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EXPLORERS

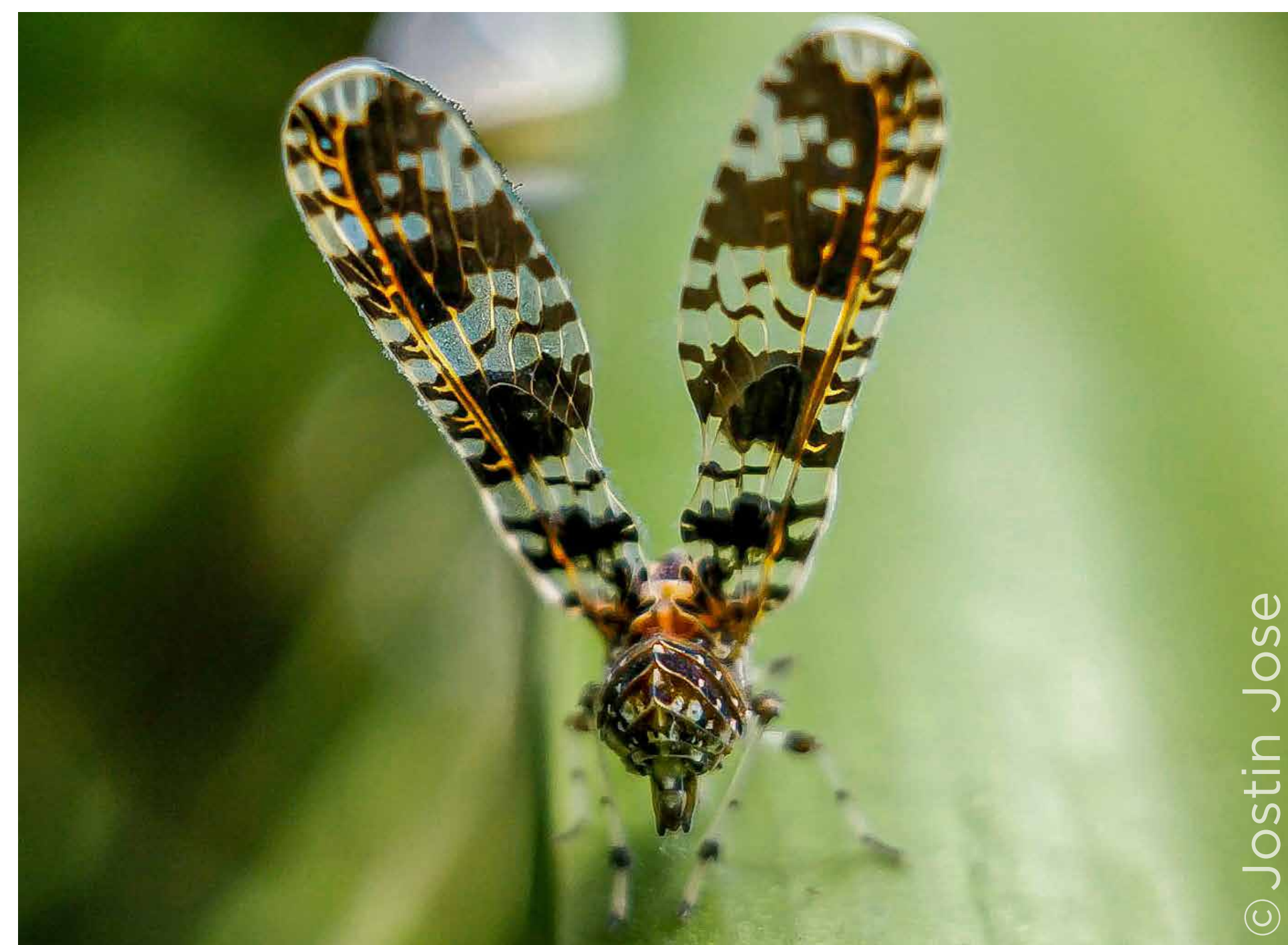
AUG / SEP 2020



INTO THE WILD WITH SUPREET SAHOO

ARTHROPODS
BY CYNTHIA BANDUREK

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© Jostin Jose



© Madhav Manoj Vachali

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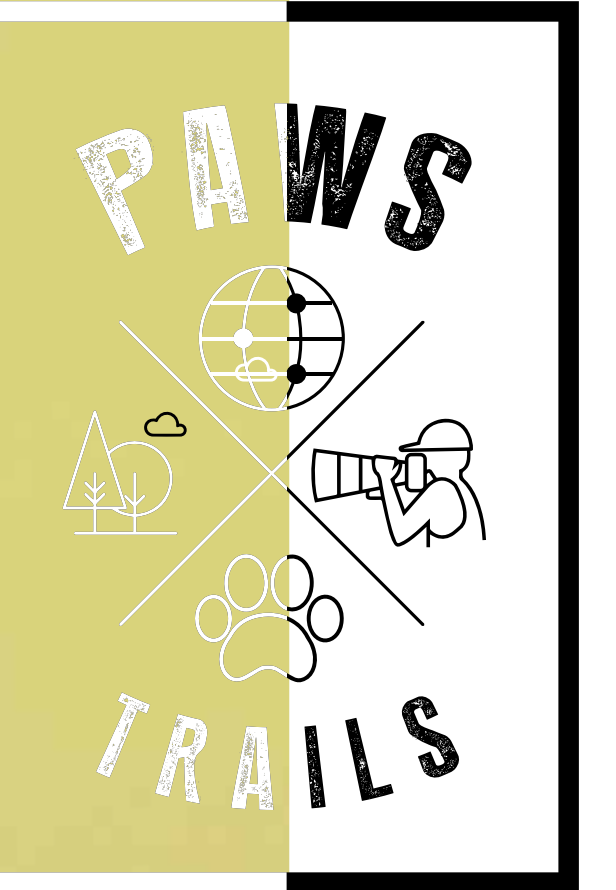
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008

Cover Story
by Supreet Sahoo





Hank Tyler
Editor

With Volume 24, we celebrate four years of publishing PT Explorers magazine, online and free! Over 250 articles and several thousand photos have been published. Over the years, PT Explorers has grown from around 100 pages TO 334 pages for this volume.

PT Explorers is powered by the voluntary contributions of many authors and photographers sharing fascinating stories and articles, and spectacular photos of nature and wildlife. We owe a great debt of gratitude to everyone who supports and contributes to PT Explorers.

Twenty-four wildlife artists have told their stories about creating wildlife art and contributing to conservation of land, special habitats and wildlife conservation.

We are trying hard to raise awareness of conservation and wildlife issues and encourage all of our readers to become involved in their local community programs and projects.

Paws Trails has a small team dedicated to PT Explorers and other conservation efforts who deserve recognition and thanks for their inspiring efforts: co-founders of Paws Trails, Nisha Purushothaman and Hermis Haridas; Raghul Patteri for sub-editor; Lauren Steyn, editor for Southern Africa; Cynthia Bandurek, editor for South America; Nithya Purushothaman for designing; and Athira Mohan for Proofreading.

For my own part, I wish to thank the many authors that I have worked with over the past four years, and the equally numerous photographers who have so generously donated to PT Explorers. A very special thanks and appreciation goes to Nisha for her diligent hard work on the design and web-layout for the 24 volumes of PT Explorers. The future looks very bright for PT Explorers magazine with so much heartfelt support expressed for the conservation of the natural world with each volume issued.



PHOTOGRAPHY DIRECTOR'S CHOICE



Vipul Ramanuj
Frog hopper
(*Cercopoidea*)

FOUNDERS' NOTE

One edition every other month, six a year, 24 editions total – no mean feat for a publication that is completely volunteer-powered and completely free. This is the 24th edition of PT Explorers and our heartfelt thanks to our readers worldwide who inspire us to commit ourselves to this noble cause. Let us be with nature and work together for the well being of mother earth and our co-habitants on this beautiful planet.

This year has been a first for many of our initiatives. The PawsTrails webinar is a twice a week platform for photographers, artists and the interested public to come together online for a great interactive session. The webinars loosely fall into five categories – experience sharing by wildlife photographers from around the world, digital photography exhibitions showcasing images by 20 photographers, live portfolio review sessions where budding photographers get their works reviewed & showcased, Masterclasses on different aspects of photography by the big noted experts in the field, and lastly experience sharing sessions with noted artists in the field of wild arts and nature arts.

Subscribe to our YouTube channel (PawsTrailsOfficial), and explore with the experts. You can follow us on our different social media handles to keep abreast of the upcoming sessions and events.

Please note – our next digital photography exhibition is slated for the 12th of August, with the theme 'Reflection'. Please submit your entries to participate in this wonderful event.

Not to forget – please check out our Tips&Tricks videos which are released every week. These are short videos that explore one aspect or genre of photography per session. What better way to sharpen your skills with the camera!

And once a month we reach you with a blockbuster webinar on Species & Conservation by noted Scientist Dr.Peter Hudson. Each webinar will explore the intricacies of a species and explore the various conservation issues and conservation efforts for that species. What better way than to hear it directly from Peter!

Click that subscribe button on YouTube for these and more.

www.youtube.com/PawsTrailsOfficial/

We again thank all the wonderful people from around the world who have contributed the articles and photographs over the years. Your support is priceless and well appreciated in the fight for a healthy planet.
www.pawstrails.com

Hermis Haridas & Nisha Purushothaman

Founders - PT Explorers



COVER STORY

Into the Wild

with Supreet Sahoo



Painted Bunting (*Passerina ciris*)



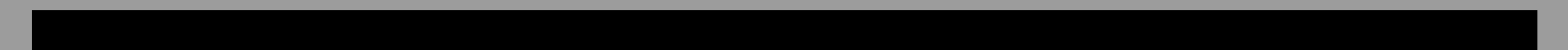
Supreet Sahoo is an avid birdwatcher and photographer with a specialty in Tropical bird photography in Latin America. His work has been featured in reputed publications like the BBC Earth, National Geographic Spain, and Sanctuary Asia along with several other publications and journals.

Born in India and now settled in Austin-US, Supreet's love for photography started when he was handed his dad's Yashica point & shoot camera while on a family trip to a national park in Eastern India.

With an on-field experience of 15 years, Supreet has explored several parts of India, however, his specialty niche lies in tropical bird photography in Latin America. He has been working with naturalists and guides in Central and South American rainforests to establish a network, devise conservation methods, and conduct bird photo tours to bring awareness about the diverse wildlife and birds these diverse countries hold.

During his years in the tropical rainforests, Supreet has photographed over 3,000 species of birds and his list keeps growing. Supreet's aim is to keep expanding his portfolio for the world to see how beautiful and fragile wildlife is and how important it is to conserve, be aware, and appreciate them.

**supreetsahoo.com
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facebook.com/supreet.sahoo**





Brassy-breasted Tanager (*Tangara desmaresti*)



Jaguar (*Panthera onca*)



Welcome to PT Explorers, Supreet, we are thrilled to have you here! Do you mind introducing yourself to our readers?

Thanks for having me here. I am a professional wildlife photographer specializing in shooting tropical wildlife, especially birds. I was born and raised in India and now settled in Austin. I spend all my time in the rainforests of South America and founded my own company called Tropical Photo Tours which is into photography tours, conservation and works very closely with certain lodges for habitat preservation and wildlife documentation in Latin America.

Where and when did your wildlife photography journey arise?

In India, Assam to be specific. I was four years old when we visited Kaziranga National Park to see the rhinos. It is then when the shutterbug also bit me. My dad would lend me his Yashica film camera to get a few shots.

Being predominantly a bird photographer (and an exceptional one at that), what has been the toughest challenge for you? Would you even define yourself as a bird photographer or do you feel that's too limiting?

I honestly do not think that the label of a bird photographer is limiting, since I take pride in my work and the portfolio, I have built over several years in bird photography. However, to be honest I shoot all kinds of wildlife with frogs and snakes being my absolute favorites subjects. I'd say the toughest challenge during wildlife photography is and will always be the light and difficult



Maroon-bellied Parakeet (*Pyrrhura frontalis*)



©Supreet Sahoo

Orange-bellied Euphonia (*Euphonia xanthogaster*)



©Supreet Sahoo

Magpie Tanager (*Cissopis leveriana*)

environment we shoot in.

What can you tell us about your photography work with hummingbirds?

Simply put it's a joy to photograph hummingbirds, both in their natural habitat and sometimes in a controlled environment like multi flash habitat. They are fast but at the same time predictable which helps us make some amazing flight shots of them. Freezing hummingbird wings is especially tough but with the right gear and technique one can do it well.

Do you mind sharing with our readers how you got into multi flash setups for your bird photography?

Like any other bird photographer, I was obsessed with flight shots of hummingbirds but had never shot one until I visited Costa Rica in 2015. With the lack of material and willingness of other photographers to share the knowledge I had to experiment it all. Eventually I started getting the results and later documented the entire process in a blog -

<https://www.supreetsahoo.com/single-post/2016/07/09/High-Speed-Sync-Flash-Photography>

Multi flash is a vast topic and needs a lot of technical understanding of how it is performed. Often the setup will fail if you get one thing wrong, yes, its like a castle built of cards.

Multi flash is a complex bird photography methodology that needs a lot of practice but foremost understanding of what is happening. In a nutshell Multi-flash is a setup when you freeze the action

of a hummingbird in flight with end to end sharpness and overall image exposed correctly or as desired by the photographer.

It seems as though you've had your fair share of travel and wildlife experiences! What are some of your truly memorable moments?

I have travelled Latin America extensively and have already covered seven countries with determination to do more in the coming years. Of the several interesting moments I have witnessed getting close to a Margay cat was probably one of the best experiences of all.

Tell us more about your tours and travels within Latin and South America?

