

# ANIMA MUNDI

*Adventures in Wildlife Photography*

Issue 22, Year 6 - April 2016

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**FIELDWORK** Conservation of Puerto Rican frogs

**TRIP REPORT** Diving with sharks in the Bahamas



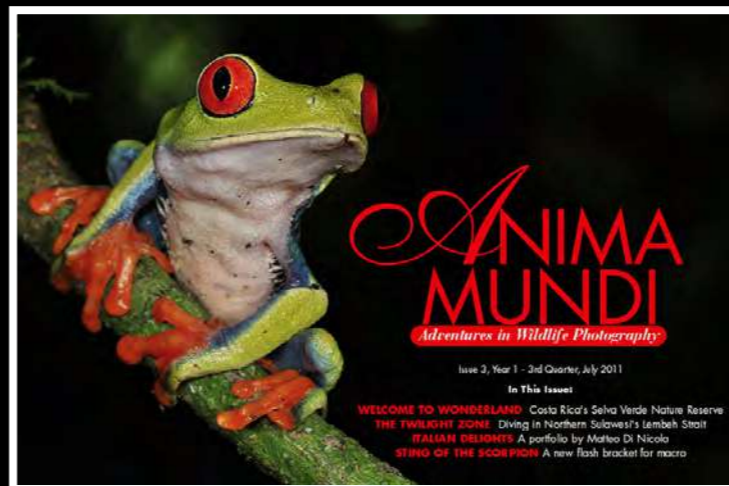
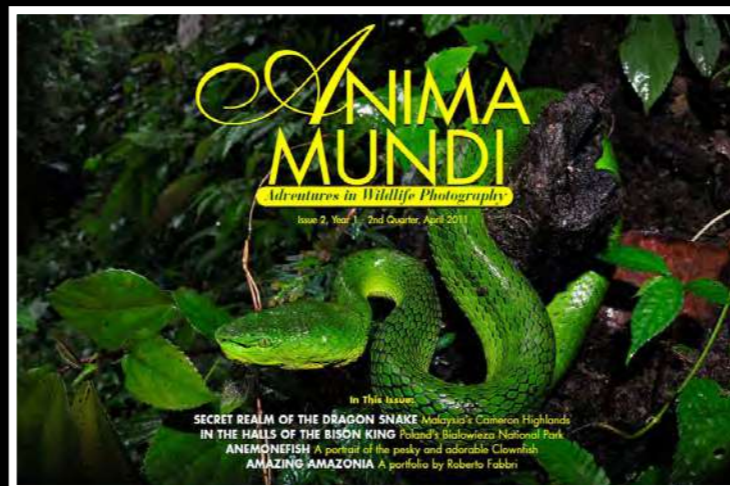
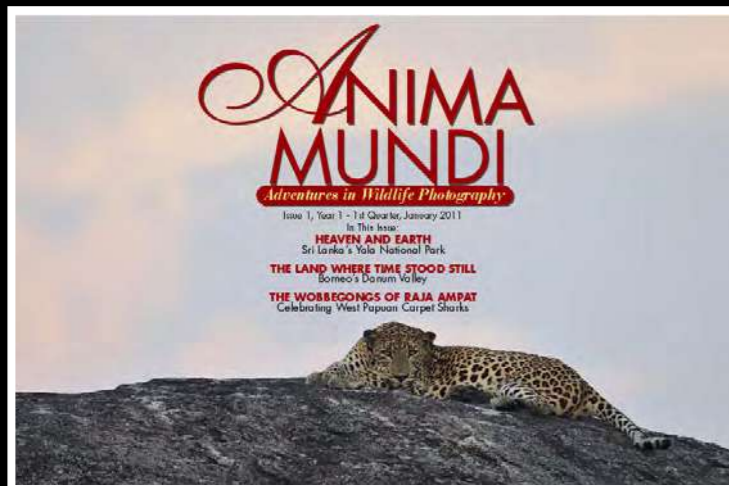


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*Dear Andrea & Antonella,*

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

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■ Antonella photographs an Arctic hare - see our report from the Nunavik tundra starting from page 11.



# ANIMA MUNDI

*Adventures in Wildlife Photography*

## Eye candy and inspiration for all

One of the greatest pleasure I experience while working on our digital magazine is actually assembling the separate articles - often greatly different from each other - in a cohesive ensemble, and so creating the actual issue. It's like cooking - mixing the varied ingredients and originating a wonderful recipe. And, being Italian, I love good food! So here's the tantalizing menu of this issue - I'm sure you'll enjoy all of it.

We start on page 4 with a rather unique feature on a rarely observed bird of near-legendary status - the majestic Harpy Eagle of the Amazonian rainforest. The somewhat less-than-optimal quality of the images by our friend and contributor Lucas Bustamante is justified by the rarity of the observation - an adult pair feeding their chick in a nest positioned at 40 meters height, far up in the impenetrable Peruvian rainforest canopy!

Our trip report start on page 11 - this time we describe our demanding and somewhat less than successful expedition to Canada's remote Far North and the barren, wind-swept tundra of the Nunavik region on the Ungava peninsula. Its fabled wildlife - which includes great herds of caribou, wolves, musk-oxen and bears - eluded us in most part, but the flaming autumn colors and the remoteness of this pristine sub-arctic region did not disappoint us. Read on and judge by yourselves if it was all worth it or not...

We then offer you two spectacular photogalleries - the first begins at page 64 and pays homage to the tiny and incredibly colorful Oriental Dwarf Kingfisher of Asian rainforests; the second starts at page 69 and offers a selection of the winning images from Russia's Global Arctic Awards in 2014. In both cases there's

some spectacular eye candy and great inspiration for all discerning wildlife photographers.

We then continue on page 81 with a detailed field report on the efforts being currently made to study and protect the endangered Mona Coqui, an obscure but much-loved little frog from Puerto Rico, thanks to San Antonio Zoo's researcher Jen Stabile - a fascinating insight in the effort and dedication shown by those who work in relative obscurity to conserve our world's threatened natural heritage.

And speaking of conservation, for once we contradict ourselves on page 92, for the splendidly illustrated feature on shark diving in the Bahamas by our contributor Don Silcock examines and discusses in detail one aspect of wildlife photography we usually do not approve - i.e. the physical interaction of photographers with their subjects and the regular feeding/baiting of the same. It is a very controversial matter which always strongly polarizes opinions (we are usually strictly against it, and disapprove such practices), but in this case we are being flexible given the sorry state of shark conservation and the desperate plight of these stunningly beautiful predators worldwide. It's for a good and meritorious cause, and so it's ok.

As you can see, we've done our best to concoct another great menu for you, which we hope you will enjoy and share with all until next issue.

In the meantime...

Have a good trip!  
Andrea & Antonella Ferrari  
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**■** An inquisitive Caribbean reef  
shark *Carcharhinus perezi* - see  
our feature on Bahamas shark  
diving starting at page 92.



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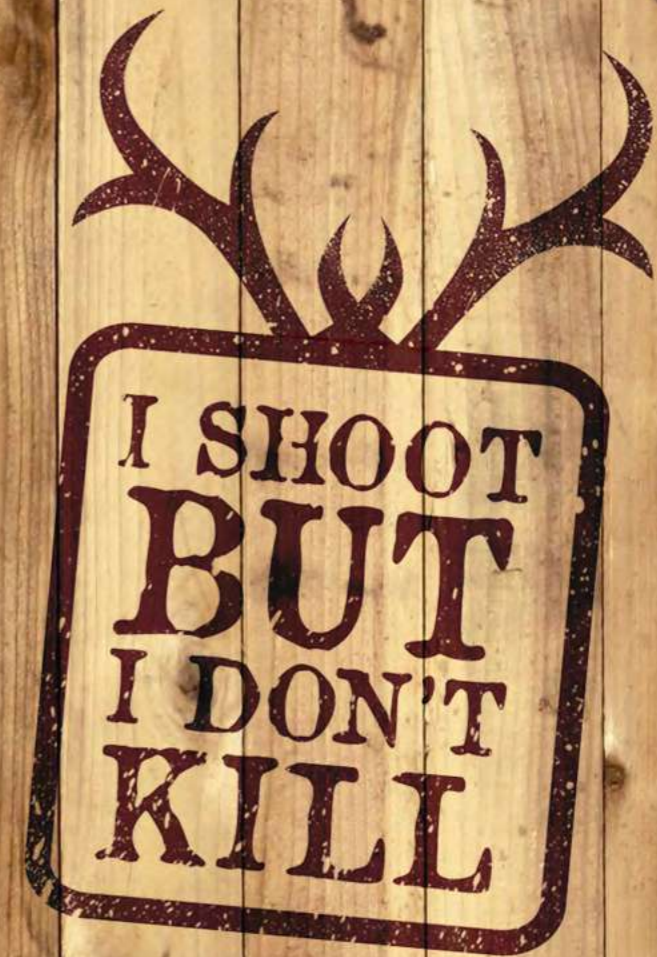


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The legendary  
giant raptor  
of the Amazon

## **IN THE NEST OF THE HARPY EAGLE**

LUCAS BUSTAMANTE HAS A RARE ENCOUNTER WITH  
THE WINGED TERROR OF SOUTH AMERICAN SKIES

— The Harpy eagle *Harpia harpyja* is a neotropical species of eagle. It is the largest and most powerful raptor found in the Americas, and among the largest extant species of eagles in the world. Harpy eagles are 86.5–107 cm (2 ft 10 in–3 ft 6 in) long and have a wingspan of 176 to 224 cm, with females typically weighing from 6 to 9 kgs (13 to 20 lb).

■ The Harpy eagle usually inhabits tropical lowland rainforests in the upper canopy layer. Destruction of its natural habitat has caused it to vanish from many parts of its former range, being nearly extirpated in Central America.



TEXT AND PHOTOS  
BY LUCAS BUSTAMANTE

I really love to visit Tambopata Nature Reserve in the rainforest of the Peruvian Amazon. The place is perfect for taking wildlife pictures because there it is very easy to find large animals such as capybaras, peccaries, macaws, jaguars, etc. However, when I recently arrived at Refugio Amazonas, one of the three lodges from Rainforest Expeditions, I found the exotic surprise that a family of the seldom seen and severely endangered Harpy eagles were

in their nest! It was definitely an opportunity that few people have had. Together with Jaime and Jeff, two friends of mine, we climbed a 40-meters tall tree very close to the nest and we spent two whole full days up there, on a small platform. What an unforgettable experience! The mother and father brought different preys to the clumsy chick: a porcupine and a sloth, respectively, were on the menu during those two days. And how could we ever forget the

call of the female? In the undisturbed rainforests of Ecuador, there lives an Amazonian tribe called the Huaorani. They believe they are the descendants of the jaguar and the Harpy eagle, so they worship these two animals as their gods. As for myself, when I found myself in the jungle face to face, in this case, with the Harpy eagle, it was too like being in front of a griffin, the legendary creature symbol of divine powers.



— The female Harpy eagle lays two white eggs in a large stick nest, which commonly measures 1.2 m (3.9 ft) deep and 1.5 m (4.9 ft) across and may be used over several years. Nests are located high up in a tree, usually in the main fork, at 16 to 43 m (52 to 141 ft), depending on the stature of the local trees. The Harpy often builds its nest in the crown of the kapok tree, one of the tallest trees in South America. In many South American cultures, it is considered bad luck to cut down the kapok tree, which may help safeguard the habitat of this endangered species.

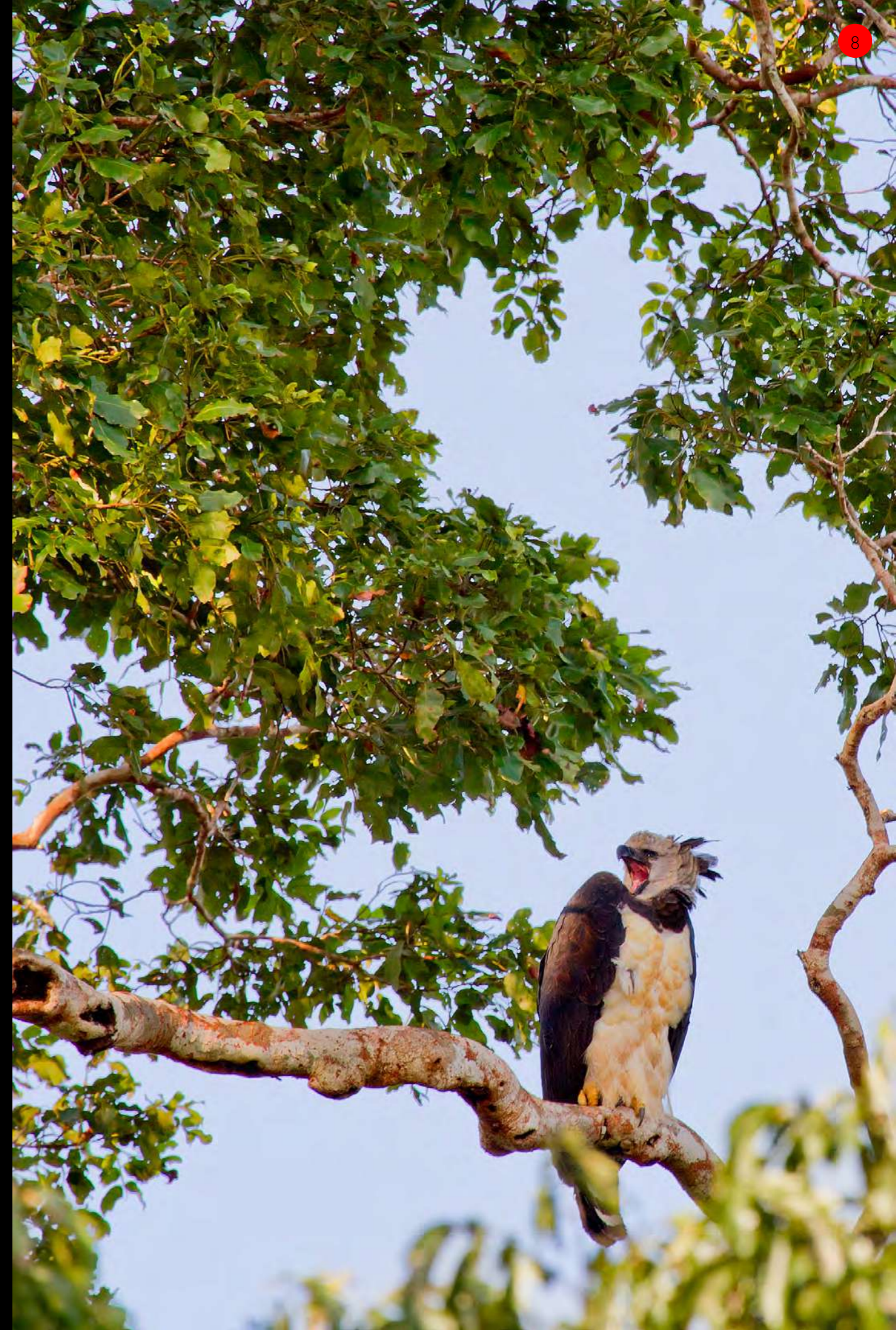




A pair of Harpy eagles usually only raises one chick every 2–3 years. After the first chick hatches, the second egg is ignored and normally fails to hatch unless the first egg perishes. The egg is incubated around 56 days. When the chick is 36 days old, it can stand and walk awkwardly. The chick fledges at the age of 6 months, but the parents continue to feed it for another 6 to 10 months.



■ Although the Harpy eagle still occurs over a considerable range, its distribution and populations have dwindled considerably. It is threatened primarily by habitat loss due to the expansion of logging, cattle ranching, agriculture, and prospecting. Secondly, it is threatened by being hunted as an actual threat to livestock and/or a supposed one to human life, due to its great size. Globally, the Harpy eagle is considered Near Threatened by IUCN and threatened with extinction by CITES (appendix I).





The harpy eagle is an actively hunting carnivore and is an apex predator; adults are at the top of a food chain and have no natural predators. Its main prey are tree-dwelling mammals and a majority of the diet has been shown to focus on sloths and monkeys.



■ Harpy eagles routinely take prey weighing more than 7 kg (15 lb). They possess the largest talons of any living eagle and they have been recorded as lifting prey up to equal their own body weight. That allows the birds to snatch a live sloth from tree branches, as well as other huge prey items. Males usually take relatively smaller prey, with a typical range of 0.5 to 2.5 kg (1.1 to 5.5 lb) or about half their own weight, while the larger females take larger prey, with a minimum recorded prey weight of around 2.7 kg (6.0 lb). Adult female harpies regularly grab large male howler or spider monkeys or mature sloths weighing 6 to 9 kg (13 to 20 lb) in flight and fly off without landing, an enormous feat of strength.







