



ANIMA MUNDI

Adventures in Wildlife Photography

Issue 7, Year 2 - 3rd Quarter, July 2012

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SAND, SNOW AND SKY The Colorado Plateau

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KING OF THE PRIMEVAL FOREST The European Bison

■ A tabanid fly sucks blood close to the dreamy, peaceful eye of a South American Tapir *Tapirus terrestris* - a close-up image from our Yasuni National Park trip report starting from page 8.



ANIMA MUNDI

Adventures in Wildlife Photography

The Waorani conundrum

Now that is a rather esoteric title for an editorial, isn't it? But as we have presumably succeeded in piquing your interest, we should perhaps now translate it in more colloquial English - and the riddle of our title is basically this: *"Should an indigenous ethnic group be allowed to live and hunt by modern means inside a protected area - once it has abandoned forever its original, low-impact way of life?"*

Let us be very clear on a specific point - we do not believe in the romantic illusion of some indigenous tribes living in blissful harmony with nature, untouched and virginal creatures of the rainforest. Most of the "untouched" natives we have encountered live a miserable, disease-ridden, anguished life. And the first thing they will do if given a chance will be buying a chainsaw to cut down the trees of their native forest, and buying a gun to shoot and eat any edible animal they can catch. Their priorities are understandably basic - no fear of tomorrow and a full stomach. We realize this view is not accepted by many - but this is what we think after so many trips in the field. Basically, we do not believe that natives, once exposed to modern weapons and tools, can possibly coexist with wild animals - feared as dangerous and coveted as food or for commerce, the latter will be inevitably hunted down to extinction. Forest-dwelling natives do not care about conservation, they just want to survive and possibly better their living conditions! After all, this happens even in developed cultures, where the concepts of "conservation" and "wildlife protection" have already taken root - it's just another repetition of the ageless conflict between Man and Nature. It happens all over the world - between tiger and tiller in India, between orangutan and planter in Borneo, between elephant and farmer in Africa and Asia. But with a twist, this time - one of the world's most unique Biodiversity Hotspots is at stake. If you want to know more about the Waorani conun-

drum and its complex origins and implications, go to page 8 and read the first part of our trip report to Ecuador's Yasuni National Park, a truly heavenly slice of the Amazon's "Green Hell".

Before that you might however want to taste a very special appetizer - so enjoy our Scoop at page 4 and discover some new and very intriguing aspects of the reproductive behavior of the infamous Tarantula Hawk wasp we have recently witnessed in Ecuador's lowland rainforest.

After these two juicy features you'll have had your fill - presumably - of South America, so scroll to page 57 and marvel at the beautiful landscapes of the Colorado Plateau and the Rocky Mountains of North America, courtesy of our contributing photographer Rafael Cardenas - this is where we introduce a new location-focused, mostly visual format we have baptized WorldWideWonders. The emphasis in this kind of feature will be more on landscapes and panoramas and slightly less on the animal species inhabiting them. Let us know what you think of it!

Speaking of great images, there's some more fantastic eye candy in the Personal Portfolio at page 76, featuring on this occasion the lovely work of young Italian photographer Marco Colombo...an amazing visual homage to the fauna of Southern Europe.

And to top it all, the last feature of this issue focuses once more on Europe, this time going East on page 98 with some stunning images and a revealing text about the secret life of the rare European Bison, respectively by our Polish friends Mateusz Szymura and Lukasz Mazurek.

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

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— A female Tapir ambles by the PUCE Estacion Cientifica in Yasuni National Park, Ecuador.

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and interesting
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welcome.

Please drop us
a line at
nautilus@reefwonders.net

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Publishers
Andrea and Antonella
Ferrari
nautilus@reefwonders.net

Editor-in-Chief
Andrea Ferrari
andy@reefwonders.net

Layout Design & Art
Direction
Laura Genovese
Anna Bortolini

Videographer
Antonella Ferrari
anto@reefwonders.net

Video Editing
Leon Joubert & Claudia
Pellarini-Joubert
info@bittenbysnakes.com

Distribution & Technical
Support
Peter Symes
editor@xray-mag.com

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

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

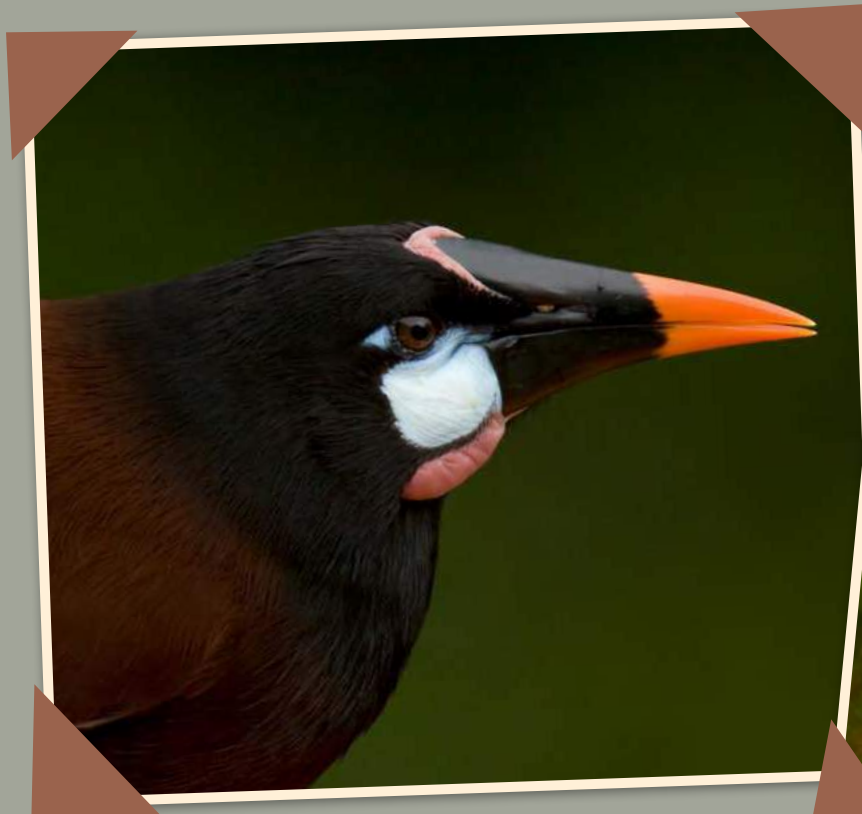
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SCOOP!

ATTACK OF THE **KILLER WASP**

A TERRIFYING DRAMA
IN MINIATURE ENFOLDS
BEFORE OUR EYES
WHILE EXPLORING THE
AMAZON RAINFOREST
OF EASTERN ECUADOR



The Tarantula Hawk wasp overturns its half-paralyzed, living prey. The tarantula's huge fangs are clearly visible.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI



The reproductive strategies of the Tarantula Hawk wasps are well known - these fast and aggressive hymenopterans attack and paralyze large spiders, laying a single egg into the still-living host and guaranteeing their larvae a constant supply of fresh food. But the behavior we have recently witnessed in the lowland rainforest of the Ecuadorian Amazon is new to us. Heralded by a loud droning sound, a very large Tarantula Hawk (*Pepsinae*) buzzed us a few times before entering its nest (or larder?) inside a huge, dead tree - only to emerge a few seconds later, dragging a very much alive but half-paralyzed large tarantula out of it. The wasp showed no hesitation - the coordinates of the site were clearly very well known to it. Dragging its still moving prey into the open, the large predatory wasp then calmly proceeded to methodically bite off the remaining legs of the spider (some were already missing, proving this was a work in progress which had been carried out for some time). The process went on for several minutes - we had to keep a reasonable distance as these wasps can deliver one of the most excruciatingly painful stings known to man. We can only guess the reason behind this interesting but rather horrifying behavior - reducing a large tarantula to its cephalothorax and abdomen by biting off its legs would make storage of the living host somewhat easier? It would then be quite reasonable imagining the nesting site of the wasp filled with many neatly piled, well stored, legless but still living tarantulas bodies - the mind boggles!

A gruesome but fascinating behavior to ensure the survival of the species



Ignoring our presence, the large (about 10cms / 3 1/2 inches long) Tarantula Hawk wasp proceeds to drag its spider prey in the open and starts to bite off its remaining legs, still being ineffectually waved in the air by the paralyzed tarantula. Working methodically, the wasp uses its strong, sawtooth-edged jaws to cut the spider's legs at their lowest joint. Careful observation reveals where other legs have been previously cut off and discarded.



Most of the tarantula's legs have been bitten/sawed off. We can only imagine what is now left of the still-living spider will be easier for the wasp to store away in its nest, where it will be fed upon by a single wasp larva until it will pupate.





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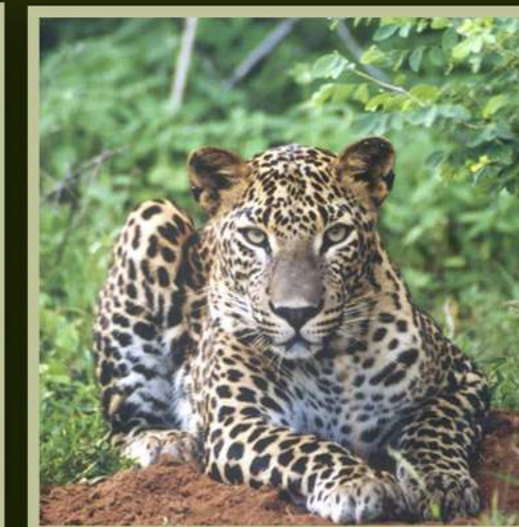
BORNEO NATURE TOURS SDN BHD
Block D, Lot 10, Sadong Jaya Complex
P.O.Box 11622, 88100
Kota Kinabalu Sabah Malaysia
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ECUADOR'S PARQUE NACIONAL YASUNI

GREEN MANSIONS

Today what is said to be the world's most biodiverse environment is torn between conservation and exploitation - explore with us the amazing "Green Hell" of Ecuador's Amazon

■ An Amazonian Palm viper *Bothriopsis bilineata* sits on a branch overlooking the Rio Tiputini as a Waorani canoe passes by in the background - an image which symbolizes Yasuni's current conflict between Man and Nature.

*A rainforest hosting the largest
number of species on Earth*

A panoramic vista of the Rio Tiputini at its lowest, during a period of dry weather. With the coming of rain this sluggish stream will rapidly transform itself into a fast-flowing, raging mass of muddy water.

TEXT BY ANDREA FERRARI
PHOTOS BY ANDREA & ANTONELLA FERRARI

Ecuador's Yasuni National Park has long been a legendary destination for conservationists, researchers, biologists, wildlife photographers and nature lovers worldwide - an embattled symbol standing, among others, for environment conservation and Amazonian biodiversity. Celebrities such as actors Leonardo DiCaprio and Edward Norton and US Vice President Al Gore have publicly stood for its future survival and against further exploitation by oil companies within its borders, and some say Yasuni and its Waorani indians were the actual

source of inspiration for James Cameron's record-breaking movie *Avatar*. Free online encyclopedia Wikipedia sums it up nicely: "*Yasuni National Park is sited in Ecuador, covering an area of 9,820 square kilometers between the Napo and Curaray rivers in the Napo and Pastaza provinces in Amazonian Ecuador. The Park is about 250 km from Quito and was designated a UNESCO Biosphere Reserve in 1989. It is within the claimed ancestral territory of the Waorani indigenous people. Yasuni is also home to several uncontacted indigenous tribes,*

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A butterfly comes in for a landing on the back of a Yellow-spotted river turtle *Podocnemis unifilis* - this species can grow up to 45 cm long and weigh up to 8 kg and is now quite hard to spot along the banks of the Rio Tiputini.





An *Anolis nitens* sitting perfectly still among the leaf litter on the sun-dappled forest floor demonstrates how stunningly effective its somatolitic camouflage can be.

Technicolored tree frogs moving in graceful slow motion among the leaves

including the Tagaeri and the Taramenane. The National Park lies within the Napo moist forests ecoregion and is primarily rain forest. Yasuni National Park is arguably the most biologically diverse spot on Earth. The park is at the center of a small zone where amphibian, bird, mammal, and vascular plant diversity all reach their maximum levels within the Western Hemisphere. Moreover, the Park breaks world records for local-scale (less than 100 square kms) tree, amphibian, and bat species richness, and is one of the richest spots in the world for birds and mammals at local scales as well. The Park holds a world record 150 amphibian species for places with comparable landscapes. It also is at the top for amphibian diversity compared to other sites sampled in the western Amazon. The total of its amphibian species are more

than those of the United States and Canada combined. Reptile species numbers in the park are also very high, with 121 documented species found. In spite of covering less than 0.15% of the Amazon Basin, Yasuni is home to approximately one-third of its amphibian and reptile species. The Park also harbors high levels of fish diversity with 382 known species. This number is greater than the amount of fish species found in the whole Mississippi River Basin. Yasuni also is home to at least 596 bird species which comprises a staggering one-third of the total native bird species for the Amazon. The Park is also very rich with many species of bats. On a regional scale, the Amazon Basin has an estimated 117 bat species, but on a local scale, Yasuni is estimated to have comparable richness. In a single hectare, Yasuni has over 100,000

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A White-lined leaf frog *Phyllomedusa vaillantii*, one of the many beautiful tree frogs found in the lowland rainforest of Yasuni.

■ Heralded by an unmistakable loud squawking and screeching, a flight of Scarlet Macaws *Ara macao* illuminates briefly the late afternoon forest canopy. Macaws are large and splendidly colored birds which usually keep their distance even when allowing relatively prolonged observation.



different species of insects, which is roughly the amount of insect species that can be found in all of North America. The Park also boasts one of the world's richest levels of vascular plants. It is one of nine places in the world that has over 4,000 vascular plant species per 10,000 square kms. The Park contains many species of trees and shrubs and holds at least four world records for documented tree and liana richness as well as three world records for diversity in woody plant species. Yasuni National Park also hosts a stunning list of endemic species with 43 different species of vertebrates and 220-720 different plant species".

**HARD TO REACH,
WORTH VISITING!**

This is all very nice of course, but how does this impressive list of scientific records translate into hard practical facts for a wildlife photographer? Well, the very least we can say is that visiting and exploring the Park is not particularly easy - this is the Amazon, after all.

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One of the many rainforest floor wonders of Yasuni, this Reticulated Poison Frog *Ranitomeya ventrimaculata* is as poisonous as it is small. Dendrobatids advertise their toxicity to would-be predators with their gaudy, brightly colored liveries.



More wonderful amphibians from Yasuni's rainforest. Left, a Jaguar Tree Frog *Dendropsophus bifurcus*. Right, top, a Convict Tree Frog *Hypsiboas calcaratus*; right, bottom, a Shreve's Sarayacu Tree Frog *Dendropsophus sarayacuensis* sits by its freshly-laid egg clutch on the underside of a leaf.



Mineral-rich wet sand patches in the forest - like those soaked in urine by wild mammals - immediately attract large numbers of the stunningly beautiful daily moth *Urania leilus*.