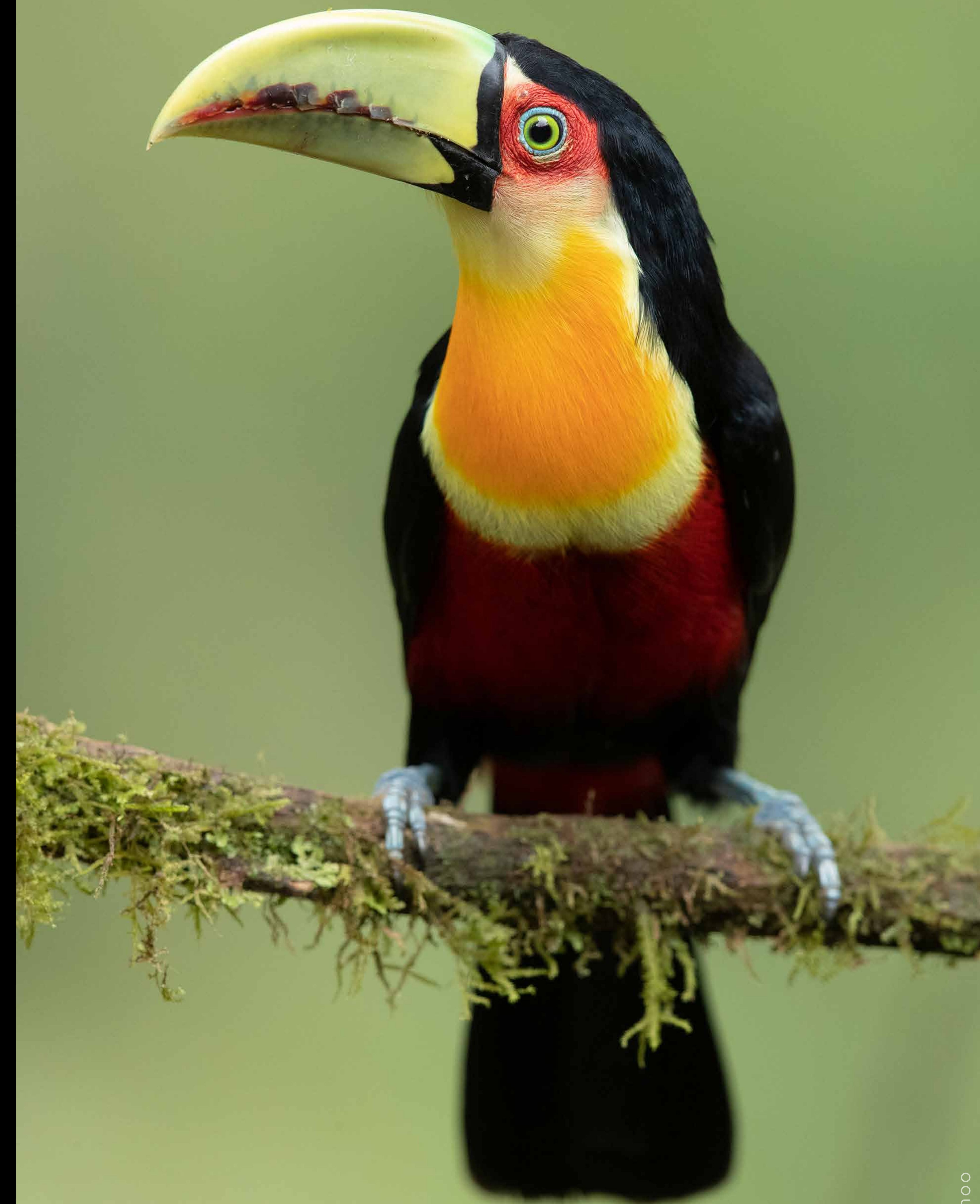
We run a premium wildlife photography tour company that currently operates in seven countries across Latin America. We cover everything from birds to mammals and these tours are all-inclusive with expert guiding, technical assistance during photo sessions and a chance to experience the local culture while doing what you love - photography!

We create itineraries for every country with a lot of research and help from the local guides and that helps boost eco-tourism and local communities in these countries.

What does a typical day of a tour look like with you?

It starts early, around 4:30am (sometimes at 3am if we must travel for an hour) followed by an entire day of photography. Its not easy, as many would think. It

Red-breasted Toucan (*Ramphastos dicolorus*)





Jaguar (*Panthera onca*)



takes time, energy and most importantly patience. Depending on where we are either carry packed lunch or grab something quick at local restaurants. The average photography sessions can be somewhere between 6-7 hours every day.

Do you have any iconic places or locations that draw you back for more photography?

Absolutely, there are many, but I am specifically drawn towards the highlands of Ecuador and Atlantic forest of Brazil. I could keep going back to these places all my life and not be tired.

Is there an animal that you are yet to photograph but would like to?

I would want to photograph an Andean Cat in South America! It is one of the rarest cats in the world and extremely difficult to see. Another such species is the Andean bear!

Do you have any photography dreams that you are yet to accomplish?

Several, but the top of my list is the mysterious Papua New Guinea to photograph the amazing Birds of Paradise.

What would you recommend as a beginner camera or lens for someone who wants to get into bird photography?

In the present market there are so many options which are both good and bad at the same time! I think that while both Canon and Nikon have great options to choose from Sony and Olympus cannot be disregarded anymore. However,

White Necked Heron (*Ardea cocoï*)



Red Howler Monkey (*Alouatta seniculus*)

for the more tradition type I usually recommend a good crop-sensor and a zoom lens which would be a Nikon d750 with a Nikon 200-500mm lens or a Canon 80d with a 100-400mm lens. The 150-600mm lens options by Tamron and Sigma are also worthy alternatives to think about!

What are your three top tips for photographing wildlife that aren't said enough?

I am going to share things that have helped me become a photographer and I hope it helps: PLAN

Prepare for your trip in advance, read trip reports, research on the birds found in the area, find the best guides, understand the species behavior.

List your targets and stick to them. This helps you focus on what you want and helps in minimal time wastage while on a tight schedule.

Act on your techniques. Learn the art of photography, so that you are equipped with the knowledge to get everything right when the time comes to photograph your targets.

Negotiate whatever you have learnt and read. Book knowledge prepares you in advance but photographing in live environment sometimes needs dynamic action and change of plans. So be flexible and receptive to change in environment, light, and things around you.

In your belief, what poses the largest threat to wildlife conservation? As a photographer what can be done about it?

The answer is simple, and I think we all know it. It is us, humans. Humans are the single greatest threat to wildlife. The unending desire to capitalize, harm and expand commercially is destroying the planet (it already has). Our work as photographers is to spread awareness and do our bit to help local communities. While it sounds cliched it still holds a lot of water! Small steps to educate people of how these forests help our wildlife sustain, what species can these conservation efforts save, how local communities are working towards achieving that goal can help in creating some healing to the depleting mother nature.

What do you think of the role of social media and wildlife photography?

I would say that it is noticeably big. Both good and bad! Good, because of the awareness and education it spreads but also bad because it is now a proven fact that poachers use this information.

Do you think that there's a certain ethic to follow when taking photographs in the wild? Are there are any ethics/values you keep in mind when doing so that you can share with our readers?

Absolutely, like any other field in life, wildlife photography has several ethical codes that one should follow for the welfare of the wildlife. The most important is respecting the sanctity of the wildlife and the environment. Most photographers jump at the sight of the target bird/animal and thus create a chaotic environment in the anxiousness to shoot the wildlife disturbing them and the area around. One needs





Cobalt-winged Parakeet (*Brotogeris cyanoptera*)



Ecuadorian Hillstar (*Oreotrochilus chimborazo*)

©Supreet Sahoo



Purple-backed Thornbill (*Ramphomicron microrhynchum*)

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Festive Coquette (*Lophornis chalybeus*)

to understand that the animal/bird may not be comfortable with human presence at all and may see this as an act of intimidation. Hence, patience and awareness play a big role since I believe animals can understand our intentions & personalities, and the calmer we are the more comfortable they feel.

In the time of COVID-19, there is a rising awareness of protecting and preserving our planet. Do you have any thoughts you'd like to share in light of this recent outbreak? How has it impacted you as a photographer?

COVID has both positively and negatively impacted things. Personally, I have not been to a forest in over 4 months and it seems like this will continue in the near future, impacting the business on both sides, as a client and a host. The good however is that the planet is healing. Animals are safer, deforestation is at an all time low and everything is regenerating again!

Do you have any final thoughts you'd like to share with our readers?

I usually answer this in two folds -

- a. If you want to be good photographer then build your own style, a niche! Do not worry about social media appreciation, if you are honest with your work, people will love it and follow you.
- b. Conserve - Eventually we will leave a planet behind for the future generations. Please help save it before its too late.



Brazilian Ruby (*Clytolaema rubricauda*)



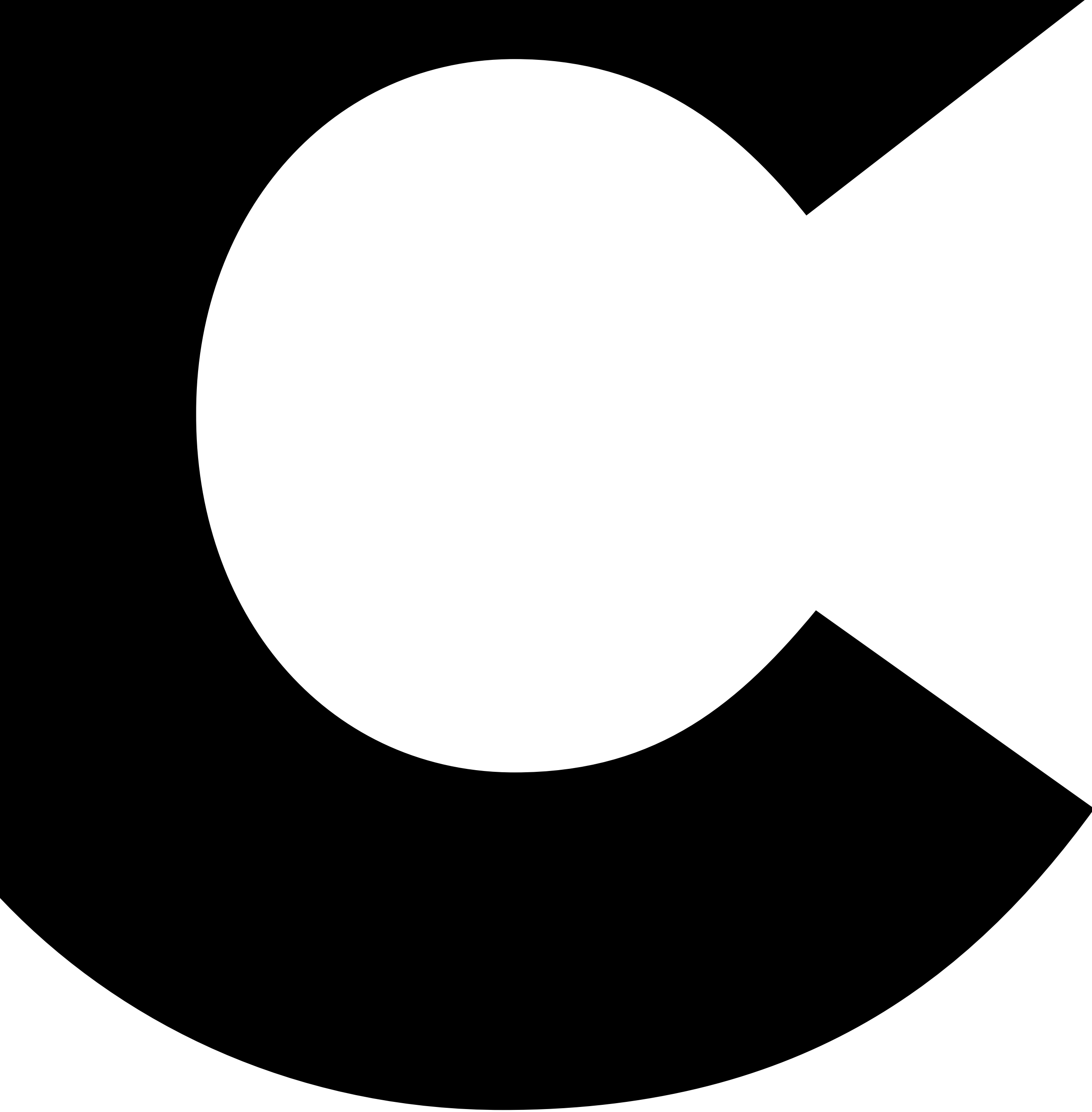
Margay (*Leopardus wiedii*)

CONSERVATION

Arthropods

by Cynthia Bandurek





Cynthia Bandurek is an Argentinian Conservationist Ecologist, Field Naturalist, Nature photographer and wildlife artist. She has worked for more than eleven years at the Argentine Museum of Natural Sciences 'Bernardino Rivadavia'. She now works at the Darwinion Botanical Institute. Conicet

She participates in Conservation Projects in Argentina and is the author of the Book: "The world of small, An approach to the universe of arthropods from an artistic, visual, and evolutionary perspective." Cynthia is PT Explorers' contributing editor, South America.

cynthiabandurek.com

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cynthiabandurek_artphotography/](https://www.instagram.com/cynthiabandurek_artphotography/)



©Cynthia Bandurek

Grasshopper (*Ortalacris azurescens*)



Weevil (*Curculionidae*)



Beetle (*Colapsis* sp)

The amazing world of the small.

Arthropods have existed for more than 350 million years on earth, an exorbitant amount of time when compared with humans. Fossil records for hominids only exist for about three million years. It is reasonable to think that the strategies arthropods have developed allowed them to have the success they have.

Arthropods are divided into four major groups: insects; myriapods (including centipedes and millipedes); arachnids (including spiders, mites, and scorpions); crustaceans (including slaters, prawn, and crabs).

Insects comprise the most diverse group of land animals – about 900,000 named species, while arthropods represent about 80% of all animal species. The great evolutionary potential of arthropods is linked to the development of a cuticle that formed the exoskeleton that characterizes them, allowing them to leave the water and colonize the land avoiding desiccation. Insects are the first animals to develop flight - 150 million years before reptiles, birds, and flying mammals. The ability to fly allowed insects not only to colonize the land but also airspace.

Arthropods appeared in fossil records dating back 542 - 488 million years ago to the Cambrian period. Evidences were found that in the Carboniferous (359-299 million years ago) they have developed large sizes, like Odonata (dragonflies) with a wingspan of over 75 cm, or the case of millipedes 50 cm wide and almost two meters long. Such colossal dimensions of arthropods during the Carboniferous Period was probably due to increased oxygen concentration in





Leaf Hopper (*Cicadellidae*)



Spider (*Araneae*)



Wasp (*Hymenoptera*)

the atmosphere (35%) than there is today (21%).

Arthropods have been able to inhabit most all ecological niches on earth and feed on a wide variety of plants and animals for their food. Over millions of years, arthropod species have acquired an extraordinary ability to survive in ever changing and often adverse environmental conditions.