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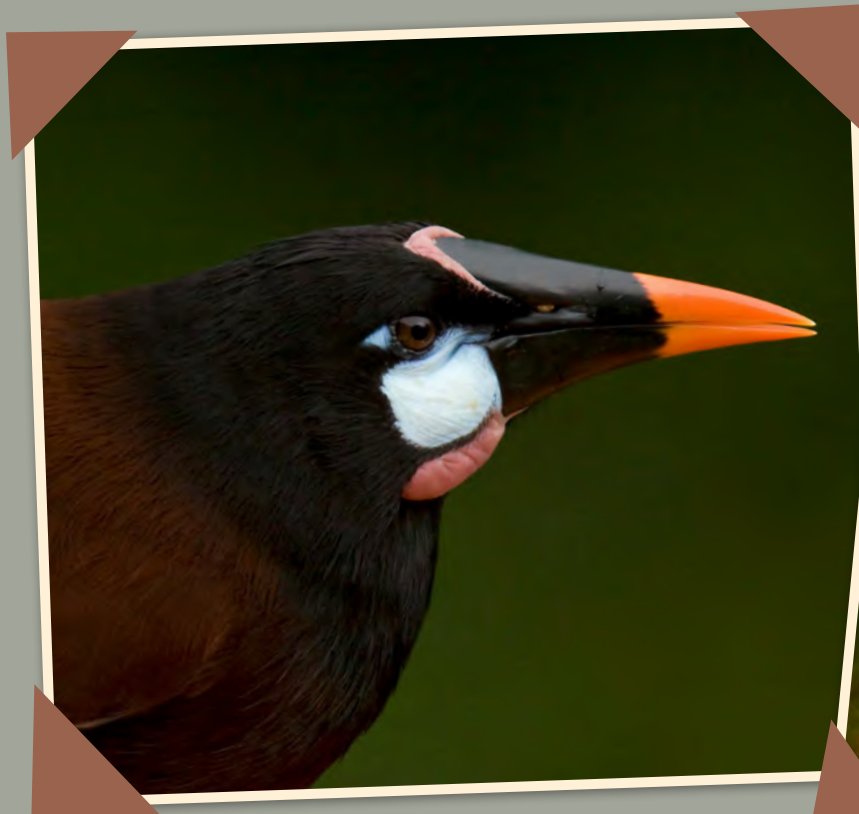
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CANADA'S REMOTE NUNAVIK TUNDRA

# ADVENTURE IN THE FAR NORTH

Searching for elusive wildlife among  
stunning autumn landscapes in the barren,  
hostile environment of Canada's northern  
sub-arctic autonomous region



*A lonely, desolate landscape abruptly exploding in a riot of warm autumn colors*

With the coming of winter the barren landscapes of the Arctic tundra of Nunavik briefly explode in a rainbow of colors, as endless extensions of Dwarf birch *Betula nana*, White spruce *Picea glauca*, Dwarf willow *Salix herbacea*, blueberry *Vaccinium* sp., Caribou moss *Cladonia rangiferina* and various other plants and lichens face rapidly plummeting temperatures.

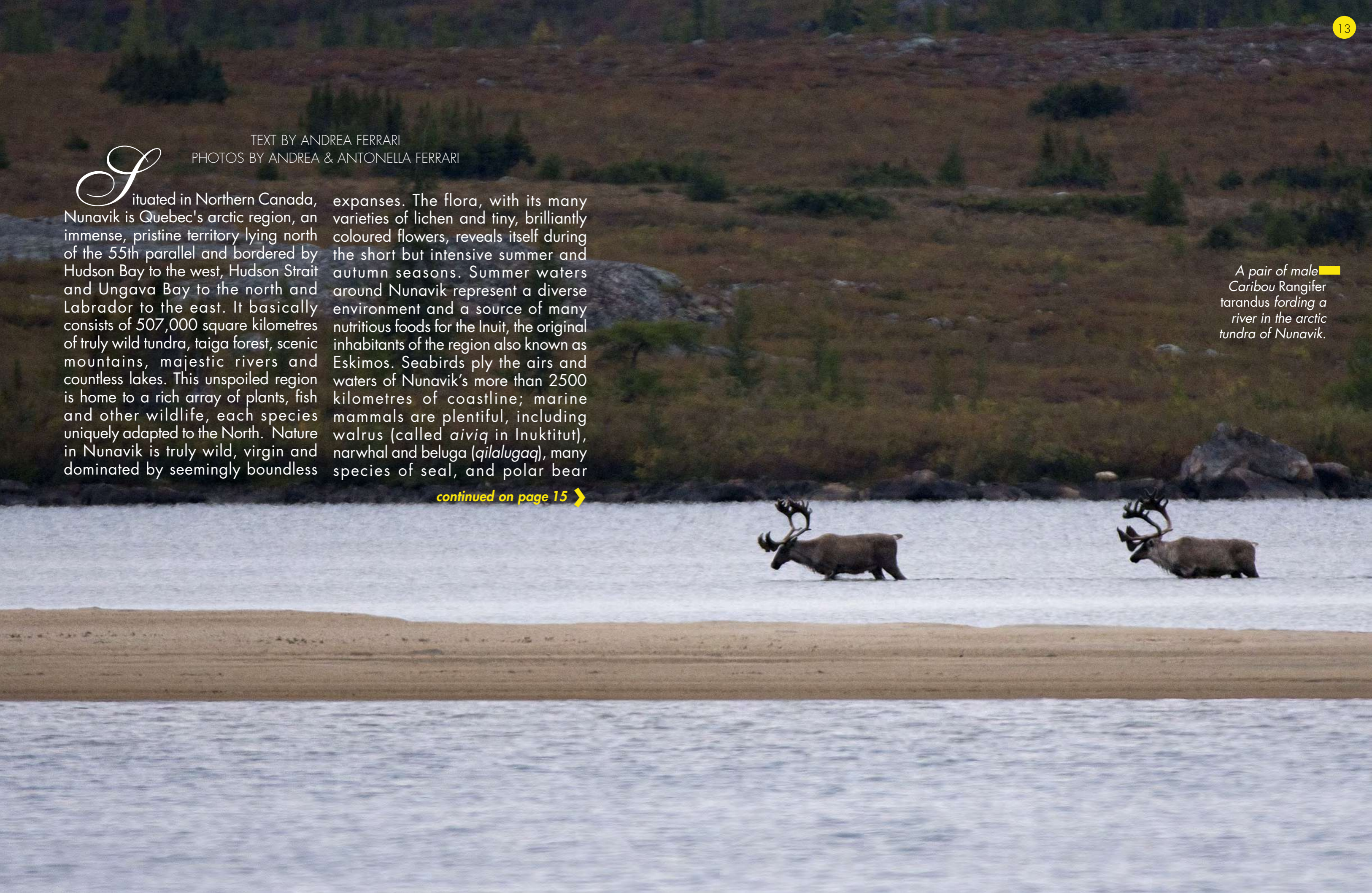
TEXT BY ANDREA FERRARI  
PHOTOS BY ANDREA & ANTONELLA FERRARI

Situated in Northern Canada, Nunavik is Quebec's arctic region, an immense, pristine territory lying north of the 55th parallel and bordered by Hudson Bay to the west, Hudson Strait and Ungava Bay to the north and Labrador to the east. It basically consists of 507,000 square kilometres of truly wild tundra, taiga forest, scenic mountains, majestic rivers and countless lakes. This unspoiled region is home to a rich array of plants, fish and other wildlife, each species uniquely adapted to the North. Nature in Nunavik is truly wild, virgin and dominated by seemingly boundless

expanses. The flora, with its many varieties of lichen and tiny, brilliantly coloured flowers, reveals itself during the short but intensive summer and autumn seasons. Summer waters around Nunavik represent a diverse environment and a source of many nutritious foods for the Inuit, the original inhabitants of the region also known as Eskimos. Seabirds ply the airs and waters of Nunavik's more than 2500 kilometres of coastline; marine mammals are plentiful, including walrus (called *aiviq* in Inuktitut), narwhal and beluga (*qilalugaq*), many species of seal, and polar bear

*continued on page 15* ➤

A pair of male Caribou Rangifer tarandus fording a river in the arctic tundra of Nunavik.





■ A flock of Canada geese *Branta canadensis* against the spectacular autumnal background of the Nunavik tundra near Ungava Bay.

■ A typical Nunavik tundra esker landscape brightened by an unexpected rainbow - in full sunlight.

## *Endless vistas unchanged since the Pleistocene*

(*nanuk*). Sightings of any of these species is an unforgettable but sadly rather uncommon experience for the visitor. Terrestrial wildlife in the region is just as diverse. The world's largest caribou herds, totalling almost one million head, roam freely in Nunavik and can be occasionally observed up-close - if lucky - in summer. The introduced Musk-ox (*umimmaq*) is a

more impressive species, and these can be approached more easily in summer and autumn, although in smaller numbers. Since time untold, marine mammals have been essential to Inuit life. Not only are they an important source of food - the pelts, bones, ivory and blubber of these animals were also traditionally used for tools, clothing, heating oil, shelters and boats. The most important species of marine mammals to the Inuit are ringed seal (*natsiq*), bearded seal (*ujjuk*), walrus (*aiviq*) and beluga (*qilalugaq*). The near-legendary polar bear (*nanuk*) is an important symbol of the Arctic that is also classified by Inuit as a

*continued on page 17* ➤





■ A Short-tailed Weasel or Stoat *Mustela erminea*, one of the few mammals we encountered in the arctic tundra of Nunavik.

marine mammal. Except for Inuit hunters and killer whales, polar bears have very few enemies. Traditionally, the tracking and hunting of a first polar bear marked a young Inuk passage to adulthood. Inuit have many uses for the wildlife they harvest. For example, seal fat continues to be aged and eaten as a condiment (*misiraaq*). In days gone by, it was transformed into heating oil, an essential source of heat and light during long, cold winter nights. Sealskins are also still a prized material for making warm and water-repellent boots, mittens and other garments. Traditionally, sealskins were also used to make *avataq* (buoys used for the hunting of marine mammals) and *puurtaa* (sacs for the storage of meat and oil). As for walrus, their skins were once used for building boats, shelters and many types of accessories. Inuit artists use the animal's ivory tusks for carving, especially jewellery. Finally, like seals and walrus, belugas are primarily a source of food for Inuit. Not only is the meat eaten dried (*nikku*), frozen-raw

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Snowshoe Hare  
*Lepus americanus*  
photographed in the  
outskirts of Kuujjuaq  
village at twilight.



Left, Antonella photographs a Rock Ptarmigan *Lagopus muta* in fall plumage during a snowfall; top right, Black scoter or American scoter *Melanitta americana* females; bottom right, Herring gull *Larus argentatus* juvenile, in Ungava Bay.



A typical esker landscape of the  
arctic tundra of Nunavik province,  
Ungava, Northern Quebec,  
Canada.





and cooked, but the thick skin (*mattaq*) is a delicacy, which happens to be rich in vitamin C. Beluga meat and fat is still used today to make *igunaq* and *misiraq*. Beluga skin was traditionally used for footwear, boat covers and dog whips. The history of Nunavik's musk-ox , on the contrary, dates back to August 1967. At that time, 15 youngs of these bovines, captured around Eureka on Ellesmere Island, were transported to an experimental farm located at Old Chimo (Kuujuuatuqaaq), a few kilometres downstream from present-day Kuujuuaq. It was hoped that captive musk-ox could be domesticated to boost socio-economic development.

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Canada geese *Branta canadensis* can be sighted migrating in huge flocks around October.



■ Left, a huge Musk-ox *Ovibos moschatus* bull;. right, Rock Ptarmigan *Lagopus muta* still in fall plumage despite the recent and abundant snowfalls. In a few days it will turn completely white.



*The billowing glory of the Aurora borealis lighting up the midnight sky*

■ A spectacular show of the Northern Lights, also known as Polar Lights or Aurora borealis, lights up the midnight sky above our wooden cabins at Wolf Camp, Wolf Lake, in the arctic tundra of Nunavik.



With the coming of winter the barren landscapes of the Arctic tundra of Nunavik briefly explode in a rainbow of colors, as endless extensions of Dwarf birch *Betula nana*, White spruce *Picea glauca*, Dwarf willow *Salix herbacea*, blueberry *Vaccinium sp.*, Caribou moss *Cladonia rangiferina* and various other plants and lichens face rapidly plummeting temperatures.



Inuit would use the soft, fine *qiviu* (musk-ox wool) to make warm clothing for the harsh, cold winters and they would be able to incorporate meat from the animals into their diets during periods when caribou was not plentiful. Though the outcome of this socio-economic experiment did not produce the desired results, the introduction of musk-ox to the tundra of Nunavik has been a great success. In Nunavik, the first animals to be released were three calves in 1973 near Tasiujaq. By the time the experimental farm at Old Chimo terminated operations in August 1983, a total of 52 head had been released at a few sites in the region. The new environment of these musk-ox suited them very well, and they began to reproduce successfully in the wild. Today, the Nunavik population is estimated at more than 2000 head. Since their situation is still precarious however, hunting is restricted by a quota system. In Inuktitut, musk-ox are called *umimmaq* (the bearded ones). Musk-ox are one of the oldest species of mammals still living today. About one million years ago, the ancestors of these bovines roamed the steppes of Northern Asia, along with the mammoth. More than 90,000 years ago, this animal crossed the Bering Strait between Siberia and Alaska to populate North America. Fossils have been found in several sites in Canada and the United States, notably in Saskatchewan, Ontario and New

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Muskrat  
Ondatra zibethicus.



■ Rock Ptarmigan  
*Lagopus muta*  
in fall plumage.

The spectacular colors of autumnal vegetation in the Nunavik tundra.



■ A large Musk-ox *Ovibos moschatus* bull in an icy drizzle, one of the few we could actually approach in the arctic tundra of Nunavik.



■ Herring gull  
Larus argentatus.



England. Hundreds of thousands of caribou roam the wilds of Nunavik. For centuries, the lives of many Nunavik Inuit have been closely tied to caribou and their migrations for subsistence and other purposes. For example, before the arrival of the modern world in the North in the 20th century, the hides of these animals were used to make clothing, such as the *qulittaq* (a parka held in great esteem because of caribou fur's exceptional insulating effect). Thread for sewing came instead from dried tendons.

**SHORT SUMMERS  
LONG WINTERS**

Nunavik is an immense region where spring may last for more than three months. The land, its forests and water bodies begin their annual reawakening near the end of March in the southern reaches of the region in communities such as Kuujjuarapik. However spring only arrives near the beginning of June in the north, in communities such as Ivujivik, Salluit, Kangiqsujaq and Quaqtaq. Spring marks the return of Nunavik's migratory birds, large and small. Canada geese (*nirliq*) and eider duck (*mitiq*) to name but two species of waterfowl arrive among the first, to build their nests on offshore islands and await the hatching of their young. According to the Québec Breeding Birds Atlas, at the height of summer over 125 species of birds may be found in the southern forests of Nunavik and

*continued on page 31* ➤



■ An abundance of frozen brooks and iced patterns heralds the coming of a long winter in the tundra.



Arctic hare  
*Lepus arcticus*  
in autumnal livery.



up to 50 species nest on the Ungava Peninsula above the tree line. Nunavik also nurtures populations of several birds of prey, well-known emblems of the North. These include the peregrine falcon (*kiggavik*) and the gyrfalcon (*kiggaviarjuk*), as well as the rough-legged hawk (*qinnuajuaq*), to name a few. Among the handful of bird species that reside year round in the region, it is worth mentioning the nocturnal snowy owl (*ukpik*) and one of its prey of choice, the ptarmigan (*aqiggig*). These species have adapted to the Arctic climate and may have feathered legs or be able to change their colouring according to the season.

### EXPLORING THE TUNDRA ENVIRONMENT

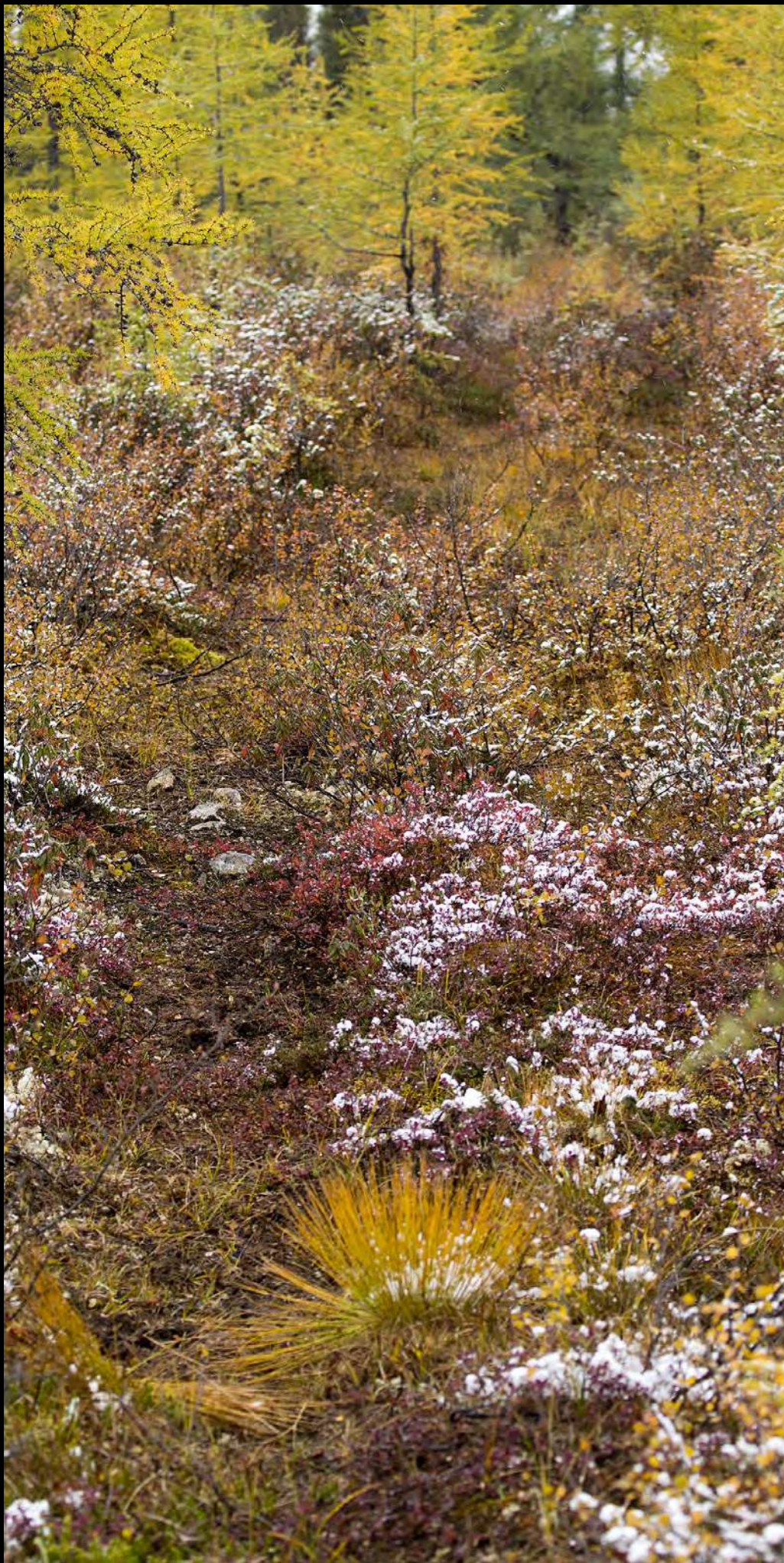
Exploring the Nunavik region is very costly and occasionally quite difficult, and wildlife photography there can prove exceedingly frustrating. Before committing to what could prove to be a very frustrating and uncomfortable trip, one should realize these are real expeditions to totally unspoilt, unpopulated, undeveloped areas where the great outdoors spread for thousands of miles in every direction. Accomodation is sparse and very basic, consisting mostly of run-down, unoccupied plywood cabins occasionally utilized by local and North American hunters, which still represent the majority of the very few

