

CLOSER

CLOSER

THE BIRDING MAGAZINE FROM
SWAROVSKI OPTIK

KESTRELS
URBAN DRAMA

RAJA
AMPAT
IN PARADISE
WITH BIRDS-
OF-PARADISE

IN THE
BEGINNING
THERE
WAS *LIGHT*

ON THE TRAIL OF
A PHENOMENON



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SEE *THE UNSEEN*



**MAGAZINE
ICON GUIDE**



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IT'S NOT WHAT YOU LOOK AT THAT MATTERS, IT'S WHAT YOU SEE.

— Henry David Thoreau



Dear readers,

Here's a simple exercise: close your eyes and take yourself to a place that makes you feel good...

Whenever I try this experiment, I'm always amazed by the results. Nearly everyone imagines being in nature - in the forest, by the sea, or in a beautiful meadow. Pure coincidence? I don't think so. I believe we have an instinctive feel for places that are good for us, places where our body, mind, and soul can rest and restore themselves.

YOU CAN SEE SOMETHING
A HUNDRED TIMES, A THOUSAND
TIMES, BEFORE YOU REALLY SEE
IT FOR THE FIRST TIME.

— Christian Morgenstern

You are reading CLOSER, the new birding magazine from SWAROVSKI OPTIK. We are setting out on a new adventure to bring you fascinating stories from all over the world. They all have one thing in common: they are

in harmony with nature. See how wildlife filmmaker Mario Kreuzer and ornithologist Leander Khil describe their work on a remarkable documentary about kestrels (page 16), travel with us to Raja Ampat (page 52), and explore the secret world of the snow leopard (page 40). We hope our articles will inspire you to get out and explore!

SWAROVSKI OPTIK manufactures products that are the ideal companions for your expeditions. Use them to view the world and you'll be totally focused. You will find you will experience your surroundings and every single moment with even greater intensity.

I hope you enjoy reading our magazine and hope you enjoy special moments in nature.

Carina Schiestl-Swarovski

CARINA SCHIESTL-SWAROVSKI
Chairwoman of the Executive Board





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IN THE BEGINNING
THERE WAS

LIGHT



ON THE TRAIL OF A PHENOMENON

Many impressive and spectacular aspects of the “mystery of light” are revealed in nature: sunsets, the Northern Lights, rainbows, and mirages have always held us in their thrall. Wilhelm Swarovski was particularly fascinated by the light emitted by stars. Indeed, the amateur astronomer was so mesmerized that he felt the urge to design a telescope that would make stargazing even better. In this way he laid the foundations for the company that he established in 1949, a company that is now active all over the world. A number of Nobel Prizes have been awarded to scientists for their work with light. The Nobel Prize given to Albert Einstein by the Swedish Academy of Sciences was not for his theory of relativity, but for discovering the law of photoelectric effect. This everyday yet mysterious phenomenon was even recognized by UNESCO when it made 2015 the International Year of Light. Light is essential for the survival of humans, animals, and plants, yet it is still a mysterious, uncharted phenomenon.

A LITTLE HISTORY

The first treatises on the phenomenon of light date back to Ancient Greece, and great philosophers such as Aristotle and Plato made detailed studies. Euclid’s *Optics*, the first work to deal with the mathematical principles of optics, was written around 300 BC and provided the foundation for all later works on the subject. At that time, optics was mainly understood as the science of vision. Many ancient theorists postulated that the eye sends out a kind of visual ray that strikes objects and makes them visible.

The findings of the Greeks were subsequently built on by Arab scholars. With his *Book of Optics*, Ibn al-Haytham, also known as Alhazen, produced a treatise that was to remain the standard work on the subject for many hundreds of years. His conclusion was that vision involves rays of light entering the eye. The Renaissance marked the beginning of concerted efforts to observe and record nature. The findings of that time revolutionized the world in many areas – including the field of optics.

Major milestones in optics were set by polymaths like Leonardo da Vinci (who invented a machine for grinding concave mirrors and lenses), Francesco Maurolico (the first person to identify the workings of the eye’s lens), and Giovanni Battista della Porta (who discovered that age-related long-sightedness and myopia can be corrected with lenses).

The telescope was an optical invention that literally expanded our horizons and significantly changed our view of the stars. The first experiments were carried out in Holland around 1600, when it was attempted to mount two lenses behind each other. It’s amazing that it took so long to come up with this simple idea. Galileo Galilei heard about it and began grinding suitable lenses in his glass-blowing workshops in Venice. In 1609 he built his own telescope with 20x magnification, and immediately realized how useful it was for spotting enemy ships on the horizon. In December of the same year Galileo turned his telescope to the heavens for the very first time. The age of modern astronomy was born, and 300 years later it still held the same fascination for Wilhelm Swarovski.

THE RENAISSANCE MARKED THE BEGINNING OF CONCERTED EFFORTS TO OBSERVE AND RECORD NATURE

LIGHT AS A METAPHOR FOR KNOWLEDGE

It is not only in the natural sciences that light is an important research field, tool, and catalyst. It has also shaped the cultural development of human civilization. The humanities, cultural studies, art, and religion – no other natural phenomenon has had such a dramatic effect on our understanding of being and consciousness. From a philosophical point of view, the history of mankind can also be seen as an everlasting battle against the darkness. Stories and pictures use light as a way of explaining good and evil.





Creation myths (for example, the creation of the world as described in Genesis: "And God said 'Let there be light,' and there was light"), images of God, and numerous cults are also closely linked to this "mysterious matter." From the very earliest times, from the Greek philosophers to the Enlightenment, light has also stood for knowledge. Light metaphors describe what scientists should be striving to achieve: clarity, and hence truth. People should be guided by reason and rational thinking.

There are also places where science and religion meet. The most remarkable of these was formulated by astronomer Johannes Kepler in his book *Dioptrice*, published in 1611, in which he connected optical and anatomical findings to a new explanation of the visual process. Despite his rigorous scientific findings, which remain valid today, the deeply religious Kepler still viewed light as an offshoot of the soul. He believed God had added it to the material world so that humans could connect to their Creator. But whatever the reasoning behind Kepler's theories, his work laid the foundations for today's technical discipline of optics.

SWAROVSKI OPTIK'S VIEW OF LIGHT

Methods of manufacturing long-range optical equipment have steadily advanced since the time of Galileo and Kepler. In our offices and factories, expert engineers and craftspeople design and produce devices in glass, metal, and plastic that would have helped those ancient scholars make undreamed-of discoveries. Yet today people are still as fascinated by light and optics as were Kepler and Galileo, Alhazen and da Vinci, Plato and Aristotle.

The challenges that confront us in the manufacture of optical devices are also similar to those faced by earlier generations. For example, how can we ensure that as much light as possible reaches the viewer's retina with as few changes as possible by means of an optical device? We are bound by the natural laws of physics. Now our challenge is to keep pushing these laws to the limit. Our engineers have had countless brainwaves that have led to the development of revolutionary new devices such as the modular spotting scope and the EL binoculars. Our aim is to keep manufacturing better optical devices that let in even more light - not just as prototypes but in series production.

