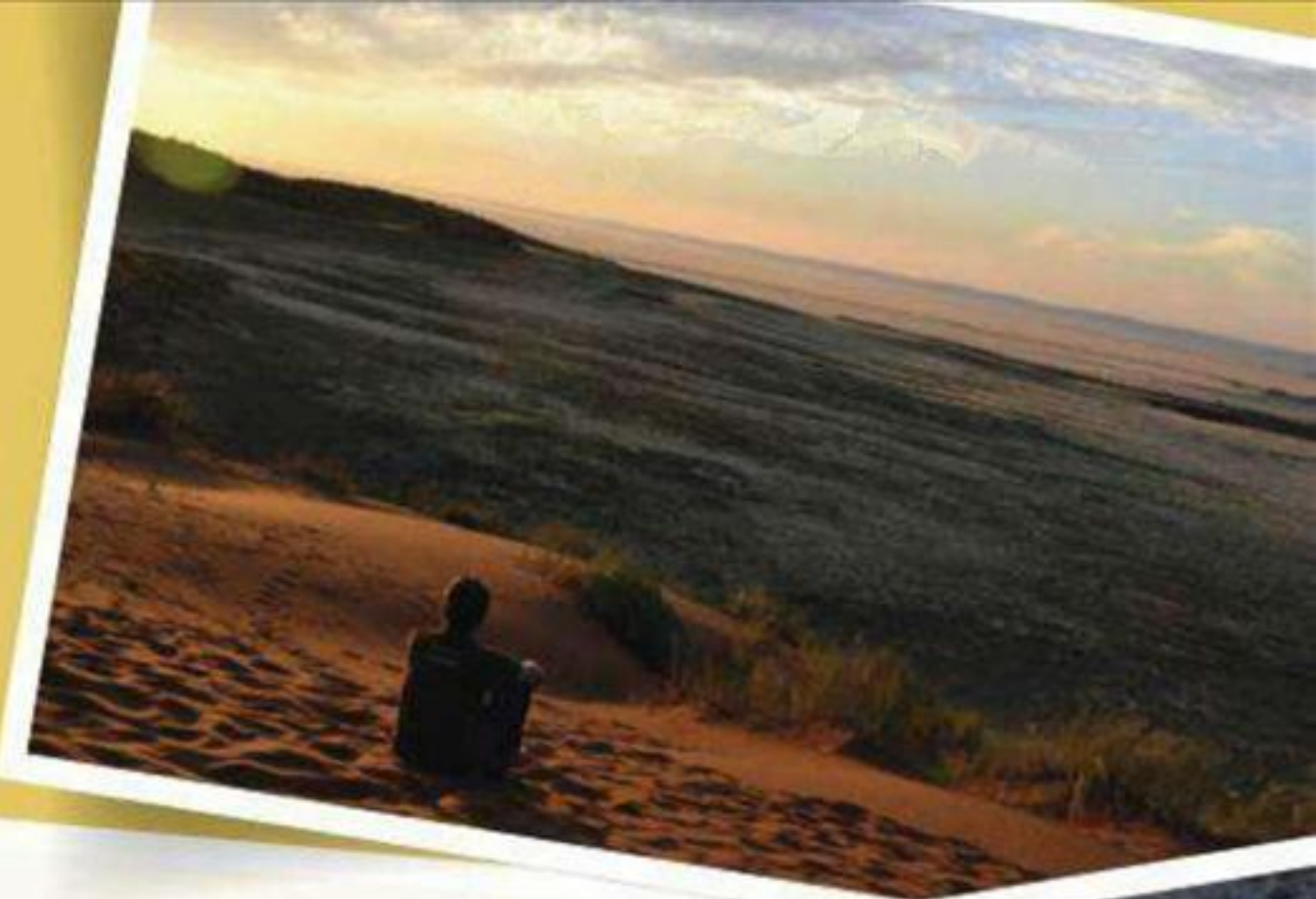
Namibia may be slightly under the radar in the UK but it is often the destination of choice for professional wildlife photographers looking to boost their portfolios with amazing safari shots.

The reason why photography experts decide on this particular part of Africa is mainly because Namibia boasts the best light conditions in the world and, when combined with the country's wide-open plains, the results are truly stunning. The Namibian light creates a fantastic backdrop for taking incredible photos (just the ticket to make your friends jealous back home) and the good news is that you don't need to buy an expensive camera to achieve this. The first and last light of the day envelopes the landscape in a warm amber glow which highlights the subject of your photo perfectly.

## POSTCARD

My time in Namibia has allowed me to visit many places from Etosha to the Caprivi strip where I have observed a huge variety of wildlife, from the little five to the big five. Whether you're interested in big cats or desert rhinos - Namibia has it all. When I returned to the grey skies of the UK and began relaying my experience to my friends, I was amazed how much my photos evoked the true spirit of Namibia. Even now, whenever I review one of the shots I have taken, I can't believe it was actually me! Professional photography guides in Namibia, such as Kathryn Haylett from Your Safari, tell me that this is not an uncommon occurrence, and that even after many years taking striking photos of lions and cheetahs herself she still cannot believe the final results. The photos on this page were all taken by amateurs using basic photographic equipment. It is not just the light and the abundance of different species that draws wildlife photographers in, there is also a lack of dense bush where the animals can hide. This means that you can observe game in their natural habitat while happily snapping away for a prolonged period of time, and not just click and pray like other safari destinations. I fell in love with Namibia when I was there, and thanks to my photos, all my friends now want to experience it for themselves.

Robert Pall, previous traveller to Namibia

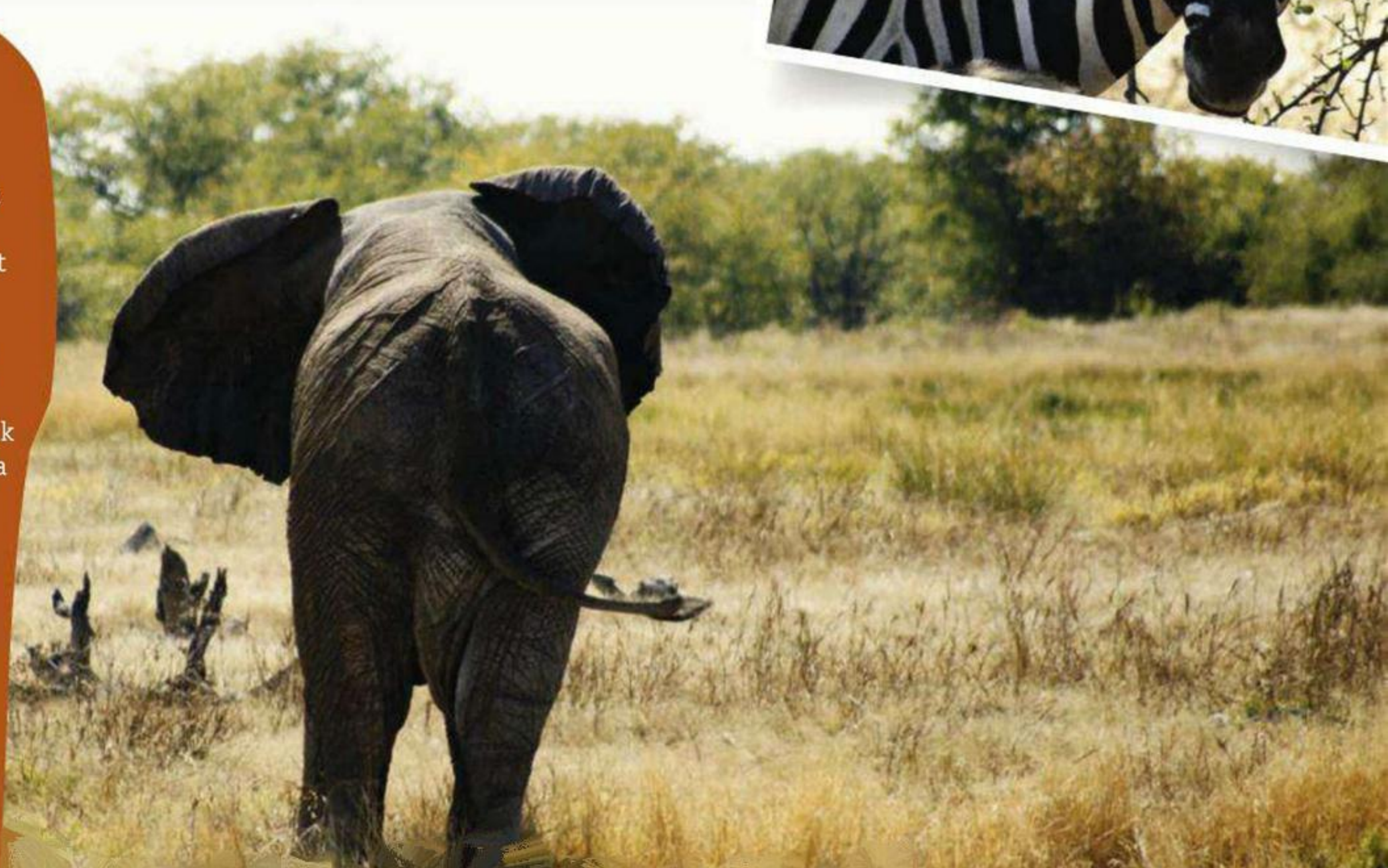


## Fact Box

If you would like to visit Namibia on a wildlife photography holiday, contact Kathryn Haylett at Your Safari on 01273 400706 or email [info@yoursafari.co.uk](mailto:info@yoursafari.co.uk). For more information on photography or wildlife tours please visit [www.yoursafari.co.uk](http://www.yoursafari.co.uk). For more information on Namibia as a tourist destination visit [www.travelnamibia.co.uk](http://www.travelnamibia.co.uk)



Namibia





# your letters

Share your thoughts on any issue covered in BBC Wildlife by writing to us at: Letters, *BBC Wildlife*, 4th Floor, Tower House, Fairfax Street, Bristol BS1 3BN; or email [wildlifeletters@bbcmagazines.com](mailto:wildlifeletters@bbcmagazines.com)

## LETTER OF THE MONTH

### Dogged survival of the Asian dingo

I enjoyed Stephen Dunleavy's thought-provoking article on Australian dingos ('Defining the dingo', September), but the distribution map puzzled me. Why did you assume that dingos have disappeared from their native Asia?