*continued on page 35* >

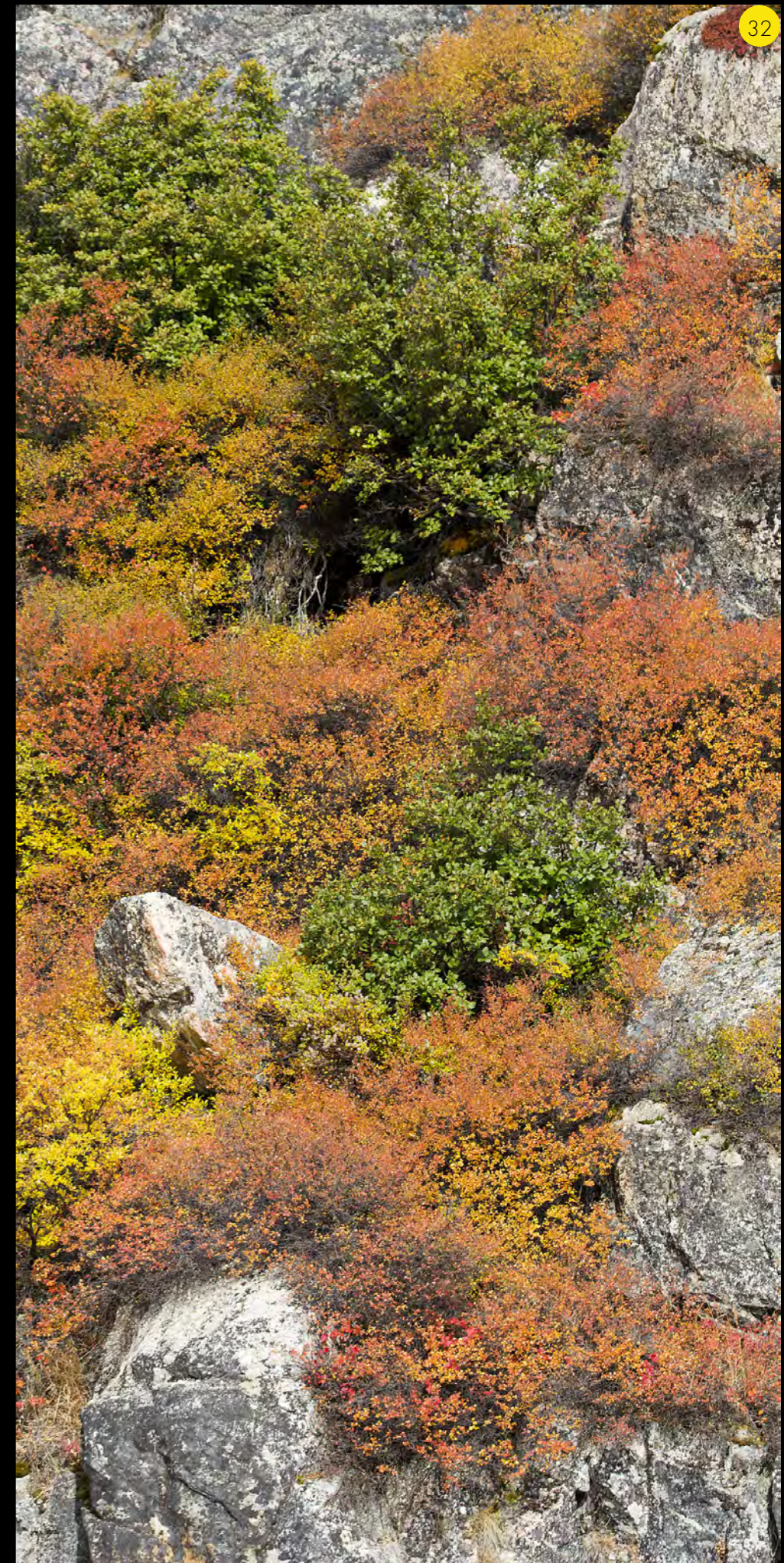


A flock of Canada geese *Branta canadensis* flies over the technicolored autumn landscape of the arctic tundra of Nunavik near Ungava Bay.





■ Autumn colors  
and migrating  
Canada geese  
*Branta canadensis*.





■ A flight of female Northern Pintail *Anas acuta* shoots across the icy waters of Ungava Bay.



The steep granite cliffs overlooking Wolf Lake (left) are occasionally visited by lone Musk-oxen *Ovibos moschatus* (right).



The first winter snow falls on the Nunavik tundra.



travellers to this beautiful but harsh, forlorn land. Visitors sleep in barrack bunks and have to utilize outdoor latrines in sub-zero temperatures, resorting to river water for drinking and washing as running water is unavailable. Everything - including oil barrels, utilized for heating stoves and cooking, and food provisions (mostly frozen meat as no fresh fruit or vegetables are available, obviously) has to be flown in to the camps by Twin Otters or small floatplanes, which are able to land and take-off on the countless bodies of water dotting the landscape but whose movements are however highly dependant on the weather situation. Good Inuit guides to locate and track the sparse wildlife are seldom available to wildlife and nature photographers as they - quite understandably - prefer to work for the hunting business, where the money is. Furthermore, the wide open nature of the landscape creates great difficulties to photographers wishing to approach their subjects - the only way to move around here is on foot, and cross-country walks lasting several hours are needed every day to cover relatively small areas. Groups of hunters, on the other hand, usually have trackers, spotter planes and radios at their disposal to locate caribou or musk-ox herds from the air and quickly communicate their position.

*continued on page 40* ➤



A trip to the Nunavik tundra in October offers stunningly colorful vegetation.



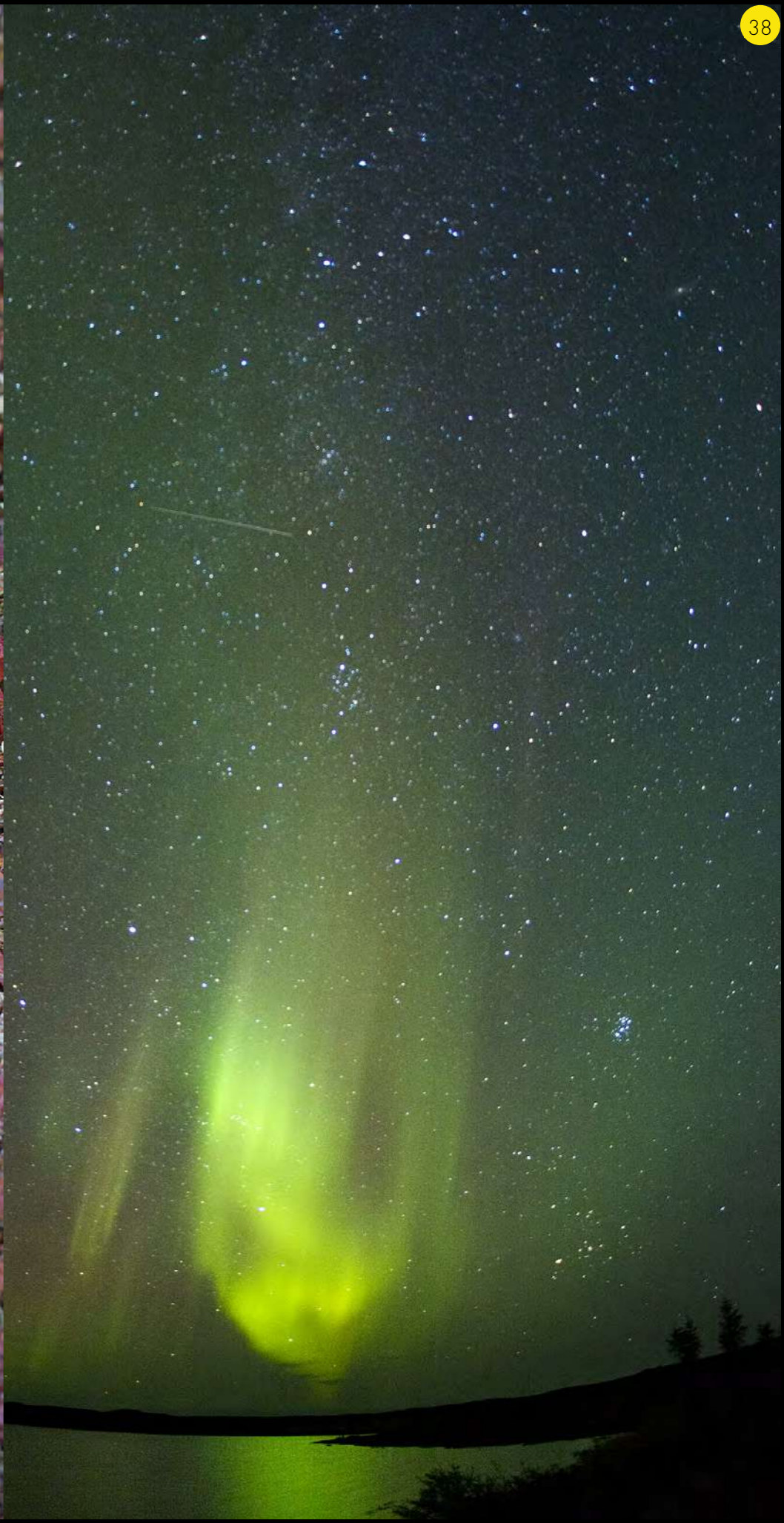
*The first snow blizzards  
announce the arrival  
of the Arctic winter*

The cliffs above       
our camp at Wolf  
Lake are hit by the  
first winter blizzards.





The Northern Lights at night and autumnal vegetation during the day offer a riot of colors in the Nunavik tundra during the months of September and October.





The rapid drop █ in temperatures creates spectacular ice patterns in the ponds and brooks of the Nunavik tundra.






Heavily clothed against the cold and the icy wind, Andrea photographs an Arctic hare *Lepus arcticus*; right, a formation flight of migrating Snow geese *Anser caerulescens*.

## A PRISTINE LAND OF GREAT EXTREMES

The best chances to see and approach the herds of caribou and musk-ox occur during the brief, stifling summer period - usually in August - when however the much-feared swarms of black flies and mosquitoes make life miserable for all, animals and visitors alike. Mosquito nets and full cover for hands and face are an absolute must for all - there have been documented cases of caribou actually having been driven insane by these implacable blood-sucking pests, which inflict countless, extremely painful, itchy bites. In summer the tundra is also lush and green - a strange sight. On the other hand, the best time for landscape photography and the spectacular, magical show of the Northern Lights or Aurora borealis is during September-October, when the tundra vegetation explodes in a veritable rainbow of reds and yellows before the onset of the long Arctic winter. Animals in October are less numerous and less easily approached (we only saw two caribou and never saw a bear in three weeks; only heard wolves once, at night), and weather can be absolutely unpredictable - we often experienced bright warm sunlight, rain, drizzle, hail, thick fogs and snow blizzards in the course of a single day - but the stunning, endless tundra landscapes are at their absolute best, and there are no black flies or mosquitoes around. ●



A large Musk-ox (Ovibos moschatus) is shown in profile, facing right. It has thick, shaggy brown fur and a prominent white patch on its back. The animal is standing on a rocky, uneven ground covered with low-lying, colorful tundra vegetation in shades of yellow, orange, and red. The background consists of rolling hills and mountains under a clear sky, suggesting a high-altitude or Arctic environment.

■ A big Musk-ox  
*Ovibos moschatus*  
bull faces the icy  
wind of the tundra  
- the harbinger of  
the harsh Arctic  
winter which is  
coming fast.



■ Left, Snowshoe Hare *Lepus americanus*; right, esker landscape.





Two aerial shots taken from our Single Otter hydroplane as we fly towards our first camp - the partly waterlogged and partly rocky/sandy nature of the tundra is evident.



*Scattered bones left over by wolf packs bear mute witness to the great Caribou migration*



All too often the only evidence of Caribou was this - a few scattered bones. August is apparently the right time to see them in numbers.



■ *Photographing Aurora borealis in the tundra is more difficult than in Norway or in other developed locations as the landscape is completely devoid of artificial lights - one has to work in total darkness and at very low temperatures, often in strong wind.*

*This is how we saw most of the Musk-oxen *Ovibos moschatus* we encountered - it takes a lot of stealth to get close to them, at least at this time of the year.*





A beautiful   
*Peregrine Falcon Falco peregrinus perches on a lake shore. This photo was taken from our little boat.*





Rock Ptarmigan  
*Lagopus muta*  
were quite  
numerous

Left, rainbow over the esker landscape; center, ice patterns on low bushes; right, American Tree sparrow *Spizella arborea*.





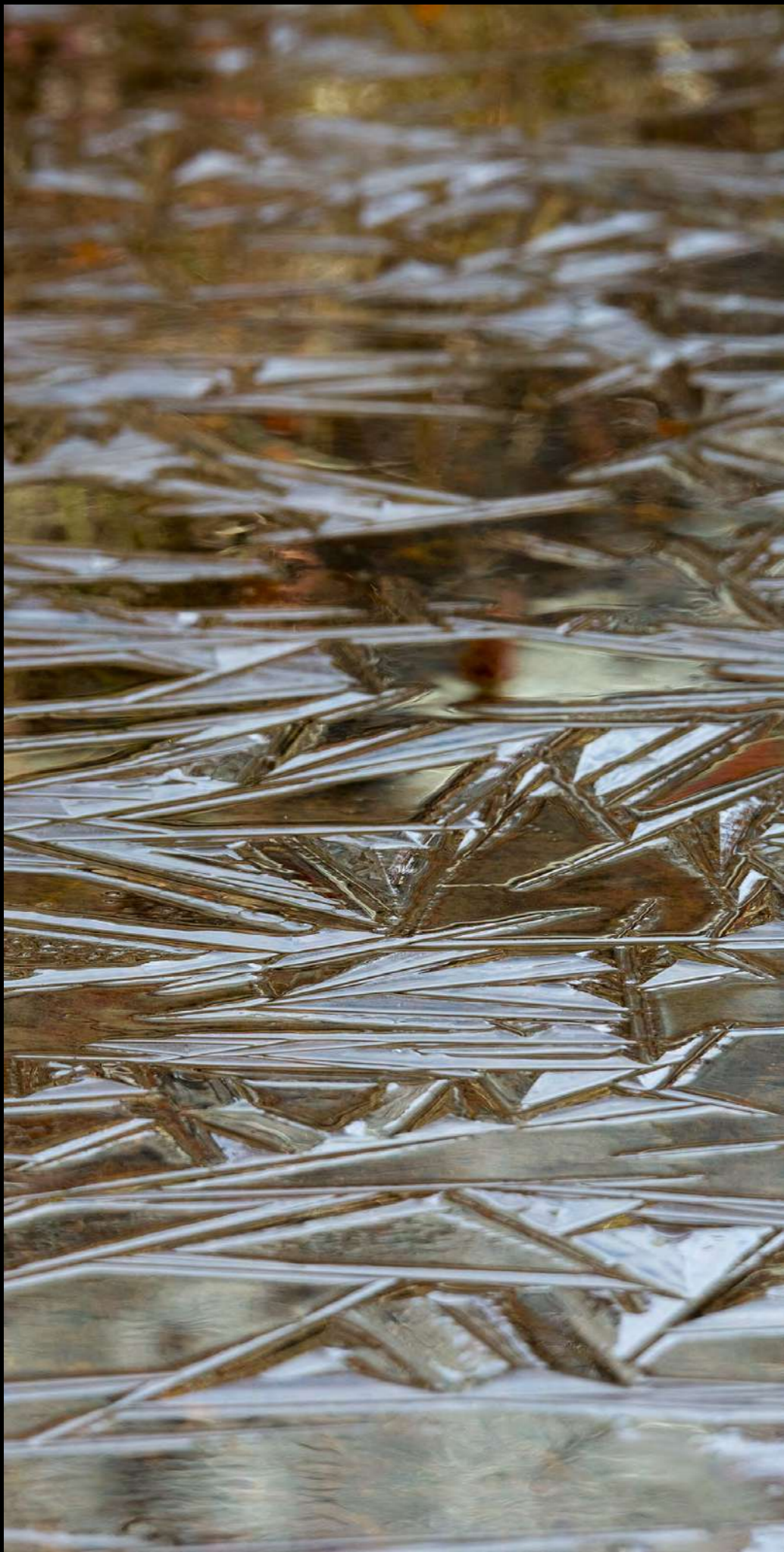
Canada geese  
*Branta canadensis*.



Two relatively common sights of the Nunavik tundra in October. Left, Arctic hare *Lepus arcticus*; right, Rock Ptarmigan *Lagopus muta*.



Colors and patterns of the Nunavik tundra in October, just before the onset of the Arctic winter.