Reaching the Rio Napo from Quito requires a long day's drive and a night's stay at the border town of Coca, and actually crossing the Napo and entering the National Park itself reminds one of a science fiction or espionage movie - the protected area is ironically controlled and administered by the oil companies which have "occupied" it, and there is a very distinct military feeling to the place with all the checkpoints, X-ray machines, huge hangars, enormous drilling machinery and uniformed, armed guards everywhere. Hardly what one would expect from any other National Park in the world - but the oil companies do not want any problems with unwanted visitors, and this is also a very sensitive area due to the local indigenous Waoranis, who generally resent the presence of outsiders. Accommodation can also be problematic - the oil companies have erected fenced-off, severely guarded camps and fortified citadels inside the Park for their own workers but will not deal directly with visitors, and the handful of luxury lodges catering to the mostly North American tourist groups charge exorbitant prices, making a long stay a very difficult proposal indeed for the seriously motivated visitor. A touch-and-go brief trip is obviously out of the question, given the remoteness of Yasuni

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A pair of unidentified or possibly undescribed mating Monkeyface grasshoppers (Eumastacidae) offer a wonderful display of metallic hues.



Left, the Common boa *Boa constrictor* is one of the largest reptilian predators of the Ecuadorian Amazon - adults of this impressive, heavy-bodied species can reach a length of over 4.5 meters / 15 feet and a weight of 27 kgs / 60 lbs. Right, an Orange-winged Parrot *Amazona amazonica*, often hunted for food and persecuted as an agricultural pest.



Waiting in silent ambush, coils ready to spring from a bed of dead leaves

A large Lancehead Pit viper *Bothrops atrox* - Central and Southern America's most feared snake - lies in ambush by a forest trail, perfectly camouflaged among the decaying leaf litter.



Far left, a large Humboldt's Woolly Monkey *Lagothrix lagotricha* male. This is one of the most impressive monkey species in Yasuni, but good sightings such as this one are rare in the rainforest environment. Left, the striking beauty of an Amazonian Palm viper *Bothriopsis bilineata* - an uncommon encounter.

and the overwhelming abundance of its photographic subjects. We were extremely lucky as our friends at **Tropical Herping** were able to secure us a stay at the Yasuni Research Station (Estacion Cientifica Yasuni) built and maintained by the Pontificia Universidad Catolica del Ecuador (PUCE) - an immaculate complex right in the middle of the forest which is strictly reserved to students, researchers and biologists. It's exactly the kind of accomodation we cherish, but keep in mind one has to forward a scientific/documentation project to be approved by PUCE to be able to stay there - the Station does not cater to the occasional visitor or tourist. A wide network of long, well-kept and self-guided forest trails radiates from the Research Station - other options for wildlife photography include an observation tower whose top reaches the forest canopy and a pair of motorized canoes to explore (at a price) the nearby Tiputini river.

A WELL-DESERVED REPUTATION

Does Yasuni stand up to its awesome reputation? Yes - with some exceptions. Biodiversity in the area is truly staggering - walking in the rainforest here means finding a new, different species at literally every step - be it amphibian, reptile, insect or plant. The variety of shapes and colors is stunning, and the examples of camouflage and mimicry displayed by

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Exquisitely camouflaged among the dead leaves on the forest floor, a South American Common Toad *Rhinella margaritifera* is almost impossible to spot.

■ A mixed group of Pieris and Itabalia (with one single Papilio species on the left side) butterflies is feeding on soil minerals - a common and enchanting morning sight in Yasuni's rainforest open patches.

Thousands of multicolored butterflies fluttering everywhere





Top left, a Day Tiger Moth (Arctiidae); top right, an Eighty, *Paulogramma peristera* (Biblidinae). Bottom left, a *Parides* sp. butterfly; bottom right, a Clearwing Moth (Arctiidae: Ctenuchinae).

■ A trio of Scarce Bamboo
Page butterflies *Philaethria
dido* feed on soil minerals.
Large numbers of butterflies
congregate on wet sandy
patches in the morning.

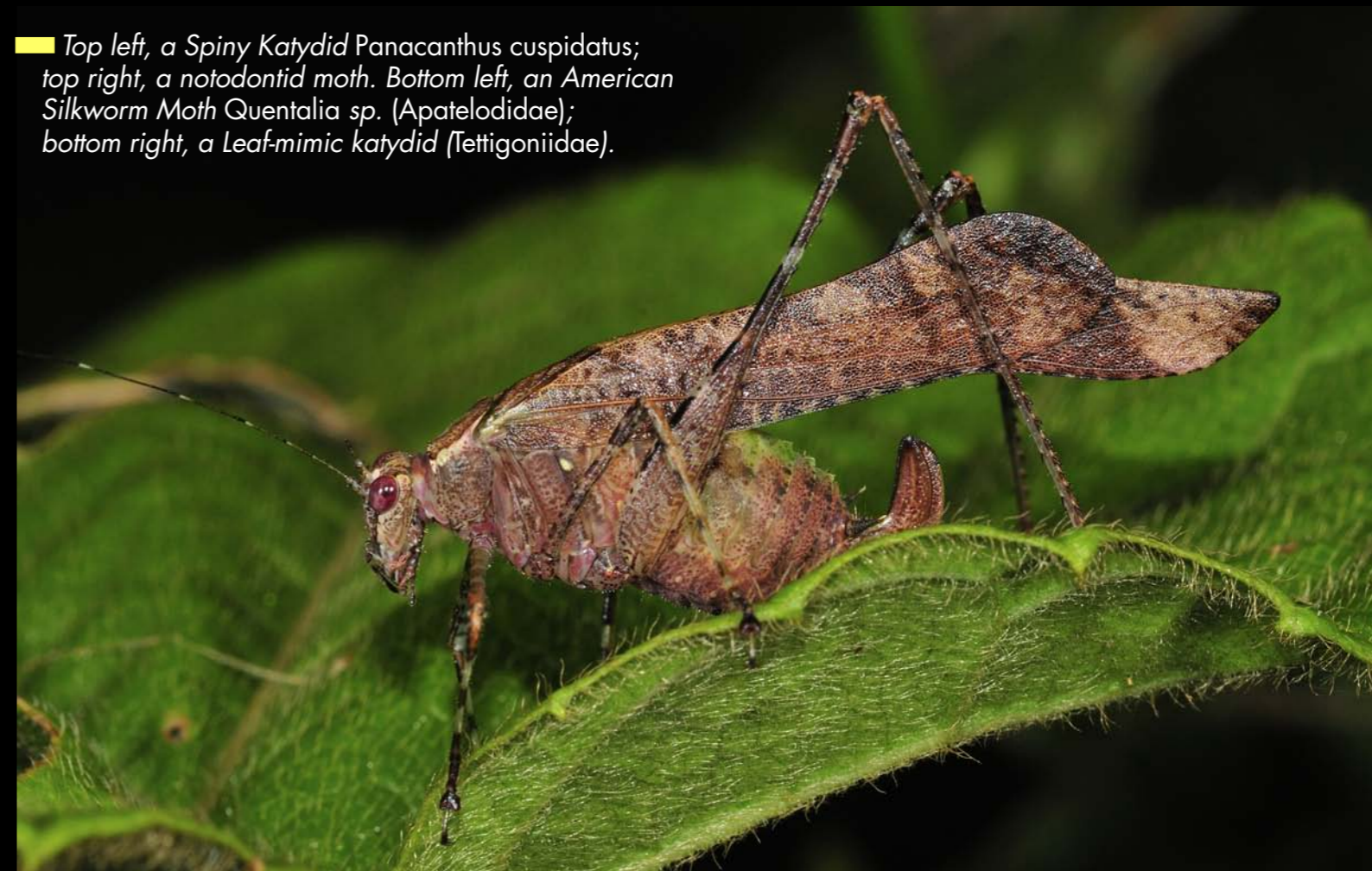


■ Alien-looking and brilliantly colored, a Monkeyface grasshopper belonging to the family Eumastacidae. Yasuni is home to an immense number of species still undescribed by science.



a large number of species is absolutely mind-blowing. Exploring the forest trails at night is even more surprising - wearing a headlamp will attract so many moths of all sizes that actually swallowing one accidentally or getting one flapping up one's nostrils is rather common! Insect life is incredibly rich - we have found ourselves literally covered with spectacular butterflies during the day when stopping close to some mineral-rich sandy spots, and the place is pure heaven for katydid and grasshopper lovers, with many undescribed species. Depending on the point of view, Yasuni can also be an arachnophile's dream or an arachnophobe's nightmare - we have never seen anywhere else such an enormous quantity of spiders - mostly very large, very hairy and caught in the act of devouring something else! Several beautiful tree frog species are commonly observed during night walks, while many incredibly colorful dendrobatids hop here and there on the forest floor during daytime. Careful observation will also provide exceptional snake encounters - common and rainbow boas and above all the ubiquitous and highly dangerous Lancehead Pit viper *Bothrops atrox* can be expected anywhere, especially at night. It goes without saying that walking here - especially at night - requires great care to avoid extremely unpleasant and possibly life-threatening accidents.

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■ Top left, a Spiny Katydid *Panacanthus cuspidatus*;
top right, a notodontid moth. Bottom left, an American
Silkworm Moth *Quentalia* sp. (Apatelodidae);
bottom right, a Leaf-mimic katydid (Tettigoniidae).

■ The South American Tapir *Tapirus terrestris* is relentlessly hunted everywhere in the Amazon - this beautiful female is completely wild but will occasionally appear in the vicinity of the Estacion Cientifica Yasuni.

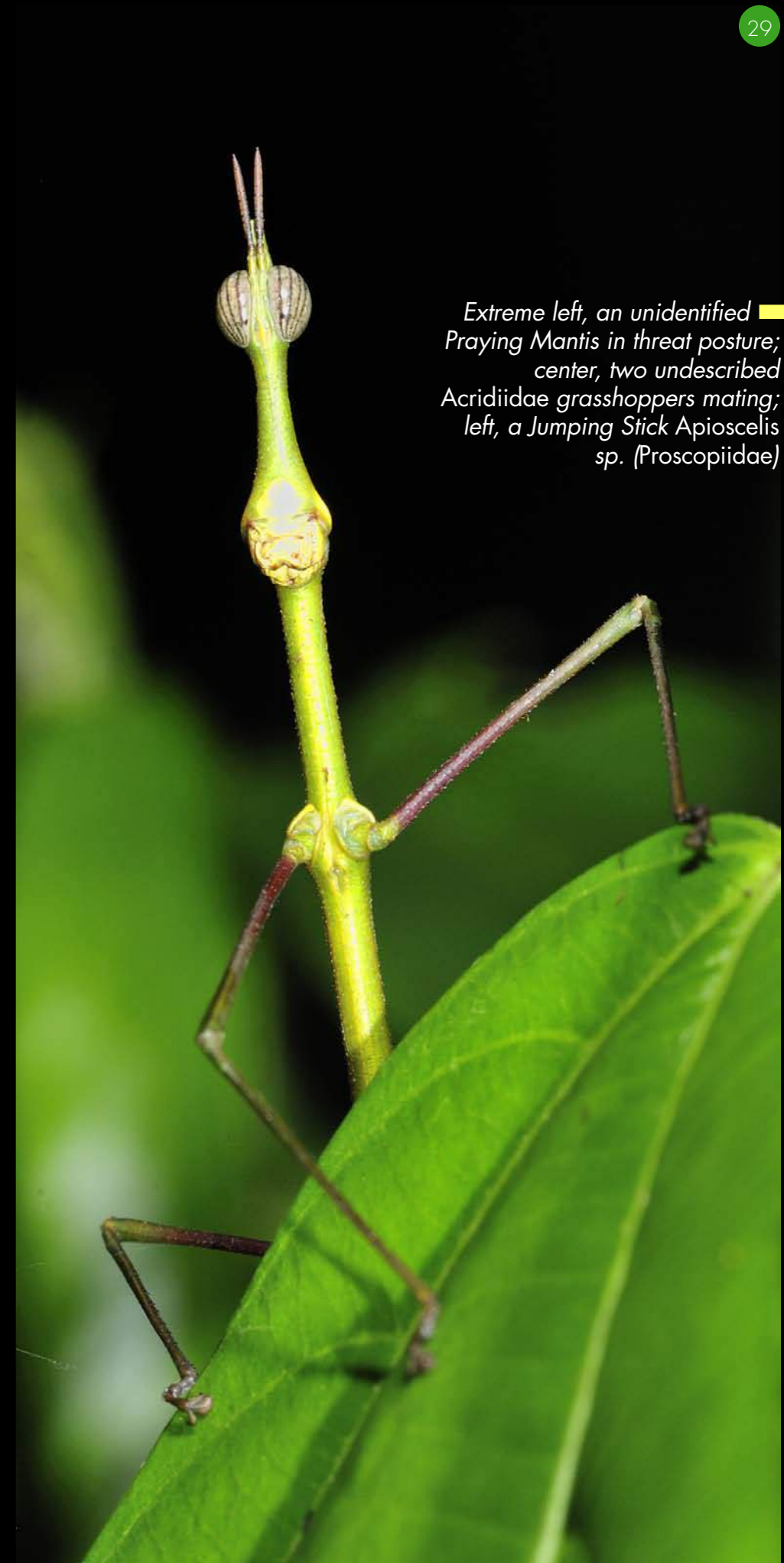


This exceptional, overwhelming richness of life - which is truly unique by any standards - is also however mirrored by the microscopic universe, and Yasuni is both a microbiologist's dream come true and a high-risk location regarding the occurrence of dangerous tropical parasites and diseases such as leishmaniosis or Chagas' disease. We didn't catch any of those luckily, but our ankles and calves still bear the scars left by a myriad invisible rainforest mites, which, undeterred by long trousers and knee-high socks, inflict bites which cause first an unbearably itchy swelling and then a festering sore which won't heal for several months. Ticks, mosquitoes and dangerous wasps are also prevalent - Yasuni is certainly no place for those unwilling to deal with bugs, as the rest of the Amazon basin in fact. This permanent, ever-pervading cascade of life forms everywhere makes it all more noticeable however the

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This stunning Metallic Green Rhinoceros Beetle Oxysternon conspicillatum was being attacked by dozens of ticks when we found it - some can be spotted between the joints of its front legs.



Extreme left, an unidentified █ Praying Mantis in threat posture; center, two undescribed Acridiidae grasshoppers mating; left, a Jumping Stick *Apioscelis* sp. (Proscopiidae)



■ A gruesome drama unfolds on the forest floor as a large cicada is being attacked by a swarm of army ants. Careful, patient observation will reveal a multitude of similar occurrences everywhere in tropical rainforests.



Left, a trio of Proboscis Bats *Rhynchonycteris naso* roost on a tree trunk by the Rio Tiputini; right, a rare close encounter with a spectacular Scarlet Macaw *Ara macao*, an imposing and iconic but normally very wary species.



■ One more spectacularly colorful dendrobatid frog from Yasuni's rainforest floor - this is an Ecuadorian Poison Frog *Ameerega bilineata*.



unmistakable scarcity of larger species, even more so than one would normally expect in any rainforest environment - such habitats are notoriously difficult anywhere in the world for the sighting of terrestrial mammals or canopy-dwelling birds, for instance. Some investigation and a few pressing questions provided the answer for this riddle - anything edible (Black and Spectacled caimans, river turtles, monkeys, birds, large mammals such as tapirs) is being ruthlessly hunted by the Waoranis, which have abandoned the traditional, sustainable hunting methods by trap and blowpipe and are now being abundantly provided with guns, ammunition and boat engines by the oil companies renting their ancestral grounds for drilling and extraction. According to what we were told, the problem has become so serious that some of the most expensive tourist lodges will actually pay the local Waorani families to avoid having the animals on their grounds being killed and eaten - to avoid losing a precious source of revenue. Accorded by Ecuadorian law a protected status - being part and parcel of the natural environment of Yasuni - but having now forgotten their traditional ways, the Waoranis - which number in total less than 4.000 individuals - have now become their own world's worst enemies, with alcoholism, gambling and prostitution

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Left, a juvenile Tree Frog *Osteocephalus* sp.; right, a Tiger-striped Leaf Frog *Phyllomedusa tomopterna*. Bottom left, a Bassler's Humming Frog *Chiasmocleis bassleri*; bottom right, a Peter's Dwarf Frog *Engystomops petersi*.