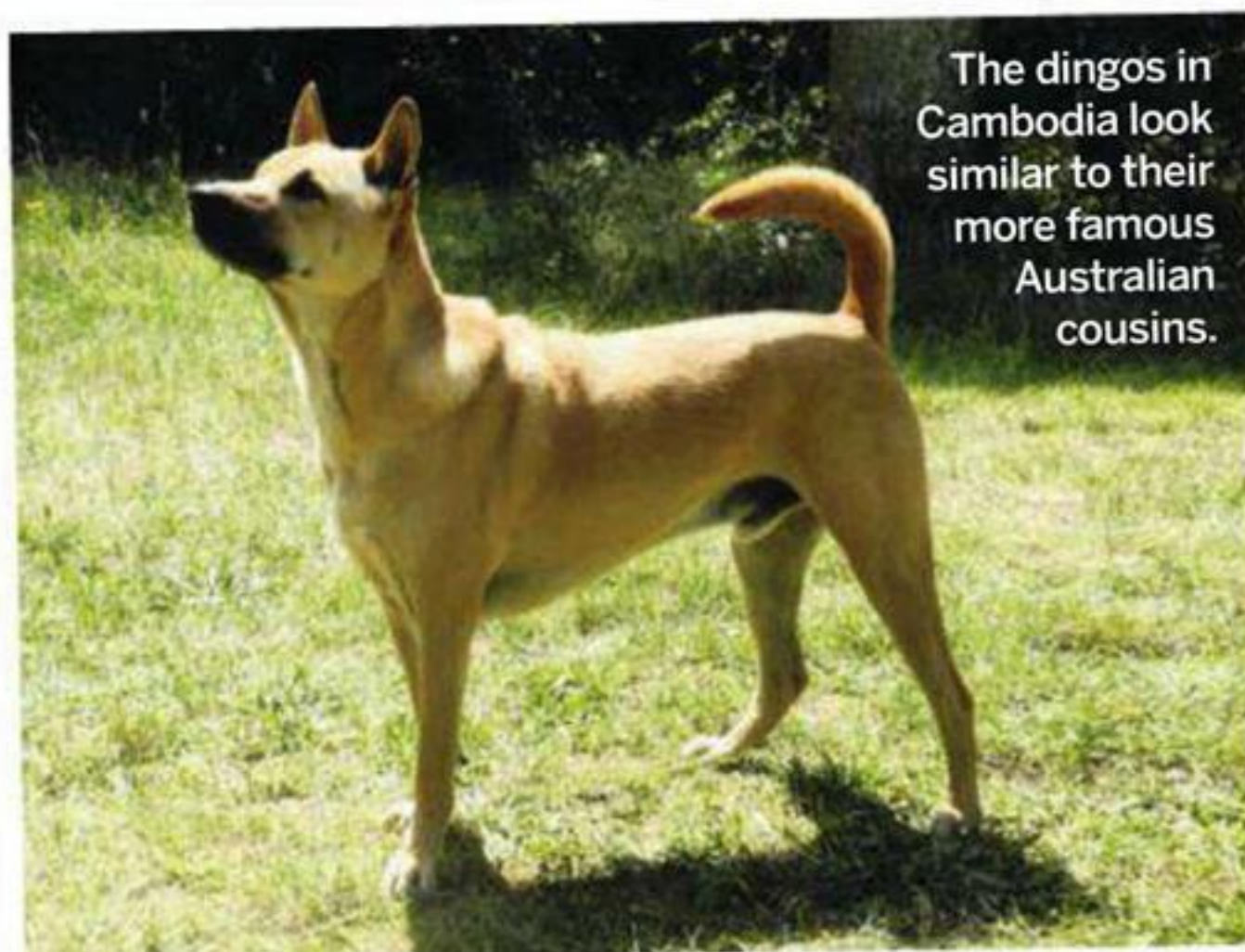
The IUCN Red List considers *Canis lupus dingo* to be 'Vulnerable', but records it as still present in Cambodia, China, India, Indonesia, Laos, Malaysia, Burma, Papua New Guinea, Thailand and Vietnam – though 'probably extinct' in Japan and Korea.

In remote parts of Cambodia, I have seen numerous semi-domestic hunting dogs that show all the physical and behavioural hallmarks of Australian dingos. This photo (right) shows a typical adult male from the Cardamom Mountains in the south-west of the country.

While this may do little to help Australians

decide whether or not to embrace the dingo, perhaps conservationists should start paying more attention to what is happening in its native range.

**Jenny Daltry** Fauna & Flora International



The dingos in Cambodia look similar to their more famous Australian cousins.

## ► WIN, WIN, WIN

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\* Please keep your letters short (no more than 150 words). Sorry, but we can't acknowledge them and must reserve the right to edit as necessary

## Kruger tales

If you've got a great story to tell about a wildlife encounter in South Africa's Kruger National Park, I'd love to hear about it. One and a half million trips are taken here every year and I'm putting together a book of the best stories from tourists.

What I'm after is adventures like that of Theuns and Elzet Hurter, who broke down just 15 minutes after leaving camp. They then met a lioness who managed to work out how to open the car door with her mouth (right).

I'm not asking rangers, park staff and other people with privileged access to send in stories – the point of the book will be that these are things that can happen to anyone, at any time.

Please send me your stories (250–1,200 words) before April 2012. Don't worry about them being works of literary genius – just tell the story as it happened and include all of the juicy bits.

A percentage of the profits will go to conservation within Kruger. Visit the website below to find out more and submit your story.

**Jeff Gordon**

[www.krugertales.co.za](http://www.krugertales.co.za)

## The dingo files

You classified the dingo as *Canis lupus dingo*, making it

a subspecies of the grey wolf, rather than a species in its own right. The dingo may be descended from the grey wolf, but surely after thousands of years of independent evolution, it is now different enough from its ancestor to be considered a separate species?

I have noticed an increasing tendency in recent years to classify animals as the same species as their ancestors, particularly among domestic animals. It's almost as if some scientists are trying to deny evolution, though thankfully such classifications are not accepted by everyone.

While some species that have been domesticated for a relatively short time, such as rabbits and hamsters, are clearly still the same species as their wild ancestors, it seems ridiculous to say that dogs are wolves, pigs are

These animals have been subject to thousands of years of selective breeding and are now physically, behaviourally and genetically distinct from their ancestors. To my mind they should therefore be classified as distinct species.

It is ludicrous to suggest that a dachshund or pug is the same species as the large, powerful, moose-hunting wild canids that roam the remote areas of Eurasia and North America.

**Shirley Bird**

Via email

## Dingo expert Brad Purcell says:

*What makes a species a species is something that science has grappled with for a long time and the advent of advanced genetic techniques has forced us to reassess many previous classifications. But you may be confusing breeds with species subspecies: dingos are a*



It was a long time for the car to start. 6:41 AM 25 JUN 2000



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Chris Rose/Artists for Albatrosses

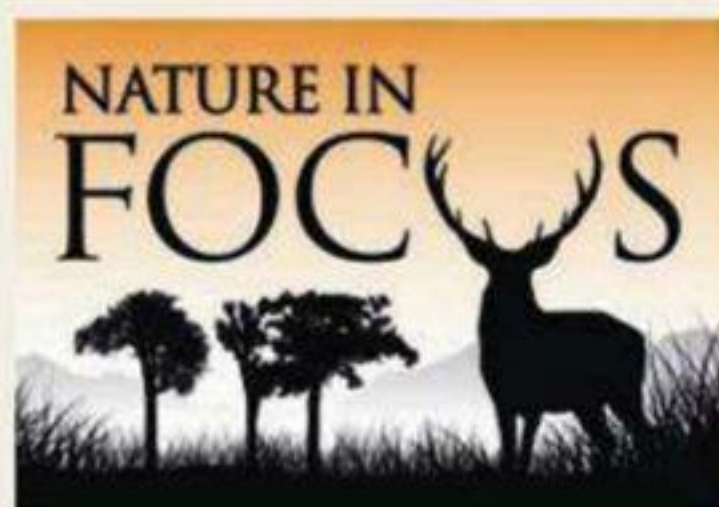
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# WHAT ON EARTH?

Amazing wildlife antics from our postbag

 This photo of a roe deer carcass 3m up a tree was taken in a wood at Oversley in Warwickshire. This is definitely the behaviour of a big cat – no native British species is large enough to carry a body into a tree. Two days later the corpse had gone. The Forestry Commission is investigating.

**Rob Haynes** West Midlands



Lunch for a leopard? Or tea for a tiger?

Rob Haynes

◀ *subspecies of the grey wolf, not a breed. The domestic dog is also a wolf subspecies (Canis lupus familiaris), and within that are thousands of breeds.*

### Sea tigers

It was wonderful to see the hammerhead sharks of Sudan mentioned in your feature 'Swimming with giants' (September). Three diving trips there have given me treasured memories of encounters with these beautiful creatures, and I will be returning in April to see them again. I also hope to encounter silky and even tiger sharks, a species that never fails to excite divers.

**Stephen Bowers**

Via email

### Hawkmoth mystery

Your piece on hummingbird hawkmoths (Highlights, September) reminded us of something we've seen several times during the past two summers in coastal Norfolk.

On hot days we found groups of hawkmoths, up to eight strong, gathered on the south-facing aspect of a flint-and-mortar church and other old buildings. What they were doing was not clear, though they could have been taking minerals from the lime, moisture from the damp rising off it, or salt from the wall surface.

**Paul Lee and Rose Votier**

Via email

### Much-admired magpie

Derek Niemann's feature on

magpie', September) dispelled many myths. As a PhD student researching the behaviour of urban magpies, I would like to dispel one more – they are not as universally disliked as his article suggests.

I spend many hours filming magpies around Exeter and often attract interest from passersby. "They're such clever birds!" is one of the most common reactions I get when I tell people what I am doing. Indeed, in three years I have had only one person tell me that he hates magpies.

Hopefully, my experience is indicative of a wider change in attitudes toward these entertaining birds. Perhaps you can publish an article in defence of herring gulls, since they appear to be still much maligned in my study areas.

**Toni Vernelli**

Exeter

### Multiplying magpie

The problem I have with magpies is that, due to their great adaptability, they are not affected greatly by fluctuations in prey numbers in the same way that, say, sparrowhawks are. As a result, their numbers appear to be increasing, while sparrowhawks have probably reached their optimum level.

**Henry Sharp**

Via email

### Mawkish magpie

It is well known that magpies are intelligent, sentient birds, but it is less well known that they grieve for their dead.

gently placing grass by another magpie's corpse, having delicately tapped the body with their beak, before holding a short vigil of a minute or so.

**David Sommerville**

Via email

### Mundane magpie

Too many predators, such as magpies, are hated in Britain – just look at birds of prey, which were nearly driven to extinction in the past. It also seems that people dislike animals that occur in high numbers – common species are often called vermin. ▶

### Watch out for



### Amur Ambush in London

The winner of our 2010 Wildlife Artist of the Year competition, *Amur Ambush* by Stella Mays, can be seen in the SWLA's Natural Eye exhibition at the Mall Galleries, London, from 26 October to 6 November. Look for the launch of the 2012 contest in our November issue (on sale 20 October) and at [www.discoverwildlife.com](http://www.discoverwildlife.com)



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**[www.exeter.ac.uk/dll](http://www.exeter.ac.uk/dll)**



## From the forum

### UK Orcas OK!

It was fascinating to learn that we have a permanent, though small, population of killer whales off our shores ('Orcas in the British Isles', July), that they supposedly eat mammals and that minke whales flee when they hear them approaching. It would be interesting to imagine what happens when they meet basking sharks around the Isle of Man. Has anyone seen anything? **Thylacine**

► [www.discoverwildlife.com/forum](http://www.discoverwildlife.com/forum)

◀ I'm glad that science does not support the theory that magpies are negatively affecting songbirds: it's humans that are the real problem.