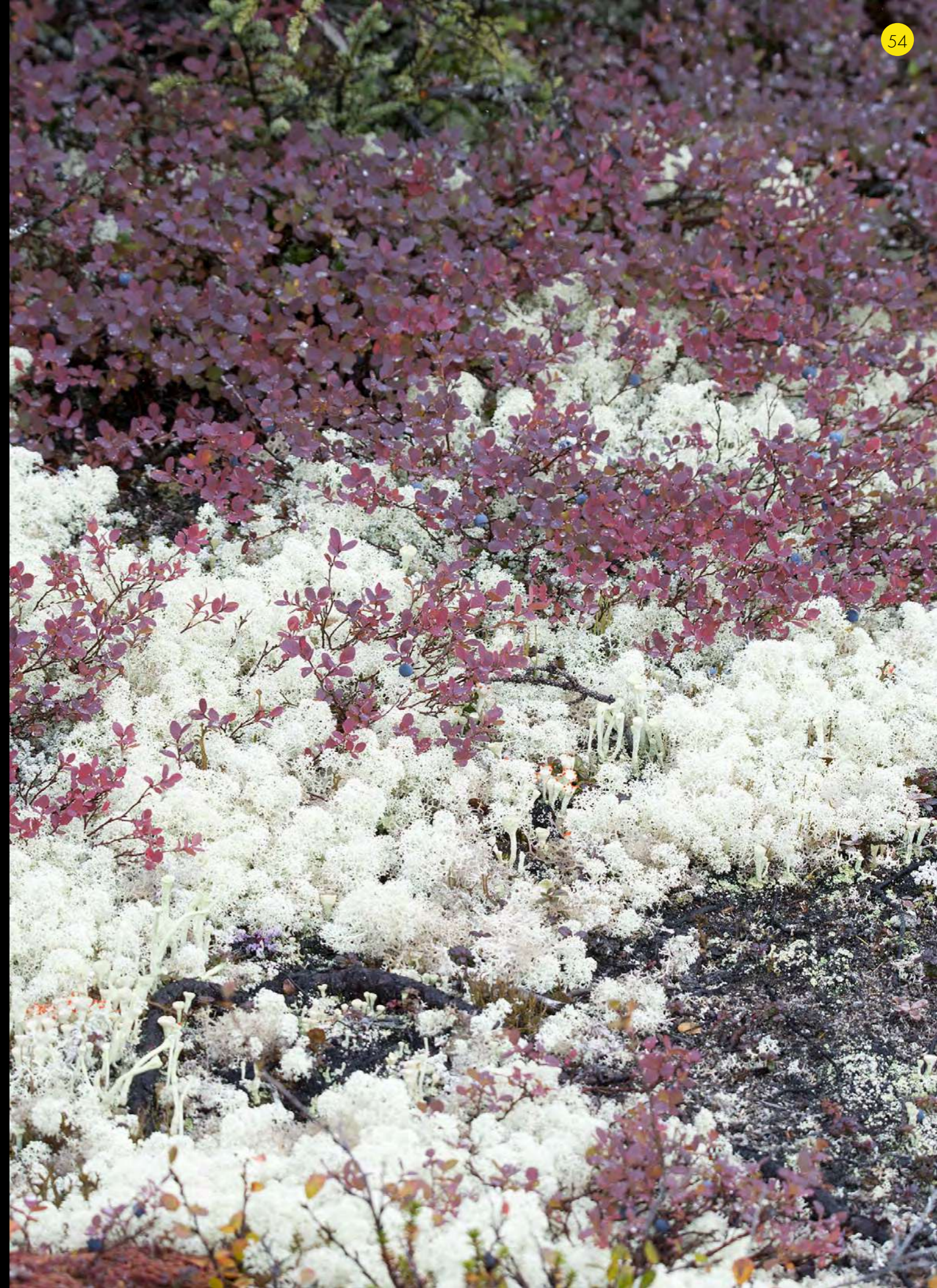




*Muskrat Ondatra zibethicus* can be easily confused with beavers at a distance, but the latter are not present in the tundra of Nunavik.



■ The miniaturized and highly specialized plant life of the Nunavik tundra offers wonderful photographic possibilities to the discerning photographer.



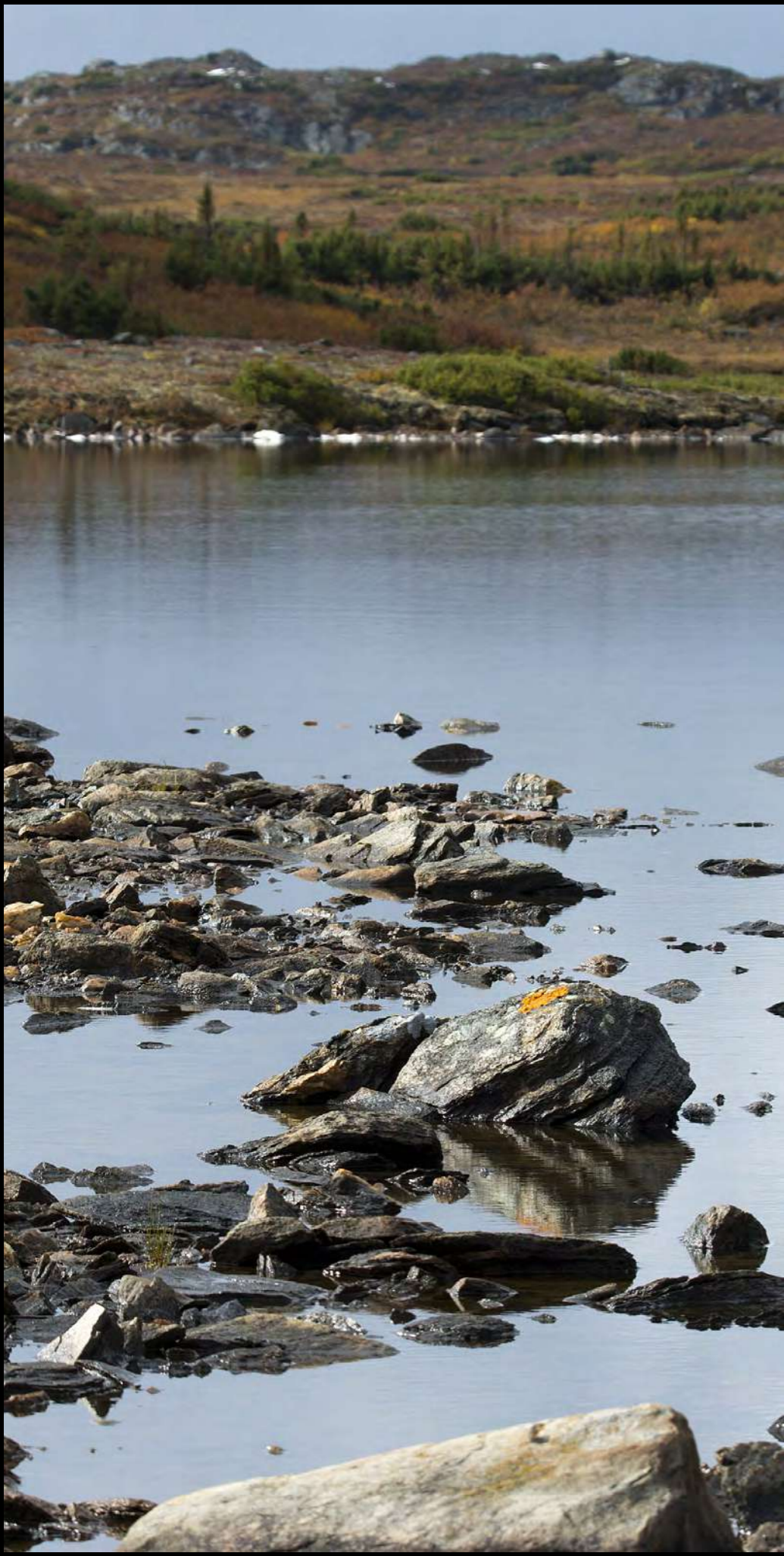
■ Musk-ox *Ovibos moschatus* on a ridge. One has to creep stealthily and carefully among the low bushes to get relatively close to these large, fast and aggressive bulls, which are known to charge if disturbed.







Goosander  
or Common Merganser  
*Mergus merganser* females.



■ Beautiful, ice-cold, clear-water ponds and lakes dot the tundra landscape. Center, a pair of female Black scoter or American scoter *Melanitta americana*.



*Sun, rain, fog, hail and snow  
in the course of a few hours*

Quick, unexpected weather changes offer great light conditions and camera opportunities in October.



■ The barren, occasionally bush-covered rocky shores of the Ungava river offer wonderfully abstract and occasionally very colorful patterns.



The typical esker landscape of the Nunavik tundra in autumn, when colors are at their brightest.



■ *Arctic hares*  
*Lepus arcticus* can be  
approached quite closely  
if one moves slowly  
and carefully.



# At-a-glance travel guide

COUNTRY OF DESTINATION: CANADA



## USEFUL TIPS FOR YOUR EXPEDITION

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

**ROUTE:** Your international flight will land at Pierre Elliott Trudeau International Airport in Montreal, Canada. We strongly suggest to rest and spend the night in one of the airport's hotels as the domestic flight to Kuujjuaq, gateway to the endless expanses of the Nunavik tundra, will depart the following morning. Once in Kuujjuaq you will be met at the airport by staff from **Great Canadian Wildlife Adventures** who will take you and your trip companions to the jetty, where you'll board a floatplane - loaded with fuel barrels and canned food provisions - for the low-level flight to the camp. This can be a short hop or a longer, 60-minute flight, depending on the location of the chosen camp.

**MEANS OF TRANSPORT:** Small floatplanes to reach the base camps, then it's only walking. Bring very sturdy, heavily insulated, waterproof calf-height rubber boots to ford brooks and walk on waterlogged moors but also expect long stretches of sandy, loose soil and rocky patches.

**CURRENCY:** Canadian dollar, but US currency and Euros are commonly accepted in Kuujjuaq - the only outpost where one can actually pay for anything.

**ACCOMODATION:** Visitors normally stay at unused hunting camps, in extremely basic plywood, semi-insulated barrack-style cabins, sleeping in

bunks in dormitory-style rooms. Single cabins accomodating two people are available at Wolf Camp. Basic heating is provided by oil stoves but there is no running water and visitors must use outdoor latrines. You'll need your own Arctic-insulated sleeping bag. Those wishing to spend the night in Kuujjuaq (a good idea if you have a connecting flight) can stay at the excellent but somewhat pricey Auberge Kuujjuaq Inn.

**FOOD:** Extremely basic - mostly stove-cooked frozen meat, processed meat or canned foodstuff. Do not expect fresh vegetables, fresh fruit or fresh eggs. Drinking water comes directly from the rivers.

# Exploring a beautiful and barren wasteland in complete solitude



**LANGUAGE:** American English, Canadian French and - for those interested - the complex, fascinating Inuktitut spoken by the local Inuits.

**WORRIES:** Basically none. Care has to be taken while fording streams or climbing rocky slopes as a sprained ankle - or worse - could easily become a problem given the absolute isolation of the location.

**HEALTH:** No problems whatsoever. Particularly sensitive individuals might have the occasional stomach problem being unused to drinking river water. A small travel set of common medicines one might normally need and a good insurance are an absolute must here - again, remember you will be on your own and in the middle of nowhere, and an emergency evacuation would cost you a fortune.

**CLIMATE:** Warm and relatively humid in August (up

to 30°C at noon!), exceptionally variable during the day and below freezing at night in October. Dress in several layers and bring thermal underwear. Keep in mind you won't be able to wash - neither your own dirty clothes nor yourself - for most of your stay.

**BESIDES:** Good-natured, friendly and hospitable, the Inuit and their ancestors have lived in harmony with nature for thousands of years, leading however an existence of unbelievable hardships in these barren lands. Roughly 4500 years ago, a migration began from Alaska, with the paleo-eskimo taking 500 years to arrive in Nunavik and living there for for 1500 years. Around 1000 AD, the Thule (ancestors of the Inuit), finally appeared in the western part of Northern Canada. Rapidly, groups belonging to this new culture commenced migrating and settling eastward. The first European fur-trading posts, which were established during the 18th

century and the many more which followed in the 19th century, changed everything - even if some areas continued to have no direct contact with people of European descent until the 20th century. Despite this, the fur-trading period sadly marked the beginning of drastic and irreversible changes in the lives of the Inuit of Nunavik. Even though today the Inuit way of life is more diversified than in the past, hunting, fishing and gathering activities for subsistence purposes remain central to life in Nunavik. Today, Nunavik is inhabited by close to 10.000 Inuit, who live in 14 modern villages along the coasts of Hudson Bay, Hudson Strait and Ungava Bay. Only four of these communities have populations of more than 1.000. These are Kuujuaq, Puvirnituaq, Inukjuak and Salluit. While the people's mother tongue and regular language of communication is Inuktitut, many Inuit speak English as a second language and some French as well. ●



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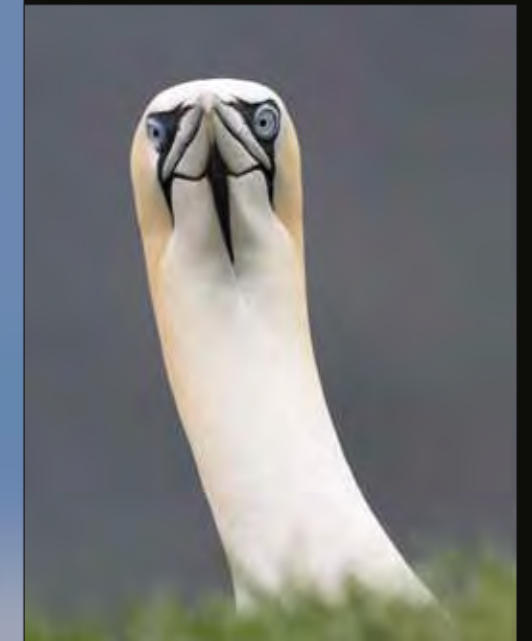
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"Our goal at Nature's Photo Adventures is to lead instructional photographic workshops to the some of the world's most beautiful and unspoiled destinations while providing a rewarding and educational learning experience".

"We strive to exceed your expectations, taking you on an adventure and a once in a lifetime experience. Explore nature, share, learn and develop new levels of photographic skills and leave with fantastic photographs and wonderful memories and new found friends."

*David Hemmings - President, Nature's Photo Adventures*



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

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

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

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

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

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



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**Canada:** Newfoundland - Puffins & Gannets • British Columbia - Spirit Bears • Alberta - Black Bears & Elk • Churchill - Breeding Arctic Birds and Polar Bears • Ontario & Quebec - Snowy Owls and Great Gray Owls  
**United States:** Alaska - Kodiak Bears & Bald Eagles • Florida - Raptors **Asia:** Borneo - Orangutans, Proboscis Monkey, Broadbills • India - Bengal Tigers and birds **Africa:** Botswana - Chobe River - Elephants and Hippos • Kenya & Tanzania South Africa - African Penguins and the Big 5 **Central & South America:** Peru - Machu Picchu and The Amazon • Costa Rica - Hummingbirds • Brazil - The Pantanal & Jaguars

# Beauty of the Beast

THE ORIENTAL DWARF KINGFISHER



## WINGED JEWEL OF INDIA'S WESTERN GHATS

A precious encounter with the stunningly colorful bird regales wonderful emotions and fond memories to passionate photographer Megh Roy Choudhury



*Ceyx erithaca*

The Oriental Dwarf Kingfisher *Ceyx erithaca*, also known as the Black-backed Kingfisher or Three-toed kingfisher, is a small species belonging to the *Alcedinidae* family. The ODK is a small, red and yellow kingfisher, averaging 13 cm (5.1 in) in length, with yellow underparts and glowing bluish-black upperparts. The Rufous-backed Kingfisher is sometimes considered a subspecies.

TEXTS AND PHOTOS  
BY MEGH ROY CHOUDHURY



*Ceyx erithaca*

The preferred habitat of this species is small streams in densely shaded forests. In the Konkan region of Southwest India, it breeds with the onset of southwest monsoon in June. The nest is a horizontal tunnel up to a metre in length.

I wait. I wait with a bated breath. I sit like a monk, in absolute silence, ensconced in a dream world. The sound of rain surrounds me with a harmonic drumming. Pearly droplets bounce off my skin, as sparkly and effervescent as champagne bubbles. Silver trickles of water fall and run down on the shiny leaves, before lazily cascading down to mother earth. A heavenly earthen aroma fills the air, permeating deep into my senses. A surging stream gurgles joyously over the rocks before plunging into a small gorge. The lush green of the evergreen trees completes the fairy tale ambiance. The scenario is picture perfect for my long awaited rendezvous with one of the Almighty's most breathtaking creations!!!  
As I pray for the heavenly outpour to show some mercy, the rain god relents and chords of soft light filters through the barely perceivable gaps in the dense canopy. A red and orange missile whizzes through the still air and drops anchor on a branch in front of me. For an infinitesimal moment my entire world freezes. Sitting right in front of me is the Oriental Dwarf Kingfisher. "The Jewel of the Western Ghats" and one of the birds I wanted to have a glimpse of, before I breathe my last ! It is without an iota of doubt, one of the most exquisite birds in the world. A rainbow would be deeply abashed to even compete with this jazzy bird. As my eyes hungrily feast

on the kaleidoscopic beauty, I feel a profound sense of euphoria like never before.

More drama is yet to unfold! The proud parents have built up a nest on the sloping banks of the stream and have their young ones anticipating a luscious meal. Prey after prey is caught and dished out to the hatchlings, which have a truly humungous appetite. Skinks, spiders, crabs, frogs and other creatures run helter-skelter to escape the wrath of these highly proficient hunters. Periodically, like a clockwork, either of the parents arrive at the nest, always clutching the next course of the meal. It always as a rule lands on the same perch and spends some time catching its breath. Some acrobatic moves are on display on the branch and often it bobs its head up and down like a Chinese doll. The next instant, it takes off and darts inside the nest. While the fledgelings devour their munchies, some heartfelt family moments are spent, some pearls of wisdom conveyed to the progeny. Then in a flurry of motion, the kingfisher flies out of the nest, relentless in the pursuit of its next target.