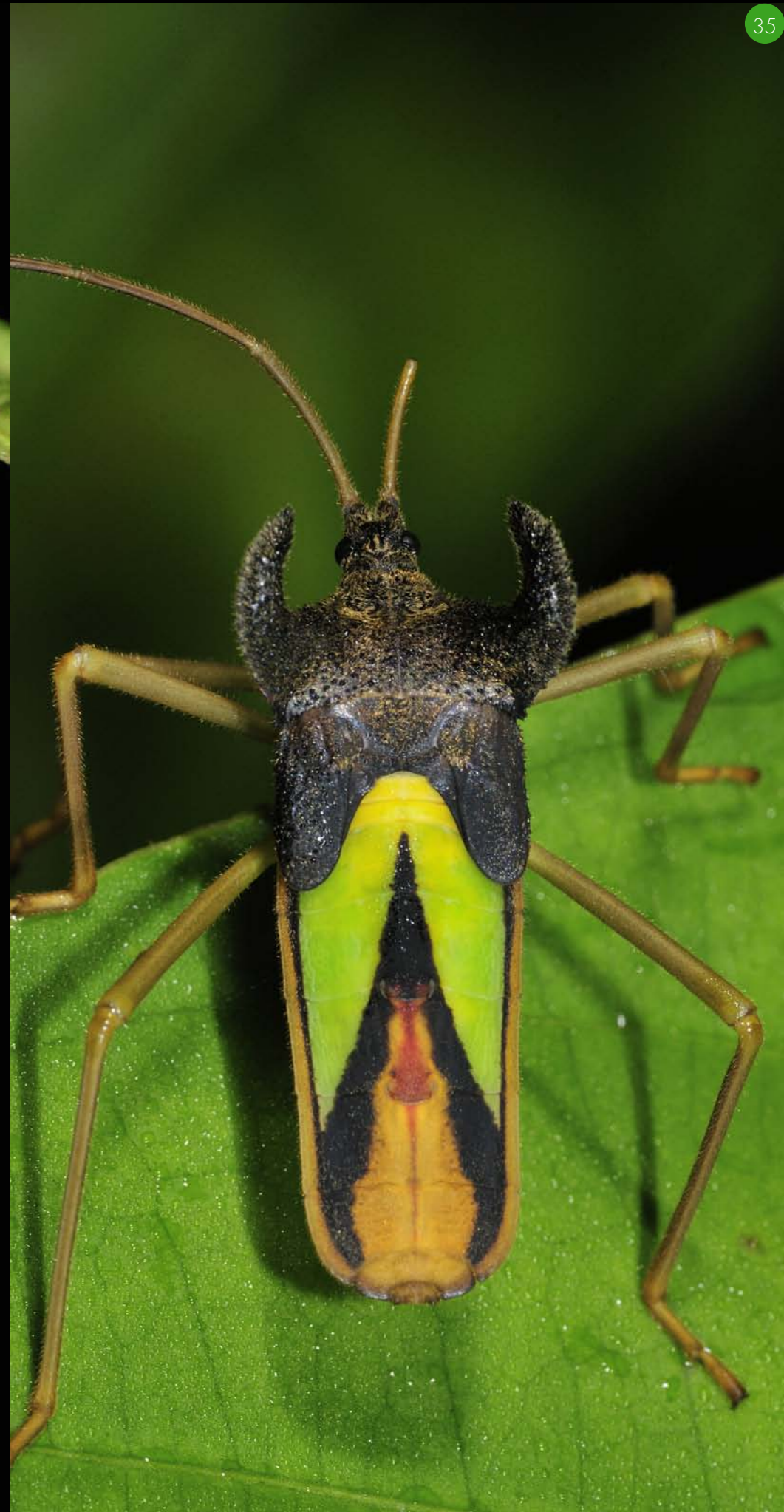


A Brown Sipo
Chironius fuscus
glides effortlessly
among the forest
canopy branches.
This is a fast, active,
non-venomous
colubrid predator.

*A graceful, fast dart
gliding among the
rainforest foliage*



Left, a Leaf-footed Bug (Coreidae); middle, a Lepidoptera pupa in a graceful, lace-like, self-created protective casing; far right, an unidentified / undescribed bug, possibly a Reduviidae.





■ An Amazonian Palm viper *Bothriopsis bilineata* in ambush mode on a lichen-covered tree branch. This is a much sought-after species which is however very difficult to spot in the forest environment.



running rampant along the forest roads opened by the oil companies and with the rainforest's natural resources being mindlessly squandered for money, liquor or weapons. Fierce warriors and prone to solving disputes by violence (they apparently are the ethnic group with the highest rate of homicides and violent deaths in the world), the Waoranis won't be easily relocated somewhere else or accepted by other tribes, as they are highly feared - nor they will be easily convinced to accept the fact that animal prey is not infinite. The damage has been irremediably done once the oil companies penetrated in their territory and the Waoranis (then called Aucas) lost forever their virginity, and the problem seems almost impossible to solve now - but the tragic fact is that the signs of an unbearably high hunting pressure are very evident (at least in the area we explored), as large animals are extremely wary, have turned nocturnal or have disappeared altogether. This makes photographing them even more difficult than it normally is in the usual rainforest conditions, which are prohibitive at the very least. Besides the interesting moral implications of this conundrum - should any indigenous people be allowed to destroy their own ancestral grounds, to which they owe their own protected status? - the fact remains that Yasuni

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A White-lined
leaf frog
*Phyllomedusa
vaillantii*. Far left,
a Jumping Spider
Capidava sp.,
(Salticidae)
with its forest
cockroach prey.



■ Yasuni counts an enormous number of impressive spider species, which can mostly be observed at night. Left, a Giant Wandering Spider *Cupiennius* sp., (Ctenidae), feeding on its grasshopper prey; right, another Giant Wandering Spider *Cupiennius* sp. (Ctenidae) shows its cannibalistic habits as it feeds on another large spider it has just captured.





■ Left, a Golden Orb Spider *Eriophora* sp.; right, a very large Pink-toed Tarantula *Avicularia avicularia*. This latter species can get as big as a spread adult human hand and is capable of lighting-fast bursts of speed when catching its prey. It feeds on large insects, lizards, frogs, small snakes and the occasional rodent or bird.



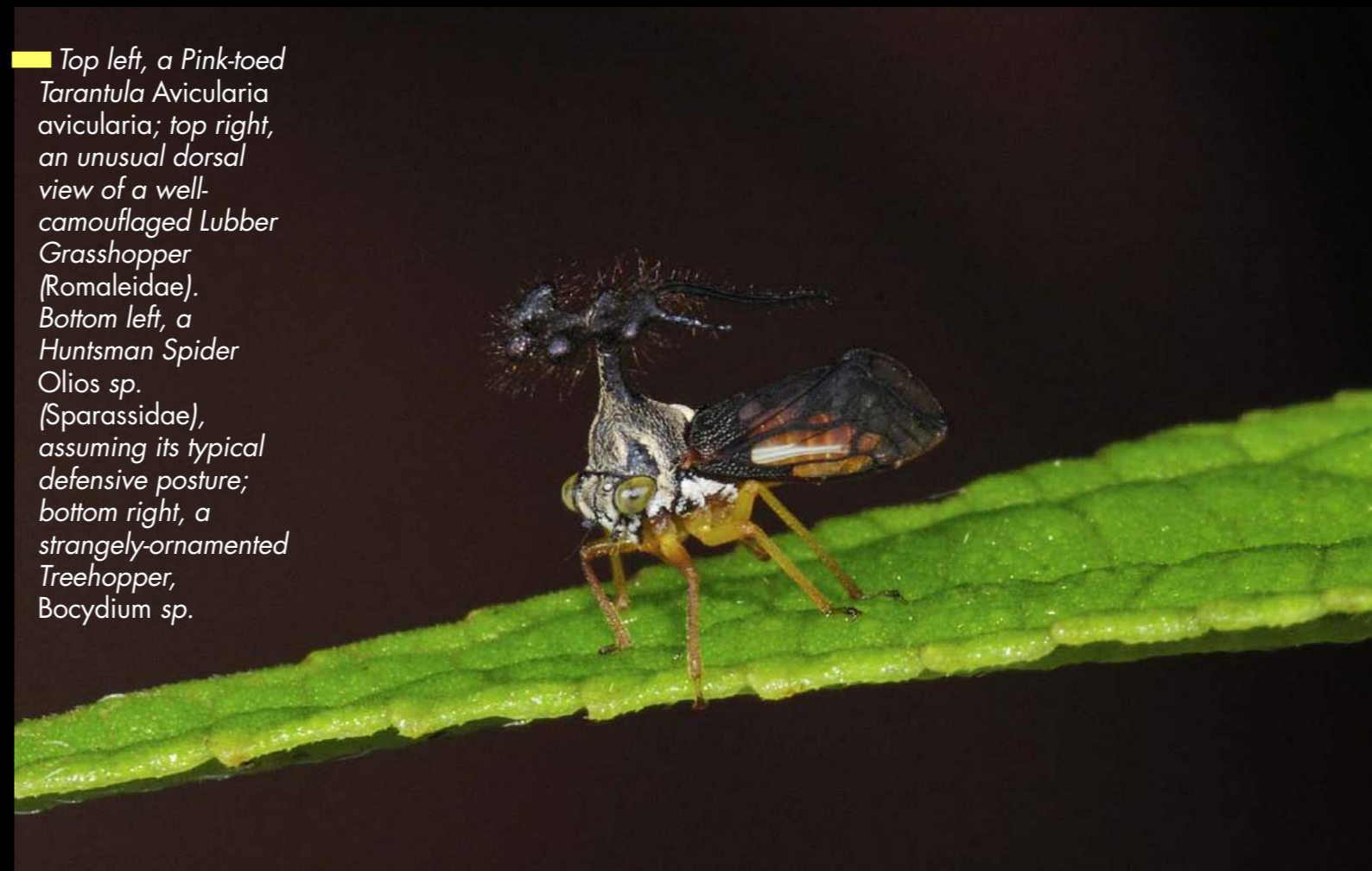
*A living death trap
waiting in ambush
on the forest floor*



A close-up of an unusually colorful and large Amblypigid Whip Scorpion *Heterophrynus* sp., (Phrynidae). This nocturnal arthropod is rather common in Central and South America.



■ Top left, a Pink-toed Tarantula *Avicularia avicularia*; top right, an unusual dorsal view of a well-camouflaged Lubber Grasshopper (Romaleidae). Bottom left, a Huntsman Spider *Olios* sp. (Sparassidae), assuming its typical defensive posture; bottom right, a strangely-ornamented Treehopper, *Bocydium* sp.



National Park fully deserves its reputation as one of the world's biodiversity hotspots, and as such it needs the highest degree of protection - both from its own corrupted indigenous people and from their corruptors, the multinational oil companies which invaded these lands and did the damage in the first place. The careful "greenwashing" and the public relations so carefully put in place by the national and international oil companies operating inside Yasuni's borders since 1937 cannot

hide the awful truth - irreversible damage is being done, and yet the rest of the world with its unquenchable thirst for oil has to accept ultimate responsibility for it. Is there still hope for Yasuni's wildlife? ●

**DON'T MISS THE SECOND
INSTALLMENT OF OUR
YASUNI STORY – COMING IN
OCTOBER 2012 ON ISSUE 8 OF
ANIMA MUNDI –
ADVENTURES IN WILDLIFE
PHOTOGRAPHY!**



A large Spectacled caiman Caiman crocodilus. This species - very common elsewhere - has now become difficult to spot in several areas of Yasuni due to hunting pressure and disturbance.



Click on the images and watch six short videos about Yasuni National Park and its wildlife

Animals of Yasuni



Forest and skies



The observation tower



The Lancehead Pit viper



The Research Station



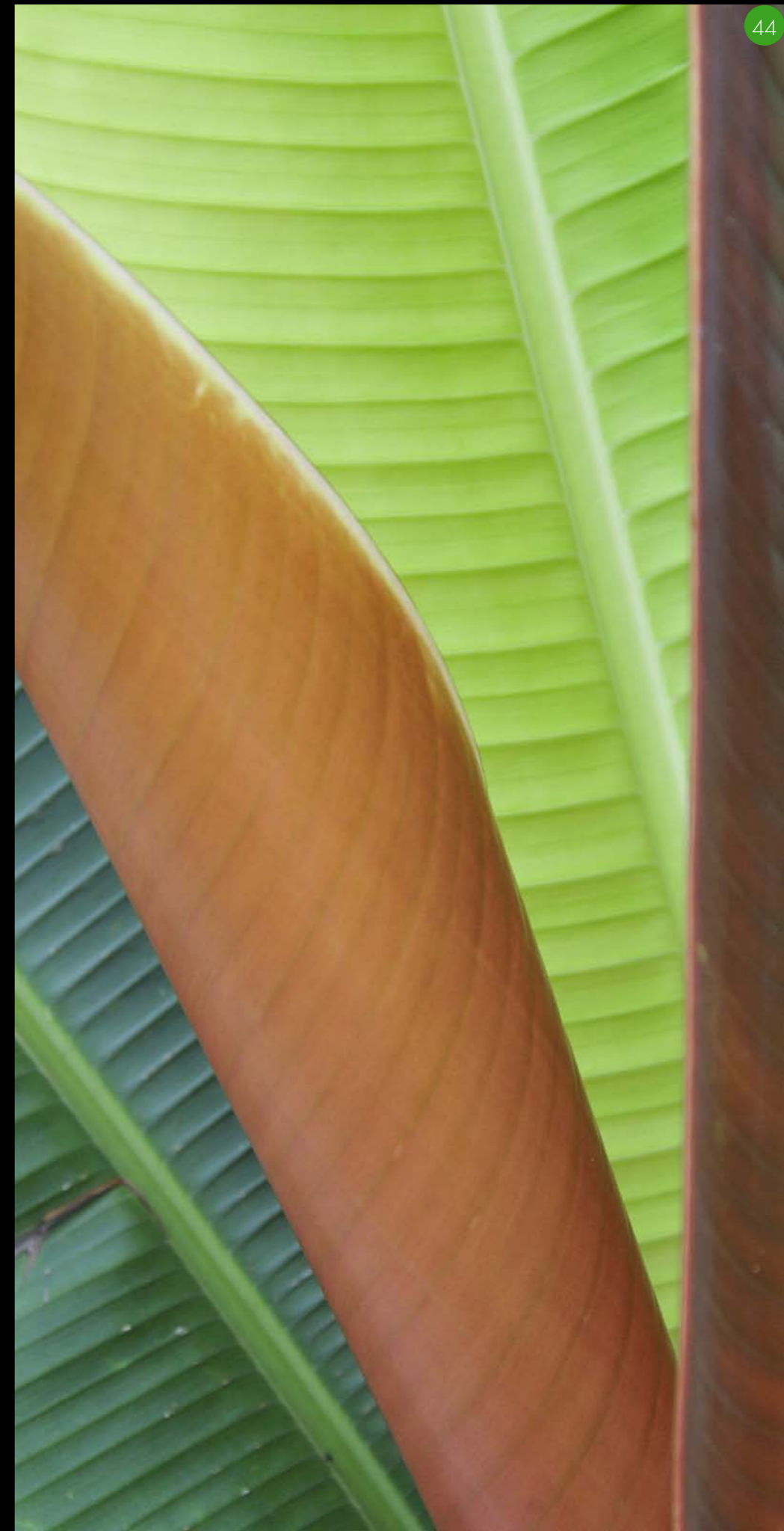
The Rio Tiputini



The White-lined leaf frog *Phyllomedusa vaillantii* is one of Yasuni's most spectacular tree frog species.