**Nicola Allen**

Via email

### Mobster magpie

Your celebration of this resourceful species reminded me of an incident I witnessed some years ago. I saw a cat emerge from a hedgerow with a vole in its jaws. Two nearby magpies immediately began mobbing this cat and one of them attacked. Cat and bird rolled around on the ground for a few seconds before the magpie emerged triumphant.

Both birds flew off, the victor clutching its vole prize, leaving the crouching cat defeated. I often wonder who was the more astonished at the audacity of those birds – me or the cat.

**Janet Kirkham**

Brinscall, Lancashire

### Size does matter

I think Kenny Taylor may be confused about sizes in his article about Atlantic salmon returning to spawn ('A leap into the light', September). He mentions "a fish of over 30cm long [hurling] itself upwards" at the weir, but, as I understand it, the average Atlantic salmon returning from the sea measures 70–76cm (about 27–30 inches in 'old money'). Even a 'grilse' – which has spent only one year at sea – will be roughly 50–60cm long.

**Michael Foden**

Via email

### Spindle fears

Your ID Parade of wild fruits (Highlights, September) was a little misleading in suggesting that some fruits are edible to humans as well as to wildlife.

While the poisonous character of black bryony and deadly nightshade was mentioned, the toxic nature of spindle fruits was not. I just wanted to flag this up for my own peace of mind.

**Ann Bowen-Jones**

Via email

### Features editor Ben Hoare says:

*Thank you, Ann – you can sleep easy again. According to website [www.thepoisoning.co.uk](http://www.thepoisoning.co.uk), poisoning with spindle berries can cause "diarrhoea, vomiting and stimulation of the heart", with larger doses leading to "hallucinations, loss of consciousness and symptoms similar to meningitis". Luckily, their "loathsome smell and bitter taste" discourage consumption." Best avoided, that's for sure.*

# NEXT ISSUE

ON SALE 20 OCTOBER

## FROZEN PLANET

Secrets of a vanishing world: spectacular photos of polar bears, wolves on the hunt, living with Adélie penguins and more.



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020 8433 1277; [simon.goodman@bbc.co.uk](mailto:simon.goodman@bbc.co.uk)  
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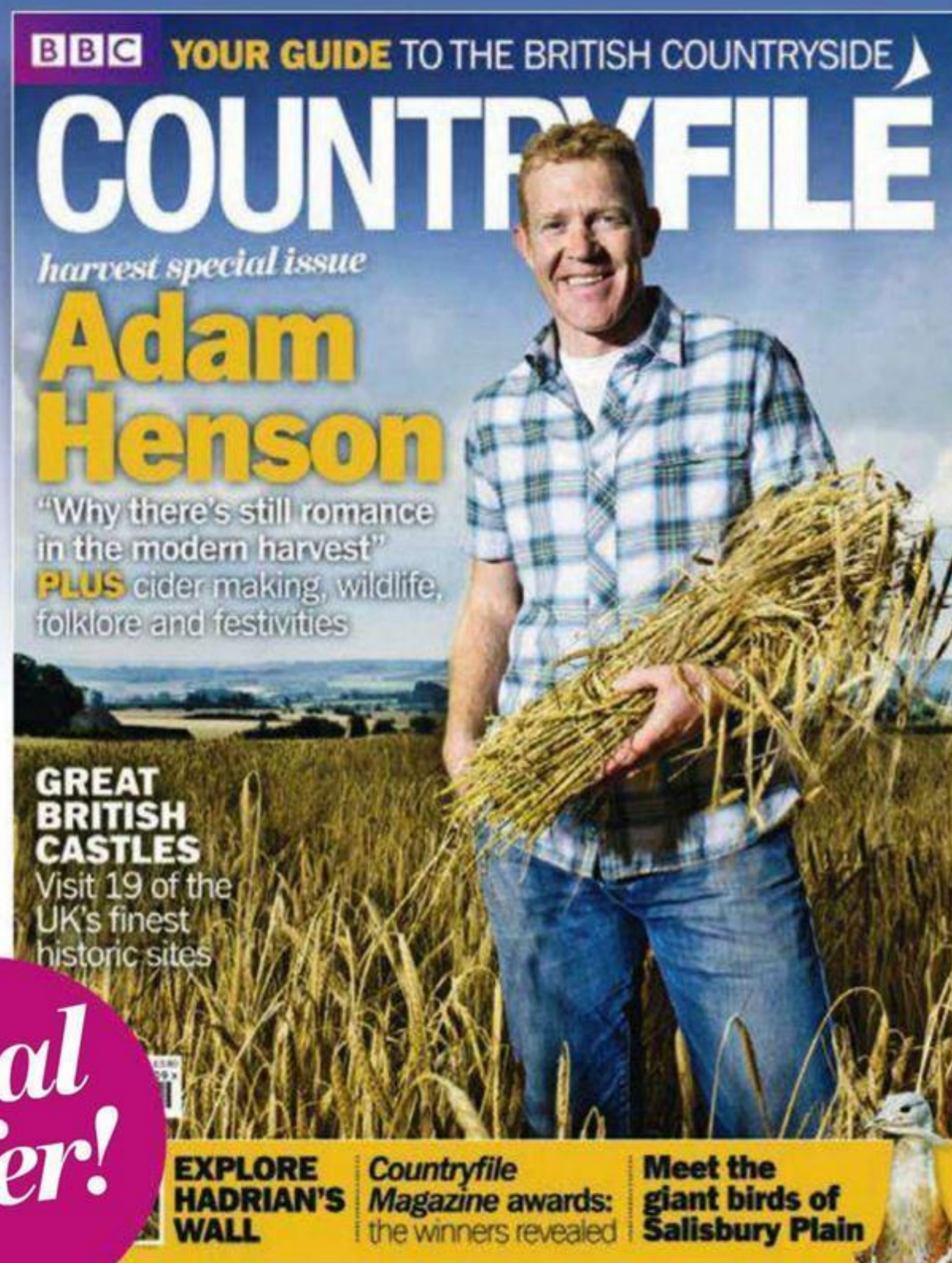


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PHOTO  
OF THE  
MONTH



## 1 DOZY POSER

For over two hours this little owl was dozing and not doing very much at all. Suddenly it came to life, stretched its wings and promptly flew off. It was worth the wait just to capture this fascinating behaviour.  
**Kathy Langbridge**  
Suffolk

## 2 JUST CRUISING

In summer, John Dory are often seen around shipwrecks off south-west England. This one was cruising the deck of ex-HMS Scylla in Whitsand Bay near Plymouth. When hunting, the fish's vertically flattened body enables it to ambush prey – it is scarcely visible when seen head-on. It is largely unfazed by divers.  
**Keith Hiscock**  
Plymouth



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3



4

### 3 SUNNY SIDE UP

The marine iguanas of Santiago Island in the Galápagos often gather in large groups, sunbathing and expelling the occasional salty sneeze! This impressive individual lay alone on the rocks so I got down on my stomach to take his portrait.

**Simon Allen**  
Via email

### 4 EGG NURSERY

On a hot summer's day, I spotted this attractive little insect laying her eggs – each hanging delicately from a thread – on a cable. A beautiful moment, all too easily missed.

**Manish Walia**  
Chandigarh, India

### 5 SPRING CLEAN

During a research trip to the Atlantic Rainforest, Brazil, we had some free time to explore. Hearing a noise, we saw the earth moving and this little armadillo popped its head out. It seemed oblivious to our presence and continued to excavate its burrow.

**Aimee Goold**  
Nottinghamshire



5





**6 FRUIT LOOP**  
Colonies of fruit bats entertain sunbathers on the Maldives, flapping over the trees in search of juicy treats. I found a fruit tree that the bats seemed to favour and waited until this individual looked directly at me.  
**Chris Nutley**  
Via email



**7 QUICK SILVER**  
I love taking photos of the many birds that live in my garden in the Adelaide Hills of South Australia. I took a quick succession of shots of this silvereye and only spotted the wasp afterwards. Nature is so surprising!  
**Graham Moore**  
Adelaide

**8 CUB SCOUT**  
The highlight of our recent trip to the Masai Mara was seeing these lion cubs, which were thought to be only two to three hours old. Not even our Maasai guides had seen cubs this young. With all the perils they face, we hope they will survive.  
**Kevin Tappenden**  
Via email

**9 FAST FOOD**  
My wife and I had no sooner settled down to our picnic lunch overlooking a lake, when this lesser black-backed gull decided to join us with his own meal – a duckling. Needless to say, as he gulped down his lunch we lost our appetites.  
**Tony Wootton**  
Via email