The diversity and the most varied relationships of forms are the result of their interactions with the environment and their various situations. The ability to adapt to constant environmental changes over millions of years has enabled arthropods to evolve a near infinite number of species. The astronomical number of individuals allows an unimaginable opportunity to evolve new species to adapt to a changing world. An infinite laboratory led by virtually minute animals allows the creation of many adaptation and strategies to survive.

That is why arthropods were able to build condominiums with air conditioning, build acoustic equipment, make paper, take slaves, cultivate gardens, breed other animals, create their own oxygen tanks to breathe under water and cause explosions. Arthropods created many life sustaining adaptations well before humans appeared on earth.

In arthropods, body temperature varies with ambient temperature, and referred to as ectotherms, ie, they can only rely on external sources of energy, generally the sun, to regulate their temperature. Some insects can generate some heat

by muscular activity. While other insects have acquired the ability to survive extreme cold temperatures by storing ethylene glycol in their tissues, a chemical compound that prevents ice crystals from forming in their tissues.

Most arthropods have some degree of vision with their compound eyes. Some can see in color and some can see ultraviolet light. The compound eyes are geometrically perfect and are the primary sensory organ in insects. These compound eyes are formed by bundles of cells called ommatidia. Ants have only a few ommatidia, up to 10,000 while dragonflies have up to 10,000 ommatida in their compound eyes. The more ommatidia, the greater the visual acuity.

Arthropods have a wide variety of respiratory systems. Small species often do not have any, since their high ratio of surface area to volume enables simple diffusion through the body surface to supply enough oxygen. Crustacea usually have gills that are modified appendages. Many arachnids have book lungs. Tracheae, systems of branching tunnels that run from the openings in the body walls, deliver oxygen directly to individual cells in many insects, myriapods and arachnids.

The stiff cuticles of arthropods normally would block out information about the outside environment, except that the cuticles are penetrated by many sensors or connections from sensors to the nervous system. In fact, arthropods have modified their cuticles into elaborate arrays of sensors. Various touch sensors, mostly setae, respond to different levels



Grasshopper (*Orthoptera*)

of force, from strong contact to very weak air currents. Chemical sensors provide equivalents of taste and smell, often by means of setae. Pressure sensors often take the form of membranes that function as eardrums but are connected directly to nerves rather than to auditory ossicles. The antennae of most hexapods include sensor packages that monitor humidity, moisture, and temperature.

Insects are the most diverse and abundant group of animals within arthropods. In addition, there are more than 65,000 named species of arachnids and 67,000 named species of crustacean, and about 16,000 named species of myriapods. However, scientists estimates that the numbers of arthropods are even greater.

Another peculiarity in this small world, which possibly nurtures fiction, is that of metamorphosis. During this amazing process, caterpillars transform themselves into adults – such as butterflies, moths, wasp, bees and beetles.

The amazing aspect of metamorphosis, beyond the adaptive advantages, which creates the possibility of avoiding competition between youth and adults, since each one has a different lifestyle, where even their food and habitat often differ, is that once the caterpillar is locked in its cocoon, there is a chemical rearrangement to create an adult animal.

In the process of metamorphosis, major structural and physiological changes occur, there are changes in size and an increase in cell number, but also there occur changes of cell differentiation,

i.e. cells acquire a shape and a specific function to fulfill in this new stage.

Conservation situation

Arthropod are declining in abundance, biomass, and biodiversity worldwide. There is data and anecdotal evidence reflecting the declining of several species or group of species, but the global decline is still unquantified.

There are several reasons why arthropods are declining:

- Habitat loss and land conversion to intensive agriculture and urbanization are occurring around the world. Habitat loss is often accompanied by habitat fragmentation, and both lead to decreasing connectivity. However, the effects on different species of arthropods depends on the mobility of the species and the degree of habitat fragmentation. Arthropods with low mobility may survive in isolated populations.
- Pollution by synthetic pesticides and fertilizers is a major cause of mortality. Pesticides impact insect populations via direct toxicity and sub-lethal effects, and indirectly through habitat alteration. Bioaccumulation, due to chronic exposure and biomagnification along food chains, pose significant additional threats for insect populations that can have undetected harmful effects on insect physiology and behavior.
- Industrial pollution, that include water and air pollution are adversely affecting arthropod populations.

Fungus Beetle (*Aegithus sp.*)





- Light and noise pollution. Nocturnal insects are especially vulnerable to changes in natural light/dark cycles. Light pollution interferes with insects that use natural light (from the moon or stars) as orientation cues for navigation and with communication of insects that use bioluminescent signals, such as fireflies. Light pollution desynchronizes activities triggered by natural light cycles, such as feeding and egg-laying, and causes temporal mismatches in mutualistic interactions.

- Noise pollution greatly changes the acoustic landscape and interferes with acoustic communication of insects and their auditory surveillance of the environment, having significant fitness costs.

- Electromagnetic pollution probably also affects insects' behavior; more research is needed to verify negative effects.

- Biological factors, including pathogens and introduced species. Negative impacts may be direct (through predation, competition, or disease vectoring) and/or indirect (through trophic cascades, co-extinction of herbivore or parasitoid hosts). Direct competition by non-native species can drive local populations towards extinction.

- Climate change. This is particularly important in tropical regions. The complexity of global climate change goes far beyond simply global temperature increase. Climate change also leads to a variety of multifaceted ecological responses to environmental changes, including shifts in species distribution ranges, phenological displacements,

extinctions, and other unpredictable cascading effects at different levels of ecosystem organization. Changes in species phenology, distributions, reduction in body size, assemblage structure, and desynchronization of species-specific interactions are all linked to climate change. In addition, changes in functional feeding group diversity can be associated with changes in trophic interactions in food webs. Aquatic insects are affected by climate change, due to the synergistic negative effects on freshwater ecosystems overall and these insects having limited dispersal capacity.

- Overexploitation. Overexploitation may play a role in insect decline for selected species. Many insects are victims of the illegal wildlife market, some for mascots others for use as decoration (such as souvenirs and jewelry) and some others are victims of collectors. Select species are used as food resources and in traditional medicine.

A planet without arthropods...

The numerous, abundant and wide variety of arthropod species play a significant role in the world's ecosystems.

Insects are the food source for many amphibians, reptiles, birds, mammals, and fish making their roles in food chains and food webs extremely important.

Insects pollinate a vast majority of plants that produce seeds, and that includes our crops and the food we eat. The honeybee pollinates most of our agricultural crops. Arthropods enrich the soil by recycling nutrients and disposing of dead organisms and waste - essential



ecosystem services.

Arthropods also provide various products such as silk, honey, wax, medicine, and dyes.

Small in size, but with a number of individuals estimated in the billions, arthropods have an extraordinary impact, contributing to the functioning of the earth's ecosystems.

It is not only their vast numbers, but the

dependency of ecosystems, and humanity on them, that makes the conservation of insect diversity critical for future generations. Insects are irreplaceable components in our survival as are other invertebrates and biodiversity in general.

Reflections

Conservation of arthropods is essential to ensure the existence of an intricate network supporting the earth's living

ecosystems by complex relationships, which allow the fragile balance of life to continue. The world's human populations depend on healthy arthropod populations and healthy ecosystems.

Protections of healthy arthropod populations, especially insects are essential to sustain life on earth. In addition, the intrinsic value of life as we know it on earth now is important to maintain and protect.

Appreciating and knowing this world, often unknown, the world of arthropods, discovering its beauty, its complexity and some attractive aspects of their lives, as also some of their strategies for survival and reproduction, can help us to see the sense of their behavior and reflect on their importance as living beings, and allowing us to extend this appreciation to the rest of the life forms that inhabit every corner of our vast and wonderful planet.



Weebil (*Curculionidae*)



Earwig (*Dermaptera*)

SPECIES

Brazilian Owls

By Priscilla Esclarskil

Photos By: Claudia Brasileiro

American Barn Owl (*Tyto furcata*)





P

Priscilla Esclarski is a Brazilian biologist who has studied owls in the Atlantic Forest and Amazonia, and now is working on a PhD vocal variation in forest bird species in the Atlantic Forest.

Claudia Brasileiro is a Brazilian nature photographer specializing in bird photography in South America.

Stygian Owl (*Asio stygius*)





Short-eared Owl (*Asio flammeus*)



Tropical Screech Owl (*Megascops choliba*)

There are several birds with nocturnal activity, among them the most popular are owls, however they are little studied. They make up the order Strigiformes, are predatory birds of mostly nocturnal habits (Sick, 2001), however, Johnson (2003) says one-third of owls are active during the day.

They are birds specialized in hunting in low light environments and for this they have several adaptations that differentiate them from the other birds of prey and give them peculiar characteristics (Sick, 2001; Burton, 1984). To better detect your prey, they have large eyes with enlarged cornea, pupil and lens, which guarantee more light entry into the retina but make the eyeball virtually immobile and consequent limited field of vision. To compensate, they have a head that rotates 270°, however the owls use little vision in hunting, it is the sharp perception hearing that draws attention to these birds. They have asymmetric ears and a facial disc that functions as a parabolic, capturing, amplifying the volume of the sound and directing it to the ear, allowing it to accurately locate its prey amid the ambient noises.

Discreet, they are little noticed, even by the prey. They fly silently thanks to their soft plumage that can reduce friction with the air, producing no noise. Because of the nocturnal habit, of the lugubrious voice, of such peculiar abilities and characteristics, in virtually all cultures owls are in some way associated with signs of unhappiness, creatures of darkness, bad luck and death; They are found practically all over the world, in the most diverse habitats, and its



Burrowing Owl (*Athene cunicularia*)

Black-capped Screech Owl (*Megascops atricapilla*)



Buff-fronted Owl (*Aegolius harrissi*)





Striped Owl (*Asio clamator*)



Great Horned Owl (*Bubo virginianus*)

relation with man is old and somewhat controversial. Some people believe that owls are evil emissaries, but in other cultures they are symbol of wisdom, luck and prosperity. Unfortunately, most of these superstitions compromise the existence of these birds (Burton, 1994; Sick, 2001; Mikich & Bémils, 2003; ICMBio, 2008, Esclarski et al., 2011).

There are over 250 species of owls worldwide (Strigiformes, Tytonidae and Strigidae families), and according to the Brazilian Committee of Ornithological Registries, in Brazil there are 23 species (CBRO, 2014). Of the 23 species, only *Tyto furcata* (American Barn Owl) does not belong to the Strigidae, the others are representatives of the genus *Aegolius*, *Asio*, *Athene*, *Bubo*, *Glaucidium*, *Lophopstrix*, *Megascops*, *Pulsatrix* and *Strix*, whose larger species is *Bubo virginianus* (Great Horned Owl, 45-60 cm) and the smallest *Glaucidium minutissimum* (Least Pygmy-Owl, 14 cm). Of these, *Athene cunicularia* (Burrowing Owl) is the only species essentially terrestrial, and seems to have adapted well to the urban environment, as well as *Megascops choliba* (Tropical Screech-Owl), *Asio flammeus* (Short-eared Owl) and *Tyto furcata* (American Barn Owl). According to the existing data, some species have a restricted distribution to the Atlantic Forest, such as *Glaucidium minutissimum* (Least Pygmy-Owl), *Glaucidium mooreorum* (Pernambuco Pygmy-Owl), *Megascops atricapilla* (Black-capped Screech-Owl), *Megascops sanctaecatarinae* (Long-tufted Screech-Owl), *Pulsatrix koeniswaldiana* (Tawny-browed Owl) and *Strix hylophila* (Rusty-barred Owl). While others are restricted

in the Amazon, such as *Glaucidium hardyi* (Amazonian Pygmy-Owl), *Lophopstrix cristata* (Crested Owl), *Megascops guatemalae* (Vermiculated Screech-Owl), *Megascops usta* (Austral Screech-Owl) and *Megascops watsonii* (Tawny-bellied Screech-Owl).

It is believed that with molecular and phylogenetic studies, the number of Brazilian species can increase considerably, since several geographic populations of the species already known, are not well explained. But this can be alarming since we do not know for sure the conservation status of Brazilian species. There is a lack of data on the natural history of owls and lack of studies on distribution and abundance may place some of these birds on the list of endangered species, and possible new species on the verge of extinction (IBAMA, 2003). As an example, we have the species *Glaucidium mooreorum* (caburé-de-pernambuco) probably extinct, due to its restricted distribution added to the absence of records since its description in 2002. Although they inhabit the most diverse environments, from dense forests to altitude fields, and even adapt to urban centers. Many of these species, from the rare to the most common, suffer from the expansion of deforestation and fragmentation of habitats, with pollution, poisoning and unfortunately, with fortuitous attacks due to popular beliefs and domestic animals (ICMBio, 2008).