Yasuni's forest offers an endless variety of plants and fruits. Colorful berries, tiny mushroom growing from rotting leaves and many-hued leaves create a complex tapestry of indescribable beauty.



*Delicate lace-like structures
unfurling in the shade of the forest*



A new Giant fern leaf is ■ unfurling - one cannot help but admiring its delicate yet extremely complex structural detail.



Flowering trees can be seldom observed in the closed forest canopy environment - the one at left was spotted during a boat trip on the Rio Tiputini. Right, a Black Agouti *Dasyprocta fuliginosa*, a rather common species and one of Yasuni's largest rodents. Agoutis are widely hunted for their meat.





Far left, a White-lined leaf frog *Phyllomedusa vaillantii*; middle, a Jaguar Tree Frog *Dendropsophus bifurcus*; right, a South American Common Toad *Rhinella margaritifera*. Yasuni is a dream destination for those interested in frogs and toads.



Also featured on this issue's cover, this is a Giant Broad-headed Treefrog *Osteocephalus taurinus*, one of Yasuni's largest tree frog species. It can be easily identified by its brilliantly patterned green eyes.

Yasuni's warm and humid environment is ideal for frog species



Left, a solitary forest wasp builds its cardboard nest. Right, a detailed dorsal view of a large Harlequin Longhorn beetle (Cerambycidae). Yasuni's warm and moist environment hosts an enormous number of insect species - many of which are still unnamed and unknown to science - and research within the Park is constantly being carried out by Ecuadorian and foreign biologists.



Antonella cautiously approaches a 180cm / 6 feet long Lancehead Pit viper *Bothrops atrox*, a beautiful but very dangerous species which is responsible for the majority of snakebite incidents in Central and Southern America.

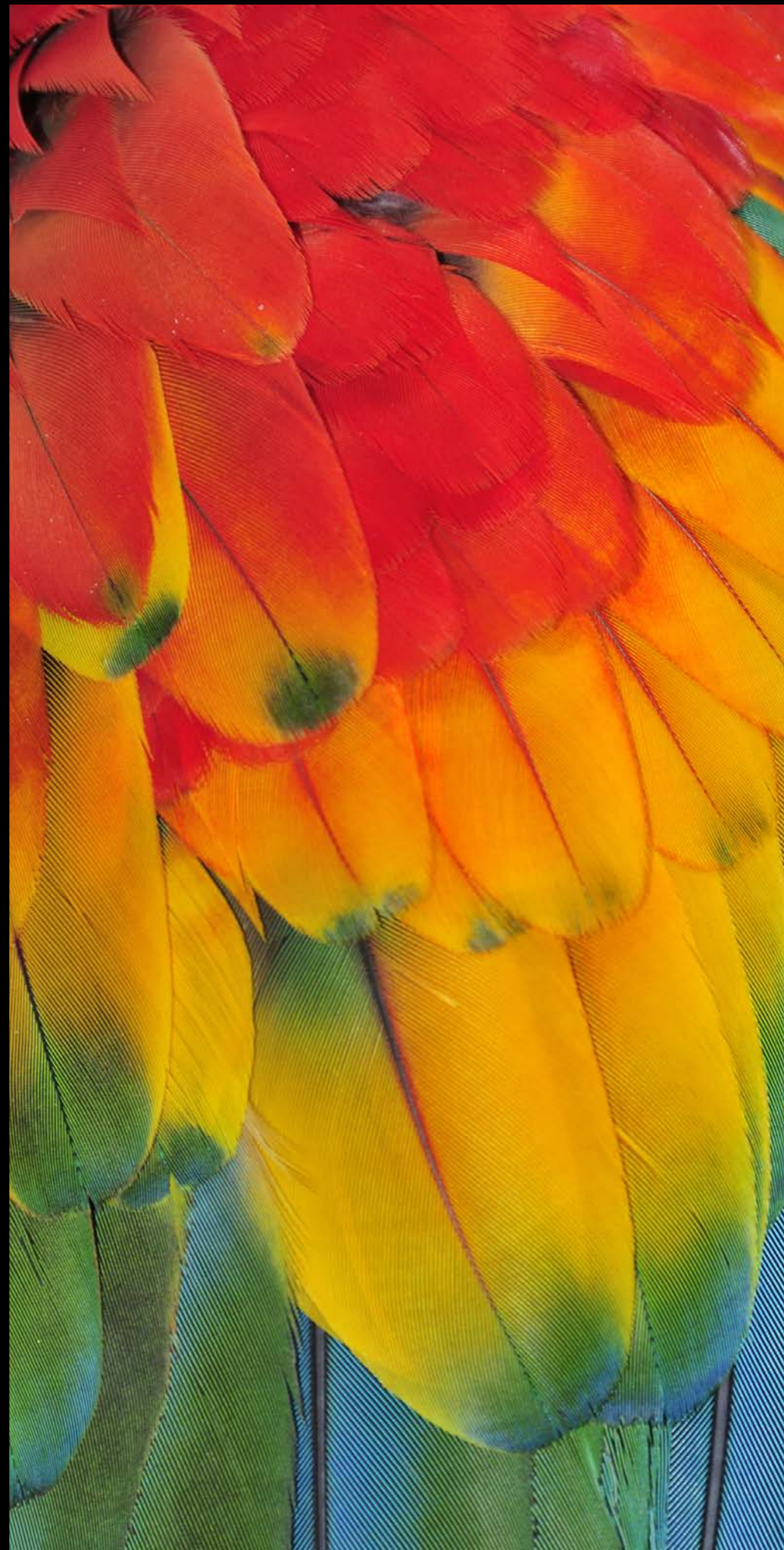


■ A close-up portrait of the Bothrops atrox from the previous page - notice the heat-sensitive pits between the eye and the nostril. A mosquito hovers by - a constant, bothersome presence in Amazonia's rainforest.





Colors and structural details from Yasuni - a rainforest view, a close-up of a Scarlet Macaw *Ara macao*'s technicolored wing feathers, the folds of a palm leaf.



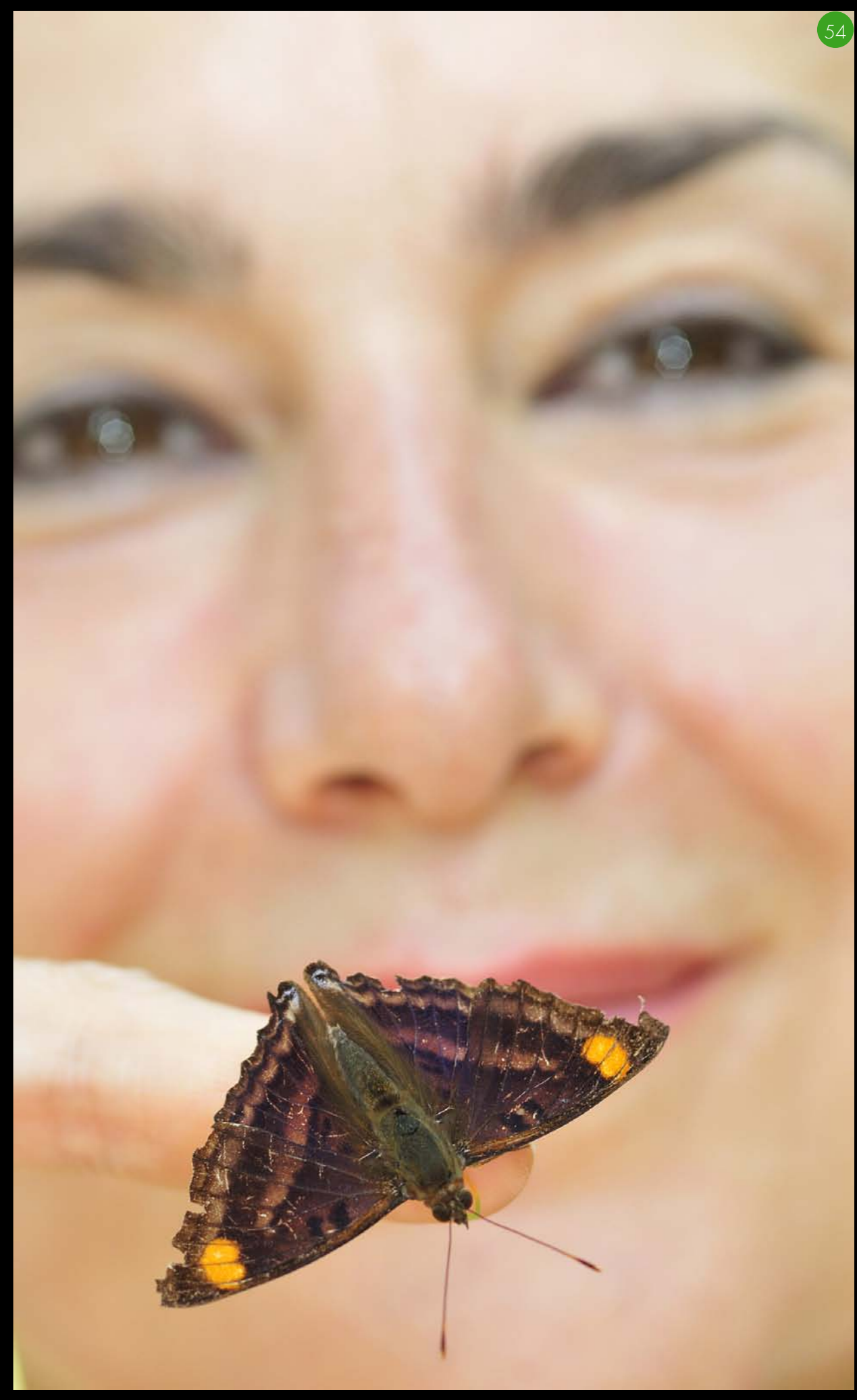
■ The deliberate, graceful pose of a striding White-lined leaf frog *Phyllomedusa vaillantii* belies the rapidity of its movements.



Frogs which can move among trees with the agility of a monkey

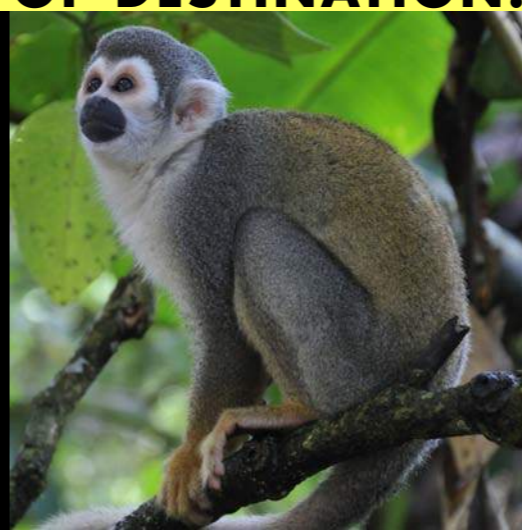


Life and death are seamlessly intertwined everywhere in Yasuni's exuberant, fluid environment. Left, a moth has turned into an organic sculpture after having been colonized and killed by a Cordyceps parasitic fungus; right, a butterfly alights without fear on Antonella's hand .



At-a-glance travel guide

COUNTRY OF DESTINATION: **ECUADOR**



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 Mariscal Sucre International Airport, smack in the middle of Ecuador’s high-altitude capital Quito. From there it’s a day-long drive to the town of Coca. The following morning you’ll drive to the crossing of the Rio Napo, and after that you’ll have to go through the strict entrance procedures set by the oil companies before driving through the forest all the way to the **Estacion Cientifica Yasuni**. Getting to the lodges may require slightly different itineraries.

MEANS OF TRANSPORT: Visiting Yasuni without local help is almost impossible, and it might actually even be problematic. For a well-organized and

successful trip we can heartily recommend the services of our friends Lucas Bustamante-Enriquez and Alejandro Arteaga of **Tropical Herping** - two young, enthusiastic Quito biologists with a keen interest in nature, wildlife and photography.

CURRENCY: Since the year 2000 Ecuador has opted not to have a national currency of its own – all transactions are done in US dollars.

ACCOMODATION: Yasuni offers several beautiful tourist lodges, usually set in strategic locations and offering reliable wildlife sightings in their own private reserves inside the Park. The best-known

ones include **Sani Lodge**, **Sacha Lodge** and the **Napo Wildlife Center** , but they are usually very expensive and are best chosen for a 2-3 days luxurious stay - perfect for the casual visitor but hardly ideal for the serious wildlife photographer. Several Waorani communities are now also offering simple, relatively inexpensive accomodation.

FOOD: Simple but basically healthy and filling. Ecuadorians love soups (try the delicious *Locro de Queso* – potatoes, cheese and avocado), meats and fish and are blessed all-year round with fantastic vegetables and fruit. The type of food you’ll be having in Yasuni really depends however on the type

This is pure, undiluted Amazon rainforest at its stunning best



of accomodation you have chosen - that of the Yasuni Research Station is abundant, healthy and - most importantly in this kind of environment - perfectly sanitized. No health worries there!

LANGUAGE: Ecuadorian Spanish and English.

WORRIES: Ecuador used to have a pretty bad (and rather well-deserved) reputation regarding street muggings and tourist-related crimes. Things are much better now, but - like in so many other big cities worldwide - it's always better to be accompanied by local friends when visiting Quito's beautiful historical areas. When in Yasuni - as in any other truly wild equatorial/tropical rainforest environment - you'll have to be really careful with venomous snakes and stinging insects such as wasps and ants. Ticks and mites can also be very bothersome. In any case, never wander alone in the forest, especially at night.

HEALTH: This is a sticky subject, as Yasuni - like the rest of the Amazon Basin - is a hotbed of tropical diseases and dangerous parasitic ailments. You never know what you can catch in the Amazon as some diseases haven't even been named yet, but to enter the Park you'll need a Yellow Fever certificate, and the danger of catching Leishmaniosis (a very serious, disfiguring disease transmitted by phlebotomine sandflies) is quite real, especially in waterlogged areas. Never forget to use insect repellent and remember to wear long-legged trousers and long-sleeved shirts, always! Landing in Quito (2.800 meters, 9000 feet) upon one's arrival might also cause altitude sickness to the unaccustomed, so it's advisable to plan spending a couple of days there to better acclimatize. Food is generally quite safe, but when touring the Country avoid street-stalls snacks and always make sure your drinks have been concocted with bottled water.

CLIMATE: Ecuador - especially at altitude - is blessed with an eternal spring, and they say one can experience the four seasons in a single day in Quito. Climate in Yasuni however is very hot and humid, with frequent torrential downpours and strong sunlight.