## PHOTO CONTEST SUMMER SPECIAL

The editor's pick from September's online challenge



**BANDED DEMOISELLE** by Tim Tapley



**FEED ME** by Kathy Langbridge



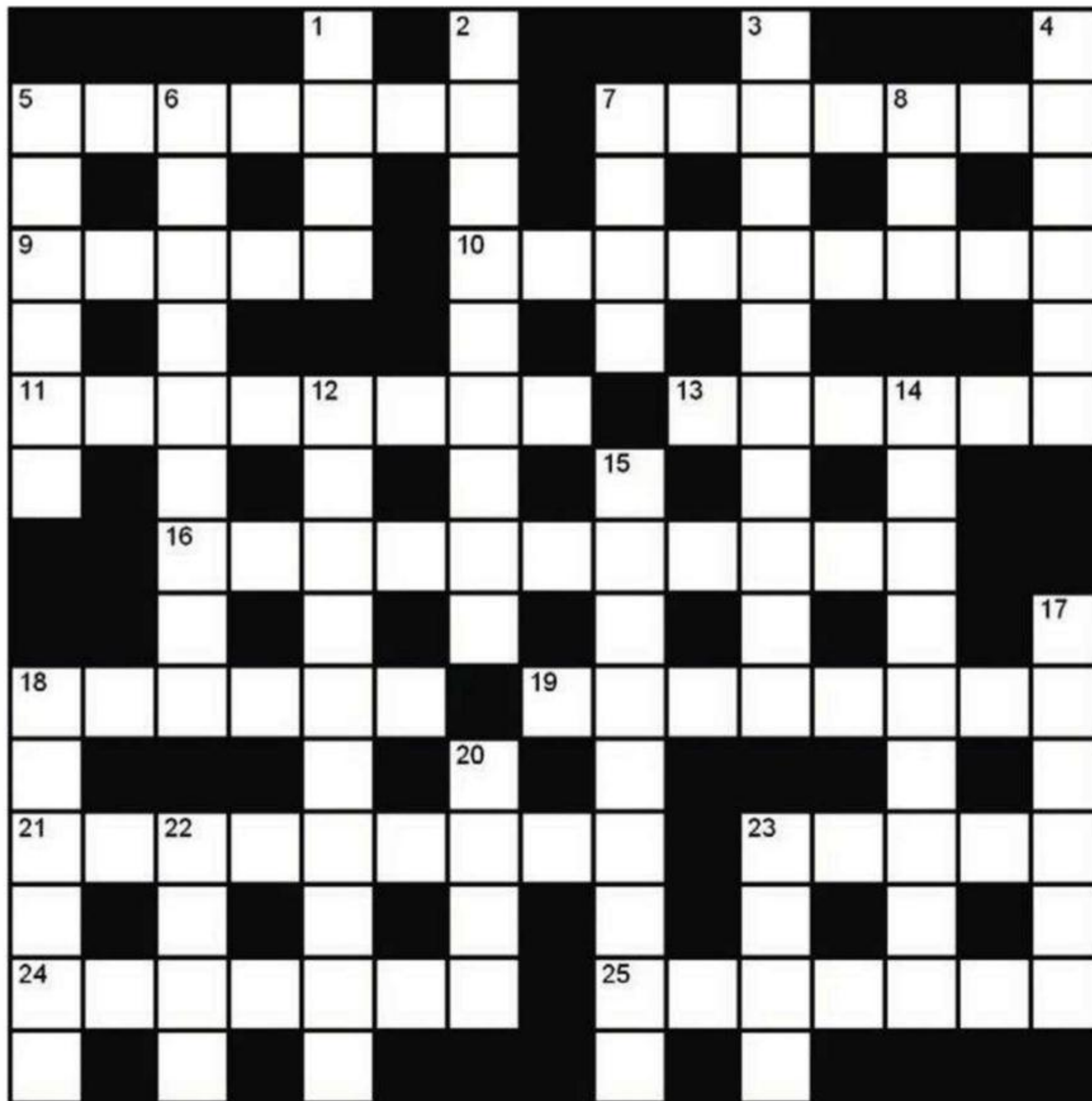
**RED SQUIRREL** by Jan Shields

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## crossword

compiled by EDDIE JAMES



## ACROSS

- 5 Horned ungulate – one of Africa's Big Five (7)  
 7 Tree \_\_\_\_ – bird that climbs and probes tree trunks for food (7)  
 9 Island in the Bristol Channel, famed for its puffins (5)  
 10 Very small British bird, the male of which has an orange-yellow crown stripe edged by black (9)  
 11 Common name of *Corvus tristis*, bird of New Guinea; paler feathers than the familiar all-black variety (4, 4)  
 13 Small mammal of Madagascar – species resemble hedgehogs, shrews, opossums and moles (6)  
 16 \_\_\_\_ eagle – alternative name for the sea eagle (5-6)  
 18 The largest species of \_\_\_\_ is the siamang, found in Malaysia and Sumatra (6)  
 19 A russet-rumped, hole-nesting woodland bird typically seen in western Britain (8)  
 21 Scavenger that accompanies larger fish, such as sharks and rays, in warm seas (5, 4)  
 23 The nature of, for example, rockpools that are filled by the sea twice daily (5)  
 24 Prefix of species including a tamarin and a penguin (7)  
 25 Migratory swarms of these insects can contain as many as 80 million individuals per square kilometre (7)

## DOWN

- 1 Member of a South American family of rodents – also a common name for the guinea pig (4)  
 2 Descriptive of many species, including a potoro, a bandicoot, bats and an armadillo (4-5)  
 3 Indian Ocean archipelago; coco-de-mer grows here (10)  
 4 The fur of the \_\_\_\_ fox turns white in winter (6)  
 5 The white whale, known as the sea canary because of its distinctive chirps, squeaks and clicks (6)  
 6 Large, toxic Australian spider; the entrance to its burrow has a narrowing collar (6-3)  
 7 The young of certain mammals; a chunk of iceberg (4)  
 8 Black and white, as in the name of the corvid mag \_\_\_\_ (3)  
 12 The order to which bats belong (10)  
 14 Mammals of the Himalaya, closer to raccoons than to the (giant) species after which they are named (3, 6)  
 15 A gathering place for animals in dry areas (5, 4)  
 17 Long-legged wading birds with needle-like bills (6)  
 18 Small burrowing rodent of North America (6)  
 20 Structure extending out over water: the one at Mumbles has a kittiwake colony (4)  
 22 National park in Gabon, home to lowland gorillas (4)  
 23 Blood-sucking parasite on mammals (4)

## ANSWERS FROM AUTUMN ISSUE

Across 1 Ibises 5 Sap 7 Wean 9 Reindeer 10/29 Fall 11 Parrot 12 White ant 13 Seahorse 16 Sei 18 Frog 20 Riff 21 an 23 Water rat 25 Nectar 27 Pistil 28 Flamingo 30 Ass 31 Kipper 32 Bee-eater 3 Sonar 4 Shelter 5 Shrew 6 Puffin 7 Iv 8 Ravens 14 Harvester 15/24 Ear tufts 17 Camargue 19 Vulture 20 26 27 28 29 30 31 32

Answers  
appear in  
our next  
issue

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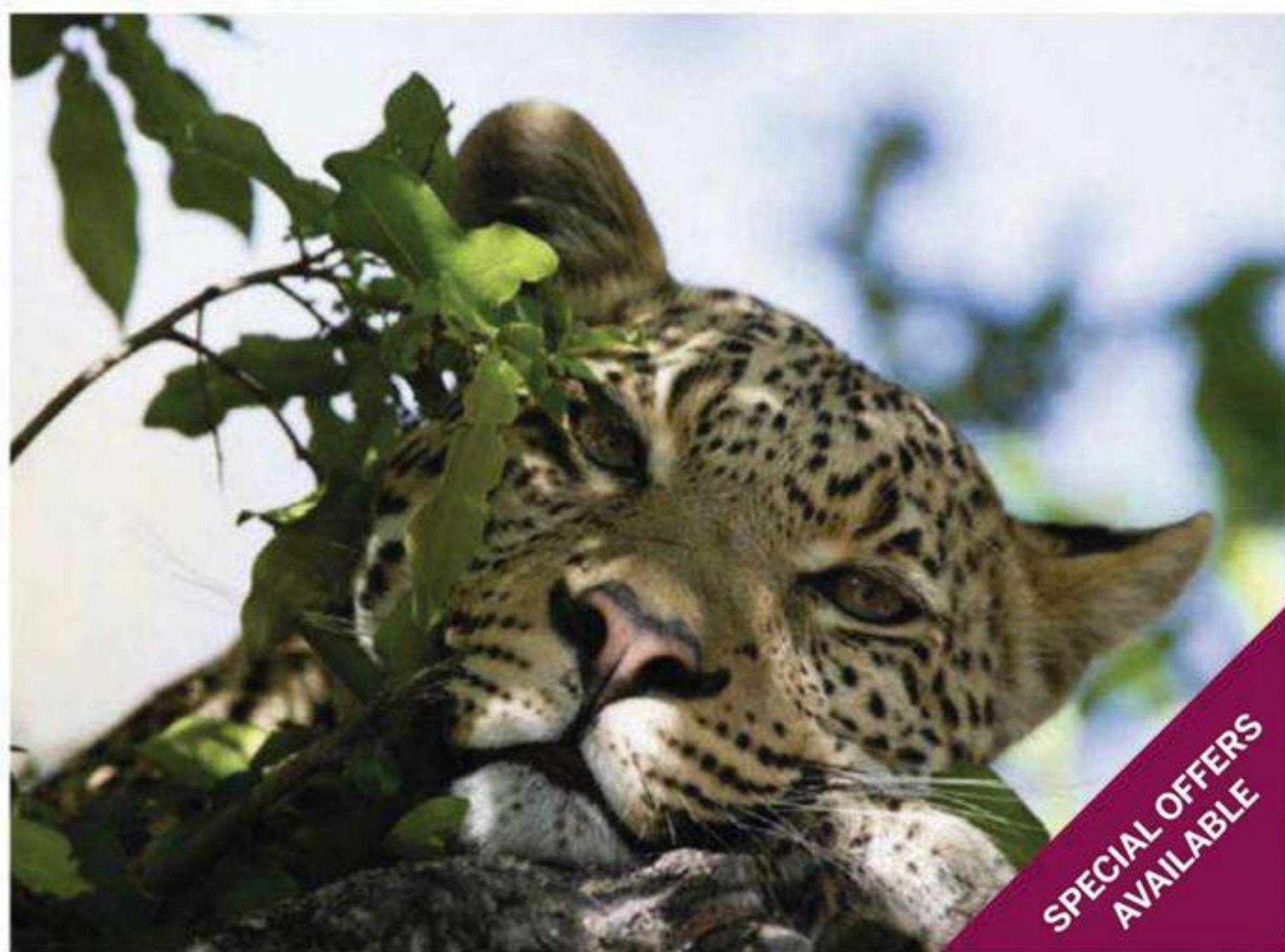


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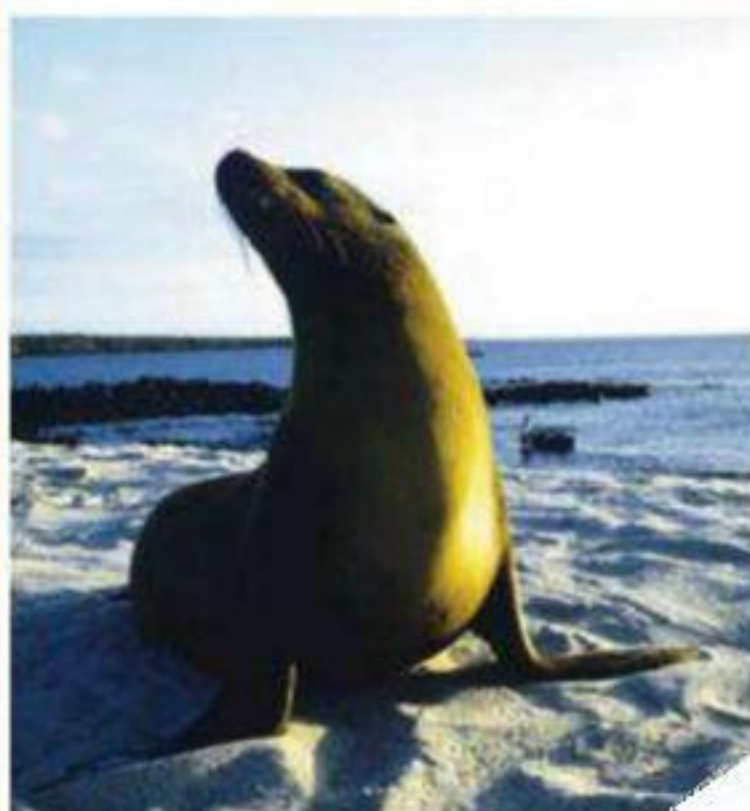