CLARITY OF VISION

By striving for optical perfection and pushing the boundaries of the technically possible, we end up with products that achieve our aim of focusing the eye of the beholder on what really matters. Suddenly we see things that would otherwise have remained hidden. The true quality of an optical device only, or especially, reveals itself when lighting conditions are less than optimal. In nature it matters whether certain feathers on a bird are red, orange, or colorless, as this tells us about its particular stage of development. A premium optical device allows us to see what may otherwise have been invisible - it literally brings light to the darkness.

Increasing people's awareness of the beauty in our world, encouraging them to observe nature, and capturing the whole spectacular spectrum of light - welcome to the world of SWAROVSKI OPTIK! ◀

LIGHT IS A RESEARCH FIELD, TOOL, AND CATALYST



It may be an everyday phenomenon, but so much remains a mystery. Light is one of the basic conditions for life on earth, but we are still in the dark when it comes to understanding how it works, despite all the research that has been carried out to date.



New inventions such as the beam splitter cube for the new BTX generally begin in unspectacular fashion with a few calculations jotted down on a piece of paper.

THE WORLD IS AN EQUATION

ALBERT FIEDLER



CLOSER | The world is an equation

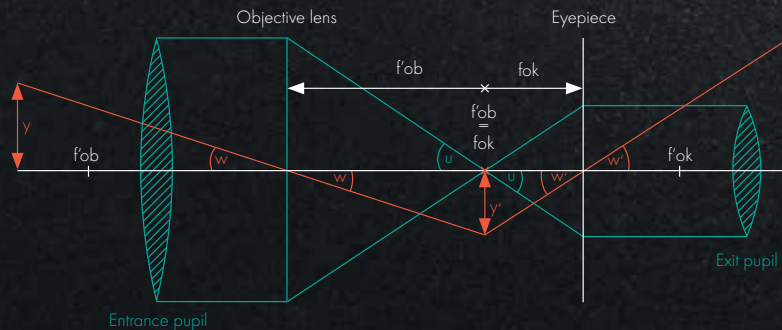


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PATIENCE AND PRECISION ARE ESSENTIAL VIRTUES IN AN OPTICAL DESIGN OFFICE. DO YOU SHUDDER WHEN YOU THINK BACK TO THE MATH TESTS OF YOUR SCHOOLDAYS? WELL, AN OPTICAL CALCULATOR CAN SPEND WEEKS OR EVEN MONTHS FINE-TUNING A NEW OPTICAL SYSTEM.

People who do this job generally enjoy working on such time-consuming calculations by themselves. One of them is Albert Fiedler, who has worked in SWAROVSKI OPTIK's Optical Design Office for many years. This Tyrolean has recently been working on the new BTX. The eyepiece module is at the heart

of this sophisticated new optical system. For the first time ever on a spotting scope, it combines two eyepieces on one objective lens so that it is possible to use both eyes. The extremely vivid impressions gained by looking through the BTX are thanks to Fiedler's meticulously thought-out optical formulas.



MORE THAN THE SUM OF ITS PARTS

Every new optics development begins with the “start system,” which is still drawn up in the traditional way using pen and paper. Fiedler explains: “The magnification, field of view, and aperture are all calculated using simple triangles.” Then the start system is honed using special computer programs, but this software only works properly if the basic data is correct. “A poor start system would present a real problem. Even the computer can’t correct it,” says Fiedler.

During the calculation phase, the Optical Design Office works closely with staff from Design, Quality Assurance, and Production, because it is vital to ensure that the optical and mechanical aspects of a long-range optical device are harmonized. Much of this work is carried out as a team.

Fiedler tells us that there is no magic formula for the perfect optical device. Of course, there are advantageous combinations of glass objective lenses and eyepieces, but every project requires a wealth of ideas and a great deal of courage in order to break new ground.

THINKING OUTSIDE THE BOX

This was certainly true of the BTX. “Plenty of people have failed when they have taken the

traditional approach to producing complex designs,” says Fiedler. So he decided to start thinking outside the box. This led to a real technological breakthrough – the beam splitter cube. This is a glass cube that splits the ray of light as it enters the lens of the spotting scope between the two eyepieces, meaning that both eyes can be used.

At first Fiedler struggled to deal with unwanted reflections, the effects of polarization. Once again, this required him to use every ounce of his creativity and – above all – his knowledge of his field. “Understanding polarization requires an in-depth knowledge of math and physics,” he explains. As with many product innovations in the past – and no doubt in the future – it was this knowledge that helped him to solve the problem.

“UNDERSTANDING POLARIZATION REQUIRES AN IN-DEPTH KNOWLEDGE OF MATH AND PHYSICS”

Technological advances will continue to open up many new opportunities in the years to come. New materials and even more accurate machinery will make it possible to produce systems with minimum manufacturing tolerances. There is one thing that the optical calculators at SWAROVSKI OPTIK can be sure of: the limits of what is possible will continue to expand – and the equations will become ever more complex. ◀



New long-range products are more than the sum of their calculations. Pushing the boundaries also takes courage and ideas.





INTERVIEW

KESTRELS

NEVER READ
THE SCRIPT



CLOSER | Kestrels never read the script

MARIO



KREUZER



THEY SURVIVED THE HARSH WINTER, BUT IT HAS SAPPED THE KESTRELS' STRENGTH. THERE'S NO TIME FOR A BREATHER YET, AS THEY'RE NOW ENTERING THE BREEDING SEASON. THE SEARCH FOR FOOD FOR THEIR GROWING CHICKS IS ARDUOUS, ERRATIC WEATHER CONDITIONS ENDANGER THE SURVIVAL OF THE BROOD, AND THE FAMILY'S LUCK TAKES ONE DRAMATIC TURN AFTER ANOTHER.

THE KESTRELS' DAY-TO-DAY FIGHT SIMPLY TO SURVIVE IS RELENTLESS AND YET FASCINATING – AND IT IS OFTEN HAPPENING WHERE YOU LEAST EXPECT IT: RIGHT IN THE CITY CENTER, PERHAPS EVEN IN YOUR NEIGHBORHOOD.

Wildlife filmmaker Mario Kreuzer shows that it can be worthwhile taking a moment from your everyday business to just look up and watch these birds. He and ornithologist Leander Khil have taken a closer look at Common Kestrels for a new movie project.

They opted to head to Vienna. Two breeding pairs in the unique surroundings of the city on the Danube play the leading roles in the TV documentary *Turmfalken - Unsichtbare Nachbarn* [Kestrels at Close Quarters].

With a great deal of patience and respect for the birds, the small team filmed predominantly using SWAROVSKI OPTIK digiscoping equipment to enable them to maintain the necessary distance and deliver an authentic experience. The result is that their documentary not only reflects life in all its beauty and brutality, but also surprises even bird experts with its astonishing discoveries.

In this interview, Mario Kreuzer explains how challenging wildlife movies can be made using digiscoping and recalls the situations in which the behavior of the kestrels deviated unexpectedly from the script.

How did you come up with the idea of filming a documentary about such an “obvious” bird as the Common Kestrel?