Almost as an afterthought, I start photographing these magnificent specimens of nature. It is an utterly exhausting effort to wield a camera



*Ceyx erithaca*

The clutch of four or five eggs hatches in 17 days with both the male and female incubating. The birds fledge after 20 days and a second brood may be raised if the first fails. The young are fed with geckos, skinks, crabs, snails, frogs, crickets, and dragonflies.

in such testing circumstances. Light is almost nonexistent and rain, which can start pouring cruelly and incessantly, creates a difficult situation to any photographer. A poor umbrella spread over my head makes a valiant effort to keep the nature's fury in check, often failing miserably. Camera and lenses have been draped in a watertight fashion as a secondary line of defense. Unheard of ISO and shutter speeds come into play, as I strive to fashion a respectable image of this resplendent treasure.

As I sit there underneath my makeshift accommodation and wait for the next foray of the kingfisher, I start reminiscing about my journey to this paradisiacal habitat. The awe-inspiring odyssey to this place weaves through the mystical Western Ghats, a magical land of verdant greenery. Torrential rain, innumerable waterfalls and dense green forest create an enchanting visual extravaganza. The beaten paths are encompassed by the colossal cerulean mountains, which appear to extend till the heaven. I feel I am on the top of the world as we saunter through the cloud covered soaring hills and abyssal valleys. One feels like stopping the vehicle and soak in the beauty of nature.

A pleasant intrusion to my dreamy reverie comes in, when the kingfisher disembarks again with a catch of a multicolored skink. Bewitched as ever, I go on a clicking spree. My eyes can't get enough of this tiny soul, which keeps me spellbound again and again. Two captivating, gleeful days in this cradle of

nature just fly by. The whole escapade makes me blissfully buoyant and supremely confident as I come through some of the most grueling conditions known to man. The realization that I have successfully accomplished the photographic documentation of this elusive bird also fills me with fathomless joy. I thank God one more time for inculcating in me, this love for nature and the passion for the wild. Wholly content and sated I head home, these unforgettable moments indelibly etched into my memory.

Chiplun, a tiny hamlet situated deep in the heart of the Konkan, is around 240 kms from Pune. Nishikant Tambe (fondly known as Nandu) is a true conservationist at heart. To him the Oriental Dwarf Kingfisher is the prime priority and it is treated like royalty. Any compromises which can harm the bird are not at all tolerated. Nests are not disturbed at any cost and a strict code of does and don'ts are conveyed to every photographer. A nominal amount collected by him wouldn't even cover the cost of two days of home stay and the delicious food served by his family members. You always end up admiring his intense fondness and dedication towards the ODKFs, which appear to relish the attention showered on them and are thriving in large numbers. I'm sincerely happy that these birds ultimately have found a safe haven in this tiny spot amidst the widely spread Western Ghats.

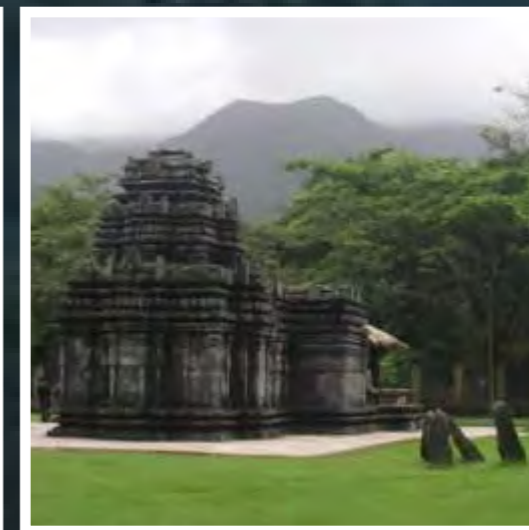
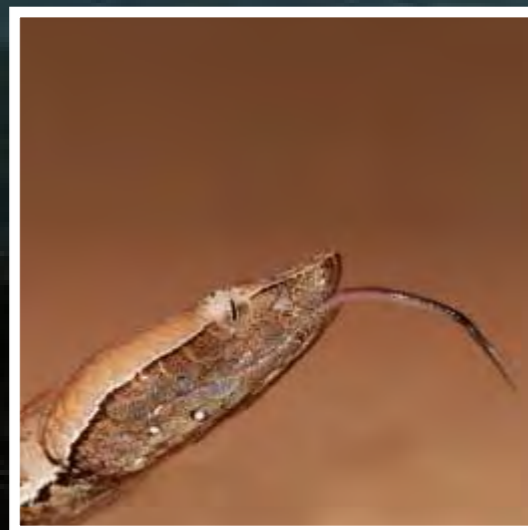


*Ceyx erithaca*

A widespread resident of lowland forest, this species is endemic across much of the Indian subcontinent and Southeast Asia. It is found in Bangladesh, Bhutan, Brunei, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Singapore, Sri Lanka, and Thailand.



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# The Global Arctic Awards

A competition which strives to show the splendor of the Arctic, offering a stunning selection of images which successfully pay homage to a variety of landscapes and wildlife from the frozen wastelands of the extreme North

## *A Gallery of the Spectacular Winners of the Third Edition*

*"Conquering the cold heart of Arctic is a challenge, but there is nothing impossible for those truly in love with the North".*

The Global Arctic Awards is an international photography competition that is already for the third year collecting the best Arctic and North images all over the world. In 2014 "Antarctic" section was also added to Global Arctic Awards.

Photographers from 30 countries have taken part in Global Arctic Awards 2014. The project was fulfilled with the support of the government of the Yamal-Nenets Autonomous region and the Russian Geographic Society.

The hard task was put to 7 international jury members (Sergey Anisimov, Sergey Lidov, Alessandra Meniconzi, Roy Mangersnes, Bryan Alexander, Sergey Gorshkov, Bo Cederwall). But the choice has been done, the winners have been announced and can now be seen on the competition web site: <http://arcticawards.ru/en/winners2014>

The contest winners have been awarded the medals of international photography associations FIAP, PSA and UPI, as well as with prizes and gifts from Global Arctic Awards competition partners.

For the third year in a row Norwegian photographers have taken the "Arctic Photographer of the Year" title. This year it has gone to Audun Rikardsen.

During last two years the Global Arctic Awards project was presented in 15 different cities with 15 exhibitions all over Russia and Europe.

The Global Arctic Awards organizers contest express their sincere gratitude to the partners and sponsors, whose support has played a very important role.

Contact information:

<http://arcticawards.ru>

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Contact person: Aleksey Anisimov  
[globalarcticawards@mail.ru](mailto:globalarcticawards@mail.ru)



**Polar Bear Hug**  
(Daisy Gilardini -  
Canada)

Previous page:  
**Stars**  
**Of Two Worlds**  
(Audun Rikardsen -  
Norway)

**Diving  
Walrus**  
(Franco Banfi -  
Switzerland)





**Magma On The Move**  
(Orvar Porgeisson - Iceland)

**Run**  
(Ivan Kislov - Russia)



**Fight  
of Arctic  
Foxes**  
*(David  
Allemand -  
France)*





**Snowy  
Arctic Fox**  
(Yves Adams -  
Belgium)





**Feeding  
Walrus**

*(Audun Rikardsen  
- Norway)*



**White Wings  
Snowy Owl**  
*(Marco Mattiussi -  
Italy)*

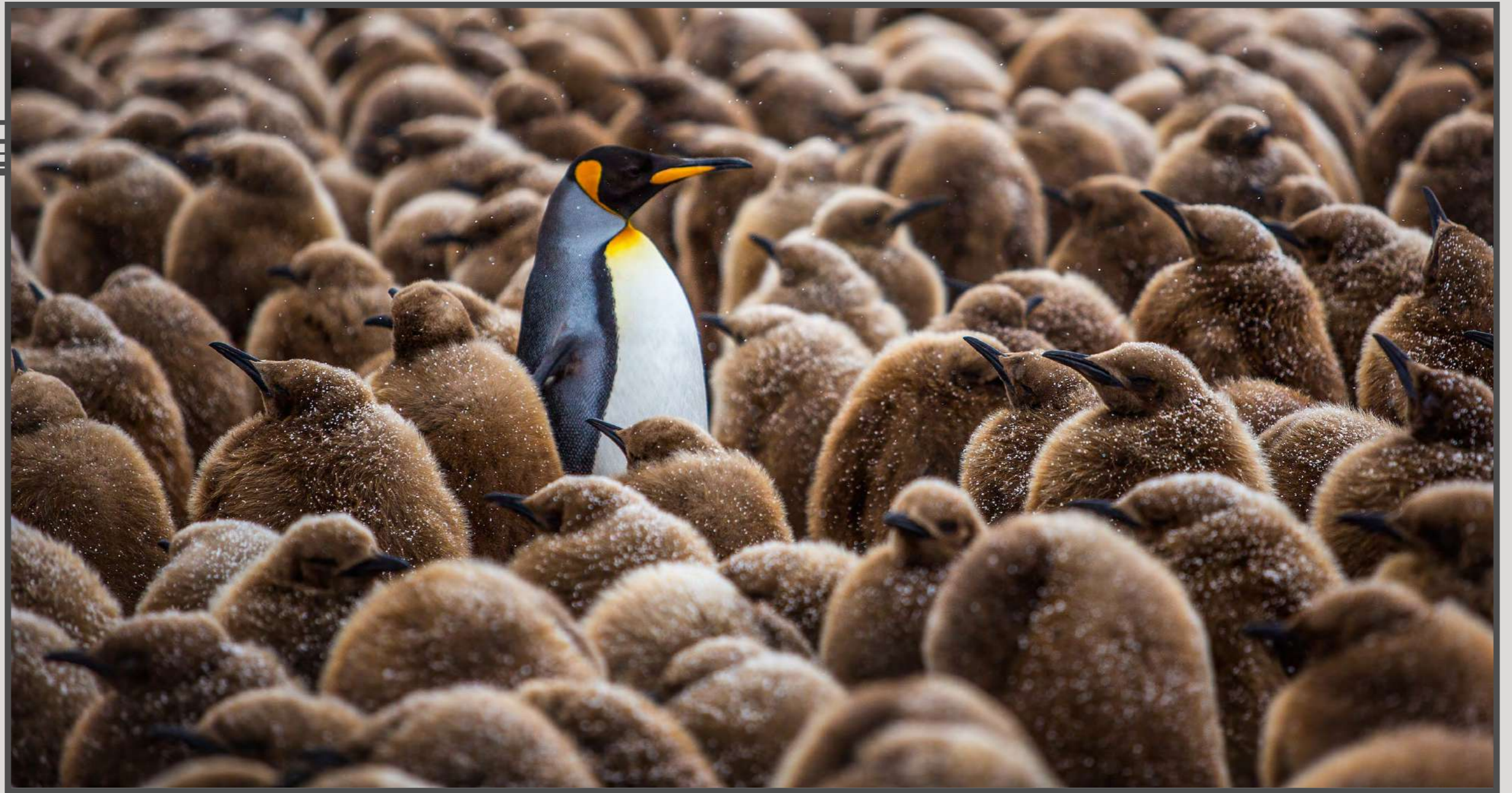


**White Out**  
**Arctic Fox**  
(Yves Adams -  
Belgium)

**A Fleet Of  
Guillemots**  
(Markus Varesvuo -  
Finland)



**Kindergarten  
Teacher**  
*(Dmitriy Moiseenko -  
Russia)*





**Personality**  
(Sergey Kokinskiy  
- Russia)

**Heaven and  
Earth** (Audun  
Rikardsen - Norway)





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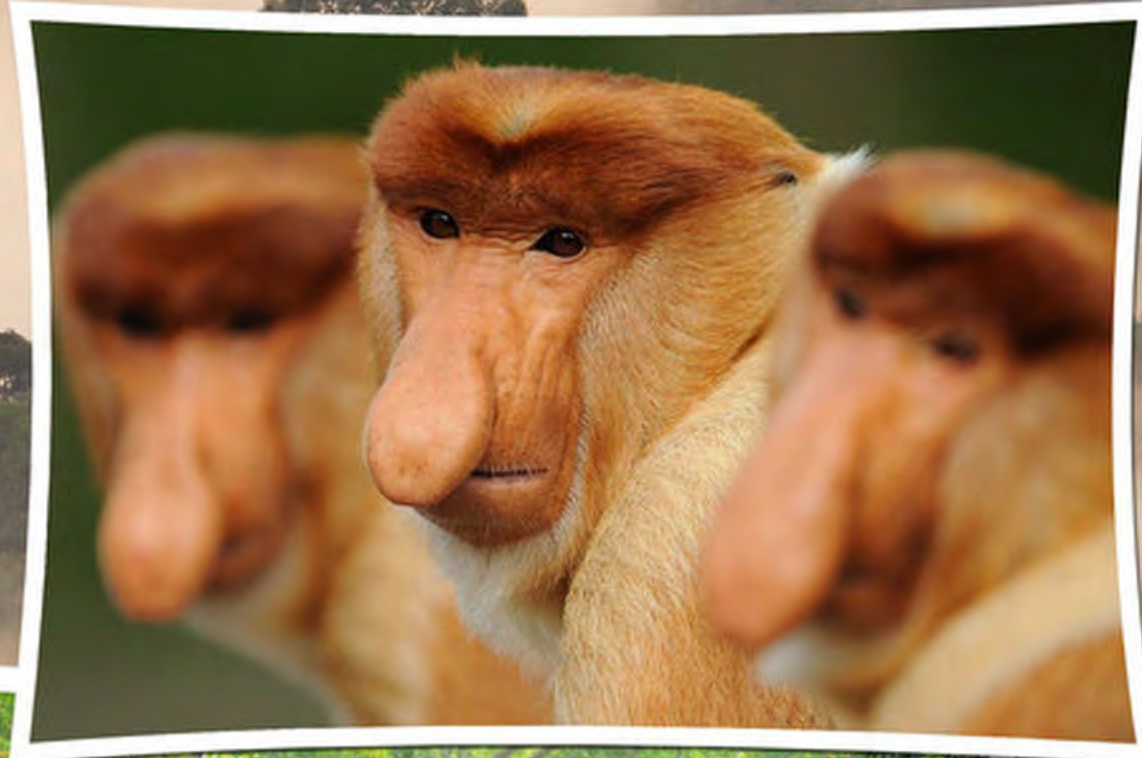


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ENDANGERED FROGS OF THE CARIBBEAN

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## IN SEARCH OF THE MONA COQUI

Herpetologists Jen Stabile and Rafael L. Joglar report on the conservation status of a highly threatened amphibian from Puerto Rico



An aerial view of Mona Island, situated in the heart of the Caribbean, 66 km west of Puerto Rico and 61 km east of the Dominican Republic.



A data logger being placed in situ on a palm tree trunk.

TEXT AND PHOTOS

BY JENNIFER L. STABILE (SAN ANTONIO ZOO, TEXAS)  
AND RAFAEL L. JOGLAR (UNIVERSITY OF PUERTO RICO-RÍO PIEDRAS)

In the heart of the Caribbean, 66 km west of Puerto Rico and 61 km east of the Dominican Republic, lies a small jewel known as Mona. Mona, or Mona Island, is considered by some the Galapagos of the Caribbean. It is rich in both history and biodiversity and large iguanas *Cyclura stejnegeri* roam the island that was once the main destination of pirates and privateers. The Mona Passage, the waters surrounding the island, connects the Atlantic Ocean with the Caribbean Sea. This 129 km stretch of sea is one of the most dangerous passages in the Caribbean, due to deep water and variable tide currents. This is our second trip to Mona Island together, and marks ten years of a dedicated partnership to the conservation of the coqui frogs of Puerto Rico. The coqui frogs, (belonging to the genus *Eleutherodactylus*), are iconic to the Puerto Rican community, and can be found in both the forests and folklore throughout the Puerto Rican islands. Their call is what gives the island its true enchantment (Isla de Encanto), but unfortunately most of the 17 species of coqui are in declining, with three species already extinct. The purpose of our research endeavor was to investigate the biology of the Mona Island

Tree Frog, or Mona Coqui, *Eleutherodactylus monensis* in its natural environment. We also collected 20 specimens (10 breeding pairs) of Mona Coqui to further our captive research efforts. The specific aims of this combined program are to study distribution, population densities, potential causes for decline, reproductive biology, diet, and vocalization. The results of this project will contribute to the documentation of the species status and provide several management and conservation recommendations. Our boat, El Torpedo, left Puerto Real, Cabo Rojo (southwestern Puerto Rico) at 3:00 AM; transporting equipment and our small research group. The boat ride can last anywhere from three to nine hours. It is important to leave for the island at night to avoid the rough late morning and afternoon waters of the Mona Passage. Mona Island belongs to Puerto Rico, and is managed by the Department of Natural and Environmental Resources (DNER) which issues a small number of permits to visit and work on the island. Since it is a natural reserve it does not have permanent residents, only park rangers and biologists are responsible for guiding visitors or participating in research projects. Because of its remoteness, Mona is the most

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A pair of the highly endangered Mona Island Tree Frog, or Mona Coqui, *Eleutherodactylus monensis* caught in amplexus.



An immature specimen of the Mona Island Tree Frog, or Mona Coqui, *Eleutherodactylus monensis*. Dorsal coloration differs from that of the adults.