One of the great challenges of today is to reconcile environmental conservation with the needs and culture of local populations, who sometimes depend



Amazonian Pygmy Owl (*Glaucidium hardyi*)



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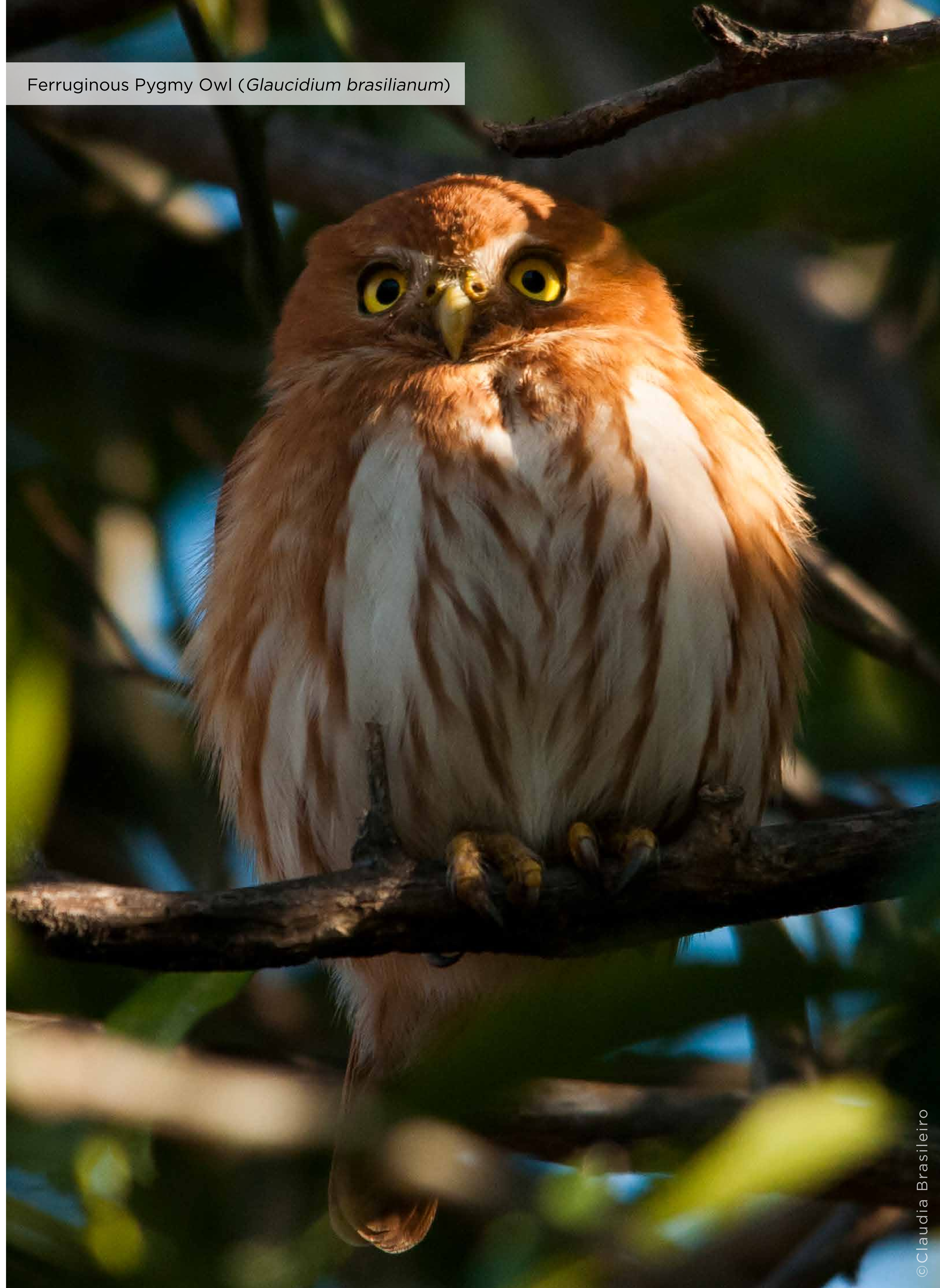
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Long-tufted Screech Owl (*Megascops sanctaecatarinae*)



Spectacled Owl (*Pulsatrix perspicillata*)

Ferruginous Pygmy Owl (*Glaucidium brasilianum*)



directly on natural resources for their livelihood (Lima et al., 2014). Owls need, more than ever, our watchful eye as a citizen and scientist.

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Black-banded Owl (*Strix huhula*)

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Tawny-browed Owl (*Pulsatrix koeniswaldiana*)

©Claudia Brasileiro



Southern Tawny-Bellied Screech Owl (*Megascops usta*)

Asio flammeus – Short-eared Owl

It is a medium-sized owl, common in rural and swampy áreas. Its distribution is wide in the world, occurring in the Americas, Europe and Asia. In Brazil, as in tropical regions, it is sedentary; while northern populations documented migration.

Athene cunicularia – Burrowing Owl

It is a common owl in open areas and widely distributed in the Americas. Its name comes from the habit of building burrows on the ground for laying eggs, digging tunnels up to two meters. In Brazil it is easily found in open fields, pastures, beaches and urban areas.

Bubo virginianus – Great Horned Owl

Its name refers to the tufts of feathers on its head that resemble horns or ears. It is the largest of the species that occur in Brazilian territory and can be found in semi-open areas, with trees spaced across the Americas.

Glaucidium hardyi – Amazonian Pygmy Owl

It is a small owl with distribution restricted to the Amazon region. It is most often heard, because in addition to its small size, it lives just below the forest canopy, amid the bromeliads and vines, so it is hardly seen. Although small, it is a voracious predator of insects and small vertebrates and a fearless defender of its territory.

Glaucidium minutissimum – Least Pygmy Owl

It is one of the smallest owls in the world and the smallest in Brazilian territory. Endemic to the Atlantic Forest, it prefers the canopy and is therefore rarely seen. Although small, it is capable of hunting small vertebrates such as amphibians, lizards and even other birds.

Strix huhula – Black-banded Owl

It is a medium-sized owl, restricted to South America. It is divided into two subspecies whose distribution is apparently linked to the Amazon and Atlantic forests. In Brazil it is a species of unusual occurrence, considered threatened in the region of Atlantic forest, but apparently tolerates environments altered by man.

Lophotrix cristata – Crested Owl

It is a medium-sized owl with two large white crests (tufts) above the eyes, to which its name refers. Inhabitant of the upper layer of

humid forests in the tropical region, this owl endemic to the Amazon is characterized by its unmistakable bass vocalization.

Megascops atricapilla– Black-capped Screech Owl

It is very similar to species of the same genus, with variation in the color of plumage and iris, characterized by a dark area on the nape and on the top of the head (black hood). It is distributed in the south of South America, in areas of Atlantic Forest, where its vocalization can be easily confused with that of an amphibian that occurs in the same region.

Megascops choliba – Tropical Screech Owl

It is a owl of wide distribution in South and Central America. In Brazil it occurs in all states and can be found even in an urban environment, where it is common to see it catching insects on lampposts.

Megascops usta – Southern Tawny-bellied Screech Owl

Although there is disagreement between many authors and some still consider the same species, M. usta was separated from M. watsonii by the remarkable variation in vocalization. Restricted to the Amazon region, it is common to find this species inside the forest, inhabiting the lower strata of vegetation. It replaces M. watsonii, being distributed to the south of the Amazon River.

Megascops sanctaecatarinae – Long-tufted Screech Owl

Largest representative of the genus, this species is restricted to southern South America. Its name refers to the place from which its description originates (Santa Catarina State - Brazil). In Brazil, occurs together with M. choliba and M. atricapilla, with which it is very similar, and despite the distinct size, it is only possible to differentiate them safely in the field through vocalization.

Megascops watsonii – Northern Tawny-bellied Screech Owl

Restricted to the Amazon region, its name refers to its area of occurrence, which occurs north of the Amazon River. This river that serves as a geographical barrier in the distribution of several species, among them one of the same genus, Megascops usta, which although very similar, presents

significantly different vocalization.

Asio clamator – Striped Owl

It is a medium-sized species, characterized by the black streaks of its plumage, prominent tufts on the head that resemble ears and its acute vocalization compared by many to the meow of a cat. This species is found from southern Mexico to Central and South America, in open areas and regions of sparse vegetation. In Brazil, it is common in coastal regions, natural fields, cerrado, caatinga to areas modified by man (urban and rural).

Aegolius harrissi – Buff-fronted Owl

This species is characterized by the beauty of its plumage and discretion in its behavior, which makes it one of the most difficult to find. Little is known about its reproductive biology, behavior and there is no consensus on its distribution, since its records are punctual, isolated and wide in South American territory. In Brazil, its records are concentrated in the south, southeast and northeast of the country

Asio stygius – Stygian Owl

Characterized by tufts of feathers that resemble horns on its head, this owl is distributed in the Americas, and it can eventually be seen in urban wooded areas. They are extremely territorial and tend to feed on small vertebrates, especially birds and bats. This Owl characteristics such as long ears tufts, dark coloration and particularly the brilliant red reflection of the eyes when illuminated by lamps have been associated with the Devil. Its scientific name “stygius” refers to hell and its vernacular name in Brazil is “devil's owl”.

Pulsatrix perspicillata – Spectacled Owl

One of the largest species that occur in Brazilian territory, this owl is not the most sociable and is heard more than seen. Considered threatened in some regions of the country, it occurs more frequently in areas of dense tropical forest, with large and mature trees. Their diet includes small vertebrates such as bats and birds, including other species of owls.

Glaucidium brasilianum – Ferruginous Pygmy Owl

Small owl of distribution restricted to South

America, very common and widely occurring in Brazilian territory. Very aggressive despite its small size, it feeds mainly on birds and its prey can be up to 4 times larger than its size. Uses medium vegetation extracts and can easily be seen in man-modified areas.

Pulstrix koeniswaldiana – Tawny-browed Owl

Species restricted to the Atlantic Forest and very similar to other representatives of the genus, distinguishable mainly by the dark iris and the vocalization, slightly smaller size and brown plumage in relation to the pure white that P. perspicillata presents on its face. The two species occur together in some areas of higher altitude, however this owl seems to tolerate a higher level of habitat change.

Strix virgata – Mottled Owl

Medium-sized owl that occurs from Mexico, throughout Central and South America. It can occupy a wide variety of habitats, from dense forests to open and even urban areas. It has seven recognized subspecies, of which two occur in Brazil: superciliaris restricted to the Amazon and borellians from southern Bahia to Rio Grande do Sul.

Strix hylophila – Rusty-Barred Owl

Medium-sized owl restricted to the Atlantic Forest, is a rare and poorly studied species. Its vernacular name is due to the characteristics of its plumage. In Brazil it is found in forests of different degrees of degradation, from primary to anthropogenic environments. It is considered a species threatened by the degradation of the Atlantic Forest, which drastically reduces its area of occurrence.

Tyto furcata – Amrican Barn Owl

This species is characterized by its strong vocalization and is among the most useful birds in the world, when it comes to man's economy. This is due to her ability to adapt to anthropogenic environments and her eating habits, which leads her to consume many rodents, especially in the vicinity of human habitation. Thus contributing to the control of animal populations considered urban pests. Until recently it was considered T. alba, in 2014 it became recognized as T. furcata those occurring in the Americas and T. alba those in the old world.



Rusty-barred Owl (*Strix hylophila*)



Mottled Owl (*Strix virgata*)



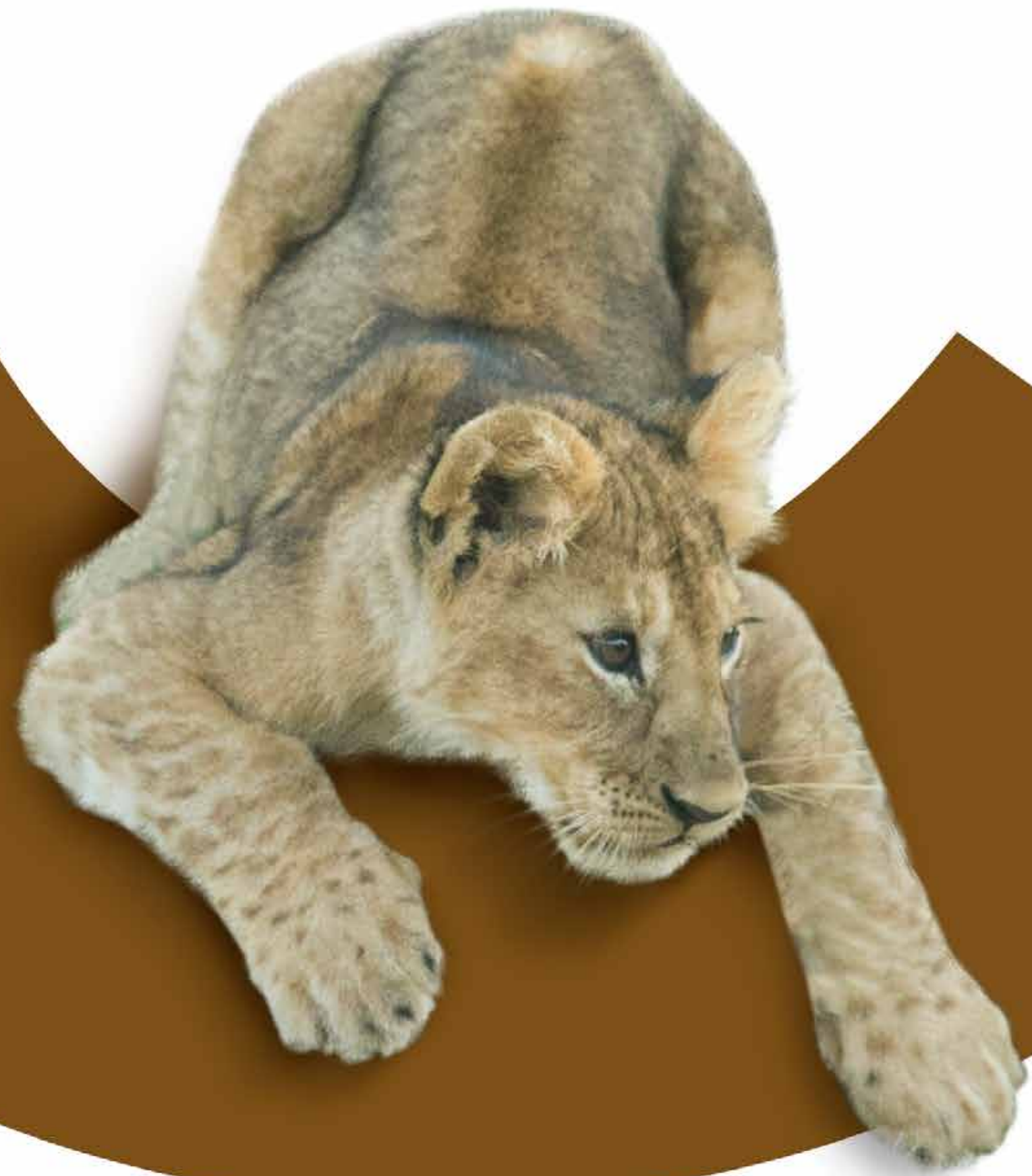
CUB'S CORNER

Colours & Craft

by Madhav Manoj Vachali

CUB'S CORNER

CUB'S CORNER



Madhav Manoj Vachali is a 11 years old from Kerala, India and lives in the UAE with his parents and brother. Madhav is in grade 6 at the Delhi Private School ,Sharjah. Madhav has many hobbies. He enjoys art, instrumental music, reading and writing, robotics and legomindstorms and 3Dprinting techniques.

Madhav also enjoys charity work and is passionate about protecting the environment. He wrote and published two books, for the second book he did the digital illustration too. He is the winner of the prestigious Hamdan award for the year 2019-2020.





Washing hands
غسل اليدين

Be READY to fight
#COVID19
كن جاهزا لمحاربة
COVID19#

We have to fight COVID-19 together
علينا محاربة
COVID-19 معاً

فيروس كورونا

COVID



Avoid crowds
تجنب الزحام



CORONAVIRUS



Use a tissue to cover your
nose while sneezing.
أستخد في منديل لتغطية
أنفك أثناء العطس.