MARIO KREUZER: I knew I wanted to make a documentary about a bird. Leander Khil and I then settled on kestrels fairly quickly, because we discovered a certain connection with them.

A regional connection?

KREUZER: I'd call it more of an urban connection. If you want to see these birds, you don't necessarily need to head to their

original home in the mountains. Kestrels are now living almost on our doorsteps, but many of us don't notice them because city-dwellers are simply not aware of them. However, their interest can quickly be awakened once they get the chance to actually observe these predators.

How do you tell the story of the kestrels?

KREUZER: Essentially, we follow two breeding pairs in Vienna. One pair nested on a pediment, taking shelter behind the coat of arms of the Imperial Royal Austro-Hungarian monarchy, the other on a window box with relatively little protection from the weather. We compare the two broods, their choice of nest location, their failures, and their successes. We also documented kestrels in spectacular locations in Carinthia, such as the region surrounding the Grossglockner, the Wörthersee lake, the mountainous Seewinkel landscape, and other locations throughout Austria.

So, the kestrel breeding season is the key focus of the film?

KREUZER: Yes. And that's despite the fact that we were initially concerned it might be too dull. But the exact opposite was the case. It became the central theme because so many other aspects didn't go according to previous scientific assumptions. For example, one of the breeding pairs fed its chicks a European ground squirrel that can only be found on the outskirts of the city. Nobody knew that the birds flew so far to hunt.

What was the biggest cinematographic challenge you encountered in this project?

KREUZER: The greatest difficulty we encountered when making this film was that the behavior of the kestrels often diverted significantly from the script. As one of the key scenes of the film, we wanted to show how the male feeds the brooding female. Generally, that happens around five times a day. However, with one of the breeding pairs, the male went more than a day without feeding the female. Those were situations that nobody had anticipated. The female was uttering loud cries of hunger





and passersby couldn't figure out where the sound was coming from. Some even thought it was a small child calling for help. Filming this scene required a lot of patience. But it is precisely these moments that make the breeding process so enthralling.

How long did it take you to film this difficult scene?

KREUZER: We often waited for days in case something happened that we could film. One of the key scenes is the "mouse handover," in which the male flies into the nest with a mouse to hand it over to the female - a kind of bridal gift. His motive is to make the nest site and himself as attractive as possible to the female, but also to show that he can provide food for her - which of course he then failed to do. We spent days filming from the building opposite, just waiting. This scene was extremely unlikely to happen for a second time in this form at the same site.

Does your documentary also contain scenes that have never been seen before?

KREUZER: Yes, absolutely. But for us, it's not just about the big picture, it's about the stories. That's why we invested most of our time - 30 days of filming - on the set with the two breeding pairs in the city. And I think we have managed to bring the audience right up close to these birds and the sequences are totally self-explanatory and work even without the voice-over from the speaker.

Did these broods develop their own dramatic storylines?

KREUZER: Yes, there were nine eggs in total between the two broods, six chicks hatched, and only three of them survived.

That's completely normal in nature, but it's very exciting to see how it all happens, which chicks survive or not, or which eggs are lost. There's no need for amazing drone footage or the like - I'm more interested in the emotions.

How long have you been making wildlife films with digiscoping equipment?

KREUZER: I've been working this way for some time. Years ago, when I was working on the production of a series of wildlife films, I switched to a camera with a large sensor and a huge lens, but I wasn't happy with the results. The show's host pointed me in the direction of the digiscoping equipment produced by SWAROVSKI OPTIK. It's lightweight and it's simply great to handle. On top of that, it is water resistant and, unlike pretty much any other lens, digiscoping equipment does not need to be treated like a fragile eggshell.

In which situations does digiscoping equipment work well and when should you turn to a traditional lens?

KREUZER: Basically, you can film anything from dawn to dusk with digiscoping. There's really nothing like it. Lenses that come close to the smallest magnification range of the spotting scope cost many times more. Even in poor lighting conditions such as heavy cloud or twilight, I've never had any problems. In this context, film has an advantage over still photography because it works better with short exposure times and in combination with sensitive sensors to produce bright images even with extreme magnification. I never had any reason to change to a different lens.

The choice of nest site is key to the fledglings' chances of survival.

CLOSER | Kestrels never read the script







CLOSER | Kestrels never read the script



“THE STORY WE TELL IS EXACTLY HOW IT ACTUALLY HAPPENED, NO MATTER HOW STARTLING AND HARD THAT MAY SEEM.”



Even in rain and bad weather?

KREUZER: No problem. It's ideal for adverse weather conditions, because the scope is water resistant. I only have to protect the camera. With the spotting scope, its relatively small diameter also means that there is a smaller area to be affected by the wind.

Can you also take macro images with digiscoping equipment?

KREUZER: It was a real advantage to us that we could take macro film from a great distance. This meant that we could observe the birds' behavior without disturbing them, and that was crucial to me. The story we tell of the two breeding pairs is exactly how it actually happened, no matter how unexpected and hard that may seem. But to show that we did need to film specific scenes, and we managed that very well with the digiscoping equipment.

Where will your future film projects take you?

KREUZER: You don't always need to travel to far-flung places to find interesting subjects. I believe there is much to discover right on our own doorsteps. And if the audience experiences something that they have never seen before, that's the greatest praise I can think of. ◀

Leander Khil (left) and Mario Kreuzer (right) filming their documentary *Turmfalken - Unsichtbare Nachbarn* [Kestrels at Close Quarters] in Vienna.





The documentary *Turmfalken - Unsichtbare Nachbarn* [Kestrels at Close Quarters] by Mario Kreuzer and Leander Khil will see its German-language TV premiere in spring 2018 as part of Austrian broadcaster ORF's "Universum" science season. The film will be shown on international TV and at wildlife film festivals over the coming months. Visit www.pkmfilm.com for more information and dates.

Find out more in the blog at SWAROVSKIOPTIK.COM.



MARIO KREUZER

born in Klagenfurt, Austria, has been a wildlife and sports filmmaker for the last 25 years. He has produced portraits of ski jumpers such as Thomas Morgenstern and shot for wildlife magazine *Wildes Land*. He captures footage using the STX 95 and STX 65 from SWAROVSKI OPTIK.

LEANDER KHIL

is an ornithologist, photographer, and bird watcher. He is also an author, speaker, and a member of the Avifaunistic Committee of BirdLife Austria. His current work can be found on his website, www.leanderkhil.com.

THE COMMON KESTREL

(*Falco tinnunculus*) is one of the most widespread species of falcon. European populations alone are estimated at around one million. It loves high nest sites; in urban areas these include church towers and the abandoned nests of other bird species in trees, while in the mountains it prefers cliff ledges.



good[📍] to SEE

FIVE PLACES THAT
CHANGE HOW
YOU SEE THE WORLD

CLOSER | Good to see



Mount Bromo

📍 JAVA, INDONESIA

“Not the highest, but the most beautiful”

Mount Bromo in Bromo-Tengger-Semeru National Park is not one of Indonesia’s highest volcanoes, but it is certainly one of its most beautiful. It lies at the heart of the Segara Wedi sand plain, a conservation area. Opposite, Mount Penanjakan soars to more than 2,700 meters (8,860 feet). On the rim of its crater there is a viewing platform offering amazing views over Bromo and the surrounding volcanic massif. It is particularly popular at sunrise.