BESIDES: Don't forget to visit the historical center of the capital Quito, which has been extensively and lovingly restored and features some spectacular examples of colonial architecture from the Spanish domination. Ecuador is a rather small but exceptionally diverse Country, and it's almost impossible summarizing it in a few lines - a few hours's travelling will have one passing through high-altitude plateaus and valleys, stunning Andean landscapes and elfin cloud forests - descending to the dry Pacific coast (and the Galapagos Islands) if going West and to the rainforest of the Amazon - including Yasuni - if going East. ●



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David Hemmings - President, Nature's Photo Adventures



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

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

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

were always on hand to solve issues that arose, and I had more than my share of equipment issues. Quality of wildlife provided was good and I was amazed at how easily the subjects accepted new setups provided. Locations visited were right on for the spices 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

WorldWideWonders



A TRIP TO THE COLORADO PLATEAU AND THE ROCKY MOUNTAINS

SAND, SNOW AND SKY

A photographic journey across some of North America's most iconic landscapes - revisited through the eyes of an unbiased traveller



Twilight at Sand Dunes National Park.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/2s, F11, ISO 100, Solidex tripod)



Dunes fingerprint detail. Sand Dunes National Park.
(Olympus E-5, Zuiko Macro 50mm, 1/100s, F14, ISO 400)

TEXT AND PHOTOS BY RAFAEL E. CÁRDENAS

About this portfolio: In May 2011, I travelled from Quito, Ecuador, to Fort Collins, Colorado, United States, to visit my girlfriend. The State encompasses much of the Rocky Mountains, as well as the northeastern portion of the Colorado Plateau and the western edge of the Great Plains. In ten days, we visited the Sand Dunes National Park, The Rocky Mountains, the Arches National Park and the Canyonlands (both in Utah State), and the so-called "Natural Areas" in and out of the city of Fort Collins.

My first impression discovering Nearctic nature was how "easy" could be to find wild fauna in this region. In Ecuador, it is quite hard to find yourself face to face of a big mammal unless it is a cow! In the tropics, even common animals seem to be more shy and are thus harder to appreciate, and of course, to photograph. The whole trip was scheduled to last a month, and photography was just a small part of it. I would say we spent 25% of the total time in nature looking for wildlife. However, I found that it was photographically highly productive. Animals we found are catalogued as "common", so I tried to briefly understand their behavior and get some more "uncommon" angles.

My second impression was how long beautiful crepuscular light can last: for hours! In the tropics, dawn and sunsets are highly ephemeral, and direct sunbeams

make light-contrast difficult to handle. I was just delighted to have such soft light for enough time to keep trying better compositions. I also found that inside a temperate forest there is some more light compared to tropical forests, where epiphytes cover canopy gaps.

My third impression, and something that shocked me more than anything else, was the mortifying and uncontrollable presence of the pine beetle, *Dendroctonus ponderosae*, a weevil-family insect that lays its eggs under the bark of mature pine trees. Every year, pine beetle outbreaks destroy thousands of square kilometers of coniferous forests ecosystems in North America, including vast areas of the Rocky Mountains. It was very sad to see such immense "evergreen" or coniferous forests completely devastated.

Scientists predict that this impact may convert the forests from a small net carbon sink to a large net carbon source contributing to global warming. Leading ecologists consider that climate change has contributed to the unprecedented extent and severity of pine beetle outbreaks. Astonishingly, U.S. National Park information centers do not explain evidences of the role of climate change in these abnormal insect outbreaks, thus hiding from the people the fact that this unfortunate phenomenon is one of the consequences of negative human actions. ●



The Canyonlands National Park preserves a reddish landscape eroded into countless, nooks and rock pillars of all different sizes. This ACME® trademark landscape made me feel like I was in "The Coyote and The Road Runner" cartoon, but I never saw either. (Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/250s, F13, ISO 100)



Canyonlands National Park typical landscape.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/250s, F13, ISO 100)



Contrasting landscapes in the Arches National Park.
 (Olympus E-5, Zuiko Telephoto Zoom 50-200mm,
 1/1000s, F10, ISO 250)



The "Balanced Rock" in the Arches National Park is a rock that has a volume equivalent to three city buses!
 (Olympus E-5, Zuiko Wide angle Zoom 11-22mm,
 1/100s, F16, ISO 100)



Trees, shrubs and grasses seem to emerge from the rock in search of little holes to hold on to. Canyonlands National Park.
(Olympus E-5, Zuiko Wide angle Zoom 11-22mm, 1/200s, F16, ISO 200)



More hardy vegetation from the demanding environment of the Canyonlands National Park.
(Olympus E-5, Zuiko Wide angle Zoom 11-22mm, 1/200s, F16, ISO 200)



Details of a spiny lizard *Sceloporus* sp. (*Phrynosomatidae*). Sand Dunes National Park.
(Olympus E-5, Zuiko Macro 50mm + 20mm extension tube, 1/320s, F9, ISO 320)



The American Antelope *Antilocapra americana*. This female belongs to a herd of about 8 antelope that were grazing near the camping grounds. I started to follow them until the alpha-male, showing obvious signs of distress, told me to go away. I did. Sand Dunes National Park. (Olympus E-5, Zuiko Telephoto Zoom 50-200mm + 1.4x teleconverter, 1/640s, F11, ISO 200, Solidex tripod)



American White Pelicans can be found in fresh water lakes on the inlands of North America.

In winter, they migrate to the warmer Eastern and Western coasts. The Rocky Mountains.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm + 1.4x teleconverter, 1/1000s, F7.1, ISO 200)



Just outside of the city of Fort Collins, wild animals are fighting to survive. **This fox *Vulpes* sp. found a prey and jumped unsuccessfully to try to catch it.**
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm + 1.4x teleconverter, 1/1000s, F4.9, ISO 400)



Sand, rock and water dunes. **Sand Dunes National Park.**
(Olympus E-5, Zuiko Wide angle Zoom 11-22mm, 1/160s, F18, ISO 200)



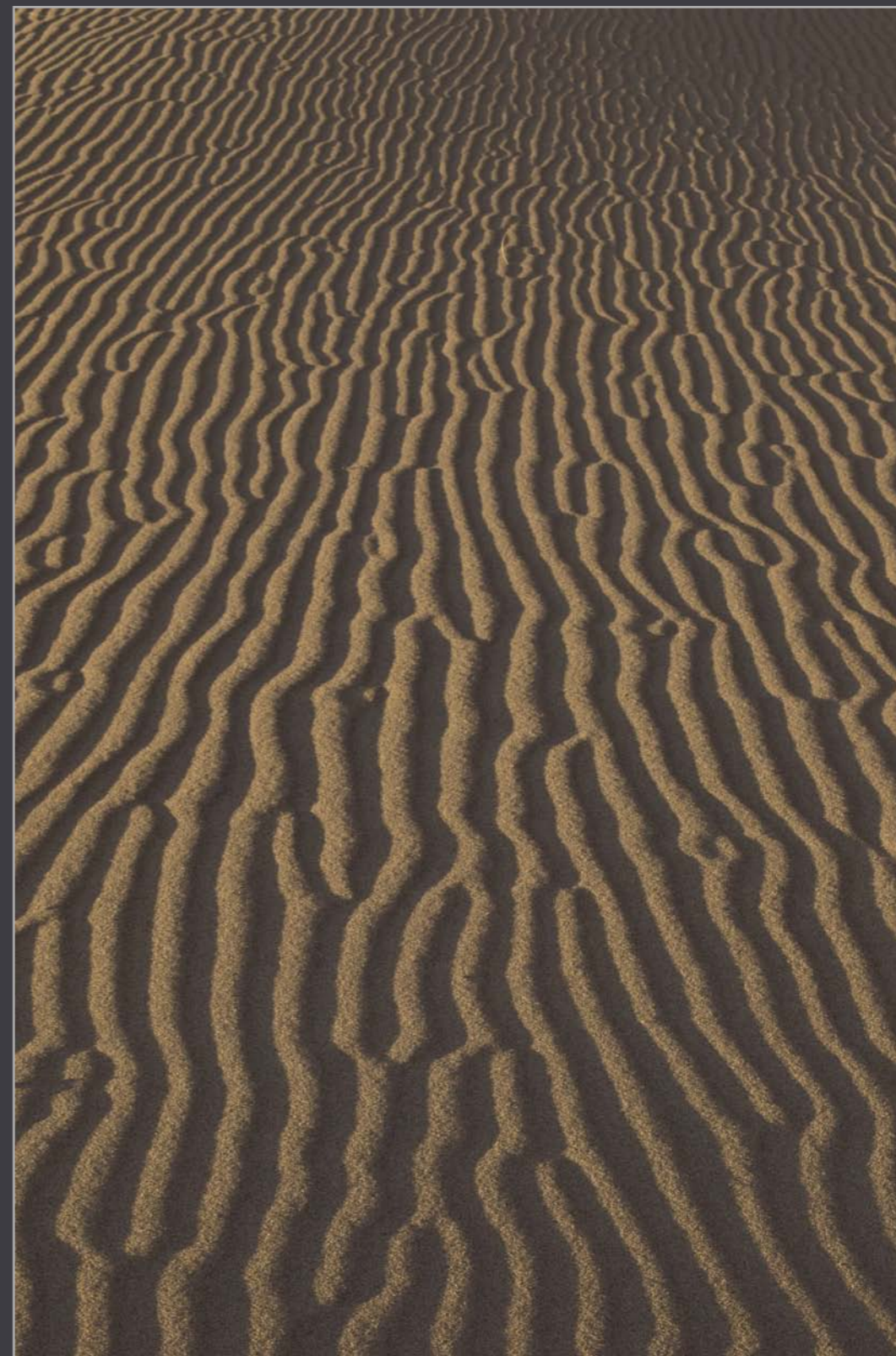
The top of the sand dunes can be a very windy place.
Sand Dunes National Park. (Olympus E-5, Zuiko Wide angle Zoom 11-22mm, 1/400s, F14, ISO 200)



Tourist in the Eye. **Arches National Park.** (Olympus E-5, Zuiko Macro 50mm, 1/160s, F9, ISO 100)



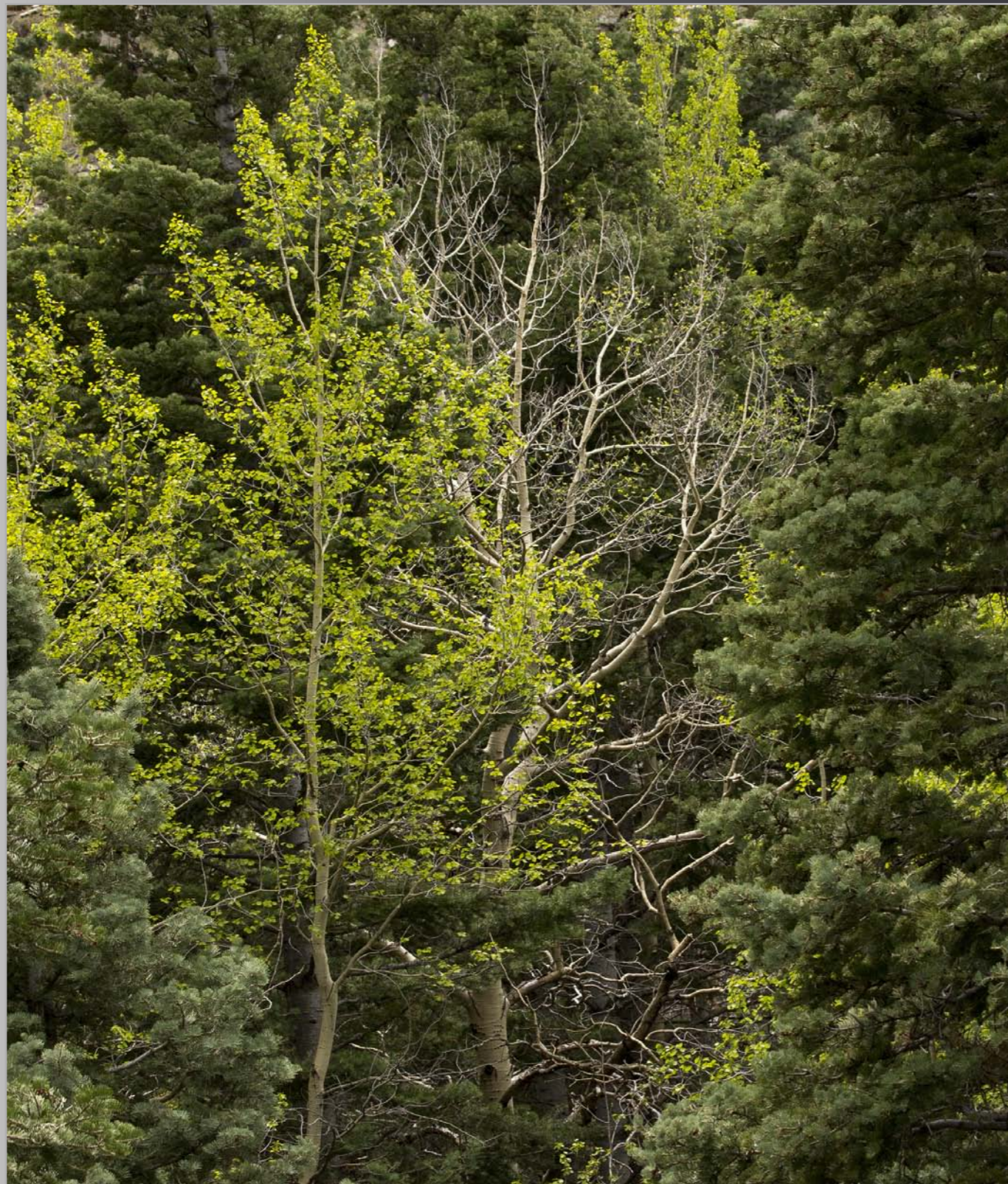
Sand, rock and water dunes. Sand Dunes National Park.
 (Olympus E-5, Zuiko Wide angle Zoom 11-22mm, 1/160s, F18, ISO 200)



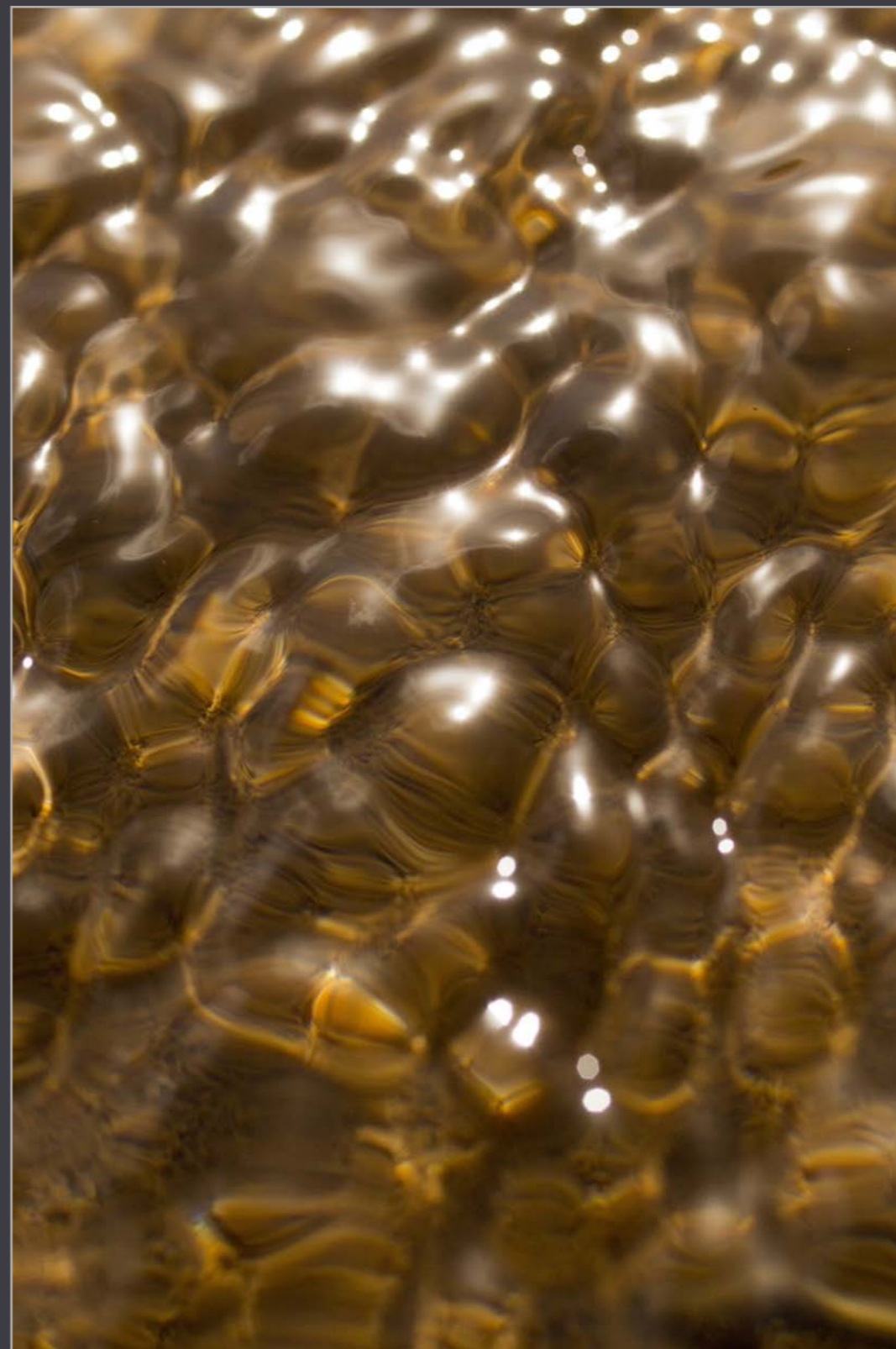
Dunes fingerprint. Sand Dunes National Park.
 (Olympus E-5, Zuiko Macro 50mm, 1/100s, F14, ISO 400)