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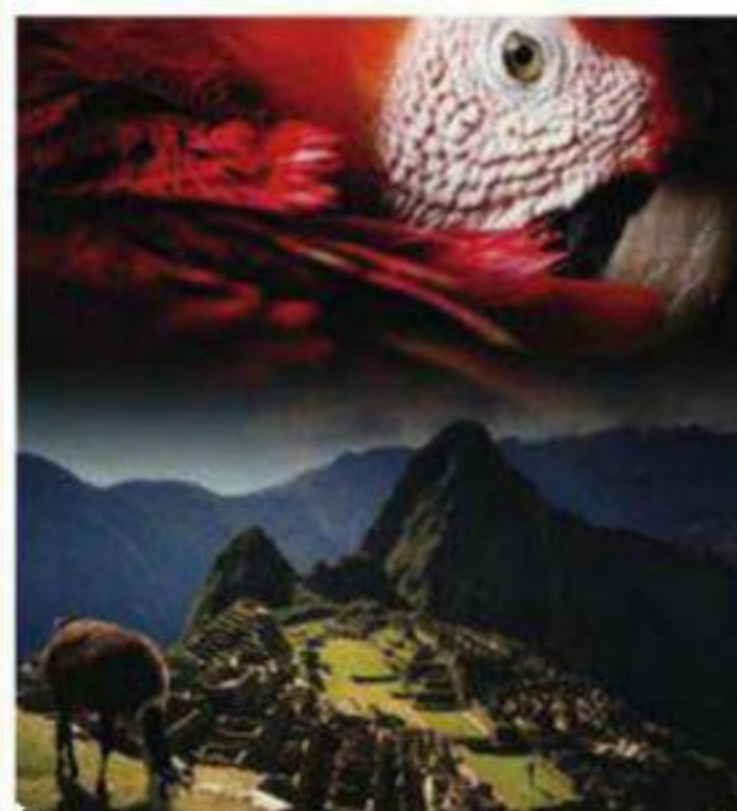
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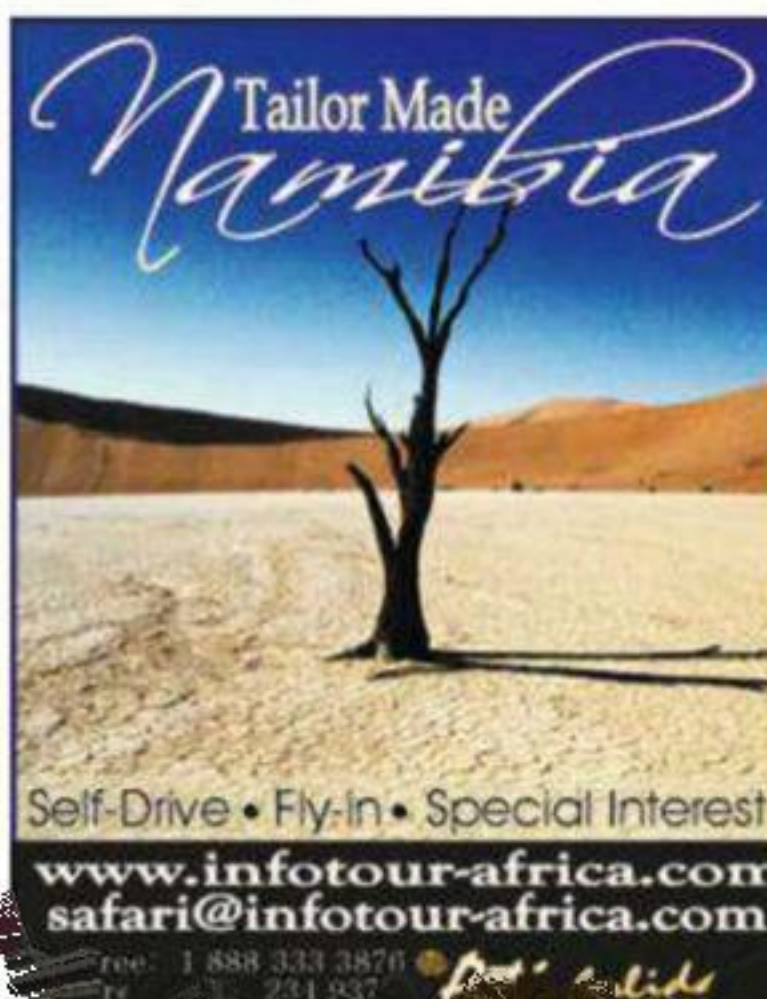
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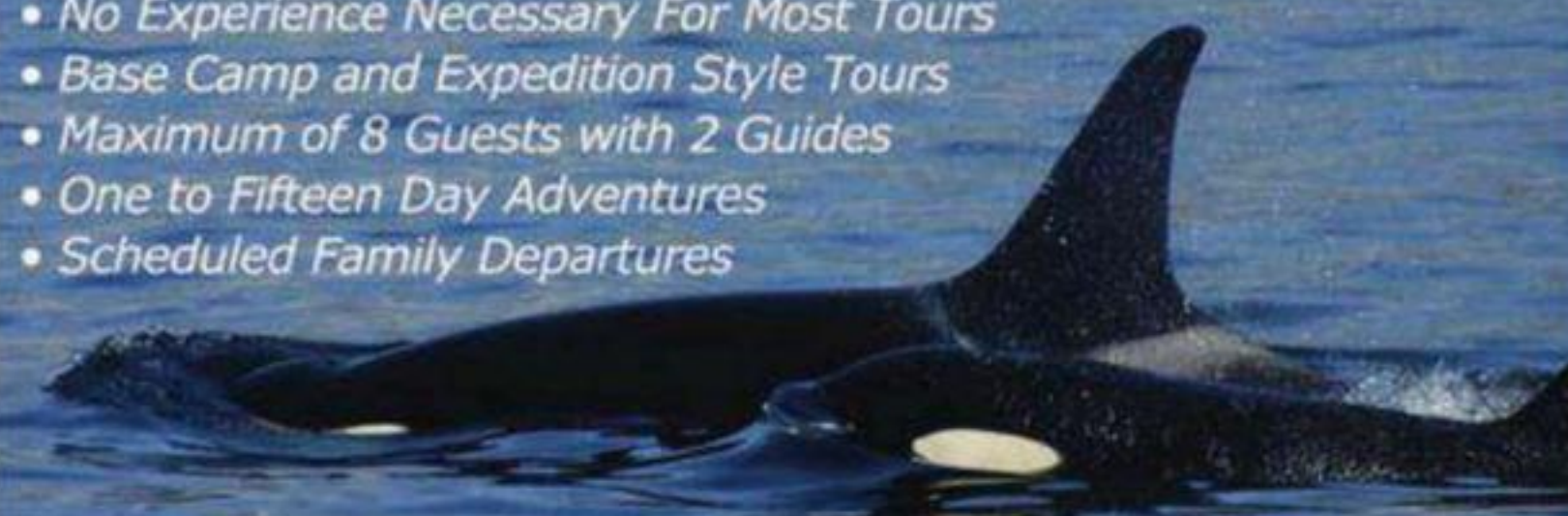
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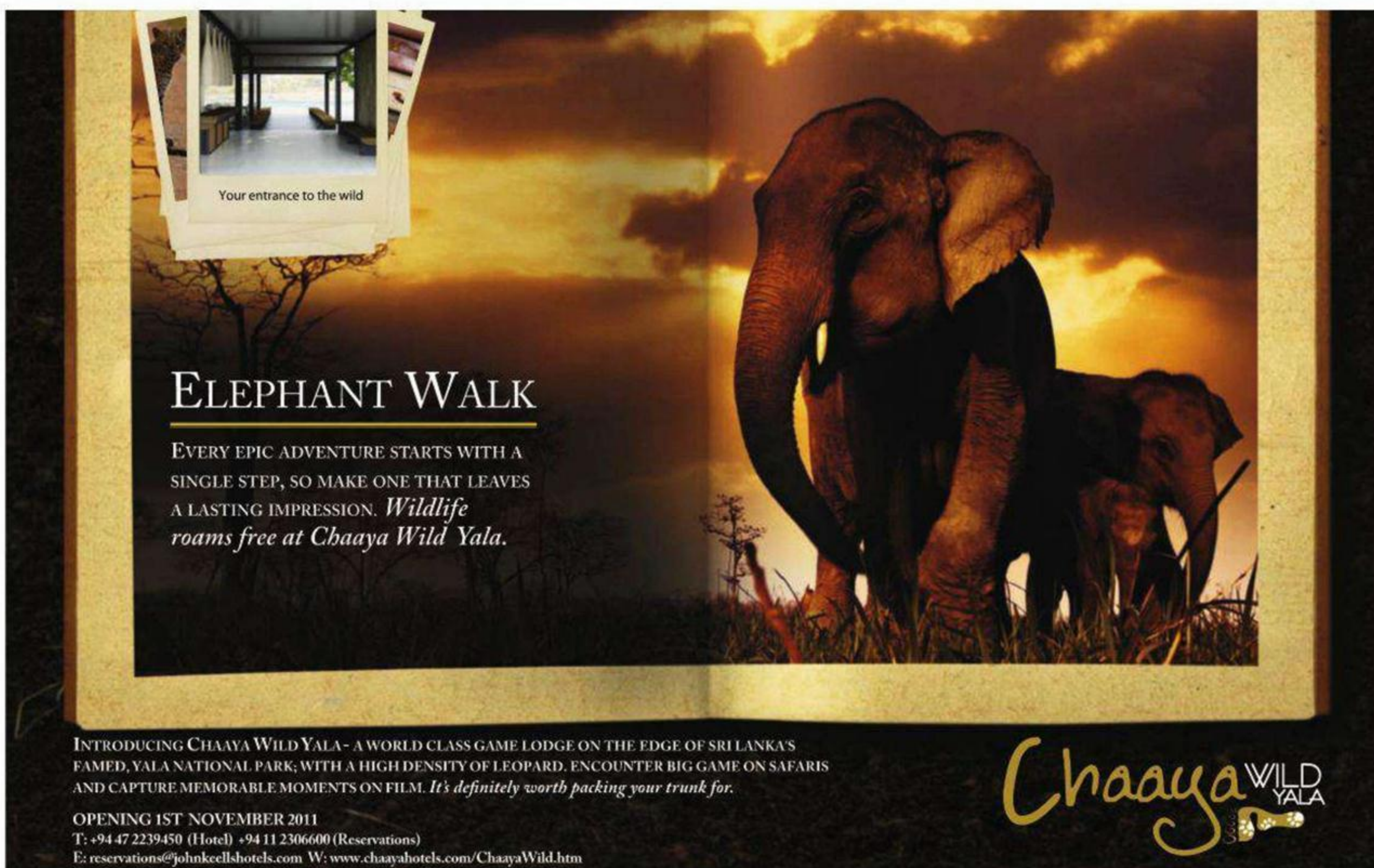
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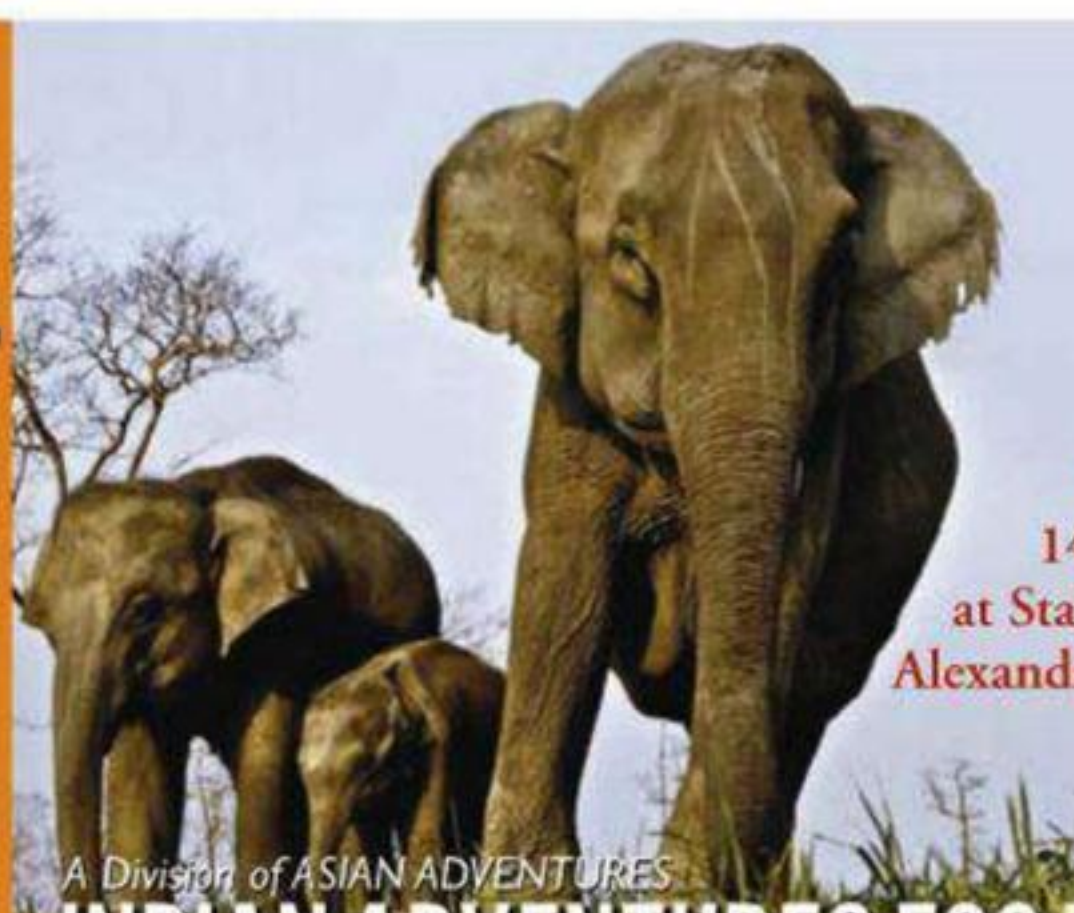