Penguins Boulders Beach

📍 SIMON'S TOWN, SOUTH AFRICA

"Nowhere in South Africa is closer to Antarctica than here"

Simon's Town is a small, nondescript harbor town around 45 minutes' drive from Cape Town. But it is a magnet for visitors because of the African ("Jackass") penguins that populate its beach. In the early 1980s, the first brave pair made their way here to nest. Penguins always return to the same place, so over time they built a colony. Today, more than 2,500 penguins have laid claim to the beach.



South Pointe Park

📍 MIAMI, USA

"Open space and tremendous views"

South Pointe Park in South Beach, Miami was redesigned a few years ago and is now one of the most popular places to escape from the hustle and bustle of the city. Its lovely grassy areas are perfect for sunbathing and picnicking while enjoying amazing views of gigantic cruise ships sailing into the Port of Miami.

Madidi National Park

RURRENABAQUE, BOLIVIA 

“The capital of the animal kingdom”

Located near the small Bolivian town of Rurrenabaque, Madidi National Park is one of the world’s most biodiverse areas. Over an area of 19,000 square kilometers (62,335 square feet), the park is home to an estimated 870 to 1,000 types of birds – around 10% of all the world’s species – along with 71 types of reptiles and 156 mammal species, including the recently discovered Madidi titi monkey (*Callicebus aureipalatii*), which lives on the Hondo river in Madidi National Park.



Water taxi

 ILULISSAT, GREENLAND

“A tiny boat to a massive natural wonder”

The small, bright yellow Ilulissat Water Taxis are a hot tip in icy Greenland. Trips lasting between two and twelve hours provide close-up views of impressive icebergs and even more impressive whales.





TORMOD

HIDE

AMUNDSEN



& SEE

AS A LITTLE CHILD, I ALWAYS KNEW I WOULD
WORK WITH NATURE. I WAS INTO FISH, ANIMALS,
FLOWERS, WHALES, AND DINOSAURS.
WHEN I REALIZED BIRDS WERE ESSENTIALLY
THE PEAK OF DINOSAUR EVOLUTION, I WENT
ALL IN ON BIRDING, AND MY PASSION FOR BIRDS
HAS ONLY GROWN FROM YEAR TO YEAR.



BÅLKOS

The wind shelter in our home town of Vardø is the ultimate homage to 'bålkos' - it contains two niches so that, regardless of the wind and weather direction, you can always find shelter. But more than that, it is open, keeping you in touch with the world around you; providing shelter without separation. An open campfire is also naturally essential to the 'bålkos' experience. Vardø is further north than Point Barrow in Alaska and further east than Istanbul.

Conditions are often harsh, even in summer, when it is a popular place for locals to visit to enjoy the view and a nice campfire. It is, however, in winter when it really comes into its own for birders, as flocks of thousands of Steller's Eiders and Long-tailed Ducks collect in the Varanger Fjord, not to mention the more than 14,000 King Eiders and 17,000 Common Eiders that have been counted here. Truly a spectacle you have to see to believe!



Another key aspect of my background is the Norwegian concept of 'bålkos': the art of enjoying the moment. All you need is a fire ('bål') in the great outdoors and the time and comfort to enjoy it. I spent countless days and nights in nature, often building a temporary structure for shelter during the night. It became my passion to create the ultimate 'bålkos' conditions. I don't know how many times I have sat around a fire, enjoying listening to the hooting Pygmy Owls in the background and watching Siberian Jays visiting my camp for an easy snack.

Initially I thought I was going to become a biologist, but my creative side got the better of me. To make a long story short, years later, after much traveling and a master's degree in architecture, I realized that I had to become a birding architect. During my studies I rarely met any architects who worked with nature. To me, architects seemed to dwell in the fields of culture and urbanism and the word ecology never seemed to feature. I realized that my passion for birds and nature could be combined with the field of architecture. This was the thought that was to evolve into the realization of Biotope: an architectural office that seeks to bring people and nature closer together.

We develop our hides and shelters based on the character of the location, sight lines, and wind direction. They carefully balance the need for visibility in order to attract and concentrate human activities, the practical requirements of the birders, and sensitivity to the needs of the birds. The small structures are thus kept as plain as possible, usually a shelter built around basic seating and protected from the snow and wind by two, three, or very occasionally four walls. They are by no means intended for overnighting. Architecture is a tool to protect and promote birds, wildlife, and nature. After all, people will protect and care for what they learn to appreciate. My job is to connect people with nature. ◀





VADSØ BREAKWATER SHELTER

When designing a wind shelter for the Vadsø Harbor, we opted for concrete, the dominant material in this environment. During the winter storms in Varanger, the extreme position of the breakwater hide means it will sometimes be hit by large waves. The core structure of the hide is designed to withstand forceful winter storms

and potentially heavy waves. Hard lines and strong angles take the industrial and functional design of port buildings and add an element of beauty to them. Large windows and benched coves invite birders to take shelter while sorting through the gulls for the odd Glaucous Gull or something even more special.





THE SPECTACLE



The Kongsfjord cliff wind shelter sits on top of a crag on the far northern end of the Varanger Peninsula, affording spectacular views of the Barents Sea. The hard, angular lines of the dark wood reflect the harshness of the stark sea cliffs. The large panoramic glass window mirrors the sky and landscape while providing much-appreciated shelter from arctic winds and snows. Most of the Biotope shelters in Arctic Norway are open, but the extreme nature of this position meant that this shelter needed

to be fully enclosed to allow frozen birders to thaw out while scanning for seabirds. The wood inside the hide is light and richer in color, helping to create a warming atmosphere when inside. This photo was taken in early December, when there is barely any daylight and the freezing temperatures make this bird hide a very welcoming place. That night, the Northern Lights put on a show that I will always remember. I also felt privileged to be an architect working in such extreme but also awe-inspiring conditions.



THE BIRDING

The North Vardø wind shelter is the bird hide I use the most. Looking north, there is nothing but water until you reach the Arctic ice pack. This is where I bring my SWAROVSKI OPTIK spotting scope and spend hours sea gazing. Sheltered

from the Arctic winds, I can enjoy great views of sea ducks, numerous gull species, and the bird cliff Hornøya, which is just within scoping distance to be able to identify Brünnich's Guillemots and a lot of other seabirds. This is my Arctic birding patch.

CLOSER | Hide & see



“And then there was the small matter of the snow leopard, whose terrible beauty is the very stuff of human longing. Its uncompromising yellow eyes, wired into the depths of its unfathomable spirit, gaze out from the cover of innumerable editions. It is, I think, the animal I would most like to be eaten by.”

— Peter Matthiessen, *The Snow Leopard*



JON HALL

THE SEARCH FOR THE *INVISIBLE*

THE SECRET WORLD
OF THE SNOW LEOPARD
IN NORTHERN INDIA

I lived most of my life certain that I would never see a snow leopard in the wild. This is an animal so rare, so camouflaged, that its very presence in the vast, unforgiving wilderness of the Himalayas inspired literature. Yet at the end of 2014 I was shaking with cold, exhaustion, and excitement, looking through a scope straight into those same uncompromising yellow eyes. Life doesn't get any better.