No shaking hands
لا مصافحة

by
Madhavi

Madhav started to draw and colour from the age of 4. Art is his passion. His main interest is in water colouring, doodling, drawing cartoon characters.

He Has participated in various prestigious art competitions and art exhibitions and won many prizes too.

In 2019 he organized an art exhibition at Indian Social Centre Ajman, showcasing over 100 drawings and paintings from his own collections and also co-exhibited the drawings of five other budding artists.

According to him art is a way to express one's expressions and thoughts through colours. Drawing and colouring is the way to spread your opinions, thoughts and culture.

All colours in the spectrum has a meaning to convey. Nature is the main form of art which has inspired him and he has done his best to promote the art nature had provided us and uses the art to create awareness among people to protect it. Let us speak through art for nature and let's walk towards a sustainable environment for all.





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Madhav

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SEA SHORE





13 Climate Action

DISEASES

SO₂

CO₂

N₂O

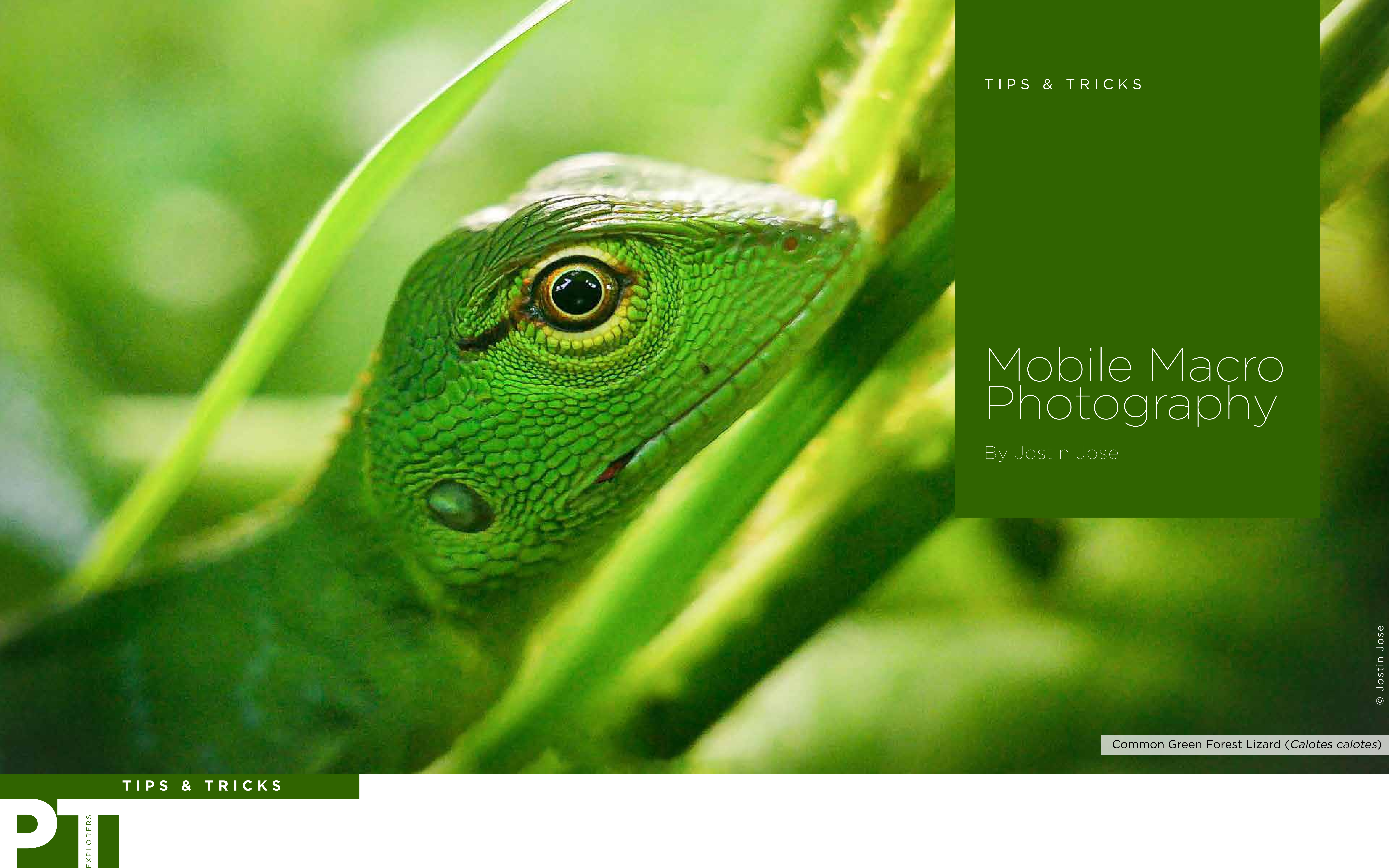
CH₄

ACID RAIN

GLOBAL WARMING

DROUGHT

FACTORY



TIPS & TRICKS

Mobile Macro Photography

By Jostin Jose

Common Green Forest Lizard (*Calotes calotes*)

TIPS & TRICKS

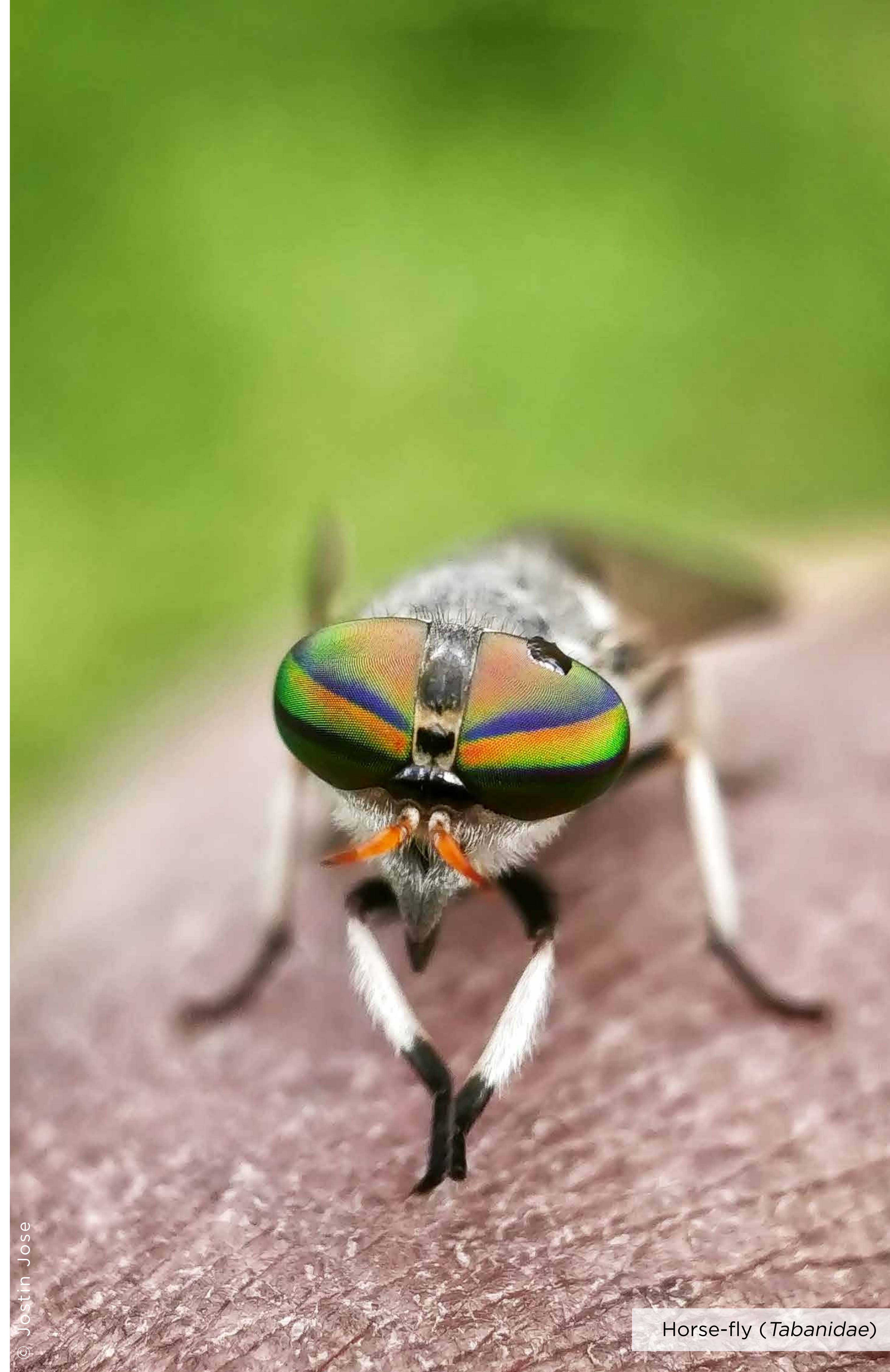
Jostin Jose is a graduate in Hotel Management and works as an Executive Chef in Kerala, India.

He discovered photography as a means for relaxing two years ago, but slowly it became his passion. Especially Macro, because it is an unknown chapter of the world around us.

[instagram.com/jostin__jose](https://www.instagram.com/jostin__jose)

[facebook.com/Jostin-Photography-2208526985877817/](https://www.facebook.com/Jostin-Photography-2208526985877817/)

My main area of interest is the beautiful and fascinating 'small world'. This genre involves photographing small objects to make them look life-sized or larger in the photo, better known as Macro photography. The so-called subjects, mainly insects, may look creepy to many but amazingly beautiful subjects for me with their colors and patterns. Another attraction is the challenge it gives with its difficulty levels, these details are not visible with naked eye and require excellent skills and a lot of patience. The biggest



© Jostin Jose

Horse-fly (*Tabanidae*)

advantage of this genre is that with the right skills, you will be able to capture amazing images even in your own backyard.

It is important to know how large or small your subject appears on your camera sensor which is the magnification you look for. There are certain technical terms used in this form of photography like working distance (the distance between the front of your lens and your nearest subject) and magnification ratio (1:1, 1:2 or more). For better shooting maintain the longest possible working distance so that you are less likely to scare your subject.

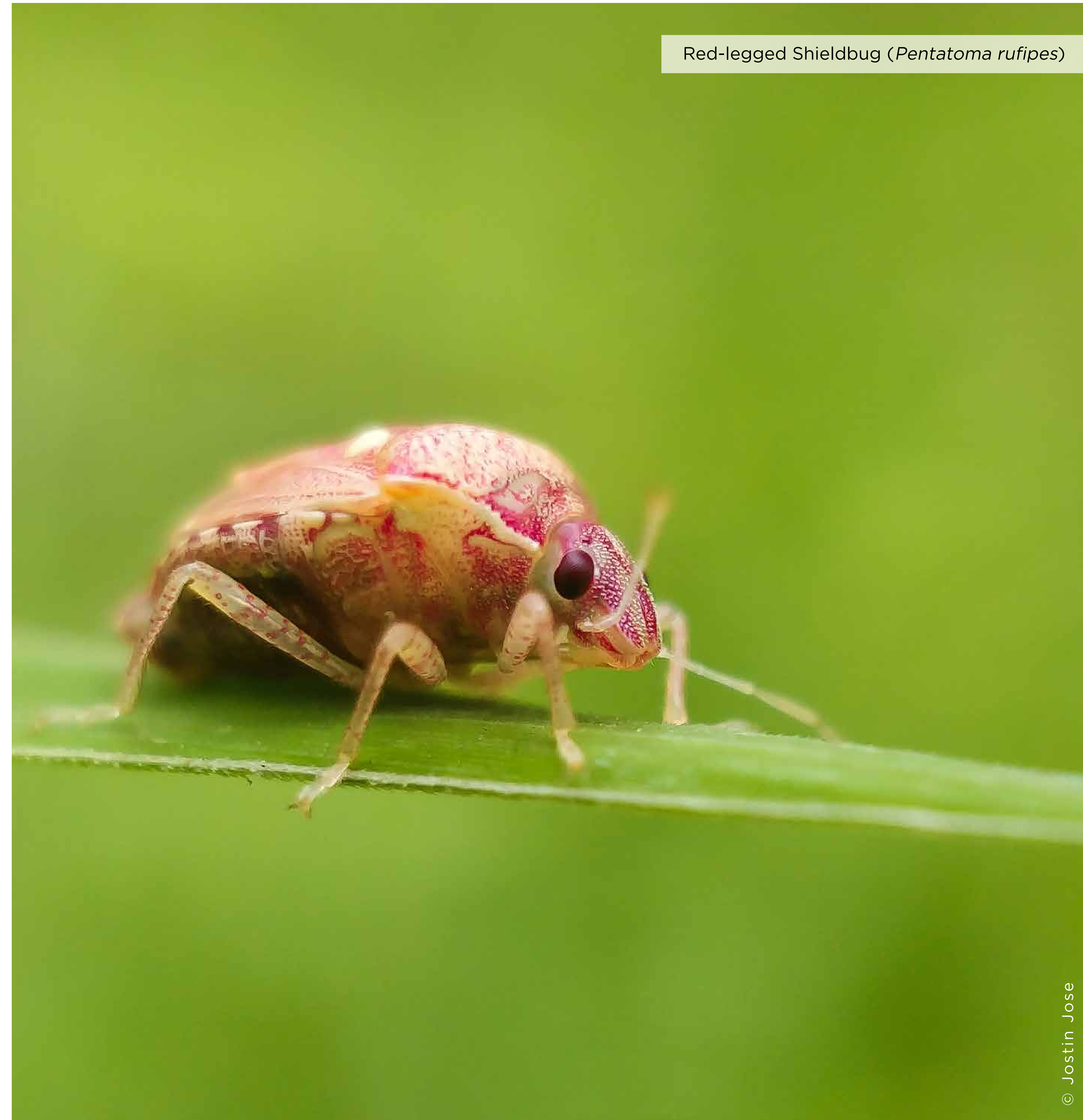
Like any other genre of photography, here also we also need to follow the basic guidelines; subject knowledge, understanding of the equipment used, with shooting techniques & composition to create 'message conveying frames'. One of the biggest challenges when you take a close-up photo is the very shallow depth of field even at small aperture values. At 1:1 magnification, your depth of field may be so thin that you can't get a fly's head and feet both to appear sharp at the same time, even though they are

just millimeters apart. There are different ways you can address the depth of field limitations, like focus stacking. If you use a flash to illuminate a scene at 1:1 or 1:2 magnification, you may find that the background of the image turns dark. Another way is to use the basic geometry rule, "Any three points in space can be connected by one plane, no matter where those points are'. Another important aspect is how to approach your subject for extreme close-ups. For better pictures and color tones use the golden hours of the day, mostly in the morning when the insects are less active.