Although spring arrived late in 2011, birds started looking for material early on to construct their nests.
The Rocky Mountains. (Olympus E-5, Zuiko Telephoto Zoom 50-200mm + 1.4x teleconverter, 1/800s, F9, ISO 320)



Temperate forest, Sand Dunes National Park.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/400s, F6.3, ISO 400)



Jelly pond, Canyonlands National Park.
(Olympus E-5, Zuiko Macro 50mm, 1/3200s, F5.6, ISO 400)



Caducifolia forest, Sand Dunes National Park.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/400s, F5, ISO 400)



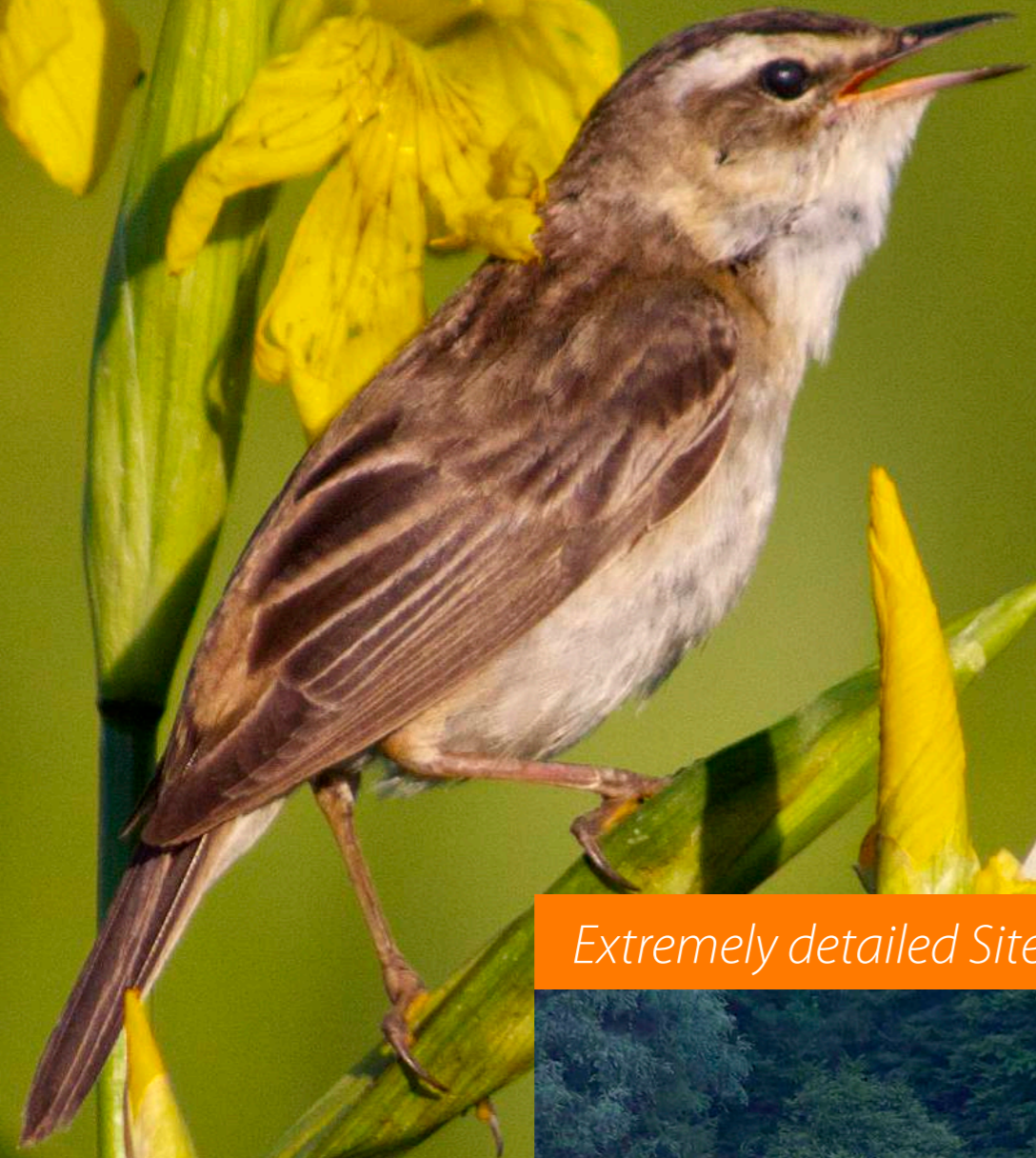
The Rocky Mountains. **Low clouds blanket the ecological disaster and make this dead forest seem to be a healthy one.**
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/250s, F10, ISO 320, Solidex tripod)



The Disaster. From Canada to Mexico, **pine beetles destroy thousands of millions of hectares of coniferous forests every year.** The Rocky Mountains.
(Olympus E-5, Zuiko Telephoto Zoom 50-200mm, 1/80s, F8, ISO 320, Solidex tripod)

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Mediterranean Marvels

Marco Colombo – a Wildlife Photographer in His Own Words

Beauty is in the eye of the beholder - and this young promising Italian author sees it everywhere, as this glorious gallery shows. Discover through his images the wonderful, under-appreciated, endangered universe of Southern Europe's natural world

Born in 1988, graduated in Natural Sciences, I've always loved nature and animals in particular. In 1999 I started taking photographs (the first shot I've taken depicted a wasp building her nest) with my father, who taught me how to use his camera, a Nikon F70. Since then, reading lots of publications in various languages (Italian works are very scarce, so I usually read English, Spanish and French ones too) permitted me to improve my knowledge about animals behaviour and ecology; furthermore, I continuously keep on looking at other photographers' work, as I think that from them I can learn what to (and mostly what not to) do in order to get good shots - that doesn't mean to copy them, of course, but to learn more about techniques. My equipment ranges from wide-angle lenses to a zoom telephoto lens, including macro lenses, extension tubes, flashes and more; nowadays I'm using a digital camera (Nikon D700). My favourite subjects are reptiles and amphibians, due to various reasons: first of all, they are just beautiful; secondly, they are a quite free "photographic niche" in my country, as most of photographers concentrate themselves on mammals and birds; and, last but not least, these animals are still victims of prejudice and killings, so



photographs can be a way to sensitize people towards them. Among my favourite subjects I'd also add invertebrates, arachnids in particular; looking for them here and there permitted me to also discover something interesting or new and occasionally publish it on scientific papers. I also like mammals and birds, of course, but in such an anthropized country, their behaviour is very shy, apart from a few exceptions, and my 70-200 mm is not always generous in these cases (I'd need more time to concentrate myself only on them). I also take underwater photographs: after several years using the glorious analogical Nikonos V, I've started using an underwater housing for a digital camera, with two flashes. I usually take underwater shots in the majestic, secretive and magical atmospheres of north-western Sardinian underwater caves, but I also love freshwater life, such as trout, river crabs and crayfish. Among plants, my favourite species belong to wild orchids and carnivorous plants. I think that curiosity and passion should drive people to feel awe for natural environments; in my opinion, in a good shot the vision of the photographer could act as a filter, through which even the "uglier" subject (if any actually exist) becomes attractive. ●

Spallanzani's mantid

(*Ameles spallanzania*), August 2009,
Sardinia, Italy. Nikon D700, 105
mm/f2.8, extension tubes, no flash,
1/13 f3.5, ISO 400, handheld.

While looking for an intriguing corner
during nocturnal landscape shots, my
eye was caught by the shape of this
small mantid on a branch. As the
latter was quite high, the temptation
of aligning my eye, the mantid and
the full moon was strong.





1

Heart-flowered tongue-orchid (*Serapias cordigera*), May 2011, Liguria, Italy. Nikon D700, 70-200 mm/f2.8, extension tubes, no flash, 1/6400 f3.5, ISO 200, tripod. Wild orchids are wonderful little jewels, endangered by anthropization in many Italian areas. This tongue-orchid attracted me as a silhouette in the dawn light. In fact, I earned a nice stiff neck aligning the flowers with the sun, lying in strange poses in the grassland. (1)

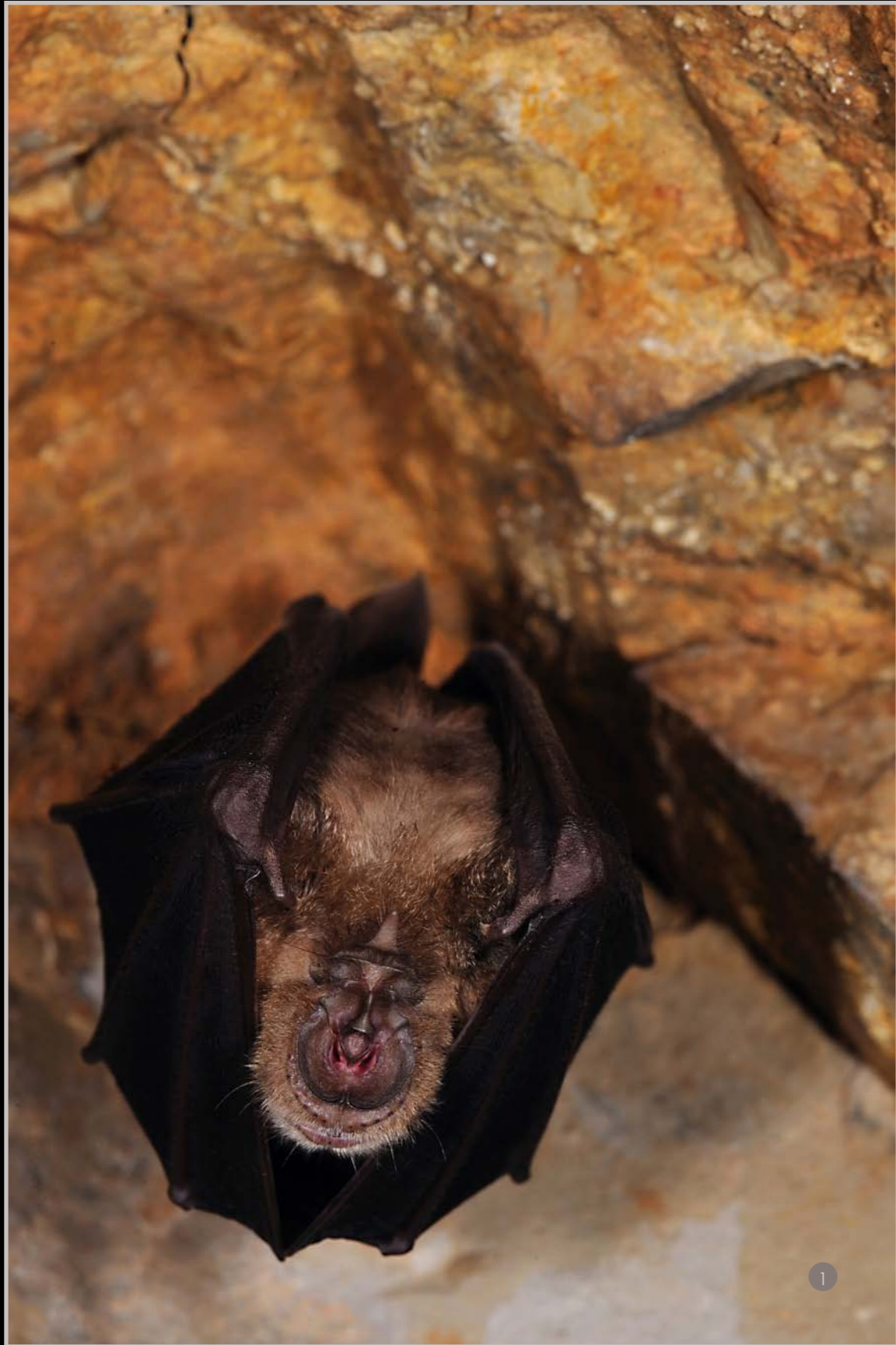
Trapdoor spider (*Cteniza sauvagesi*) catching isopod (*Armadillidium* sp.), April 2009, Sardinia, Italy. Nikon D700, 105 mm/f2.8, R1C1 flash system and SB600 flash, 1/100 f22, ISO 200, remote controller. This shot is the result of a quite long period of study of the behaviour of Sardinian trapdoor spiders, incredibly fascinating species with an outstanding predatory behaviour and ecology. Before taking this photograph, many attempts failed, as the spider attack is sudden and without forewarning. (2)



2



Ischyropsalidae
(*Ischyropsalis* sp.),
October 2011,
Lombardy, Italy. Nikon
D700, 105 mm/f2.8,
extension tubes,
R1C1 flash system,
1/50 f5, ISO 200,
handheld. Harvestmen
seldom attract wildlife
photographers,
but this genus
is beautiful and very
interesting: chelicera
are well developed
in thorny pincers,
which are used to catch
small invertebrates,
including snails.