There are hundreds of thousands, perhaps millions, of serious bird watchers worldwide. More than a quarter of a million people alone use the eBird site. No one knows how many serious mammal watchers there are, but I would be astounded if we were more than a thousand worldwide. Yet our small, but growing community is starting to revolutionize the pastime, help conservation efforts, and contribute to science. And I am certain that never before



has an amateur naturalist had such opportunities to see so many of the world's mammals in the wild.

As the mammal watching community grows, so does our knowledge, almost exponentially. We learn from one another, and from experts and local people, about techniques to find certain species, and the best sites to look for them. Although there is still a lot left to discover about the world's birds, I am sure there is a great deal more left to find out about our mammals. This is one reason why being a mammal watcher in 2017 is exciting.

IN THE DAYS BEFORE THE INTERNET

Back in the early 1990s when I got the mammal bug, I knew almost nothing about looking for mammals. But after fifteen years of volunteering on mammal research projects around the world, and spending time with local guides, particularly indigenous peoples, I felt like I had learned a little. My biggest takeaway from countless hours in the field was that there are often plenty of mammals around: far more than most people realize. Seeing them is often not so difficult either, if you approach it in the right way. Lots of time in the field at dusk and dawn helps, while spotlighting at night is vital for many species. Smaller animals – such as bats – can be identified with a detector too.

At the dawn of the millennium I had a list of near mythical mammals I wanted desperately to see but thought I never would. But as the mammaling community grew, I started to tick those animals off thick and fast. Giant pandas in China in 2005, narwhals in Canada in 2006, jaguars in Brazil in 2007, wolverines in Finland in 2008, pumas in Chile in 2009. But snow leopards – for many the holy grail of the wilderness – remained as elusive as ever.

SEARCHING FOR THE GRAY GHOST

But in 2010, word began to reach me that people were starting to see, with some regularity, snow leopards in Hemis National Park in Ladakh each winter. A couple of chance sightings turned into a flood of reports after Mark Andrews, British artist and wildlife guide, ran a successful trip there in 2009 after a year of preparation. His visit inspired many more. And a cottage industry sprung up in the Rumbak Valley focusing on snow leopards. With the industry came a group of increasingly skilled local guides who, with a week, a scope, and some luck, could almost guarantee they would find you a snow leopard.

The Ladakh mountains in the wintertime are not for the faint-hearted. Hiking at well over 3,000 meters (10,000 feet) is exhausting and the nights under canvas are brutally cold. I finally visited in October 2014. My days were spent scrambling, slipping, and panting across the steep scree slopes around our camp, while a team of locals had their eyes glued to their scopes, walkie-talkies in hand: their patience and determination to find the animals a lesson in wildlife watching (especially if, like me, you have ever been tempted to give up looking for something before your time is up).





My group had given ourselves a week to find a snow leopard but, by a leopardless day three, anxiety was starting to turn to panic. Being surrounded by some of the planet's most spectacular scenery was not enough to distract me from a growing fear that I would leave empty handed. Our fourth day began at dawn with a short, painfully steep hike up to a nearby lookout. Three hours later my mind was turning toward breakfast when the guides' radios started crackling. I held my breath and, yes, there was a snow leopard, directly in front of us hiding in plain sight as the snow leopard can do so fabulously well. Cue photos, high fives, and unpleasant levels of smugness.

Snow leopards aside, we were rewarded with a swag of other animals: the gorgeous mountain weasels alone made the trip worthwhile. People could spend years in those mountains and never see a snow leopard. But with local

“WE LEARN FROM ONE ANOTHER, AND FROM EXPERTS AND LOCAL PEOPLE, ABOUT TECHNIQUES TO FIND CERTAIN SPECIES, AND THE BEST SITES TO LOOK FOR THEM.”





CLOSER | The search for the invisible





guide Smanla Tsering and his team, you'd be unlucky not to see one in a week, as well as meet some of the world's most dedicated conservationists and skilled wildlife guides. And if that isn't enough of a lure, you might also spot a Eurasian lynx, a species I still desperately want to see.



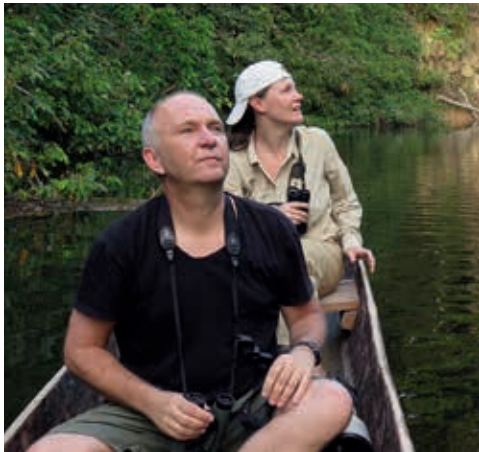
LOOKING FORWARD

So, what comes next? There are still many mammals at the top of my bucket list for which reliable sites seem as elusive as ever: okapis, saolas, or giant pangolins for instance. But, given their charisma, and the interest many have in seeing them, my guess is that reliable sites will soon be discovered for the few remaining wild cat species that have eluded most of the mammal watching world. Deramakot

in Borneo has recently been discovered and is proving to be a reliable spot to see Sunda clouded leopards – this is an exciting time for mammal enthusiasts.