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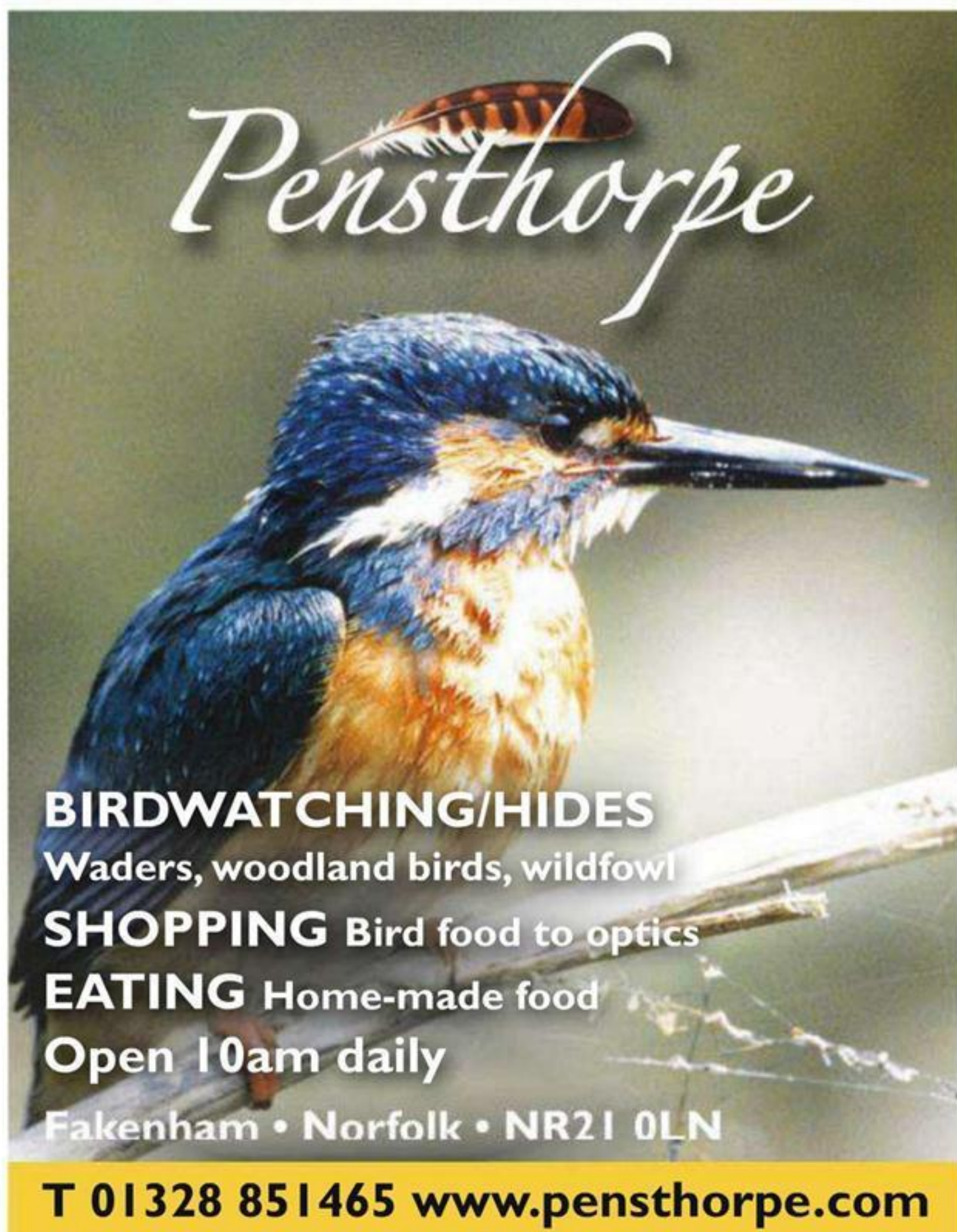
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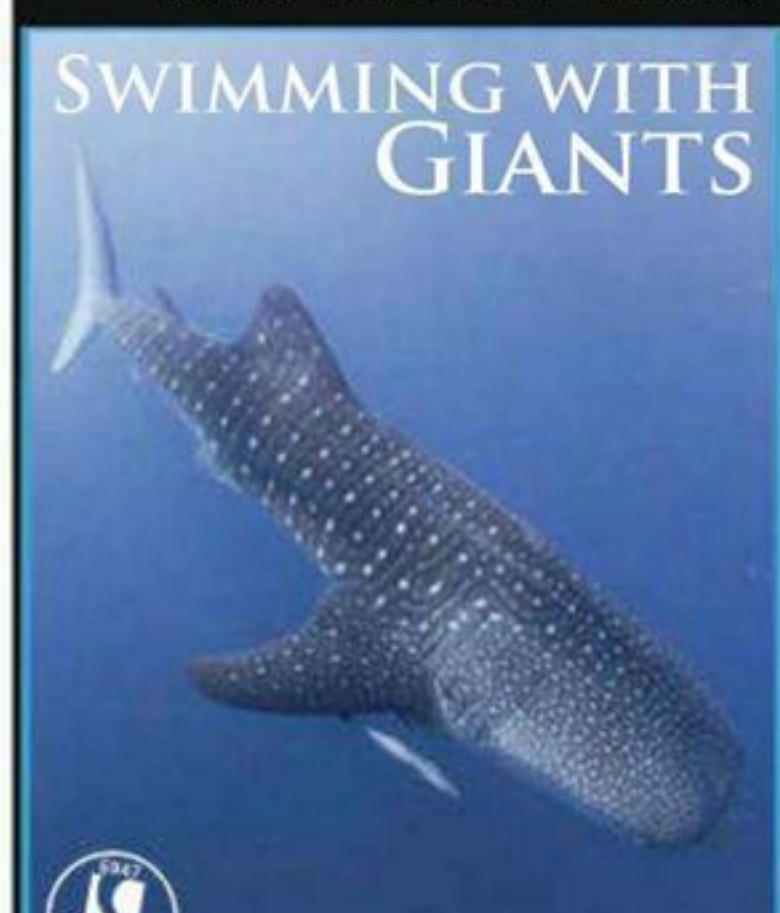
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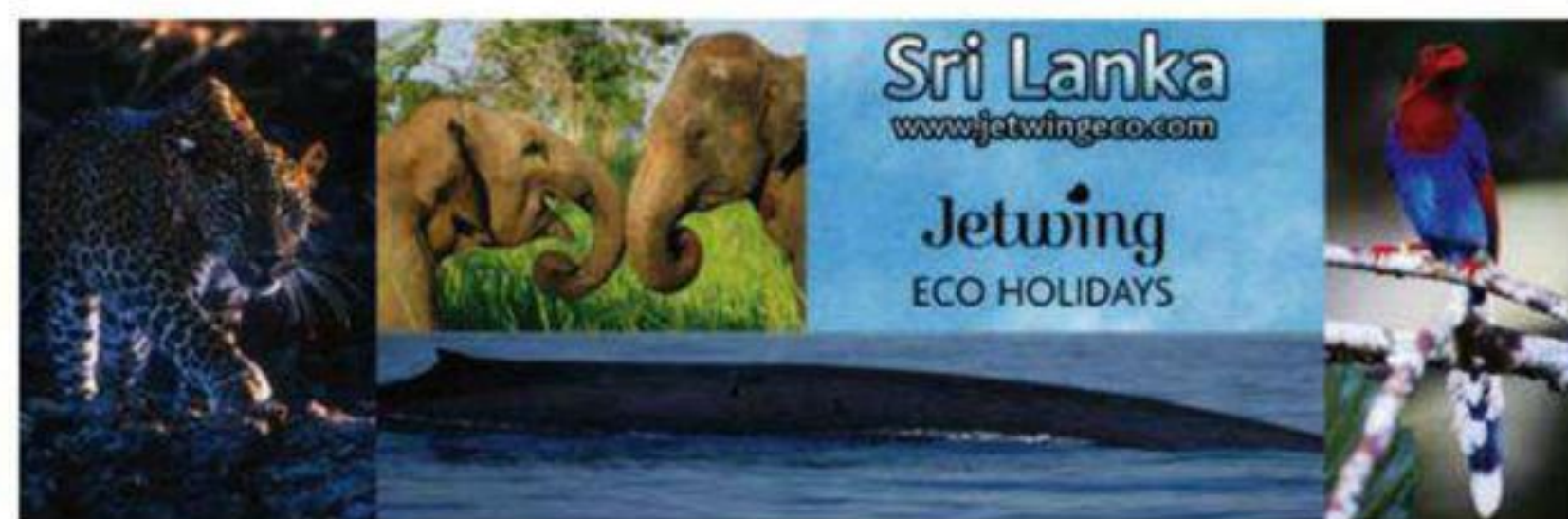
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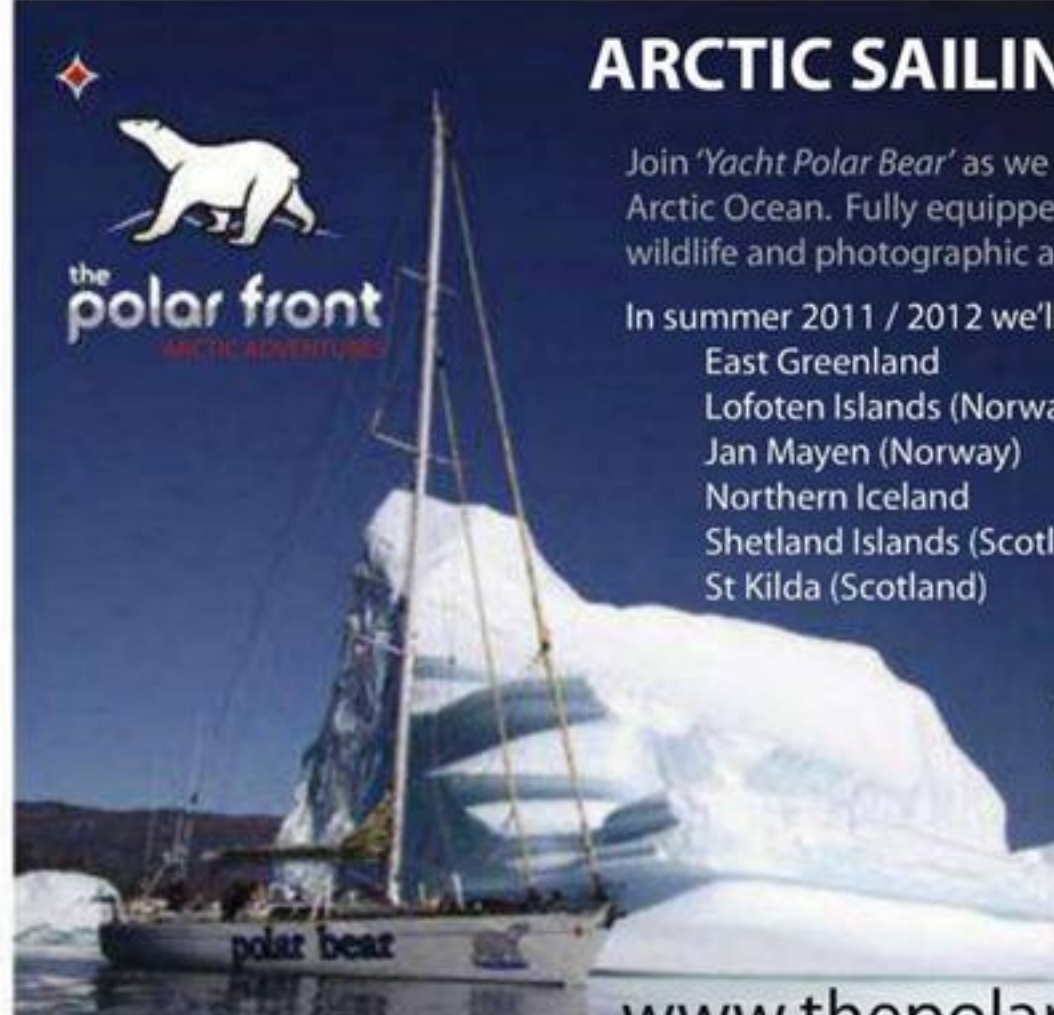
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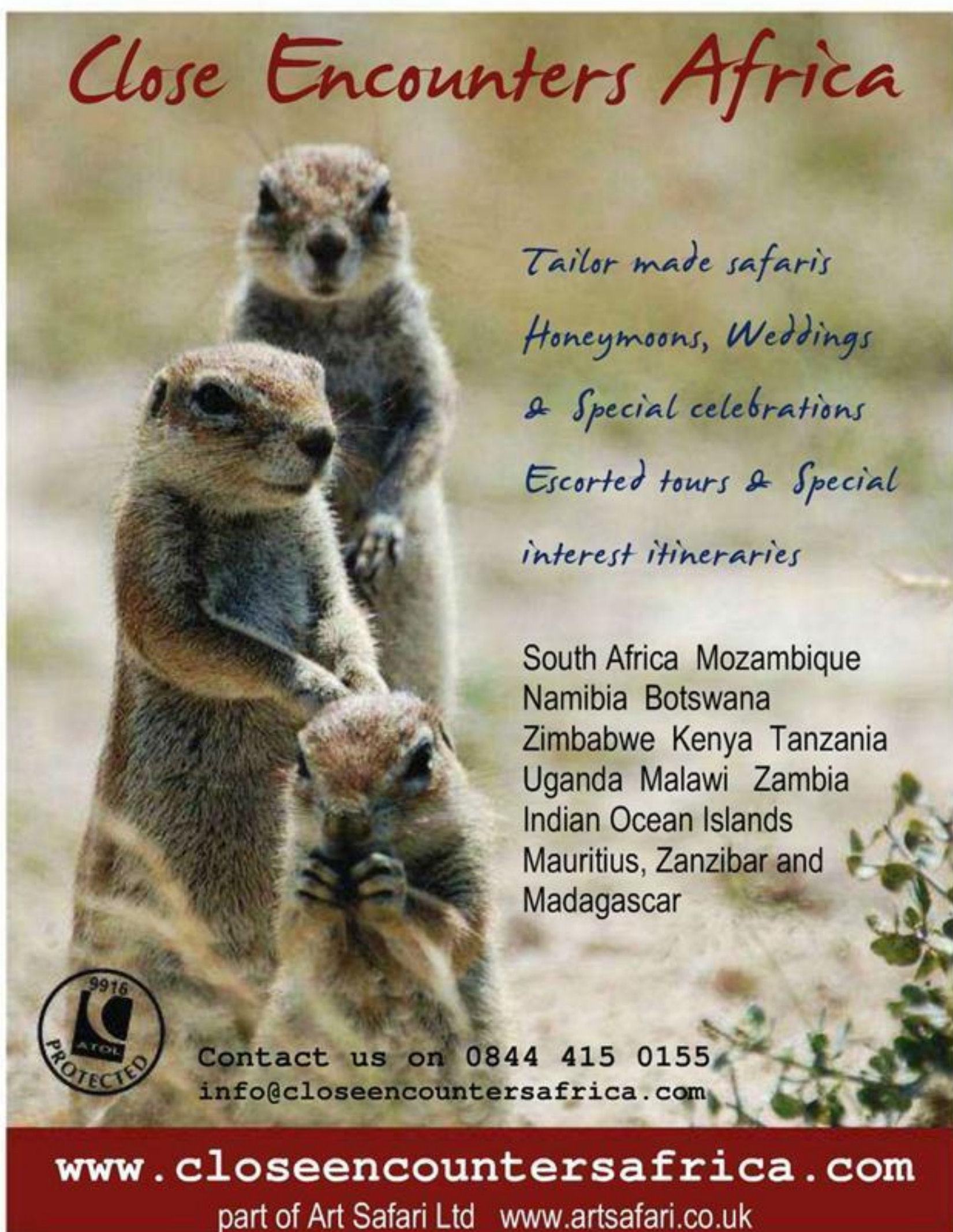
  