I use both a DSLR & my mobile for capturing pictures. Most often, I use my fellow companion 1+5T mobile, with & without the additional macro lens due to availability and ease of handling. In order to address the challenge in getting the right amount of light on the subjects, sometimes I take the help of locally available aluminum foils or glossy objects which can reflect light. The data format is the DNG(Raw) format & for post-processing I use mobile version of Adobe Lightroom for basic adjustments.

I use an external macro lens for

Red-legged Shieldbug (*Pentatoma rufipes*)





Ladybird Beetle (*Chrysomelidae*)



Striped lynx Spider (*Oxyopes salticus*) & True Bug (*Hemiptera*)

Myrmilla calva (Villers, 1789)



capturing the image in detail, i.e. Adcom 10x 25 mm macro lens. This lens allows you to capture objects at a closer distance, perfectly showing the details and beauty of the object. It gets you 10 times closer to your subject for extreme close-ups and is compatible with all Android & iOS phones.

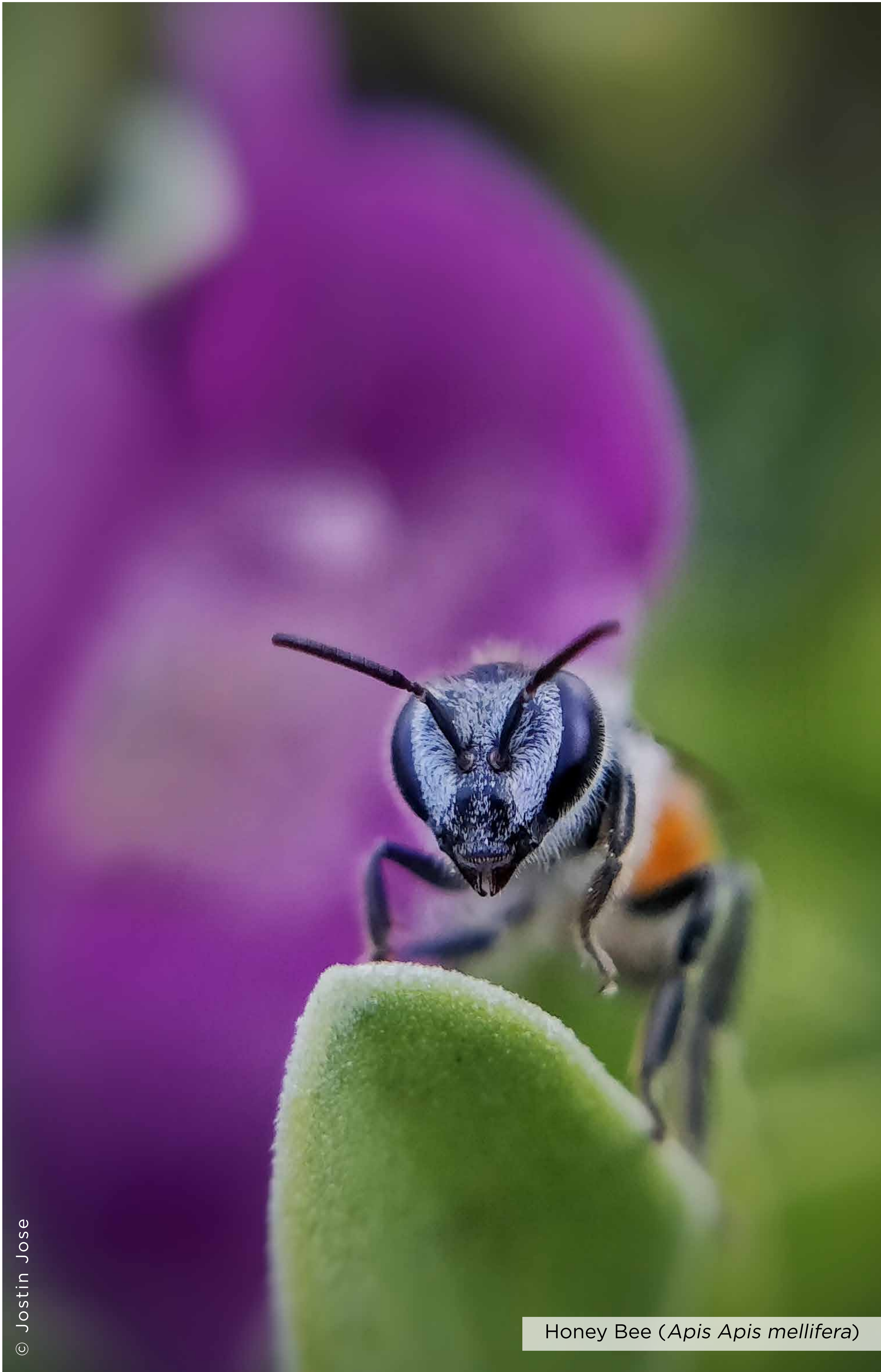
It allows you to focus your phone within 10 to 15 mm of what you're photographing, so you can fill the frame with your subject and capture it in amazing detail. Sometimes we won't get enough time to clip on the lens; that's when I choose the pro mode of my mobile and adjust and maintain the distance of the camera and subject to get sharp images.



Damselflies (Odonata)

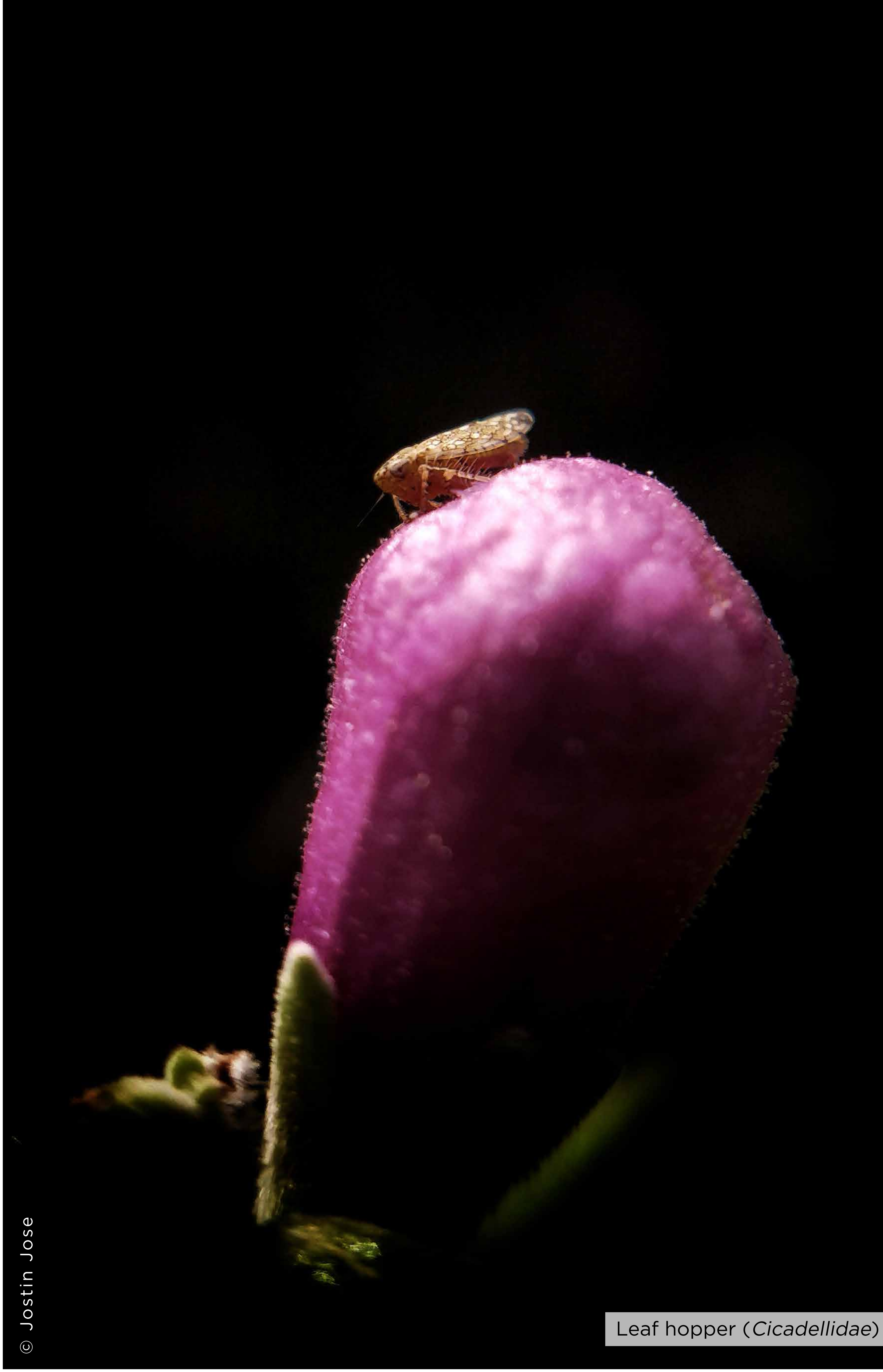


© Jostin Jose



Honey Bee (*Apis mellifera*)

© Jostin Jose



Leaf hopper (*Cicadellidae*)



Her Views & Visuals

By Aarzoo Khurana





Aarzoo Khurana is a photographer who aims to make everyone to fall in love with nature, respect the environment and soak in the visual richness of the wild.

She has been into photography for half a decade. Her idea has always been to find beauty in the elements of nature and paint through the lens colours of nature in all their splendour.

aarzookhurana.com

[instagram.com/
aarzoo_khurana_photography/](https://www.instagram.com/aarzoo_khurana_photography/)

Her Views and Visuals



Indian Peafowl (*Pavo cristatus*)



Great White Pelican (*Pelecanus onocrotalus*)

How did your interest in wildlife arise?

I had an uncanny fascination with the camera. Eventually, I started nagging my father to buy me one. When he finally gave in to my demand, he got me my dream toy and the family gained a photographer. Gradually, the film camera gave way to a digital point-and-shoot, which was later replaced by a Digital SLR (DSLR).

I began with street photography because streets were not hard to find, and they are always interesting in their own way. However, soon I turned to wildlife after I went on my first wildlife trip with Mr. Sudhir Shivram. On the very first day, we were told to wake up at 5:00 am, hop on the rikshaw and enter in the park by 6:00 am. I was pretty nervous. I still remember the day when I was walking 4 KMs down the trail at 6 am carrying all my gear including a tripod, camera, lens, and other accessories in the month of January. Everything was covered with fog and my hands were freezing. At that moment I thought of leaving everything there and running back home. But then, somehow I managed and after the first few hours of that trip, I have found no reason to shift my attention elsewhere since.

How do you describe your journey as a photographer and a person?

My journey has been very simple. I had to face the regular hurdles any girl would face in a country like India if she chooses wildlife photography. Initially, It was very difficult to convince my parents. They were not very comfortable allowing me to go on trips, that too deep into the woods.



Great Egret (*Ardea alba*)

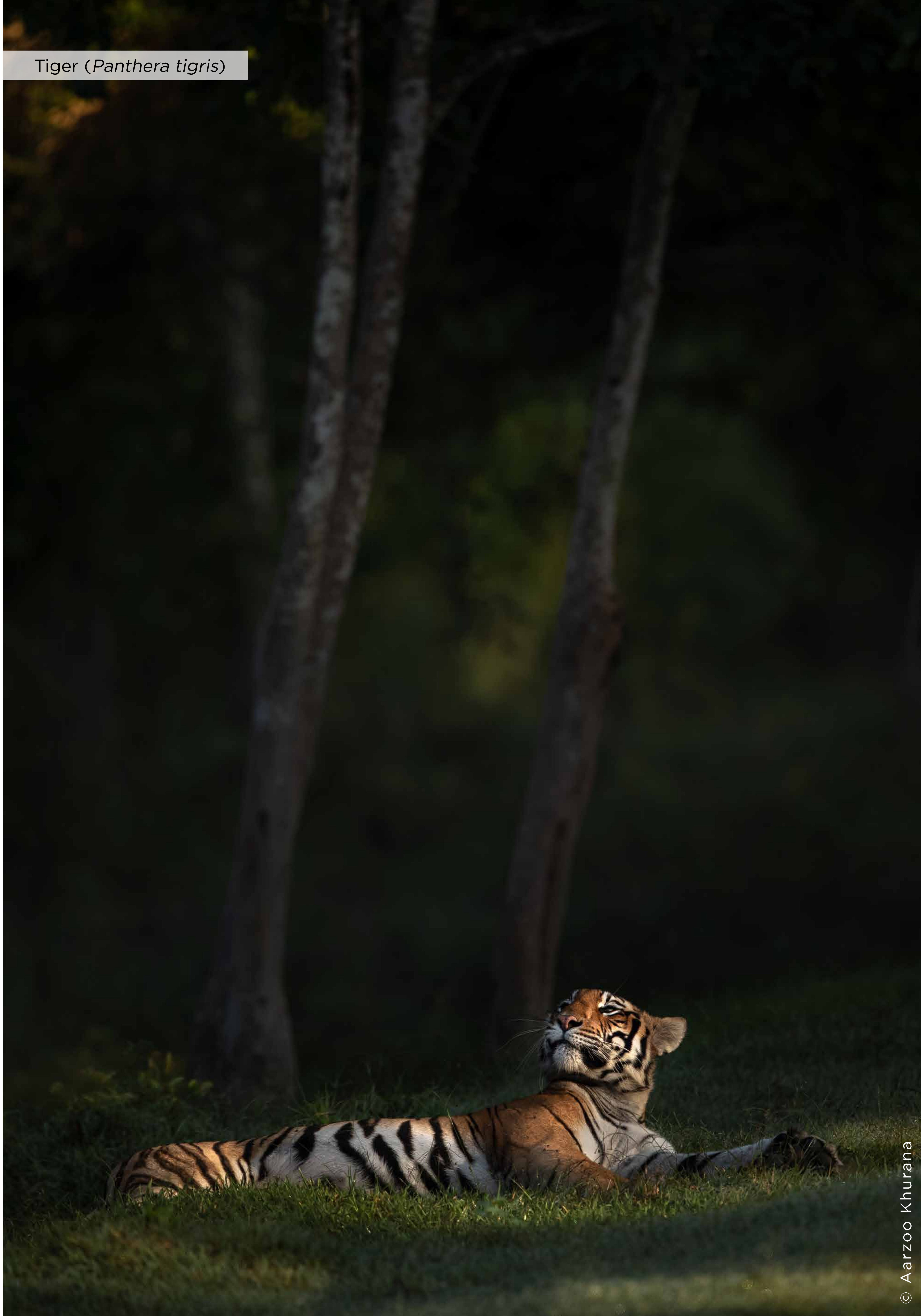


Changeable Hawk-eagle (*Nisaetus cirrhatus*)

Rhesus Macaque (*Macaca mulatta*)



Tiger (*Panthera tigris*)



Because of this, I would capture domestic cats a lot, for despite cats' domesticity, the wild never really leaves them completely, which is not the case with dogs. Soon enough it was the eagles in flight -- a fascinating sight to behold. And then the baby monkeys - the cute, curious and remarkably articulate creatures in their own little-monkey ways. Those were the three best subjects that I could easily find around my place.