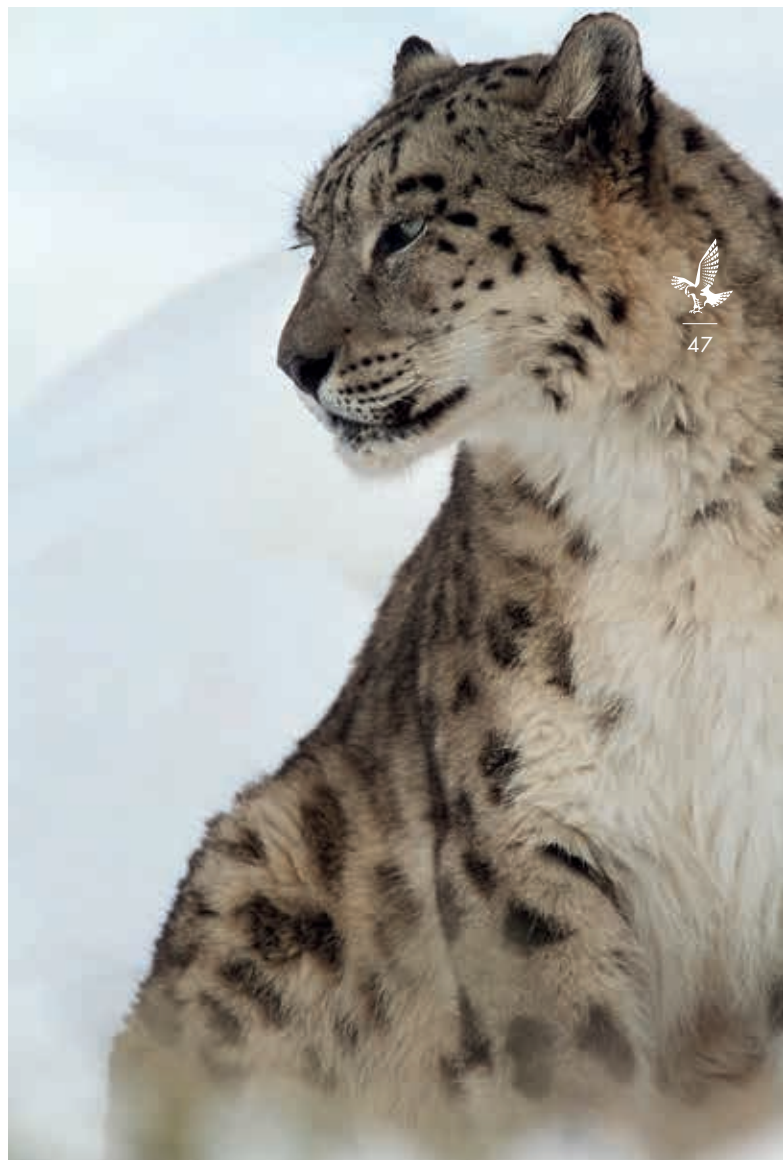
But where can we see African and Asian golden cats, a mainland clouded leopard, or a Bornean bay cat? I have already heard rumors of a spot in Chile where the totally fabulous Andean mountain cat can be seen with a few days and a little luck. I don't know when I will get there, but if you would like to visit then do! Such a trip – at the very frontier of mammal watching – will likely be not only an almost unimaginable adventure, but you will also be playing a groundbreaking part in understanding and ultimately helping protect an endangered species. ◀



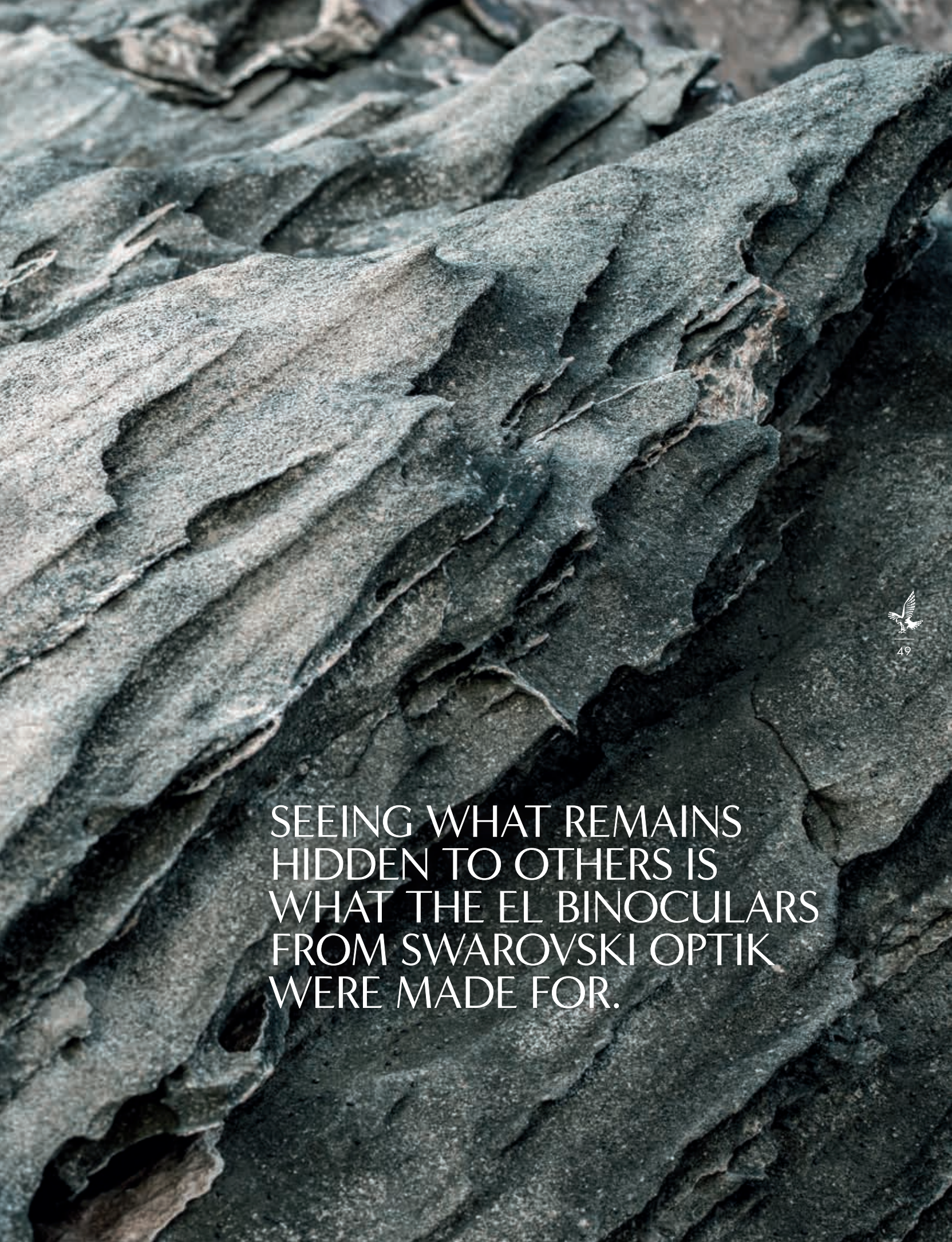


JON HALL (photo, front) has been interested in mammals since he was a child, but it was only in 1991, when he moved from the UK to Zambia for a year, that his interest turned into a passion. Or obsession. Depending on who you talk to. Since then he has lived in Australia, France, and now New York, and looked for mammals in almost 100 countries. In 2005 he started www.mammalwatching.com as a place to share trip reports and information. Twelve years on it has evolved into a global community where fellow mammal fanatics share reports and news on the site's forum covering well over 100 countries.

CLOSER | The search for the invisible







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THE GUY WHO SET OFF TO SEE THEM ALL

He quit his job, packed his bag, and was the first person to see all 32 species of pittas (Pittidae) in one year. Chris Goodie has many stories to tell, and in his book *The Jewel Hunter* describes the highs, lows, and funny sides of his extreme birding project.