1

2

Greater horseshoe bat

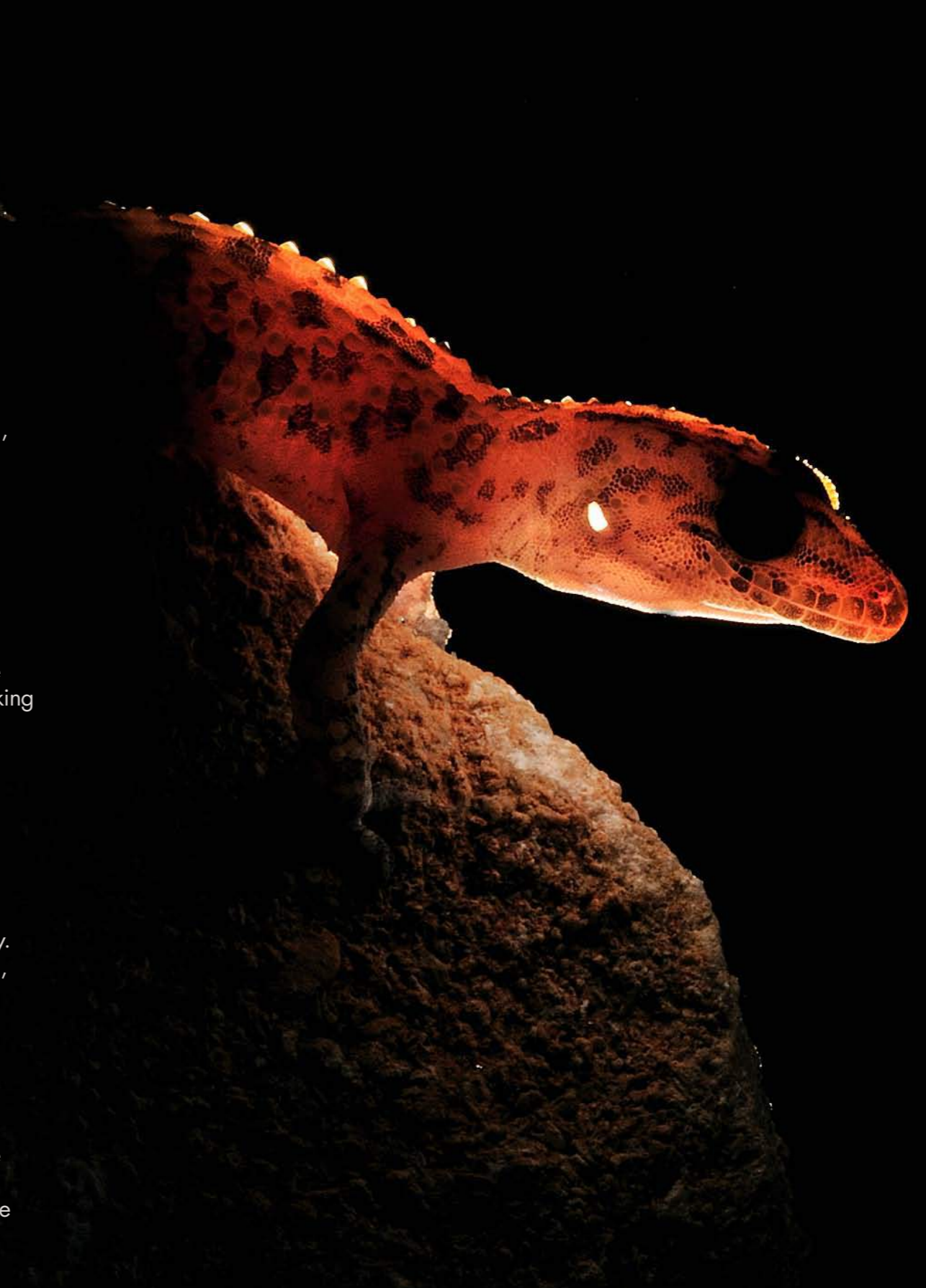
(*Rhinolophus ferrum-equinum*),
April 2009, Sardinia, Italy.
Nikon D700, 105 mm/f2.8,
R1C1 flash system, 1/30
f22, ISO 200, handheld.

It is always important, when exploring caves, old galleries or mines, to not disturb bats. In some cases, however, it is possible to take a couple of shots without waking them up, such as in this little gallery, where at least three horseshoe bat species alternatively hide in different periods of the year. (1)

Turkish gecko

(*Hemidactylus turcicus*),
August 2011, Sardinia, Italy.
Nikon D700, 105 mm/f2.8,
R1C1 flash system, 1/200
f40, ISO 400, handheld.

It's not always easy to have a good backlight when photographing vertebrates. However, in this case, a fortuitous regulation of the flash system and camera settings permitted me to have a "lit-from-within" effect of the gecko. (2)





By-the-wind sailors (*Velella velella*),
April 2010, Sardinia, Italy. Nikon D700,
105 mm/f2.8, no flash, 1/13 f22, ISO
200, tripod. Flowing is a natural feature.
Life and death follow each other,
and a huge hydrozoan stranding gives
a blue colour to their end in the backwash.



Common Aesculapian snake (*Zamenis longissimus*), June 2011, Liguria, Italy. Nikon D700, 28-70 mm/f3.5-4.5, R1C1 flash system, 1/160 f14, ISO 200, handheld. Ancient symbol of medicine according to Greeks, this snake can still be observed on pharmacies' signs. It is a beautiful, harmless species that can be found on branches but also on the ground, as this unusually yellow specimen observed on the pebbly shore of a river. (1)

European hedgehog (*Erinaceus europaeus*), August 2009, Sardinia, Italy. Nikon D700, 105 mm/f2.8, R1C1 flash system, 1/30 f32, ISO 200, handheld. Hedgehogs usually move at night-time, looking for small invertebrates to eat. When discovered, they often roll up in order to hide their weak points, such as the tender snout. (2)





Languedoc's scorpion
(*Buthus occitanus*), January
2010, Provence, France.
Nikon D700, 105 mm/f2.8,
SB600 flash, 1/50 f45,
ISO 200, handheld.
At night many creatures
come out from their shelters.
This beautiful species
is one of the most venomous
scorpions in Europe,
although its sting
only causes local effects.



1

Horned viper (*Vipera ammodytes*), April 2010, Friuli-Venezia Giulia, Italy. Nikon D700, 105 mm/f2.8, no flash, 1/80 f6.3, ISO 200, handheld. Vipers are very charismatic animals, but horned vipers in particular are brilliant. The function of the little horn on their snout hasn't been clearly explained yet, although some theories say that it makes their look more "evil" against predators. The ashen elegance of this specimen captivated me while lying in the karst areas of north-eastern Italy where this species lives. (1)

Round-leaved sundew (*Drosera rotundifolia*), July 2010, Lombardy, Italy. Nikon D700, 105 mm /f2.8, extension tubes, no flash, 1/40 f14, ISO 200, handheld. Carnivorous plants are fascinating evolutive examples of plants catching insects in various ways. This beautiful but very tiny species lives in mountain peat bogs, where it catches small flying insects through little sticky drops, recalling dew. (2)



2

Grass snake (*Natrix natrix*),
June 2010, Lombardy, Italy.
Nikon D700, 70-200 mm/f2.8,
no flash, 1/1.6 f18, ISO 200, tripod.
Not so far from home, it is possible
to find real "jungle corners",
as someone told me about
this one. The polished pebbles,
the reddish roots, the flowing
water, and the beautiful snake,
all together. This photograph
won the "Animal portraits"
category in the prestigious Veolia
Environment Wildlife Photographer
of the Year 2011 contest.



Scorpion (*Euscorpium concinnus*), June 2009, Liguria, Italy. Nikon D700, 105 mm/f2.8, R1C1 flash system, 1/6 f22, ISO 200, handheld. Italy hosts at least nine scorpion species, and one of them is this black one, fairly common in the woodlands and little towns of central and southern regions. In this photograph I wanted to show a wall of "light flames", recalling the real fires that devour and destroy Mediterranean habitats every summer, with a huge loss of biodiversity.



Red sea star (*Echinaster sepositus*), August 2011, Sardinia, Italy. Nikon D90, 28-70mm/f.3.5-4.5, Isotta housing, Nikonos flashes, 1/13 f16, ISO 200, handheld. I love depicting movements of nature, and a strong backwash, enriched by the warm colours of the sea star, permitted me to take this shot, while struggling to not report injuries against sharp rocks.

Cone-head mantid

(*Empusa pennata*), May 2009,
Sardinia, Italy. Nikon D700,
16 mm/f2.8 fisheye, extension tube,
R1C1 flash system, 1/80 f22,
ISO 200, handheld. Undoubtedly
the most beautiful Italian mantid,
this species is usually found
in quite dry habitats, such as the
Mediterranean maquis.
Young stages are characterized
by a curly abdomen, as well
as the typical horn on the head
(also observable on adults).



Common eiders (*Somateria mollissima*), February 2011, Lombardy, Italy. Nikon D700, 70-200 mm/f2.8, 1.4x converter, no flash, 1/500 f5, ISO 200, handheld. Very common in northern Europe, eiders are quite rare to be seen in Italy (only as migratory specimens for short periods). However, two males settled some years ago in a single locality, and did remain there, courting mallard females (*Anas platyrhynchos*) and competing each other for them with their funny displays.



Mouflon (*Ovis [orientalis] musimon*), October 2010, Lombardy, Italy. Nikon D700, 70-200 mm/f2.8, 1.4x converter, SB600 flash, 1/160 f6.3, ISO 800, handheld. Mouflons are wonderful wild sheep that have been introduced to Lombardy in the seventies, due to hunting reasons; here, they suffer strong snowfalls and compete with local ungulates. Wearing a mimetic suit, I was able to observe fighting males, courtship and parental cares; in this occasion, the old male looked at me in an interrogative way, during the "flehmen" (curling of the upper lip in order to better perceive female's smell), just before going on with its hot pursuit of partners.

**Yellow-legged
gull**

(Larus michaellis),
April 2010,
Sardinia, Italy.
Nikon D700, 70-
200 mm/f2.8,
1.4x converter,
no flash, 1/800
f8, ISO 200,
handheld.

Yellow-legged gulls
are becoming
more and more
common in
anthropized
environs, although
it is still possible
to find them
at the seaside.

This confident
specimen inspired
me with its grave
look and noble
profile.





Red night

December 2010, Sardinia, Italy. Nikon D700, 20 mm/f2.8, no flash, 30sec. f2.8, ISO 500, multiple exposures, torch, tripod. Nocturnal landscapes are not always moon and stars. Sometimes, light pollution can be used as advantage and addition to create a particular atmosphere; in this case, the red mammillated clouds fit well with the rocky outcrop just behind a beach, that I illuminated using a torch in order to give a more majestic impression.

Long-snouted sea horse

(*Hippocampus guttulatus*), August 2009, Sardinia, Italy. Nikonos V, 35 mm/f2.8, close-up lens, Nikonos flash, Fuji Velvia ISO 50, handheld.

I love sea horses, and wanted to photograph one since I found a dying specimen when I was a child.

Finally, in 2009, I found this wonderful, reddish-pink female inside a cave at a depth of 10 m, and managed to take some shots although my flashes didn't work well due to a synchronization problem. The next summer I met this specimen again, in the same environs, this time with a little ascidian grown on a side.



Alpine long-eared bat

(*Plecotus macrobullaris*), September 2011, Piedmont, Italy. Nikon D700, 105 mm/f2.8, R1C1 flash system, 1/60 f16, ISO 200, handheld. Long-eared bats are among the most interesting and beautiful Italian bats.

Discerning species is not always easy, but in this case the fur coloration and morphological characters were quite unmistakable. I decided to use a backlight because I wanted to give importance to the huge, semitransparent ears.





Freshwater crab (*Potamon fluviatile*), April 2011, Tuscany, Italy.

Nikon D700, 20 mm/f2.8, extension tube, R1C1 flash system, 1/3 f22, ISO 200, handheld.

The freshwater crab is a fascinating endangered crustacean that lives in non-polluted rivers of central and southern Italy. It has quite a character, and at the minimum sign of threat, it opens its pincers trying to pinch the aggressor. As they are edible, this specimen was lucky I'm a photographer and not a cook, otherwise its attempts would have been vain... (1)

Praying mantid (*Mantis religiosa*), August 2007, Sardinia, Italy. Nikon F100, 105 mm/f2.8, extension tubes, no flash, Fuji Velvia ISO 100, tripod. Praying mantids always look at observers with their large eyes, in a way that seems to say "Hey, I'm keeping an eye on you!". That's what I wanted to show in this old picture: the insect hiding behind a stem, but always inspecting the observer. (2)

Asp viper (*Vipera aspis francisciredi*), September 2011, Lombardy, Italy. Nikon D700, 16 mm/f2.8 fisheye, R1C1 flash system and SB600 flash, 1/40 f22, ISO 200, handheld. I don't like to always take full frame portraits of my subjects. Instead, I wanted a "theatrical" scene, showing the oak tree on the background. The tiger-like viper, here, is just something more, an animal integrated in its wonderful calcareous environment in the Prealps.



Dice snake (*Natrix tessellata*), July 2009, Ticino canton, Switzerland. Nikonos V, 12 mm/f2.8 fisheye, no flash, Fuji Velvia ISO 50, handheld. Even in summertime, mountain rivers' water is quite cold; however, in this case I only had to take 36 shots (slides) so, wearing only swimming trunks, I managed to take some underwater shots of these fish-eating snakes.



Thyrranian wall lizard (*Podarcis tiliguerta*), August 2009, Sardinia, Italy. Nikon D700, 20 mm/f2.8, extension tube, R1C1 flash system, 1/50 f22, ISO 200, handheld.

This quite colourful species is among the fastest lizards I've ever seen. In this Sardinian area, they thrive on steep rocky cliffs meters above the sea, while the other local species (*P. sicula*) is synanthropic and stays near houses. I needed two summers in order to take this shot.



Agile frog (*Rana dalmatina*), March 2009, Lombardy, Italy. Nikon D700, 20 mm/f2.8, R1C1 flash system, 1/50 f22, ISO 200, handheld. During spring, dozens of frogs can gather in the same little pond, in order to lay eggs and mate, just for a few days. In this period, it is possible to meet several specimens that, also on sunny days, move in the undergrowth towards the water, such as this male near a dogtooth violet (*Erythronium dens-canis*). (1)

Asp viper (*Vipera aspis francisciredi*), March 2011, Lombardy, Italy. Nikon D700, 105 mm/f2.8, extension tubes, no flash, 1/2000 f3.2, ISO 200, handheld. At the beginning of the "herping" season, daylight period is quite short, so it is possible to have grazing light even though it isn't properly sunset. Asp vipers are endangered in northern Italian lowlands due to anthropization and human persecution. (2)



**Mediterranean giant
devil ray**

(*Mobula mobular*), August
2009, Sardinia, Italy.

Nikonos V, 35 mm/f2.8,
no flash, Fuji Velvia ISO
50, handheld. One
of the most spectacular
encounters I've ever had:
swimming, several miles
away from the coast,
with a huge 2-2.5 m
wide devil ray, a very
rare endemic species.
Unfortunately, I only could
take 9 shots of this
beautiful animal, then
I finished my film (as I had
used the other 27 shots
the previous day, with
sponges...). The elegance
of these beautiful
cartilaginous fishes
is nowadays endangered
by human fishery
activities and pollution.



**Rhinoceros beetle**

(*Oryctes nasicornis*),
July 2009, Lombardy,
Italy. Nikon D700,
105 mm/f2.8,
extension tubes, no
flash, 1/25 f22, ISO
200, handheld.

In my opinion,
rhinoceros beetles are
wonderful little jewels
(as my email address
can confirm), and
every year I look for
them. Males in
particular, with their
horn on the head,
are attractive and
sometimes give visual
cues as silhouettes.



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THE EUROPEAN BISON
**KING
OF THE
PRIMEVAL
FOREST**

The secret life and habits of the last giant roaming Central Europe's impenetrable woods





TEXT BY LUKASZ MAZUREK
PHOTOS BY MATEUSZ SZYMURA
and LUKASZ MAZUREK

*A*t first you just hear the grunting, then the twigs cracking under the pressure of half a ton of animal. You don't need to see it to be absolutely sure the Bison is close. Some other time you simply stumble upon an animal - be it in the middle of the forest track, right in front of you - or hidden in the dense vegetation, just watching you closely. Whatever the encounter is, you stay frozen almost like you had seen a ghost, you feel your heart racing and among the variety of feelings there is one common to everybody I spoke to - respect towards the huge animal and the forest itself. These meetings stay in your mind forever. Believe me, I remember all my Bison sightings and it has been a few dozens of them over the last several years.