The egg mass typically laid by the Mona Island Tree Frog, or Mona Coqui, *Eleutherodactylus monensis*.

isolated island in the archipelago of Puerto Rico and it is biogeographically unique. As the sun began to rise, Mona slowly came into view in a pure expression of the Caribbean experience. From our small boat we can see the formation of large limestone cliffs and white sand beaches with swaying palm trees teeming with wildlife. You half expect a Pterodactyl to swoop down from the jagged cliff edge and into its coral filled, crystal waters. As we approached closer, deep caves began to take shape in the sea cliffs of this 11 x 7 km kidney- shaped island. Ecologically it is a subtropical dry forest, rich in biodiversity and endemism; similar to what you find in southwestern Puerto Rico, Fajardo, Ceiba, Caja de Muerto, and the islands of Desecheo, Culebra and parts of Vieques. Most terrestrial reptiles and the only amphibian on the island are endemics and their common names have "de Mona" attached indicating that they are exclusive to this island: Coquí de Mona *Eleutherodactylus monensis*; Salamanzita de Monito *Sphaerodactylus micropithecus*; Salamanzita de Mona *Sphaerodactylus monensis*; Siguana de Mona *Ameiva alboguttata*; Lagartijo de Mona *Anolis monensis*; Víbora de Mona *Typhlops monensis*; Culebra Corredora de Mona *Borikenophis [Alsophis] variegatus*; Iguana de Mona *Cyclura stejnegeri*; Culebrón de Mona *Épicrates monensis monensis*; Lucía o Santa Lucía de Mona *Spondylurus monae*; and Lucía or Santa Lucía de Monito *Spondylurus monitae*. The non-endemic reptiles are: Salamanca *Hemidactylus haitianus*, of African origin; and the marine turtles *Carey Eretmochelys*

*imbricata*, Tinglado or Tinglar *Dermochelys coriacea*, Peje Blanco *Chelonia mydas*, Cabezón or Caguana *Caretta caretta* and the extinct Tortuga Terrestre de Mona *Geochelone (Monachelys) monensis*. Overall there are 16 species of amphibians and reptiles and 92 % (11/12) of the terrestrial extant species are endemic. This trip to Mona is different than the last. This time the island is very dry, thanks to El Nino and to the extreme drought most of Puerto Rico has been experiencing. Many of the bromeliads that once held Mona Island Coqui are dead due to the lack of rainfall and humidity. Our work here this time was primarily in the islands caves. As we entered them we encountered historical documents, such as pictographs of Taino or pre-Taino origin. Records of pre-Taino culture, potentially the Casmiroids, inhabiting the Mona Passage date back to 1000 BC. The Taino, descendants of the indigenous South American and Caribbean Arawak, settled on Mona during the pre-Columbian times. They gave the island its original name after a Taino Cacique, or chief, Amona. We proceeded to monitor transects previously established by our research team, taking data on temperature, moisture and vocalization patterns. We heard sounds of both dripping water and low repetitive chirps. These sounds are produced by the only amphibian found on the island, the Mona Coqui. This one just like the other 17 species of Puerto Rican frogs of the genus *Eleutherodactylus* is characterized by direct development,

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Mona Island belongs to Puerto Rico, and is managed by the Department of Natural and Environmental Resources (DNER) which issues a small number of permits to visit and work on the island. Since it is a natural reserve it does not have permanent residents, only park rangers and biologists are responsible for guiding visitors or research projects.





Detail of one of the petroglyphs which can be found on Mona Island.

which means that they metamorphose directly into miniature coquis without going through a tadpole stage. On Mona, these frogs lay their eggs on vegetation, under rocks or under fallen leaves. The Mona Coqui is endemic to Mona Island and little is known of its current population status. The IUCN consider it a vulnerable species because its range is restricted and the effects of introduced predators on the island. In addition to its small range of only 57 km<sup>2</sup> our research group is also concerned with chytridiomycosis (Bd) already present on Mona, alteration of habitat and climate change. To assist with data collection when we are not present on the island, we have set up an automated recorder to monitor call patterns. This recorder has a battery life of roughly 20 days, and can take up to 10,000 one minute recordings throughout the designated time slot.

Although the island was extremely dry, we were still able to collect 10 pairs of Mona Coqui and they have been transported safely back to the San Antonio Zoo. Our primary objectives for obtaining this captive colony are to establish captive populations to ensure survival in case of a catastrophic event in its natural environment, learn about its reproductive biology, and increase public awareness about the global amphibian crisis. Having worked with a small population in captivity already, we know that the Mona Coqui is unique in its reproductive behaviors as compared to other Puerto Rican coqui species. The male and female both assist in digging out the nest concavity used for oviposition. During the building of the nest, the male appears to cease calling and advertising for another

mate. This reproductive act witnessed by the male and female is uncommon and requires more research to fully understand this unique characteristic. Other immediate research goals include developing karyotype for the Mona Coqui. Vocalization and call patterns are also currently being recorded and processed, which will allow for an accurate account of this species level of activity and density as well as reproductive behaviors. Biological and historical documentation of the Mona Coqui will assist in the further implementation of conservation efforts for this unique amphibian species.

It is said that a trip to Mona Island will change your life. Time stands still on Mona, it is an island that lives in the past. Traces of history waiting to be explored are scattered throughout the isolated landscape. Christopher Columbus is thought to have "discovered" Mona Island in 1493, but the island was home to pre-Hispanic inhabitants, Taino and maybe pre-Taino. The Taino culture came to an end on Mona Island in 1578, 85 years after being discovered. During the late 1500's and for the three centuries following, the island was abandoned to pirates. If you venture into some of the caves on Mona you will find evidence of the original discoverers of the island. The Taino pictographs in Cueva de Espinar and Cueva Negra depict bats, other mammals (perhaps monkeys), birds, lizards and frogs. A testimony that we may have had something in common with Mona Island's first inhabitants: a shared interest in the islands wondrous biodiversity.

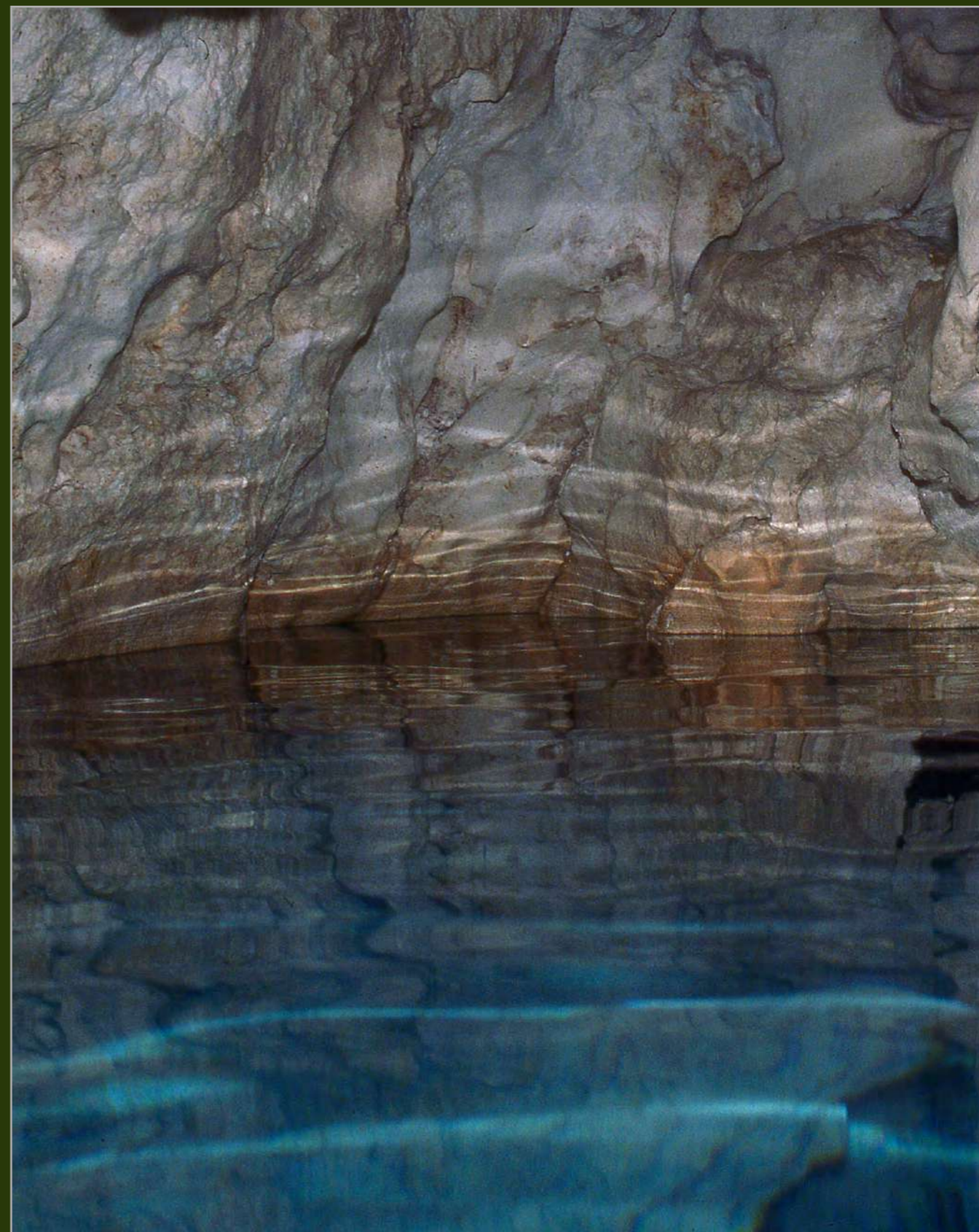


The large and herbivorous Iguana de Mona *Cyclura stejnegeri* is a typical endemic.



The island's dry coastal environment also hosts large numbers of crabs.

Culebrón (or Boa) de Mona *Epicrates monensis monensis*, an endemic species .



A beautiful specimen of the endemic Salamanita de Mona *Sphaerodactylus monensis*.

The dry, eroded limestone rocky coastline is rich in karst formations.

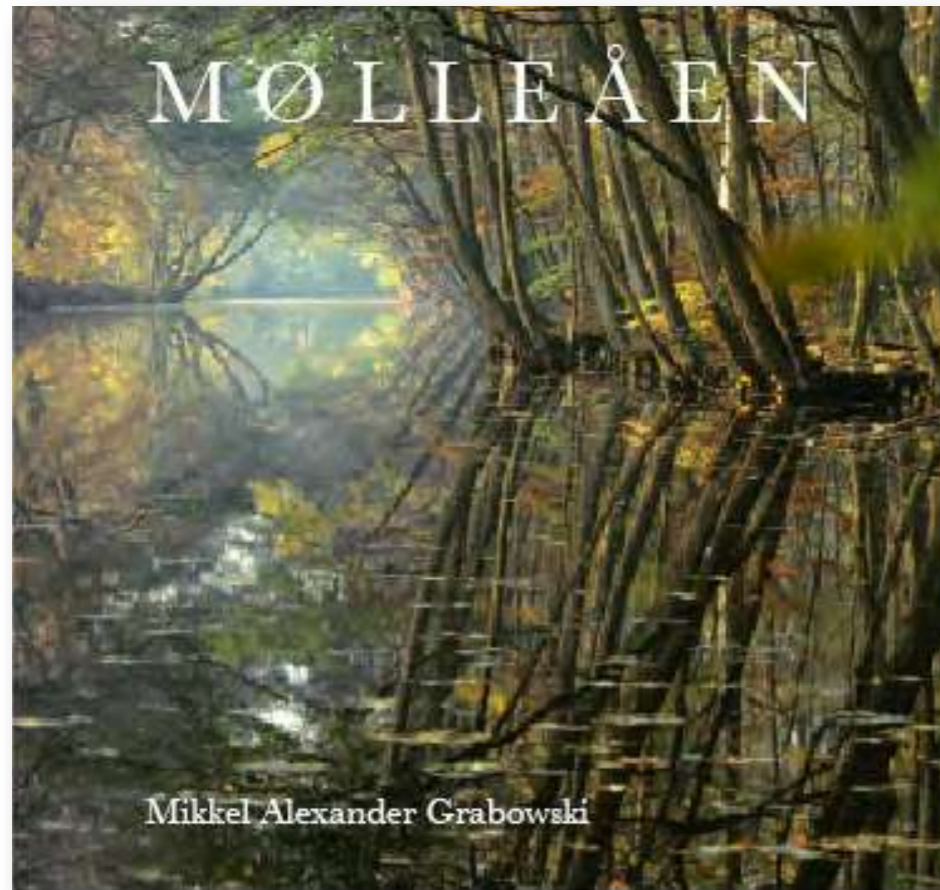


The typically wind- and water-eroded limestone cliffs of Mona face the azure Caribbean sea and offer a multitude of habitat niches in their karst crevices and caves.

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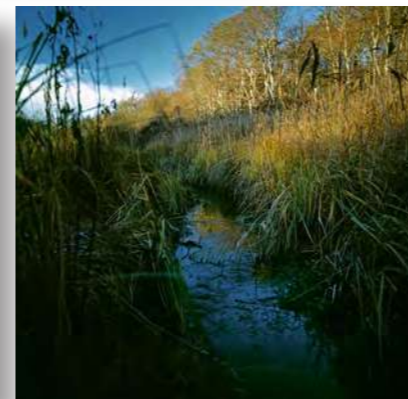
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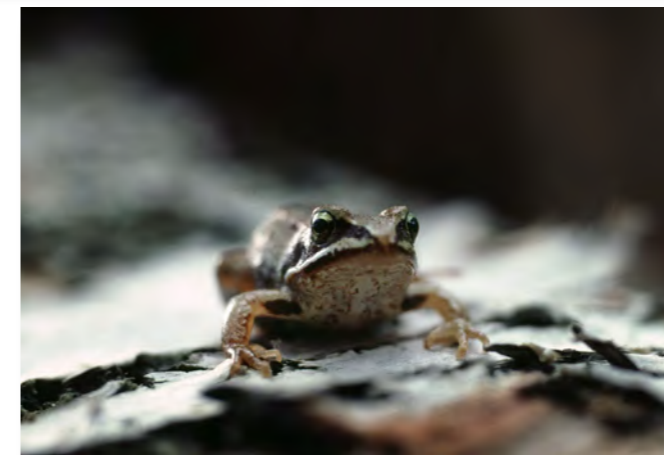
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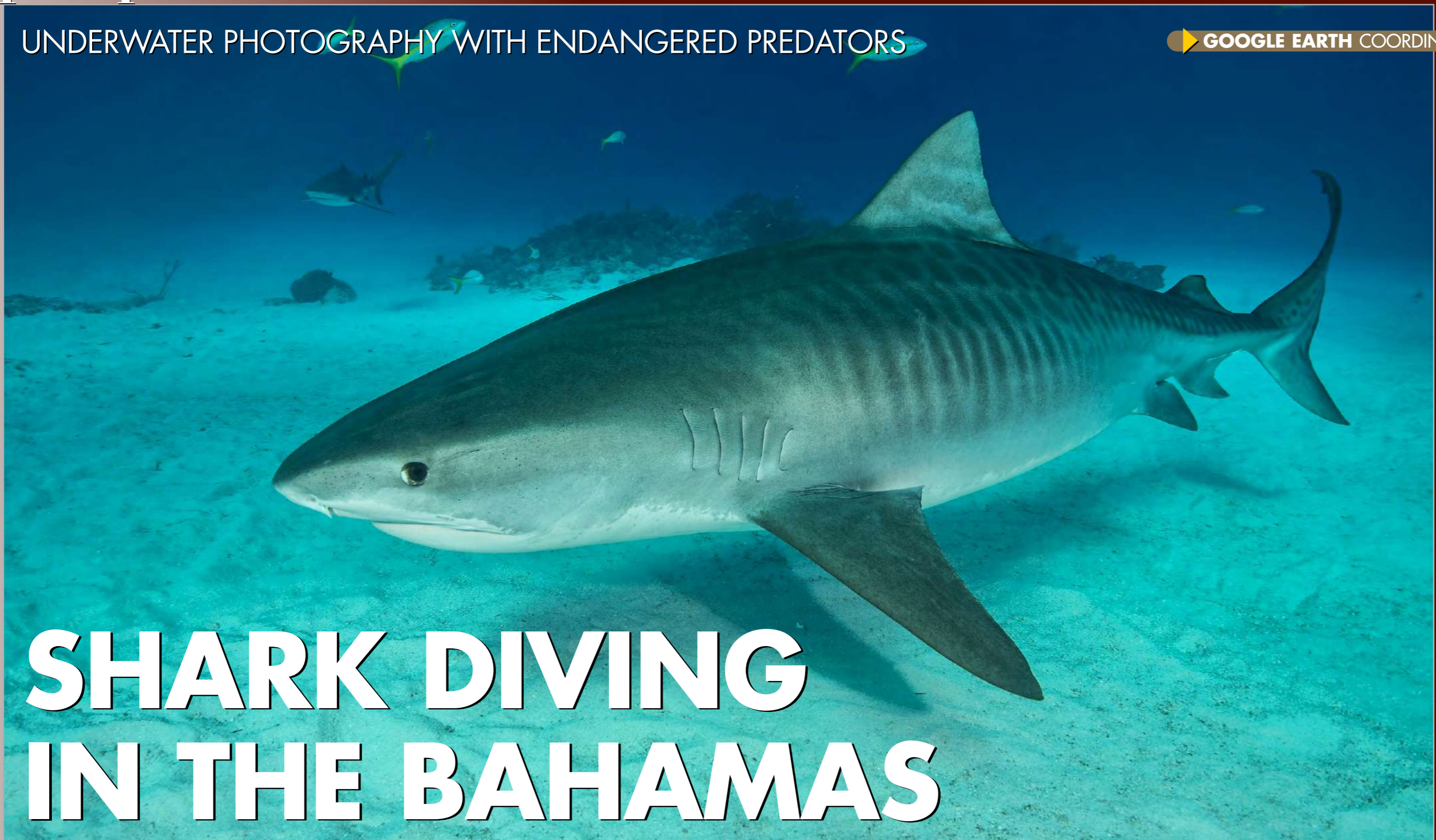


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# Trip Report

UNDERWATER PHOTOGRAPHY WITH ENDANGERED PREDATORS

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## SHARK DIVING IN THE BAHAMAS

Should we accept the controversial idea of baiting large marine animals to be able to watch and photograph them? Probably yes - if it can promote their conservation





**Tiger Shark** *Galeocerdo cuvier*

The Tiger shark *Galeocerdo cuvier* (also featured on the opening spread) is the largest predatory fish in tropical seas. This impressive species gets its common name from the dark, vertical stripes found mainly on juveniles, which - as the animal matures - start to fade and almost disappear completely later on.



**Tiger Shark** *Galeocerdo cuvier*  
Large specimens of this species can grow to as much as 20 to 25 feet (6 to 7.5 meters) in length and weigh more than 1,900 pounds (900 kilograms).