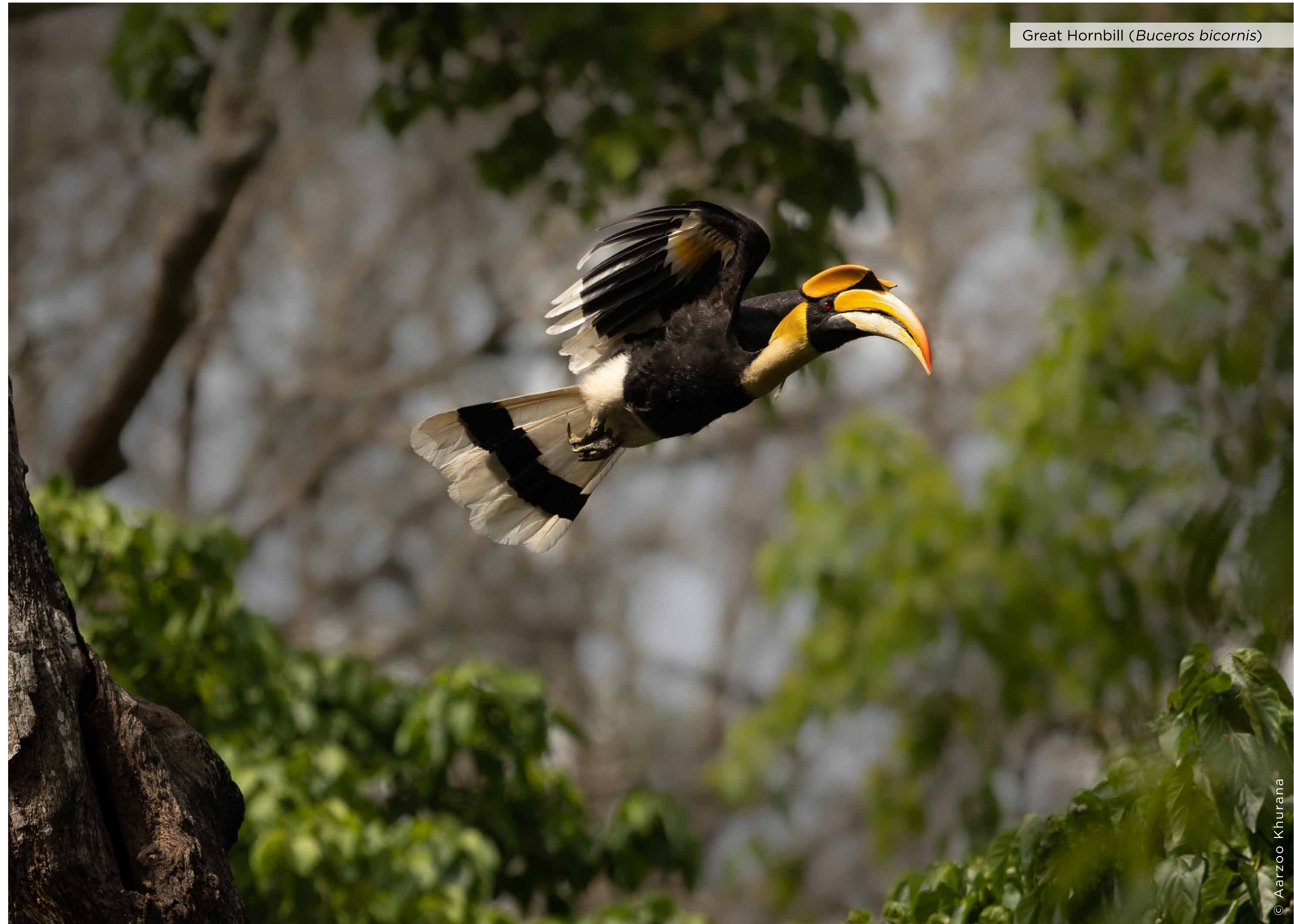
After a while, my parents started opening up to the idea and things started to fall in place. As a person, I have grown to love this work so much that now it has become an extension of myself. A part of me that I cannot afford to lose, ever.

What is your view on Wildlife Conservation? How can we, as wildlife photographers, help to protect our Mother Nature?

I came across a quote worthy analysis cited in an article called 'How many species are we losing?' by the WWF.

It illustrated the degree of biodiversity loss faced by our planet through scientific analysis. As per the article, the rapid loss of species we are seeing today is estimated by experts to be between 1,000 and 10,000 times higher than the natural extinction rate. The natural extinction rate is the rate of species extinctions that would occur if we humans were not around.

As per the calculations of experts, every year around 0.01 and 0.1% of all species will become extinct. Now, if we take the lower estimate of 2,000,000 different



Great Hornbill (*Buceros bicornis*)

Black-necked Stork (*Ephippiorhynchus asiaticus*)



Great Egret (*Ardea alba*)



species to be true, then 200 and 2,000 extinctions occur every year. But if the upper estimate of number of species is true - that 100 million different species are co-existing with us on our planet - then between 10,000 and 100,000 species are becoming extinct each year.

We are standing at that point of time where we can't choose to not begin with the conservation process. We have taken choice out of our hands. Every individual should adopt at least two habits every year which can contribute to saving mother nature.

Be it giving up the use of straws or switching to bamboo toothbrushes, be it collecting two plastic bags during a visit to a place close to nature or be it having a small discussion about conservation with your family and friends.

To all those who are reading this, try to do at least something to conserve the environment. Taking it for granted is not a good idea. We have received it from our forefathers, and we should save it as the trust which we will pass on to our future generations.

As for wildlife photographers, they mustn't forget their ethics. They are a connection between the jungles and the people outside who have never experienced wild. They have the advantage of showing the beauty of the jungle through their eyes. Besides this, wildlife photographers can contribute to increasing the influx of tourism like anything.

Can you give our readers the best

wildlife photography tips?

The aspiring wildlife photographers should just pick up their cameras and start exploring. Try different angles, experiment with lighting, read about the subjects and expect no financial returns anytime soon. Patience is a virtue.

In addition to that, respect nature and pay due attention to your surroundings in the jungle, follow the code of conduct inside the forest, appreciate the beauty of nature and do your bit towards animal welfare and wildlife protection.

What plans do you have in the future related to wildlife photography?

I just want to keep doing quality work and to improve as much as I can. Also, help the environment in the process to whatever extent I can.

Tell us something about the gear you use and how it helped in your photographic journey?

In the beginning, I used a Canon Rebel T5i with its kit lenses. Gradually I bought a Canon 100-400 IS II. After graduating to an intermediate level photographer, my gears included a 300mm f/2.8, a 400mm f/2.8 IS II and 600mm F/4 IS II for birding.

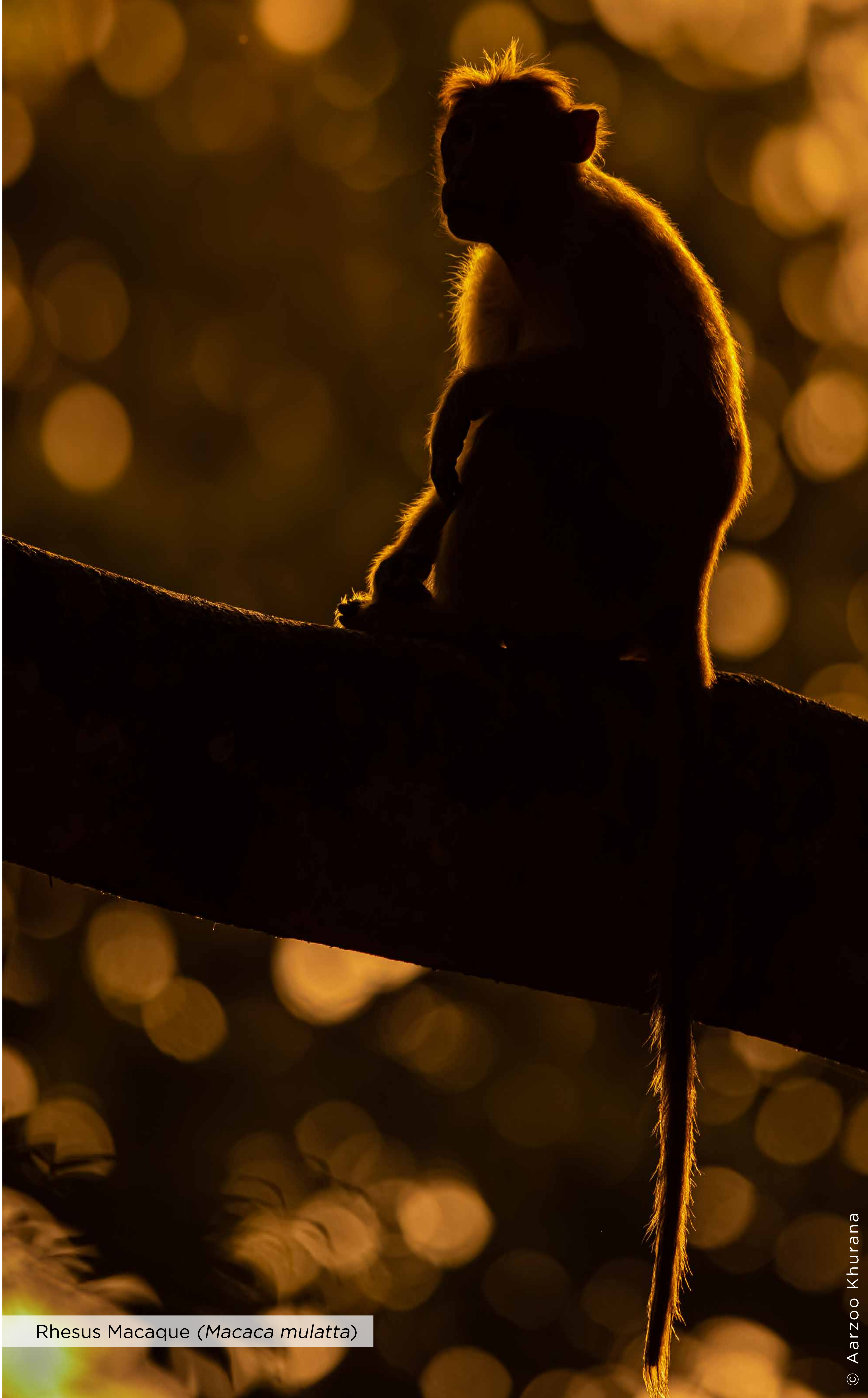


Tiger (*Panthera tigris*)

European Stonechat (*Saxicola rubicola*)



Rhesus Macaque (*Macaca mulatta*)





Great Egret (*Ardea alba*)

THEMATIC GALLERY

REFLECTIONS

Let's use our beautiful images to bring people closer to nature.

THEMATIC GALLERY - REFLECTIONS

Nisha Purushothaman

Little Egret (*Egretta garzetta*)





THEMATIC GALLERY - REFLECTIONS

Vignesh Thangaraj

Brown Rat (*Rattus norvegicus*)



THEMATIC GALLERY - REFLECTIONS

Kalyanpur Anand

White-throated Fantail (*Rhipidura albicollis*)



THEMATIC GALLERY - REFLECTIONS

Ranga Nathan

Tiger (*Panthera tigris*)



THEMATIC GALLERY - REFLECTIONS

Dr. Rajasekar R

Chital (Axis axis)



THEMATIC GALLERY - REFLECTIONS



Ganesh Namasivayam

Tiger (*Panthera tigris*)



THEMATIC GALLERY - REFLECTIONS

Alby Sebastian

Western Reef Heron (*Egretta gularis*)



THEMATIC GALLERY - REFLECTIONS

Manu Rajan

Greater Flamingo (*Phoenicopterus roseus*)



THEMATIC GALLERY - REFLECTIONS

Agniswar Ghosal

Leucistic Saltwater Crocodile (*Crocodylus porosus*)



THEMATIC GALLERY - REFLECTIONS



Raghunandan Gumballi

Tiger (*Panthera tigris*)