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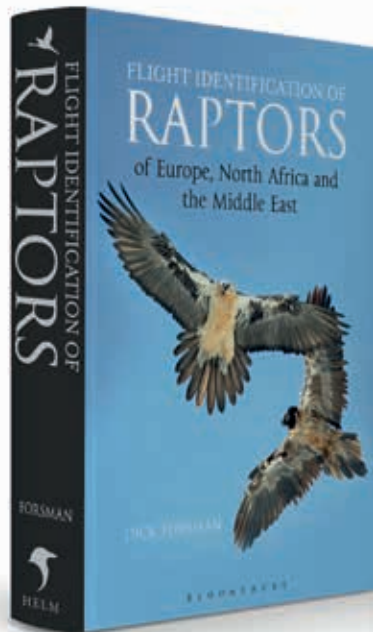
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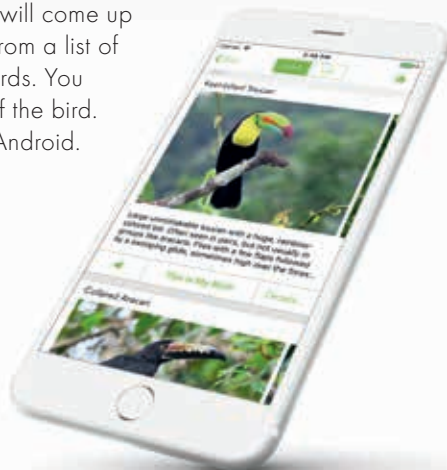
READ, SEE, DISCOVER
 Identifying raptors is always tricky. *Flight Identification of Raptors of Europe, North Africa and the Middle East* by Dick Forsman is here to help, with detailed information on 60 different raptor types and species. A must-read for raptor fans!

FLIGHT IDENTIFICATION OF RAPTORS OF EUROPE, NORTH AFRICA AND THE MIDDLE EAST, DICK FORSMAN, BLOOMSBURY PUBLISHING
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IN PARADISE

WITH
BIRDS-OF-
PARADISE

RAJA AMPAT IN EASTERN INDONESIA IS TRULY A DREAM DESTINATION. AND WITH GOOD REASON, BECAUSE THIS ARCHIPELAGO OF MORE THAN 1,500 ISLANDS IN THE HEART OF THE CORAL TRIANGLE IS ONE OF THE MOST BIODIVERSE REGIONS ON EARTH. THERE ARE SO MANY WONDERS TO DISCOVER IN THIS SPECTACULAR AND HUGELY DIVERSE MARINE HABITAT. YET WHEN YOU DRAG YOUR GAZE AWAY FROM THE BEAUTY OF THE UNDERWATER WORLD AND TURN IT TO THE SKIES YOU WILL BE LEFT SPEECHLESS ONCE AGAIN – THIS TIME BY THE SHEER ABUNDANCE OF BIRD SPECIES.





PREPARING FOR YOUR TRIP
It is a long and tiring journey to Sorong via Jakarta or Singapore, then onward by ferry or speedboat to the main town of Waisai or one of the many islands. And it is true that Raja Ampat is not exactly an affordable destination. It is also correct that there are only a few, relatively expensive, resorts, unless you opt for a simple homestay, which is a great way to get to know the country and its people. It is also a good idea to work on your fitness before setting off on a nature or birding trip to Raja Ampat. Jungle tours can be physically tough and really push you to your limits. But once you have dealt with these practical issues you are ready to make the most of your trip to paradise with its amazing fauna and flora – and its unique birds.

Raja Ampat translates as “Four Kings,” in reference to the four main islands of Misool, Salawati, Batanta, and Waigeo. Gam, Kri, and Kofiau are other islands that are also worth a visit. All the islands are geographically very different: some are mountainous, while others have fine sandy beaches or rocky cliffs. For divers, Raja Ampat is the perfect year-round destination with the exception of the rainy season (July to September). Visit between November and April to enjoy the very best underwater visibility. The dry months between November and March are high season for nature and birding trips. It is possible to book tours from June onwards, but at this time of year you have to expect heavy rain, which can make trips much more difficult. It


is advisable to explore the country with experienced local guides. They will help to keep you safe, tell you about the indigenous fauna and flora, and ensure you have some very special and rare sightings.

OFF TO RAJA AMPAT

Its location just south of the equator, tropical climate, and dense jungles explain why birds feel so at home in Raja Ampat. The latest 2014 edition of Pratt and Beehler’s *Birds of New Guinea* is ideal for learning more about birdwatching in the area – or for awakening your wanderlust. This birding bible tells you which species you might see in Raja Ampat and gives a sense of why the world’s keenest birders and nature photographers flock to West Papua.

More than 250 bird species have been recorded on the islands, and many birders select Raja Ampat as their once-in-a-lifetime destination for spotting as many birds-of-paradise as possible on a single trip. Over 100 years ago, naturalist Alfred Russel Wallace, who is considered to be the second father of the theory of evolution alongside Charles Darwin, claimed they were the most magnificent and extraordinary feathered inhabitants of our earth. He believed that “Nature seems to have taken every precaution that these, her choicest treasures, may not lose value by being too easily obtained.” A century later, his words still ring true: finding birds-of-paradise requires physical fitness, detailed knowledge, first-class equipment, and an endless supply of patience.





“IN THOSE TRACKLESS WILDS DO THEY DISPLAY THAT EXQUISITE BEAUTY AND THAT MARVELOUS DEVELOPMENT OF PLUMAGE, CALCULATED TO EXCITE ADMIRATION AND ASTONISHMENT AMONG THE MOST CIVILIZED AND MOST INTELLECTUAL RACES OF MAN.”

“NATURE SEEMS TO HAVE TAKEN EVERY PRECAUTION THAT THESE, HER CHOICEST TREASURES, MAY NOT LOSE VALUE BY BEING TOO EASILY OBTAINED.”

— Wallace 1905:1:394
www.darwinlive.com/wallace/amnh.html



INSIDER TRAVEL

TIP01

PREPARATION AND DEFINITION OF OBJECTIVES

Many months of careful planning are required to ensure a successful trip. The most important thing is to have reliable, trustworthy contacts in Indonesia. You need to decide exactly what you want to see so that your tour operator can organize the best routes with the most experienced local guides. The region is so diverse and varied that you need to restrict yourself to certain areas and particular species of birds and animals. One suggestion is to take a boat along the tributary that leads from Waigeo into the rainforest. In West Papua it is generally not allowed to travel without a guide. You have to decide on your route and then get a travel permit, which means you need to work with reputable local partners or agencies.



INSIDER TRAVEL

TIP02

GROUP SIZE

The smaller the group, the easier it is to tailor an itinerary to suit your needs. It is best to travel alone or restrict the group size to two or three at most. Although this costs more, it means you can have a really customized tour.





RAJA AMPAT
HAS BECOME
A DREAM
DESTINATION
FOR NATURE-
LOVERS THE
WORLD OVER.



Anyone traveling to this untouched paradise should make sure they have packed a good pair of binoculars.

HEAVEN ON EARTH

In general terms, Raja Ampat's bird life can be divided into two groups for birders and nature-lovers. The first group consists of birds that are fairly big, relatively widespread, and easy to find. The second group consists of birds that are shy and hide themselves away in the jungle, but that are worth the effort needed to catch a glimpse of them.