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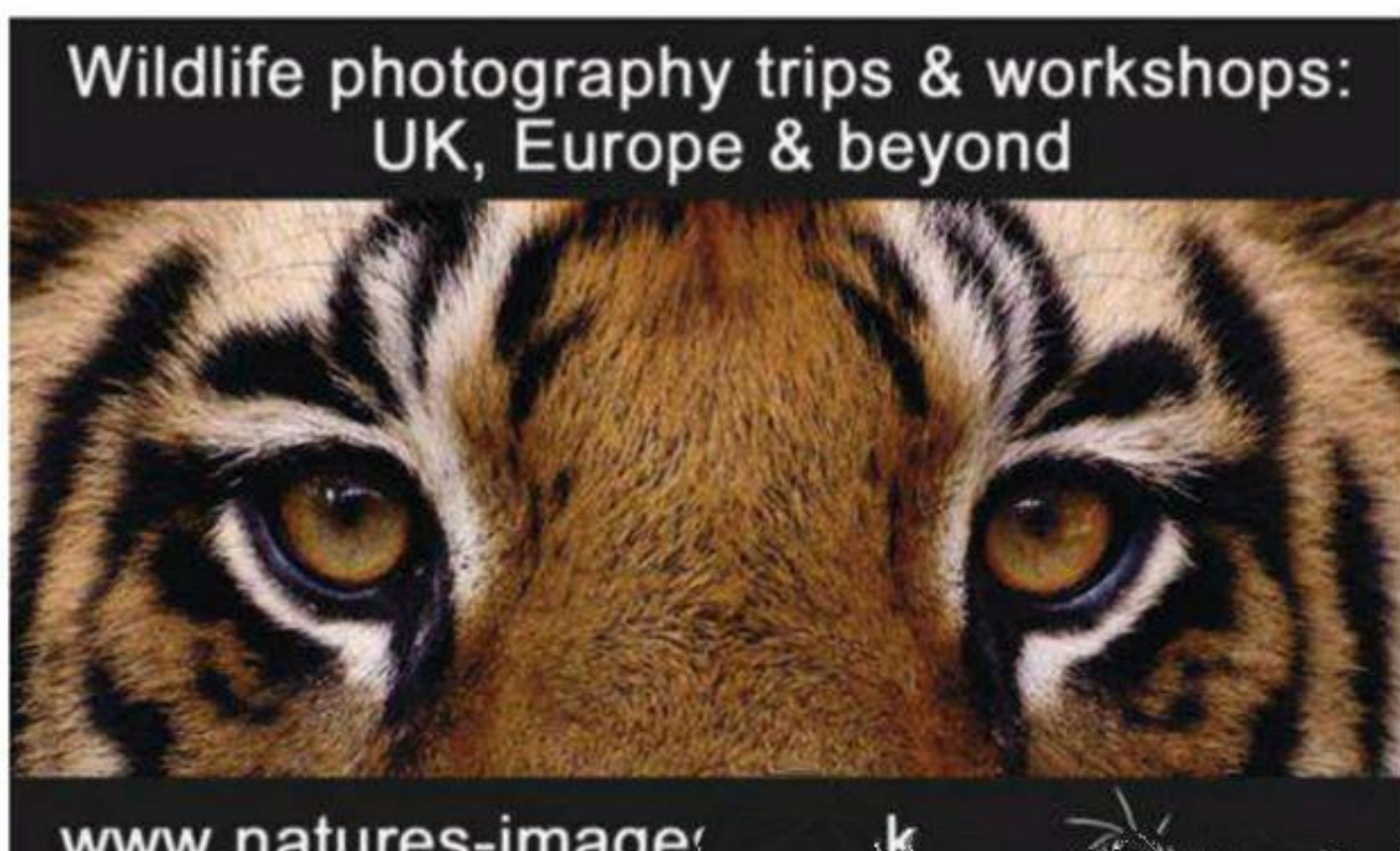
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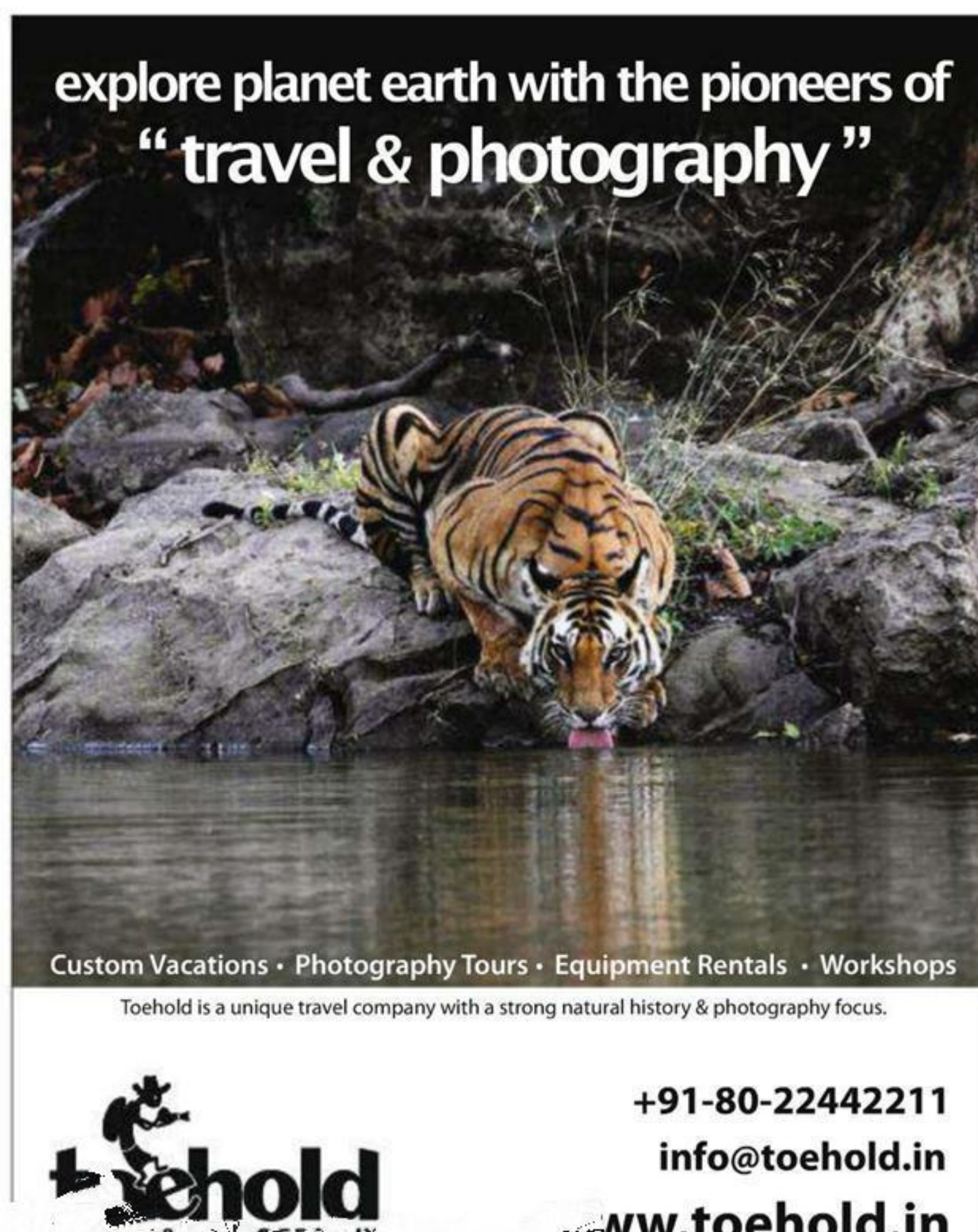
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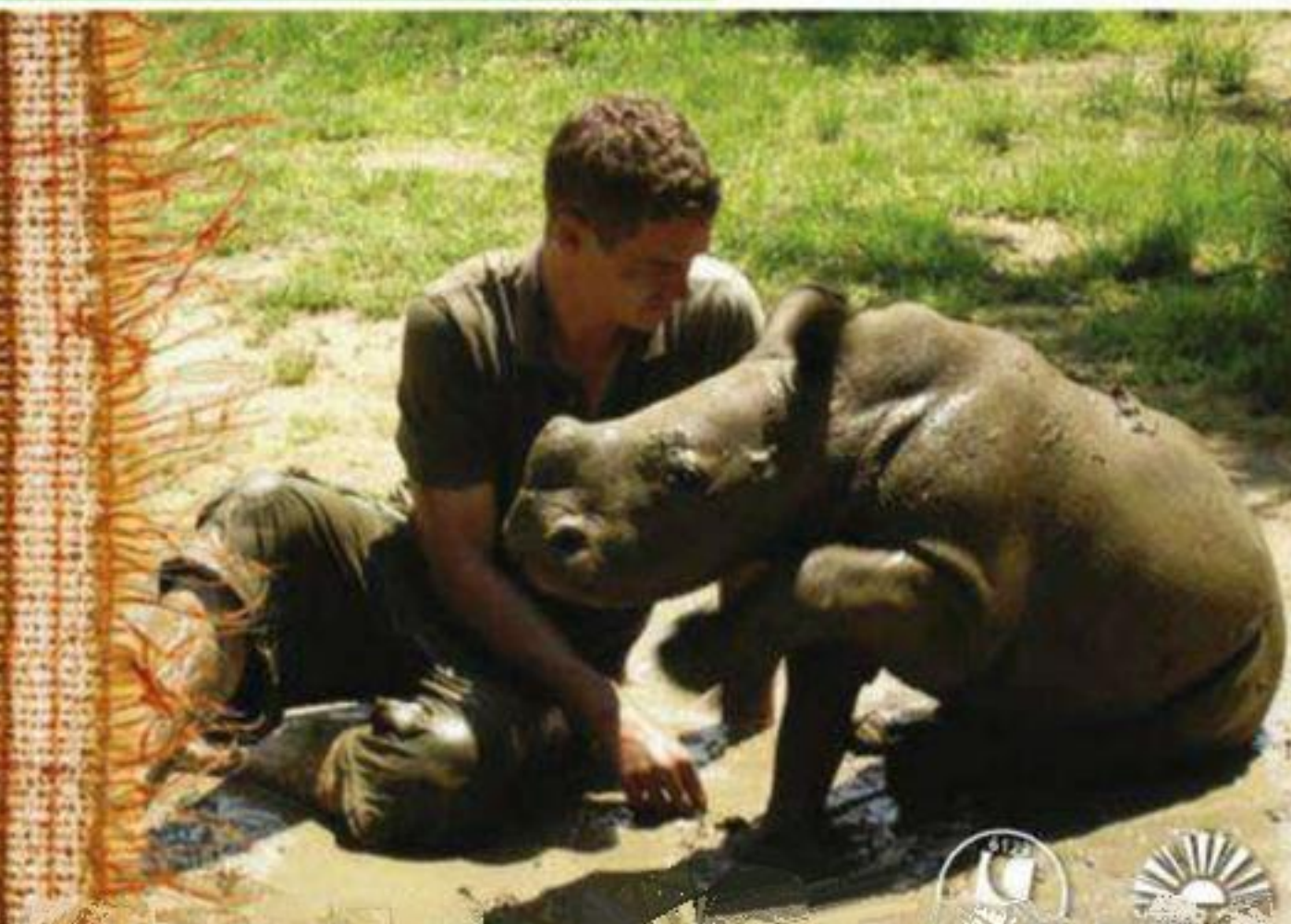
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Virginia McKenna and Bill Travers enjoy a kickabout with a feline co-star from *Born Free*.