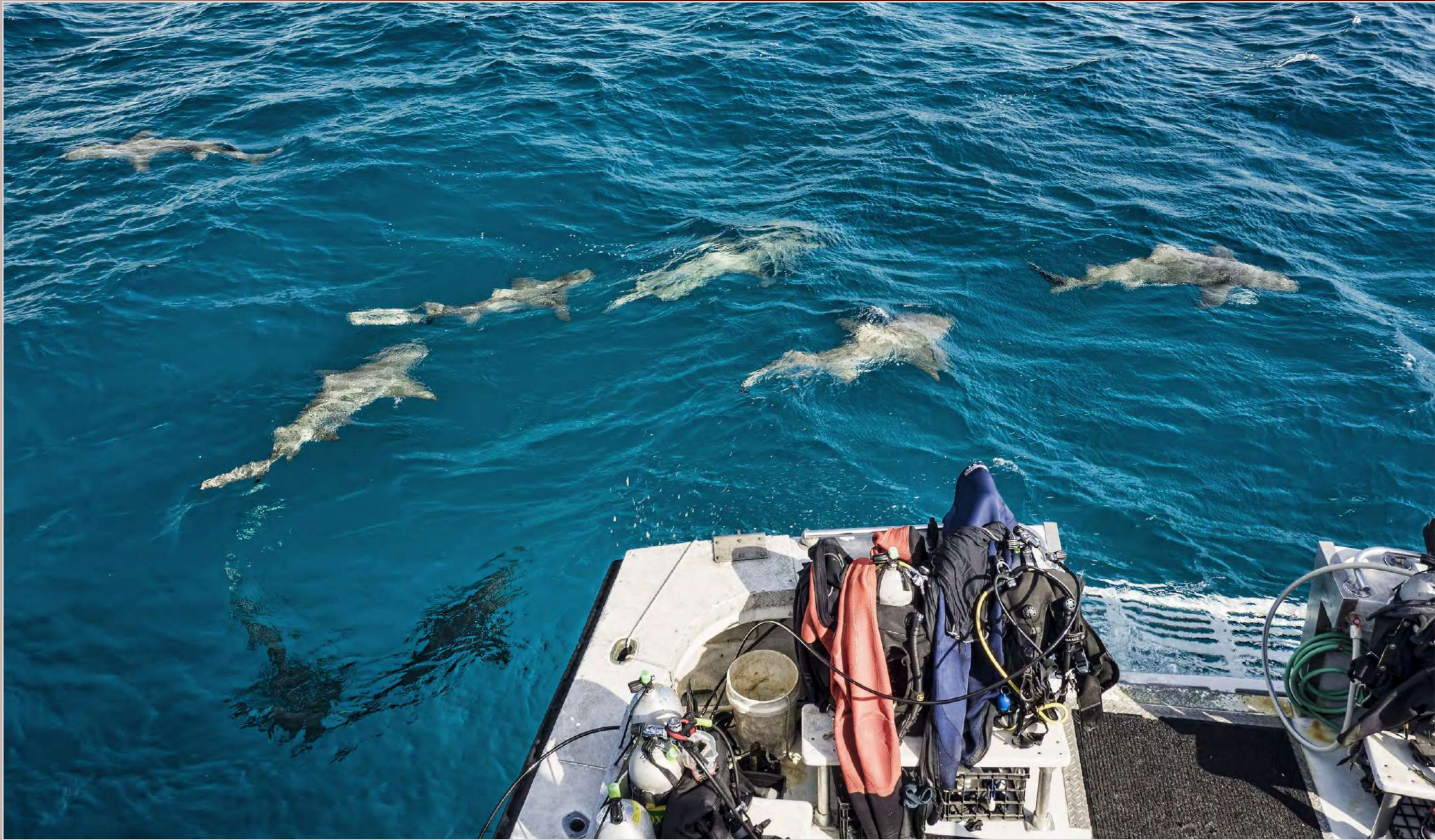
TEXT AND PHOTOS  
BY DON SILCOCK

*F*ew creatures can provoke the almost instant primeval fear within us the way that sharks do. Perhaps it's because they inhabit an environment that is three-dimensional and largely alien to us and one they seem to be the complete master of. Or possibly because when they do eat, they consume their prey with such apparent feral intensity that we automatically associate their name with personal danger. Maybe it's both and there is little doubt that the mass-media has had a significant role in propagating this extremely negative perception of sharks, leveraging as they have the fear and loathing that emanated from Peter Benchley's seminal movie *Jaws* into cheap but effective headline news whenever an attack does happen. But the sad reality is that the twin scourges of long-lining and gill-netting have decimated the global shark population so much that in statistical terms deaths from shark attacks are somewhere between badminton and lawn bowling fatalities. Or as someone famously once said (quoting health department records...) sharks bite fewer people each year than New Yorkers do! The rise of the rich and the super-rich in China, plus the country's burgeoning middle class, has created an almost insatiable desire for shark fins – the signature ingredient for the soup of the same name - the consumption of which is an excellent way of signaling that you have arrived and are an integral part of the new

economy in that most populous of countries. Gone are the days when the Short-Fin Mako Shark was a relatively common sight in the Mediterranean, or Silky Sharks were abundant in the Gulf of Mexico – the shark-finders having decimated those populations by 70% and 86% respectively. It's a similar story in the north-west Atlantic Ocean, where the Hammerhead Shark population has plummeted 89%, and the Central Pacific where there has been a 90% decline of the Oceanic White Tip. The numbers involved are simply absurd, with an estimated 200,000 sharks being caught each day, or put another way about 73 million sharks are removed from our oceans every year. The results of that slaughter are equally incredible with 75% of oceanic sharks and rays and 30% of all sharks and rays threatened, or near-threatened, with extinction! All driven by the incredible demand for a soup that has to be flavored artificially because it's principal ingredient adds little more than a specific texture to the broth...But so-what... does it really matter if these shark populations are being decimated? Ask the average guy in the street and the answer would probably be a resounding no - because in the mind of the general public the only good shark is a dead one!

But what is the role of the shark in the sea and just how dangerous are they to man? Hard to say when so many have been

*continued on page 97* ➤



**Jumping into the Shark Ring**

This is the sight meeting divers and underwater photographers once the boat gets at destination. A number of sharks - accustomed to divers and especially to being fed - circle on the surface in expectation. Despite what most people would think, accidents on such occasions have been rare - although they do have indeed taken place.



**Tiger Shark** *Galeocerdo cuvier*

The perfect predator/scavenger, with superb senses of sight and smell and an almost limitless menu of diet items with the stomach contents of captured sharks revealing stingrays, sea snakes, seals, birds, squids, and even license plates and old tires. Tiger sharks are to be found in tropical and sub-tropical waters throughout the world.



**Caribbean reef shark** *Carcharhinus perezii*

This elegant, stocky species is found on the east coast of the USA, ranging southwards down to the Caribbean and as far as Brazil.

butchered that it is now really quite rare to see sharks in large numbers and so, to form any kind of opinion, you have to travel to where they are protected as they simply don't come to you anymore. Thankfully there are countries that have realized that sharks are extremely important to their seas and fish stocks, plus the growth of shark tourism means that live ones are immensely more valuable than the dead and definned variety! One of the first such countries was the Bahamas - an island nation in the Caribbean, not far from Florida on the east coast of the United States, which is famed for its picturesque beauty and crystal clear waters. The Bahamas was never really at the absolute bleeding edge of the conservation movement having suffered from over-exploitation of its fish stocks over the years and in places over-development of tourist resorts in ecologically sensitive areas. But there is no major industry in the country and its people generally have a deep and visceral understanding of the importance the health of their surrounding waters is to their long-term prosperity.

Therefore the establishment of the Bahamas National Trust in 1959 to manage the first marine protected area in the world – the 112,640 acre Exuma Cays Land & Sea Park - can now be viewed as an incredible piece of foresight! The Bahamas have since added another 26 national parks covering

over 1 million acres of land and sea, together with enacting substantial supporting environmental legislation, including in 1986 making Exuma Cays a no-take marine reserve. Then in 2011 the government went one step further and became the 4th country in the world to establish a shark sanctuary by formally protected all sharks in Bahamian waters.

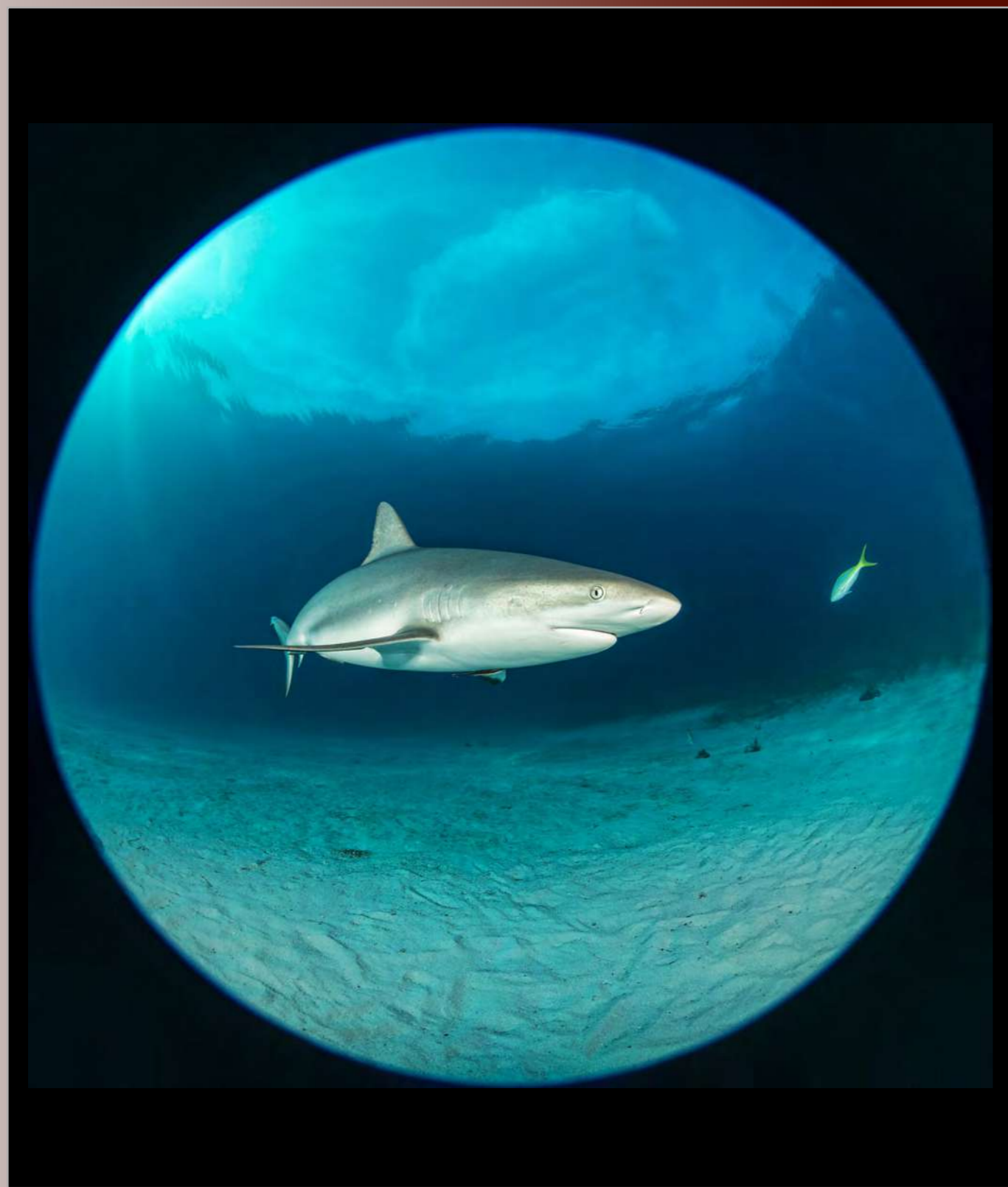
Tacit recognition of the significance of sharks to the overall health of its fisheries and the cold hard fact that a live shark is worth a lot more in tourist dollars than a dead one – with “shark interactivity” said to worth an estimated \$50m a year to the country's economy...So in January 2015 I embarked on the epic three-day journey from my home in Bali to experience what are now said to be some of the richest waters on the planet.

The Bahamas have long been on my personal “to-do” list as I had heard great stories about the vibrancy of its shark population and the principal objective of my trip was to check out the veracity of those stories. But if the truth is told, I guess in reality I was mentally ticking off the Bahamas from my personal “bucket list” of places I must dive before I die...I certainly was not expecting to have an epiphany while there, but I have to say that as someone with a deep (no pun intended...)

*continued on page 99* ➤



**Caribbean reef shark** *Carcharhinus perezii*  
This could be defined as a truly "typical" shark species because of its distinctive robust and streamlined shape, coloration, large eyes and short but rounded snout.



**Caribbean reef shark** *Carcharhinus perezii*  
Caribbean reef sharks grow up to 3m long and can weigh up to 70kg.

interest in the marine environment being amongst so many healthy sharks for the first time had a quite profound impact on me. Basically for the first time in over 30 years of diving it finally dawned on me just how and why sharks are so important to the world's oceans and therefore to us - the people who collectively extract so much from those waters! Let me explain...

The marine environment is a complex and multi-faceted thing, but if there is one global truism it is that everything has its place in the greater scheme of things and 400 million years of evolution have produced what could be referred to as a "fine balance". Sharks are a very necessary part of that fine balance and can be thought of as the masters of their ecosystems, whether that be a reef or open ocean. Their role at the top of the marine food chain means that they clean up the oceans with ruthless efficiency - ironically, the very thing about them which scares us so much. Without sharks the dead, the dying, the diseased and the dumb of the oceans can pollute and degrade the health of those ecosystems and the genetic quality of its inhabitants. The many species of sharks are there for a reason and they have evolved superbly, in true Darwinian fashion, to execute their mission. Remove the sharks and disruption occurs, something marine scientists refer to

rather prosaically as "trophic cascades" – think of the shark as the first in a long line of finely balanced dominos and if it is tipped over the rest start to go down as well.

The impact of shark finning in the Caribbean illustrates the impact of such cascades extremely well, for when the shark population declined it removed one of the natural limitations on the number of groupers in those waters. Groupers have voracious appetites and also breed rapidly, but a healthy shark population would keep overall numbers in check and maintain that fine balance. But as the number of sharks declined it allowed the number of groupers to increase, who subsequently consumed a disproportionate number of reef fish, which meant that the naturally occurring algae was no longer being consumed and so the reefs started to die.

There is no quick fix for these events because sharks grow slowly, mate intermittently, have long gestation periods and do not mass produce their young. Sharks therefore are basically an incredibly important part of our marine ecosystems and removing them en-masse, like the long-liners have done, results in immense disruption to our oceans.

The ultimate impact of all this is still far from understood, but the worst case scenarios are indicating a total global collapse of fisheries stock by 2048.

*continued on page 101* ➤



**Tiger Shark** *Galeocerdo cuvier*

The broad, blunt nose and the significant girth of this impressive species give it a commanding presence. Moreover, Tiger sharks have a reputation as man-eaters and are said to be second only to the Great White *Carcharodon carcharias* in attacking people, although this could be said of the Bull Shark *Carcharhinus leucas* too.





**Caribbean reef shark** *Carcharhinus perezii*

Although considered dangerous to humans, Caribbean reef sharks do not really have a history of unprovoked attacks on humans and are generally passive towards divers, snorkelers and swimmers. They can however become aggressive in the presence of food.

To begin to really understand the relationship between sharks and man in the sea you need to witness them in their natural environment and that was the incredible impact my trip to the Bahamas had on me. For the first time I was able to see a large number of different sharks all congregated in one location with a single common interest – the source of the aroma from the bait-boxes...The boxes used are plastic milk-crates packed with fileted fish carcasses and then “sealed” with a thick plastic top held in place with numerous cable ties. In the water the scent of the dead fish that percolates out from the bait boxes attracts any sharks in the area, but does not whip them into the frenzy that shark-feeding tends to do. They are positioned in the current so that the scent of the dead fish is carried downstream and the sharks swim in to the current up the “runway” to the bait-box. While it could be argued that the bait-boxes create an artificial stimulus, my opinion is that it is probably the closest you can get to seeing how a healthy shark population would react when a large creature such as a whale or manatee dies. Over a period of 5 days we repeatedly entered the water where a large number of sharks were patrolling – Caribbean reef sharks, sand tigers, lemon sharks and on

**Tiger Shark** *Galeocerdo cuvier*



**Tiger Shark** *Galeocerdo cuvier*

several occasions the incredible tiger shark. Not once did I have cause to be really frightened... awed, inspired, wary and slightly intimidated for sure, but actually scared and concerned about my overall welfare – not once! It sounds almost trite and to a degree self-serving to say that you were surrounded by dozens of large sharks ranging in size from about 1.5m to, in the case of some of the larger tiger sharks, over 4m in length and were not scared. But it is true, and it's possible... because we humans are simply not a principal food-source for the sharks that were present. Those sharks are more like scavengers than predators and humans underwater are basically in the "too hard" basket because we are large, make a lot of noise and generally do not send the right signals to stimulate their highly evolved hunting instincts! This is particularly so in the Bahamas where that fine balance has largely been restored by the creation of the marine protected zones and the sharks have plenty of their "normal" food sources.

The best place in the Bahamas to experience sharks is Tiger Beach – which quite contrary to its name is nowhere near an island. First dived back in the early 1990's, when the area was known as Dry

Bank and had a strong reputation amongst big-game fishermen for shark action, it was christened Tiger Beach because the sandy bottom and shallow waters in the first shark photographs made it look like one... The Bahamas are said to take their name from Baja Mar - Spanish for "shallow seas" because the archipelago of 29 main islands and roughly 700 cays that form the country reside on top of two main limestone carbonate platforms called the Bahama Banks. The Great Bahama Bank covers the southern part of the archipelago and Little Bahama Bank covers the northern part, with incredible channels as deep as 4000m separating the two. Those channels are flushed with the clean rich waters of the Atlantic Ocean as the Gulf Stream makes its way through the Caribbean and then up the Florida coast. It is the combination of those rich waters and the shallow, sheltered cays and reefs of the Bahama Banks that make the area so prolific. Tiger Beach is located on the western edge of Little Bahama Bank, about 30km west of the town of West End on the north Bahamian island of Grand Bahama. The satellite tagging of tiger sharks in Bermuda since 2009 has revealed two really interesting facets of their behaviour – firstly they spend a lot of time at the surface, which is believed to be related to feeding and

*continued on page 107* ➤



**Tiger Shark** *Galeocerdo cuvier*

Tiger sharks have extremely low repopulation rates and long gestation periods, which make them highly susceptible to fishing pressure. Listed as near threatened throughout their range, they are being nevertheless slaughtered in large numbers everywhere for their fins, skin, meat and liver, which is rich in oil and vitamin A.