**The story of success...
or is it really?**

Once spread all over Continental Europe, Bison are now rare. There are about 4.000 Bison in the world, but of those only 2.500 in 30 free-ranging populations are living in the wild - in the mountains and forests of

continued on page 101 ➤

■ A stunning portrait of an adult snacking on an apple in winter shows the relative slimness of such a large animal - an adaptation to forest life seen also in the Indian Gaur *Bos gaurus*.

■ Mature bison bulls are solitary animals, but young bachelors will form small groups. Adult females tend to form small herds together with their young calves. Devoid of leaves, forests in winter offer good chances to sight and photograph these beautiful, rare mammals (photos Lukasz Mazurek).



■ A huge adult bull in the frozen winter landscape of the Bialowieza National Park, a large protected area straddling the border between Poland and Belarus.



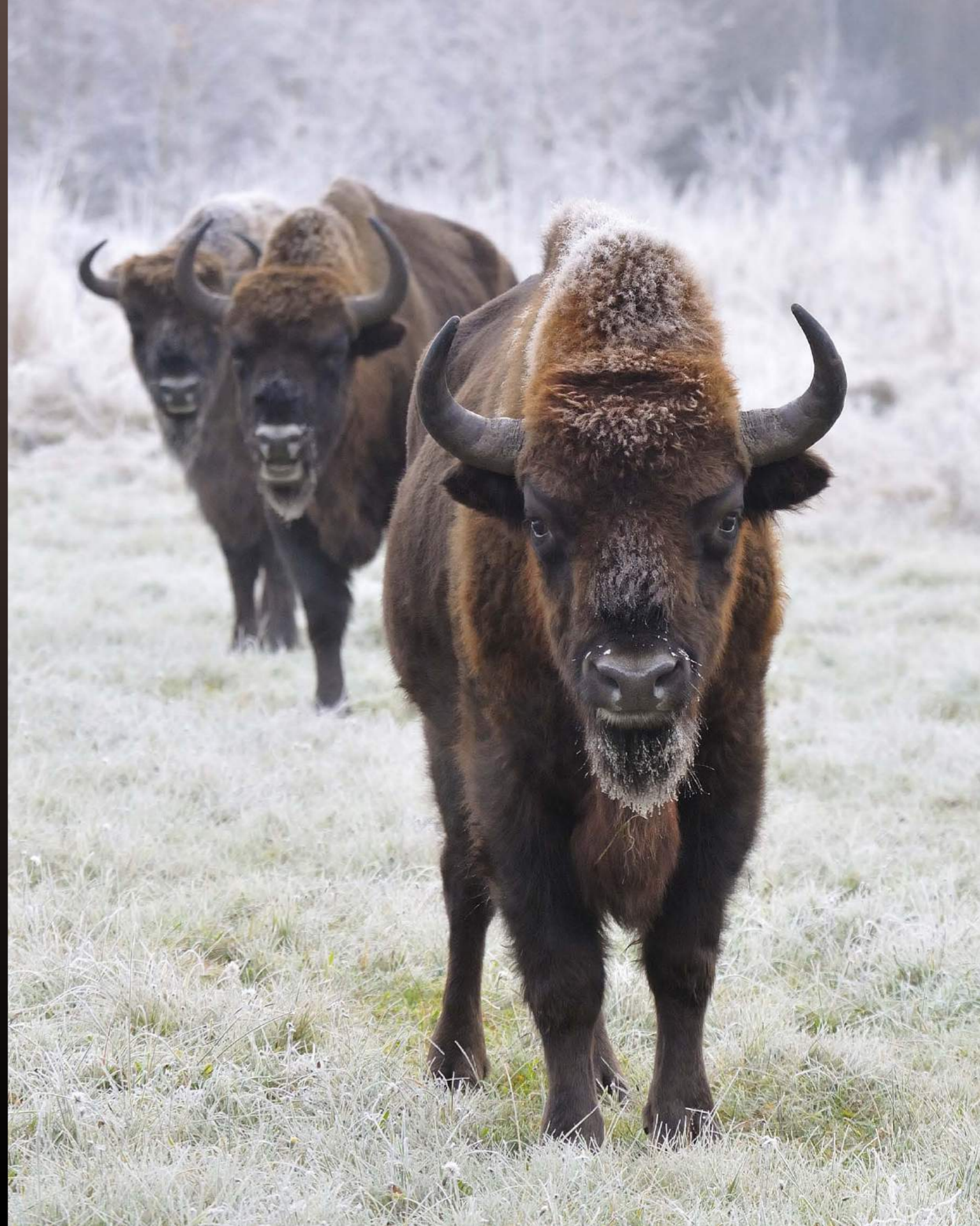
*The horned, shy giants
of the Old Continent's last
remaining primeval forests*

Eastern Europe and Western Russia. The species had been declining quickly, as the forests of Europe shrunk, since the Middle Age, and by the time of World War I there were only two populations left - one in Bialowieza and the other in the Caucasus Mountains. Both disappeared completely in the 1920s. Well, they disappeared in the wild but their descendants survived in the zoological gardens of Europe and having been brought back to their home land they started the new generation that was first released into the wild in 1950s in the Bialowieza Forest. The story looks to be a success but the scientists are not that much content. The key here is genetic variability - or its absence in fact - since all of today's world population comes from only the 12 individuals used for reproduction. Moreover, in the line of the Lowland subspecies 80% of the genes come from just one pair! In the Lowland-Caucasian line (the pure Caucasian had been lost and only its mixture with the Lowland blood could be bred) this share is only half as high, if that might be of any comfort. The effects of this large inbreeding effect so far, have been increased vulnerability to diseases like parasitosis and serious genital infections greatly limiting males reproduction rate. Furthermore, most of the 30 world's populations are

continued on page 103 ➤



■ Young bison males in winter acquire a heavy, shaggy mane of hair to survive the freezing temperatures. This is one of the best times of the year in Bialowieza National Park to observe the small herds which often appear at the forest edge at dawn.





■ A dramatic portrait of an adult bull European bison in its prime - here bathed in the warm glow of a summer evening. Notice the broad, thickly maned head typical of bison males.

isolated from one another and there is little, if any, gene flow between them. Will they survive? It seems that they will but the experiment is still going on and future generations shall see how much genetic variability is actually necessary for the species to survive.

Tracking the Primeval Beast

As much joy and satisfaction as watching these majestic animals brings, tracking them in the wild can be a tricky business. After 15 years spent in the forest I can sometimes find them on the first day out but at other times I may still need 3-4 days to succeed. They can walk in groups from a few to over a hundred individuals like mixed herds led by old cows or mixed winter herds. They can also walk alone or in twos like old bulls. Their spatial distribution is mostly influenced by food availability so your general forest ecology and botany knowledge pays. They are on the constant move, however, and never stay in one place for too long. From spring to autumn Bison disperse around the forest to take advantage of the food variety and knowing what's on top of the menu - the season's special - can greatly help in finding them. In the spring their favourite food can be fresh twigs and

continued on page 105 ➤



leaves of deciduous trees, in the summer it can be grasses and herbaceous plants found on the forest glades and in the autumn - acorns if they are available in a given year. When it's hot they are more likely to feed in a darker and therefore cooler broadleaved forest than in the more open coniferous stand. Examining the pooch found in the forest can also help. If it's solid it means more bark and twigs have been eaten and if it's liquid you can search for animals in the meadows and forest glades feeding on grasses and generally softer plants. If the winter's severe and snowy they would gather in larger herds near the feeding stations where hay is put out for them by the National Park workers or they would go out of the forest into the meadows where large haystacks were left over winter or even into the corn or beetroot fields. And sometimes none of these ifs and whens seem to work and you just follow your intuition or count on your luck or good wildlife karma. But finding them is one thing and coming close is something completely different and requires both experience and intuition. Most of the time Bison would avoid close contact with humans and just slowly walk away. At times they can also be dangerous, especially the females protecting their calves. It is possible, *continued on page 107* ➤

■ A beautiful portrait of four (yes - four!) subadults. Bison are more afraid of sudden noise than they are of humans, so silence is paramount when trying to approach them.

■ Facing such a massive, powerful phalanx might be rather unnerving for the average mushroom collector, but every wildlife photographer would consider himself exceptionally lucky to behold such a group of European bison emerging from the thick, dark Polish forest.



Raw, primeval power at its best as a large bison bull offers a rare display of nervousness. This species can display surprising agility despite its massive size.



however, especially with male Bison, to come close and not disturb the animals. You will need this skill in order to get back home with great photographs. The best you can do is get yourself a good local guide and do what he or she says. And to maximise your chances come here at wintertime, and I mean -20°C and one or two feet of snow at the very least! Believe me, you will survive and you will have fun. And you can really chill out in the long evenings by the fireplace with your favourite drink with your beloved ones or your (carefully chosen) travelling friends, just enjoying the full spectrum of what Poland has to offer. Isn't that what holidays are all about? ●

Lukasz Mazurek is a founder of [WildPoland.com](http://www.wildpoland.com) and a wildlife watching trips organiser in Eastern Poland since 1998. He is also the co-author of the "Bialowieza Site Guide - Where to watch birds and large mammals of the Bialowieza Forest" - the most comprehensive and detailed guidebook to this area ever published. The guidebooks and trips Lukasz offers are available at www.wildpoland.com.

A photograph of two young bison males standing in a grassy clearing at the edge of a forest. The bison are dark brown with prominent horns. The background is filled with trees and foliage in shades of green and yellow, suggesting an autumn setting. The lighting is soft and golden.

*The ancient god-kings of the forest
still survive in today's world*

■ The ancient kings of the forest live! Two beautiful young bison males stand guard at the edge of the woods, bathed in the warm, golden light of the coming autumn.

Raja Ampat ...

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The Parting Shot

Nowadays every scuba diver with the slightest interest in marine biology or underwater photography knows about Jawfish - those strange, tadpole-shaped, bottom-dwelling little fish belonging to the Family *Opistognathidae* which live in a vertical hole dug in the sand or coral rubble and look exactly like a miniature marine pug thanks to their big, bulging eyes and wide, permanently grinning mouth. But twenty years ago, when we first encountered the previously unrecorded Giant Jawfish *Opistognathus dendriticus* as we were exploring the dive sites of Pulau Lankayan, in the Sulu Sea between Malaysian Borneo and the Philippines, this breed was a very mysterious one indeed - so one can easily imagi-

ne our surprise as we sighted the Shrek-like countenance of one, its toadish head as big as a clenched fist, emerging like a grotesque mini-periscope from the sandy bottom. Fascinated, we observed its bulging eyes as they rotated like miniature turrets, watching us closely, its huge froggish mouth half-open in the twilight of the deep. But wait - I was glimpsing something there, was it maybe trying to swallow a prey? I slowly inched my way towards it, one shallow breath at a time, creeping on the sand, as I knew it would disappear in a flash inside its lair if alarmed. Slowly, slowly, closer, closer...until I could see what was in its gaping mouth. No struggling prey - but a full clutch of eggs, almost ready to hatch! I

could even see - with utmost clarity, now - the shapes and eyes of the fry through the viewfinder of my housed Nikon F4 as I started to click away, knowing this was an absolute first. Marine biologists were well aware of the fascinating mouth-brooding habits shown by this Family, of course - but nobody had ever been able to record it clearly within this specific genus, and *Ophistognathus dendriticus* was somewhat of a mystery itself, being mostly known from a few, scarce specimens collected in the local fish markets by researchers. And now it was sitting there in all its glory, and this is how we were the first ever to record in photographs the oral brooding behavior of our ogreish little fish. Now isn't that cool? ●

IN ANIMA MUNDI'S NEXT ISSUE
No.8, Fourth Quarter, October 2012

BACK TO THE GREEN MANSIONS
Part 2 of our extensive feature on Ecuador's
amazing Yasuni National Park

**PINK DOLPHINS
OF THE RIO NEGRO**
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of the Amazon's most elusive
and fascinating creatures

THE ILLUSIONIST MOTH
You won't believe your eyes - meet a nocturnal
insect which defies description

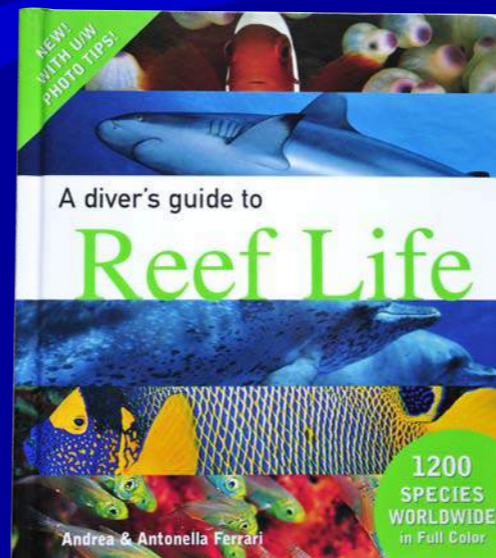
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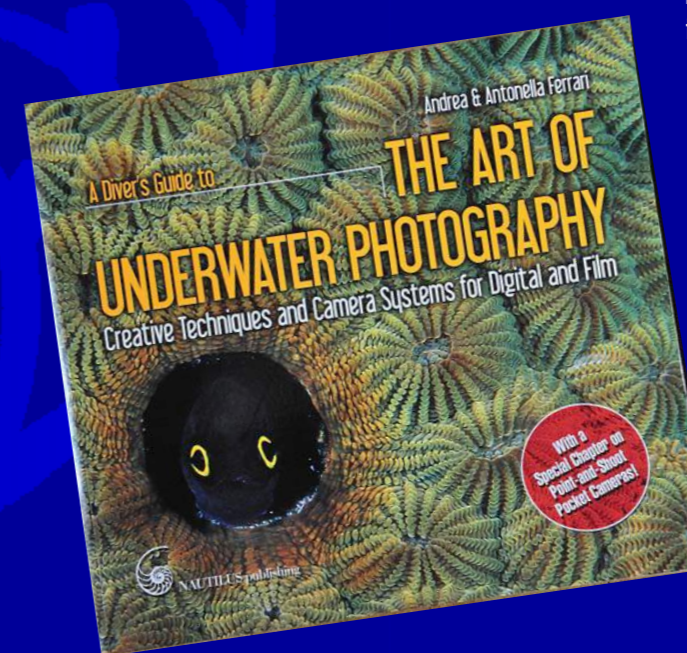
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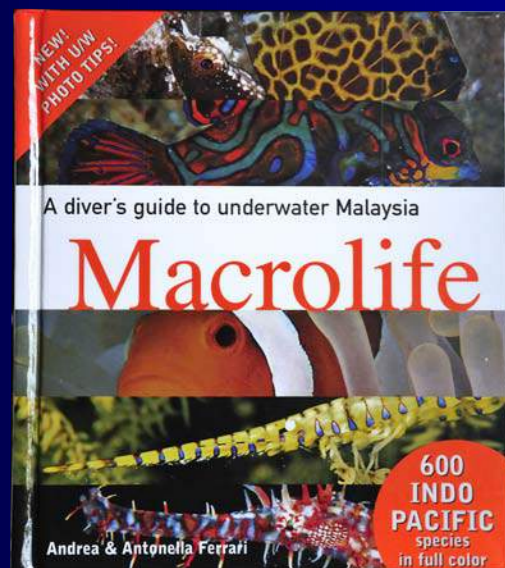
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