## MY WILD LIFE

Actress and wildlife campaigner **VIRGINIA McKENNA** talks about zoos, *Born Free* and a memorable trip to the seaside.

**The first time I saw a lion was in London Zoo as a child.** The next was in Kruger National Park, South Africa, on safari. The contrast between the two is the main focus of my work.

**When my husband [the late Bill Travers] and I started the Born Free Foundation,** experts said that it would be a nine-day wonder. We went on fighting because there was no alternative. We've been going 27 years now.

**It's absolutely wonderful releasing captive animals.** A lot of them have never trodden on grass or had trees – or the sky, sun, rain and wind – around them. Some come to us with serious health problems and don't live long, but even if [they are wild] for only a month or six, at least they've died where they are free to do what they want in a sympathetic environment.

**We worked with more than 20 lions while filming *Born Free*** and had to learn to understand them as individuals. It was quite demanding

Looking after pets may be normal for children, but do they become playthings, like video games?



**VIRGINIA McKENNA OBE** starred in the 1966 film *Born Free*, based on the book by Joy Adamson about Elsa the lioness, and founded the Born Free Foundation in 1984.

because a lion is always wild. But swimming with one was amazing.

**All the characteristics that we like in humans, you will find in elephants.** I am very keen on looking at an animal as an individual – it is at the heart of what we believe at Born Free. Jane Goodall was criticised for giving chimps names. I think it is fine.

**Good zoos?** I don't think I could put the two words next to each other.

**I don't fully trust conservation and education work in zoos.** Zoos are described as 'a fun day out'. That sums it up.

**I am sceptical about keeping pets.** They often become another thing a child has, like a video game.

**We took Christian [a lion rescued from a furniture shop in London in 1970] to West Wittering in Sussex at 4.30am.** We had a jolly good run on the beach. Then we saw someone with a dog in the distance. "Oops," we thought. "We'd better go."

**The trophy-hunting business is sick.** I would like to meet the man who owns the American

safaris specifically for women. I would ask him why he is encouraging a longing for death and destruction and the killing of beauty.

**More than 94 per cent of British people want to see an end to wild animals in circuses.** The Government says that it listens. Well, it has to listen and it has to act. I have asked David Cameron for a meeting but I am still waiting for a reply.

**I can't slow down.** What would I do? I am worried I won't have enough time to do everything, anyway.

**We moved into our little cottage** [in Dorking, Surrey] 54 years ago and later bought the neighbouring wood. It was nature that made us come here. The wood is not manicured, and that's how it should be. Sometimes I see deer on the path, and many birds, but I don't go wildlife-watching.

**I don't need holidays.** I write poems and I enjoy wandering through our bluebell woodland. The view saves me.

**My motto is: "Never waste a moment of your life."** I don't wallow in regrets. 🐾

Interview by Gemma Hall





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