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Tiger shark *Galeocerdo cuvier*.



Tiger shark *Galeocerdo cuvier*.

## TIGER SHARK

The Tiger shark *Galeocerdo cuvier* is the largest predatory fish in tropical seas and gets its name from the dark, vertical stripes found mainly on juveniles, which as they mature start to fade and almost disappear completely. Their large blunt-nose and significant girth gives them a commanding presence and they have a reputation as man-eaters and are said to be second only to great whites in attacking people. But because they have a near completely undiscerning palate, they are not likely to swim away after biting a human, as great whites frequently do. They are the complete scavenger, with superb senses of sight and smell and an almost limitless menu of diet items with the stomach contents of captured sharks revealing stingrays, sea snakes, seals, birds, squids, and even license plates and old tires. Tiger sharks are to be found in tropical and sub-tropical waters throughout the world. Large specimens can grow to as much as 20 to 25 feet (6 to 7.5 meters) in length and weigh more than 1,900 pounds (900 kilograms). They are hunted extensively for their fins, skin, and flesh plus their livers contain high levels of vitamin A, which is processed into vitamin oil. Tiger sharks have extremely low repopulation rates and long gestation periods which make them highly susceptible to fishing pressure and as a result they are listed as near threatened throughout their range.

Caribbean reef shark *Carcharhinus perezii*



#### CARIBBEAN REEF SHARK

The Caribbean reef shark *Carcharhinus perezii* (photo at left) is almost the shark “from central casting” because of its distinctive robust and streamlined shape, coloration, large eyes and short but rounded snout. Found on the east coast of the USA and southwards down as far as Brazil, Caribbean reef sharks grow up to 3m long and can weigh up to 70kg. Although considered dangerous to humans, they do not have a history of attacks on humans and are generally passive towards divers, snorkelers and swimmers. They can however become aggressive in the presence of food and if threatened, they will exhibit threatening behaviour by zigzagging while dipping the pectoral fins at intervals of 1-2 seconds. Adults begin to mate once they reach between 1.5 to 2m in length but the reproduction cycle is long because females only get pregnant every other year and the gestation period is another 12 months. Caribbean reef sharks are viviparous and the usual litter size is four to six pups which are about 0.5m long when born.



Lemon shark *Negaprion brevirostris*.

#### LEMON SHARK

The Lemon shark *Negaprion brevirostris* (photo at left) is one the best known and most researched sharks because they are able to handle captivity for extended periods of time, thereby providing scientists with extensive opportunity to observe their behaviour. Adult lemon shark often reach up to 3.5 meters in length and about 190 kilograms in weight, making it one the larger sharks. Named for its bright yellow or brown pigmentation and is found in tropical and subtropical waters in coastal areas of the Atlantic and Pacific Oceans, usually in moderately shallow water no deeper than 80 meters. Lemon sharks are a social species and are often seen in groups which have a structured hierarchy system based on size and sex, and are known for migrating from area to area, often over hundreds of kilometres to reach mating locations. They are viviparous and females give birth to 15 to 20 live pups after a gestation period of around 12 months. Lemon sharks rarely if ever demonstrate any aggressive behaviour to each other or towards humans and there has never been a recorded fatality from one of them attacking.



**Caribbean reef shark** *Carcharhinus perezii*

When facing a possible aggressor or trespasser in its own territory this species will exhibit threatening behaviour by zigzagging and arching its back while dipping the pectoral fins at intervals of 1-2 seconds, a behavior it has in common with several other "grey reef" sharks. These warning signs should never be ignored by divers.



**Caribbean reef shark** *Carcharhinus perezii*

Caribbean reef sharks are viviparous, giving birth to live, autonomous progeny. The usual litter size is four to six pups, which are about 0.5m long when born.

hunting patterns. Secondly their migration patterns are very consistent, with 5-6 months of the northern spring and summer months spent in the open Atlantic Ocean to the north and west of Bermuda, followed by a migration south to the Bahamas where they spend the autumn and winter months. It is believed (but not yet proved) that the months in the open ocean are related to mating and feeding on the migratory loggerhead turtles that pass through at that time of year, while the time spent in the Bahamas is related to gestation as most of the tiger sharks observed at Tiger Beach are females and many of them are pregnant. Significantly the tagging also revealed that tigers, unlike the vast majority of sharks, are almost a "multi-mode" shark that behaves as an open-ocean pelagic during the warmer months and then like a reef shark in the colder ones.

Arriving for the first time at Tiger Beach is somewhat of a soul-searching experience because it's one thing to read and hear about the sharks that congregate there, but quite another to actually be there preparing for that first dive when there are up to a dozen 2-3m sharks circling the back of the boat and lots of others visible in the clear waters! The briefings provided on my trip were both extensive and exemplary, with everything clearly explained in a logical and non-sensational way from how to prepare to

go in the water, how to enter and what to do underwater plus we were closely watched and monitored throughout. But the fact of the matter is that waiting for a gap in the patrolling sharks and then carefully rolling in amongst them is not something you do on a daily basis...It was a little bit like that time I went sky-diving when my brain struggled to deal with why I was jumping out of a perfectly functional plane! Once underwater however, nerves settle and an awareness starts to form for the sharks and their behavior patterns – from the pushy way the Caribbean reef sharks approach and tend to work in a bit of a pack, to the sneaky way the large lemon sharks approach low to the bottom with a leery look straight out of one of those horror movies. But that new awareness fades to grey when the first tiger shark arrives. Tigers are large formidable creatures with a commanding presence that indicates they know their place at the top of the food chain. They move slowly and carefully, checking out what is going on and the other sharks clearly defer to them. The protocol at Tiger Beach is not to worry about the lemons and reef sharks, as the only real chance of being bitten is if you break the cardinal rule of getting too close to the bait box and even then a bite is unlikely to be life-threatening, but you should always know where the tigers are and you should always face them – literally keeping the eye of the

*continued on page 109* ➤



**Lemon shark** *Negaprion brevirostris*

Adult lemon sharks often reach up to 3.5 meters in length and about 190 kilograms in weight, making this species one of the larger sharks. Named for its bright yellow or brown pigmentation, it is found in tropical and subtropical waters in coastal areas of the Atlantic and Pacific Oceans, usually in moderately shallow water.





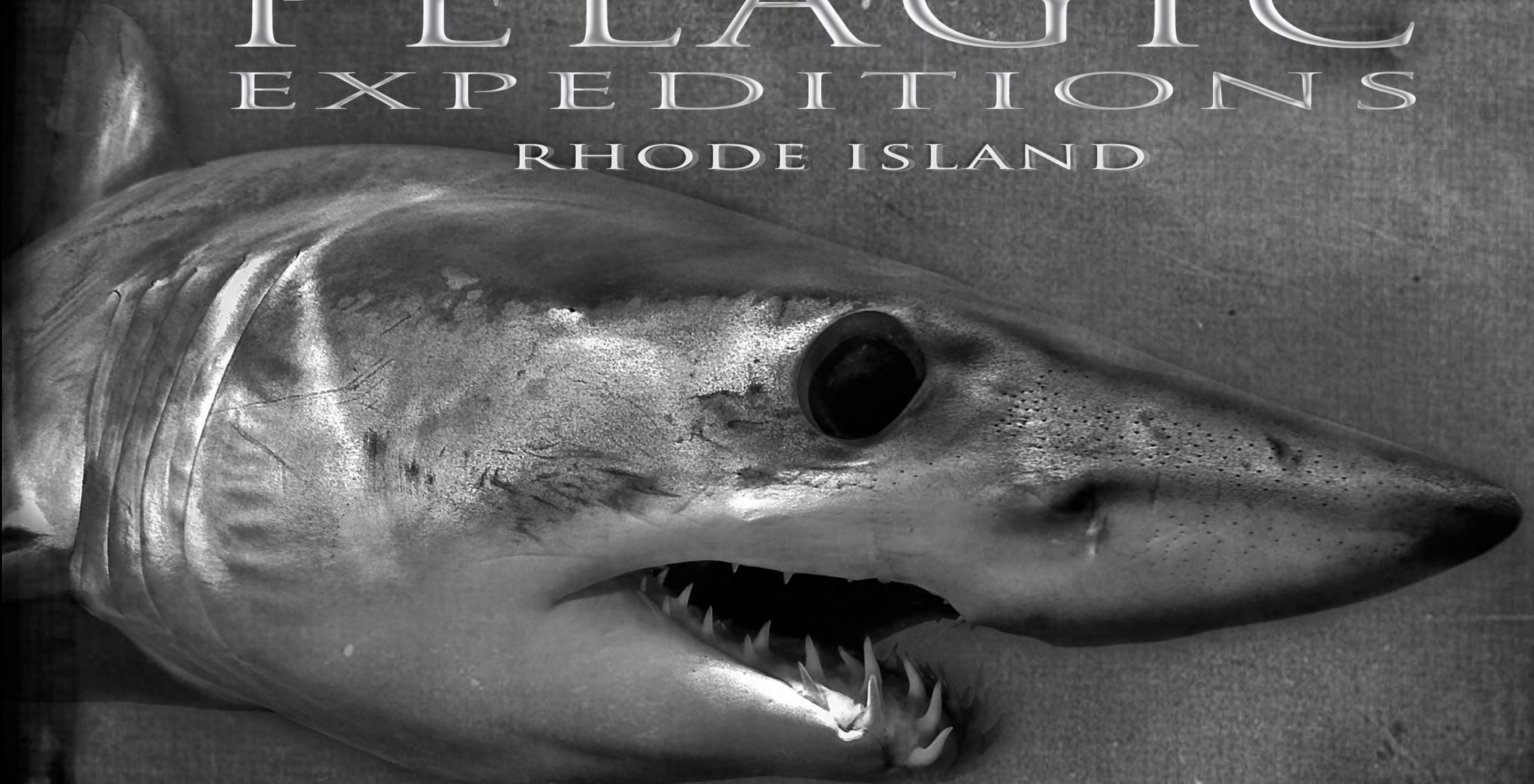
**Lemon shark** *Negaprion brevirostris*

Lemon sharks are a social species and are often seen in groups which have a structured hierarchy system based on size and sex, and are known for migrating from area to area, often over hundreds of kilometres, to reach mating locations.

tiger in view at all times! Tiger sharks are intelligent and curious animals that tend to approach divers because their sensory systems pick up the tiny electrical and audible signals emitted from our instrumentation and photographic equipment. They will tend to bump with their snouts as they investigate the stimuli further and there is always the chance that will use their mouth and, as their jaws are so powerful, even a gentle nip would be life-threatening. So photographers are instructed to use their cameras as a shield, with the strict instruction to let go if a tiger decides to do a taste test. While everybody else is issued a long piece of 1" plastic pipe that should be held vertically Jedi-stick style to create a kind of psychological barrier. Yes, I know... plastic pipe for a tiger shark? But it works because all the tiger sees is a long vertical thing which is orientated in the wrong direction for its horizontal mouth and therefore turns away. Remember, it's not about hunger – they are simply curious. Tiger Beach is quite unique and something that should be on every divers bucket list. Where else can you get to experience such a variety of sharks and come eyeball to eyeball with one of the ocean's apex creatures? All in relatively shallow water with superb visibility! But if you go, do so with an open mind and prepare yourself to see those sharks in the role that nature intended for them, not the one the mass-media has conditioned us to look at them. ●

Don Silcock's images, articles and extensive location guides can be found on-line on his website [www.indopacificimages.com](http://www.indopacificimages.com)

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

## *The Parting Shot*



According to my own information and to that provided at the time by my friend Doug Perrine - underwater photographer *extraordinaire* and at that time owner of the specialized photo agency Innerspace Visions - I was the first ever, about 30 years ago, to photograph a free-swimming, live Oceanic or Big-eyed Thresher Shark *Alopias pelagicus* in the wild, while diving at the Layang-Layang atoll in the South China Sea. The resulting image - shot on one of the available 36 frames I had from my Fuji Velvia

50 ASA film roll in my Nikon F4 camera - is the one you see here: it was sold and published worldwide a number of times since then. Now a veritable avalanche of pictures qualitatively much better than this one are widely available, especially since a cleaning station consistently frequented by this striking species has been discovered several years ago in Moalboal, Philippines, and thanks to the amazing low-light capability shown by contemporary digital cameras. One today could easily shoot this in

ambient light at 2000+ ISO with no noise at all and with an almost unlimited number of shots available, while I just had to contend with my meager 36 slides and a sensitivity of 50 (more like 40, in fact) ISO. So please forgive the grainy film scan and the indifferent quality of the image - I share this old memory because I'm actually still very fond and proud of it despite its obvious technical faults. Besides, what an incredible thrill it was encountering this amazing shark for the first time! ●



**LAND OF LEMURS**  
A trip to Madagascar's  
Ranomafana National Park



**THE GOLDEN  
PIT VIPER**  
A rare encounter  
from Assam



**IN LOVE WITH BUGS**  
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by Yasir Mehamood



**A NEW FROG SPECIES**  
Discoveries from  
the Chocò of Ecuador



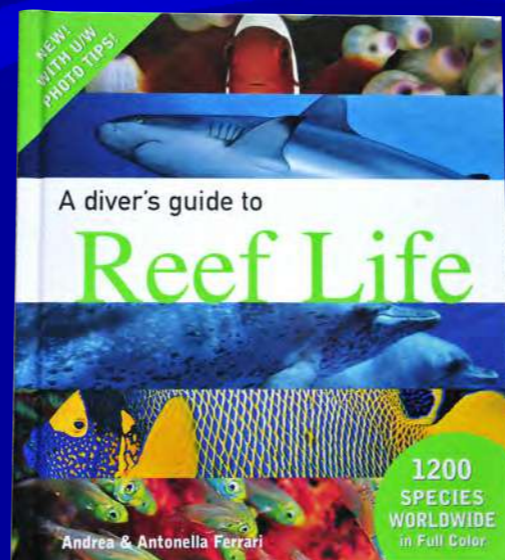
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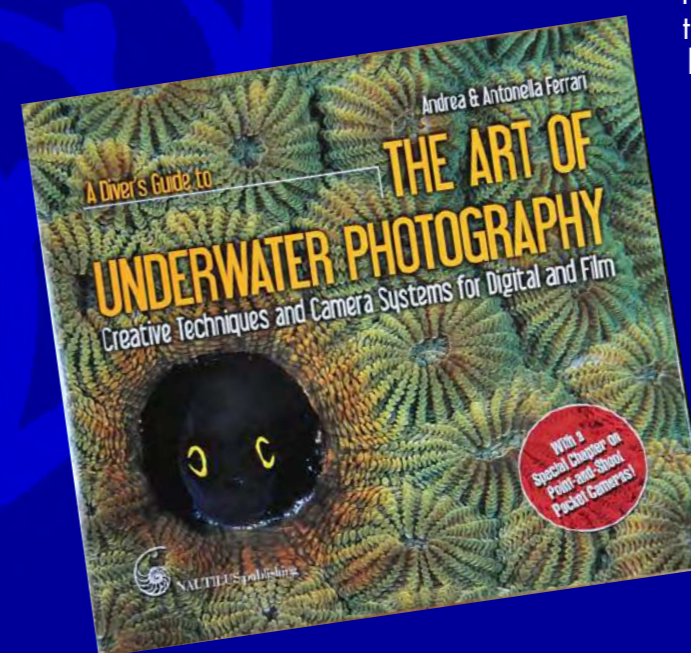
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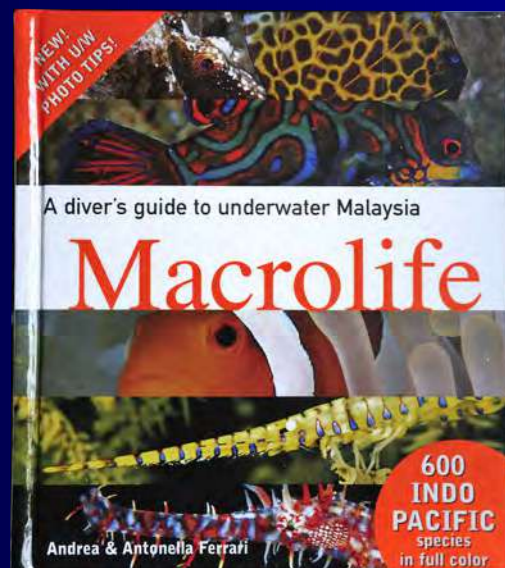
ALEX MUSTARD, WETPIXEL.COM: This book gives us a rare insight into the mindset, dedication and imagination involved in creating magnificent underwater images. I sat down and read this enjoyable book from cover to cover. The lack of techno-talk makes it a very accessible method to improve your photography. The images are some of the finest you will see in a guide to underwater photography. All the images are very well reproduced, which will not come as a surprise to anyone who owns any of the other books by the authors. A large format 360 page feast of fabulous images and thought provoking and enjoyable writing on taking pictures in the ocean. • UNDERCURRENT: This book is filled with spectacular images, designed not only to offer great technical guidance, but also help the underwater photographer discover and develop the artist within. Clearly the best and most beautiful "how-to" book ever produced. • JOHN BANTIN, DIVER MAGAZINE: With an enviable reputation for authoring fine books on underwater photography, the Ferraris have laced the pages of their new book with juicy pictures.

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