This last group includes Wilson's Bird-of-Paradise, (*Cicinnurus* or *Diphyllodes respublica*) and the Red Bird-of-Paradise (*Cenderawasih* or *Paradisaea rubra*). For many nature-lovers, these are the two main reasons for visiting Raja Ampat. Anyone who is lucky enough to see these birds-of-paradise on the islands of Batanta and Waigeo will remember the encounter for the rest of their lives. But the Wilson's Bird-of-Paradise is particularly hard to spot because it is as rare as it is beautiful. It seems that nature decided to run riot with colors and shapes in order to ensure that this bird truly lives up to its name. The male's plumage shimmers with gorgeous

greens, yellows, and blues, while its elegant tail feathers spiral out in spectacular fashion. It became famous thanks to a BBC nature documentary made by David Attenborough, who filmed this rare bird-of-paradise for the very first time. Two birds that are only found on Batanta and Waigeo are the Waigeo Brushturkey (*Aepyodius bruijnii*) and the Raja Ampat Pitohui (*Pitohui cerviniventris*).

But anyone who journeys to the ornithological paradise that is West Papua will be rewarded with sightings of many other wonderful birds. The Western Crowned Pigeon (*Goura cristata*) is not only one of the largest but, thanks to its majestic appearance, also the most striking member of the pigeon family. Many birders also hope to spot the rare Brown-headed Crow (*Corvus fuscicapillus*), a particularly rare and mysterious member of the crow family. You may also be lucky enough to glimpse the Black Sunbird (*Leptocoma sericea*), the Yellow-billed Kingfisher (*Syma torotoro*), or the Eclectus Parrot (*Eclectus roratus*).

An island of superlatives thanks to its biodiversity above and below water as well as its rich palette of colors.



INSIDER TRAVEL

TIP⁰³

LENGTH OF TRIP AND WHEN TO GO

It is recommended to go for at least three weeks, firstly because you will need a week to travel there and back from Europe or North America, but mainly because there is so much to explore in the area, and nature can be unpredictable when it comes to sightings. A longer trip means you can enjoy more of the region's biodiversity hotspots at your leisure. The dry season from November to March is the best time to go, and most travelers avoid the rainy months of August and September.





INSIDER TRAVEL

TIP04

THE LANGUAGE OF PICTURES

Nature photographer Michael Grünwald has a particularly useful tip: he always carries detailed pictures of the birds he is hoping to spot. The region has so many different dialects that even native guides often find it difficult to communicate with the locals. But when you show a photo, everyone in the village gathers around and tells you exactly where the bird in the picture was last spotted.





In theory, more than 500 coral species and over 1,000 fish species can be seen in these waters.

DEPARTING FROM SORONG

Sorong is the point of arrival and departure for most travelers to Raja Ampat. The city offers plenty of ways to fill your time while awaiting your onward transfer. The surrounding lowland tropical forests are easily accessible for day trips, but they still give a flavor of the beauty and uniqueness of this region's biodiversity. Species like the Red-breasted Paradise Kingfisher with its spectacular iridescent plumage and foot-long tail feathers attract all eyes; then there is the Red-billed Brushturkey, Black Lory, and myriad other exotic-looking birds that leave a lasting impression on even the most well-traveled of birders. But the most fascinating thing about Sorong is the fact that it is possible to see seven (!) different birds-of-paradise on the edge of the city: the Magnificent Riflebird (*Ptiloris magnificus*), the Magnificent Bird-of-Paradise (*Cicinnurus magnificus*), the King Bird-of-Paradise (*Cicinnurus regius*), the Twelve-wired Bird-of-Paradise (*Seleucidis melanoleucus*), the Lesser Bird-of-Paradise (*Paradisaea minor*), the Glossy-mantled Manucode (*Manucodia ater*), and the Trumpet Manucode (*Phonygammus keraudrenii*).

Back from a trip and feeling in need of some really authentic, delicious seafood? Then head for the "Berlin Wall," a long breakwater dotted with food stalls serving simple, tasty fare in a party atmosphere that is popular with young locals. A visit to the Buddhist Sapta Ratna Pagoda is a very fitting way to start or finish

a visit to Raja Ampat. In fine weather it is worth visiting the temple in the early evening to enjoy breathtaking views and stunning sunsets. A truly unique and unforgettable trip! ◀

LINKS AND LITERATURE

Birds of New Guinea

Thane K. Pratt & Bruce M. Beehler
Princeton University Press, 2014

Nature photographer Michael Grünwald has been running the "Into Indonesia" project since 2002, and he has explored many of the region's key ecosystems. Find out more at: www.biodiversity.at

The Cornell Lab of Ornithology is one of the world's leading ornithological institutions. It goes without saying that it has set up a special project dedicated to birds-of-paradise:

www.birdsofparadiseproject.org





60

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CLOSER | 2018 Calendar

JANUARY

SPACE COAST BIRDING & WILDLIFE FESTIVAL

As one of the world's leading birding festivals, every year the Space Coast Birding & Wildlife Festival draws ornithologists, biologists, scientists, photographers, artists, and authors with its lively program.

January 24-29, 2018
Eastern Florida State College,
Titusville, Florida, USA

APRIL

PANNONIAN BIRDEXPERIENCE

In April birdwatchers and other nature-lovers flock to the Burgenland region of Austria to take part in a packed program of excursions, workshops, and talks at the Pannonian BirdExperience.

April 20-22, 2018
Neusiedler See National Park,
Illmitz, Austria

MAY

THE BIGGEST WEEK IN AMERICAN BIRDING

A trade show that likes to be called a festival. The Biggest Week takes place every year in the first half of May. Strategically located between the Mississippi and North Atlantic Flyways, it is also the perfect place to observe North American migratory birds.

May 4-13, 2018
Black Swamp Bird Observatory,
Oak Harbor, Ohio, USA

JUNE

HANSEBIRD

As northern Germany's main birding festival, Hansebird attracts scores of visitors to Hamburg. On the historic island site of Wasserkunst Elbinsel Kaltehofe they are treated to a diverse program of bird-related events.

June 2018
Elbinsel Kaltehofe, Hamburg,
Germany

JUNE

PHOTO + ADVENTURE

Photography, travel, and the outdoors - this is the show's byline, which perfectly describes the program. It takes place on the second weekend in June in Duisburg, Germany, and in June 2018 a sister event will also be held in Linz, Austria.

Second weekend in June 2018
Landschaftspark Duisburg-Nord,
Duisburg, Germany

AUGUST

BIRDFAIR

With more than 450 exhibitors and 24,000 visitors, the Rutland Birdfair has been a mecca for birders and nature-lovers for nearly 30 years.

August 2018
Rutland Water Nature Reserve,
Oakham, UK

SEPTEMBER

PHOTOKINA

photokina has been described as the world's leading trade show for photo, video, and imaging. Year on year this is underlined by some 200,000 visitors and 1,000 exhibitors attending the event.

September 25-30, 2018
Koelnmesse, Cologne,
Germany

SEPTEMBER

AMERICAN BIRDING EXPO

Every year, the *Bird Watcher's Digest* invites visitors to the American Birding Expo to enjoy an extensive program of bird walks, workshops, and talks.

End of September 2018

NOVEMBER

SALON DE LA PHOTO

This major exhibition is the French forum for professional and amateur photographers. Anyone who is anyone on the photography scene comes together for five days in Paris.

November 2018
Parc des expositions de la Porte
de Versailles, Paris, France



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