THEMATIC GALLERY - REFLECTIONS

Sharath Mundol

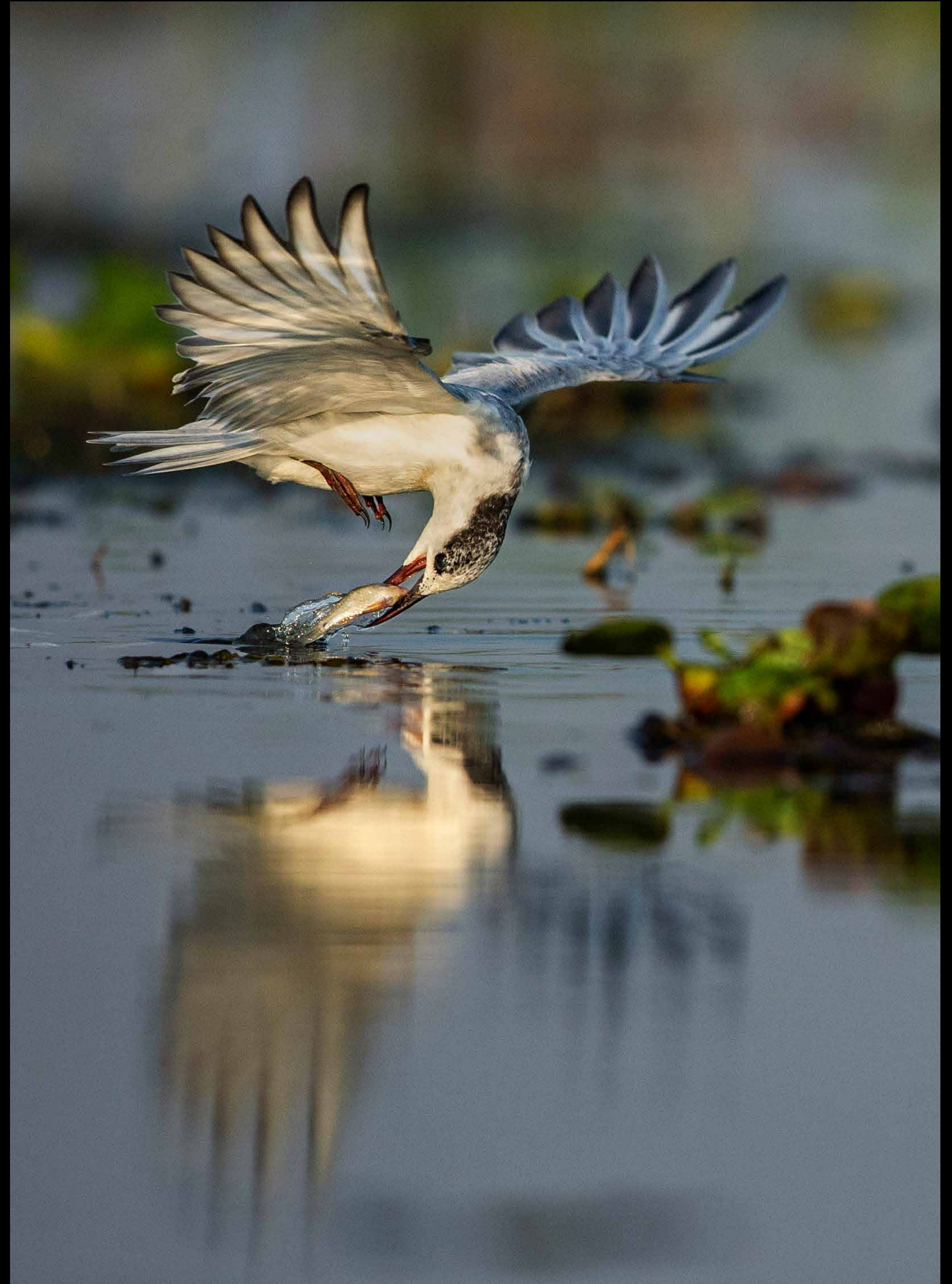
Western Reef Heron (*Egretta gularis*)



THEMATIC GALLERY - REFLECTIONS

Robert Coelho

Great Cormorant (*Phalacrocorax carbo*)



THEMATIC GALLERY - REFLECTIONS

Sauvik Mukherjee

Whiskered Tern (*Chlidonias hybrida*)



THEMATIC GALLERY - REFLECTIONS

Sanjeev Kumar

Lesser Flamingo (*Phoeniconaias minor*)



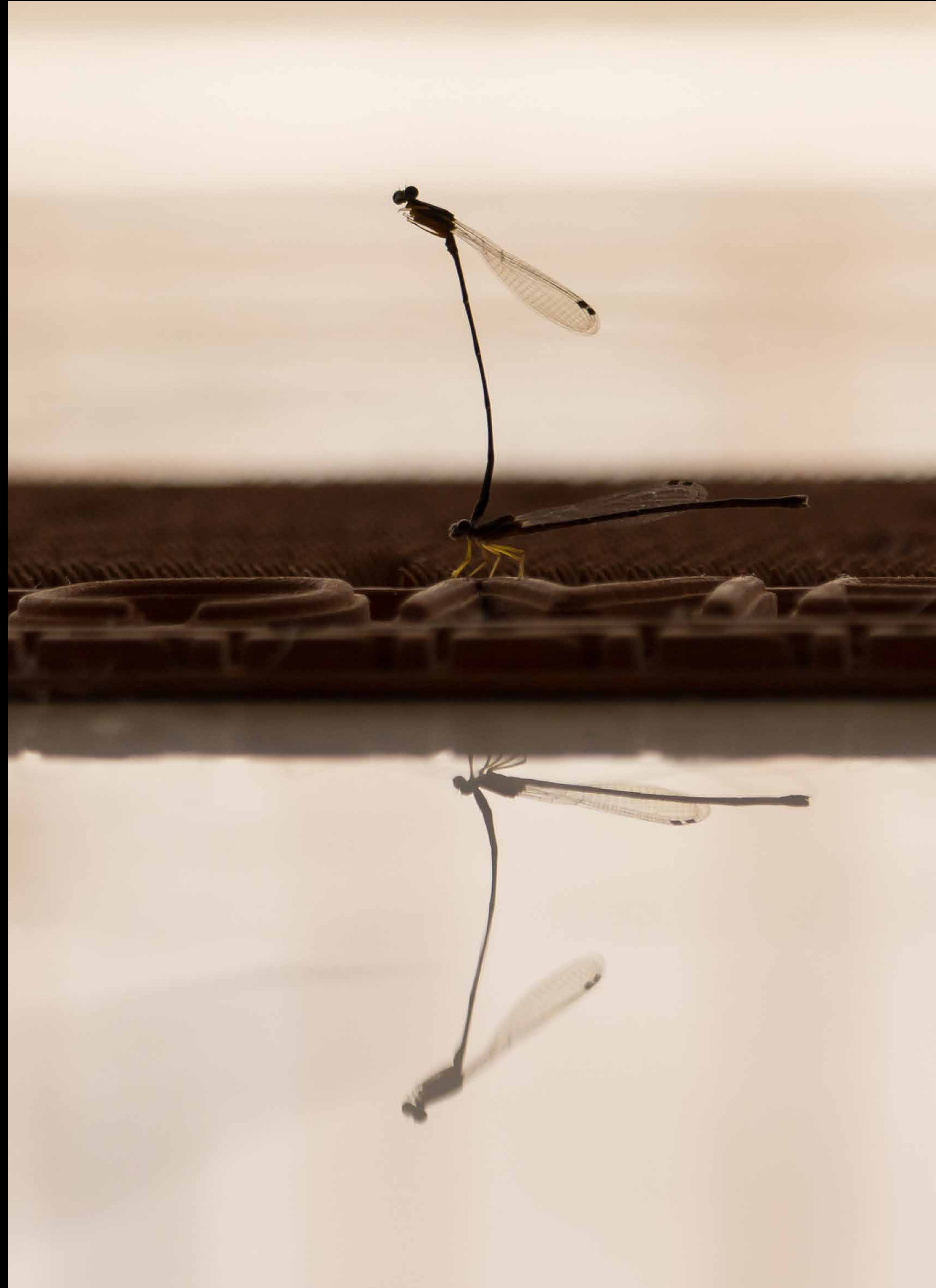
THEMATIC GALLERY - REFLECTIONS



THEMATIC GALLERY - REFLECTIONS

Vignesh Thangaraj

Paradise Flycatcher (*Terpsiphone*)



THEMATIC GALLERY - REFLECTIONS

Gino Rapheal

Damselflies (*Odonata*)



THEMATIC GALLERY - REFLECTIONS

Shyam Bhagra

Lesser Flamingo (*Phoeniconaias minor*)



THEMATIC GALLERY - REFLECTIONS

Nitin Michael

Tiger (*Panthera tigris*)



THEMATIC GALLERY - REFLECTIONS



Khaldoon Aldway

Little Stint (*Calidris minuta*)



THEMATIC GALLERY - REFLECTIONS

Shreya Patel

White-faced Whistling Duck (*Dendrocygna viduata*)



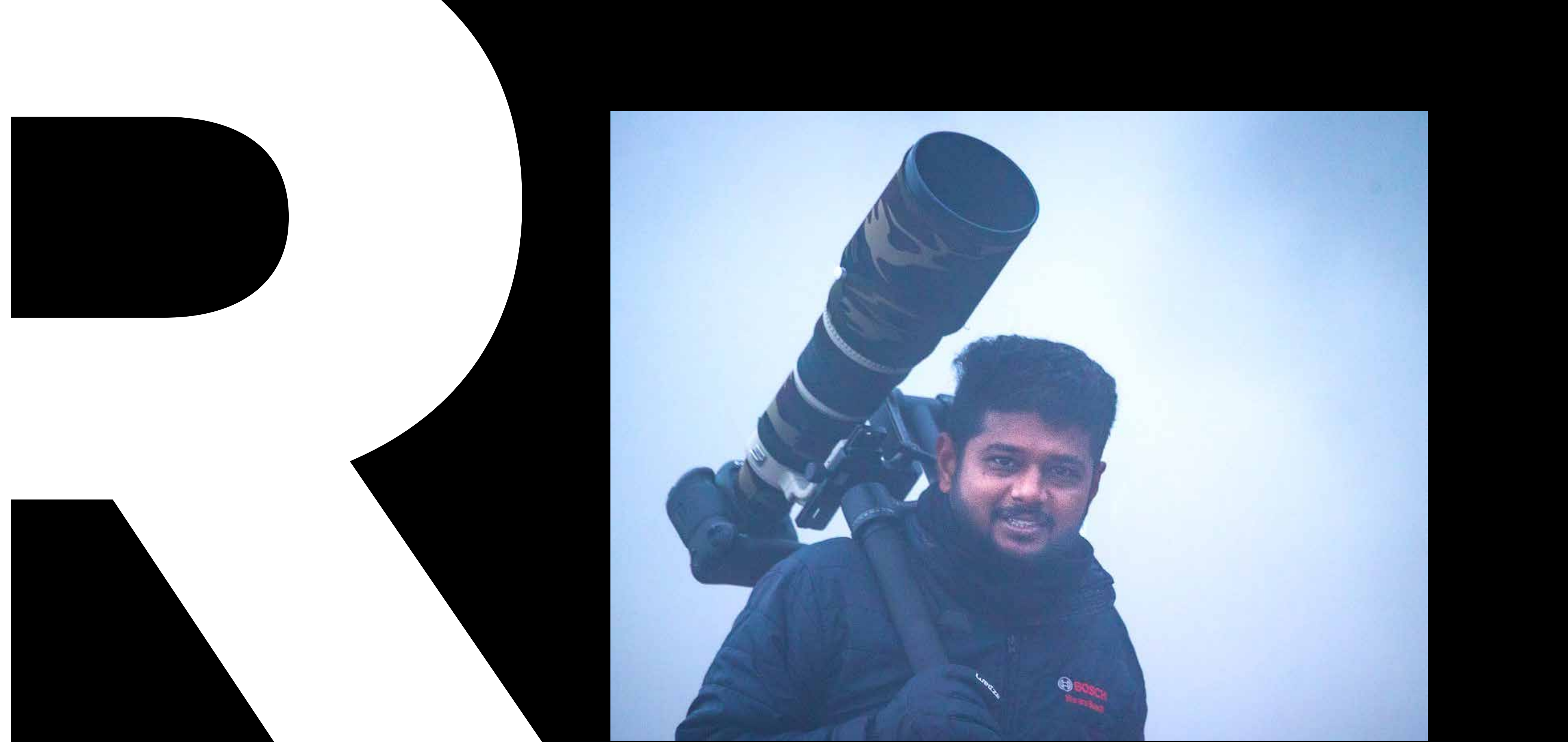
THROUGH THE LENS

Lion & Giraffe Kill

By Ramachandiran Govindaraj

© Ramachandiran Govindaraj

THROUGH THE LENS



Ramachandran is a lover of Nature, who took to photography to share his experiences in the wild and to propagate the love for Nature and the need to conserve it. He believes photographing the animals in their habitat is giving life to them and telling their side of the story.

He has been exploring nature for over a decade and sharing his experience in the wild through his third eye. His standout quality as a photographer lies in choosing the right light and right position to create a work of art.

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These heart-wrenching images show the cruelty of nature as a giraffe is seen desperately trying to save her baby from a lion's teeth.

I captured the images while visiting the Masai Mara National Reserve, Kenya, in September 2018. The adult giraffe was

seen desperately trying to save her baby from the lion but unfortunately the big cat snatches the baby, leaving the mother devastated.

From a distance we noticed the giraffe standing and looking down, but when we reached there, we realised that a hyena





was trying to attack the baby of the giraffe.

After 30 minutes, the hyena gave up and the mother took her baby deep into the savannah. But she didn't know that there was a lioness hiding there.

Once at an optimal distance the lioness charged, attacking the baby. The mother was helpless even though it happened under her strong legs. The mother tried

to kick away the lioness but unfortunately she was not able to, the neck of the baby was broken by the pouncing lioness.

And after that the lioness went in again and started eating the baby while the mother giraffe ran away and just watched the baby being eaten for almost twenty minutes.

The mother tried to wake the baby giraffe but it was not responding. Based on the

skin tone my guide [sadly] confirmed that it was one day old.

Young giraffes have a mortality rate of 50 per cent in their first six months. Once they reach adulthood however, only the bravest of lions attempt to hunt adults. giraffes, so this hungry lioness opted for only the baby instead. A giraffe's neck allows it to keep an eye out for predators, but babies are incapable of this. Sadly, the mum didn't spot the big cat either.

My emotions were mixed, one out of love for the giraffe but one of understanding for the lions. As the lioness who was five-to-seven years old, had her cubs to feed.

I get a lot of messages on instagram about this photo saying "Why didn't you save the baby giraffe?". But photography is not about interfering with nature, things go nature's way and whilst it is sad, we should also respect the ecosystem.





















THROUGH THE LENS

Pampa de Achala - A Biological Hotspot of Argentina

By José Aparicio

© José Aparicio

THROUGH THE LENS



José has been passionate about nature since childhood, when he was part of the Scout Movement. He discovered photography in 2009.

He participated in several collective photographic exhibitions and several of his photographs were published in National Geographic. José is a Chemical Engineer by profession living in Cordoba, Argentina.

<https://www.facebook.com/JoseAparicioFotos>

<https://www.flickr.com/photos/jose-aparicio>

Like the milk that flows from the breasts of a mother, Pampa de Achala gives rise to two thirds of the rivers that irrigate Córdoba, the Argentine Mediterranean province, whose rainfall regime becomes strong in the summer. It seems a coincidence, but coincidences do not exist. A few kilometers away is the town of Nono, whose name means in the aboriginal language “woman’s breasts” by virtue of some provocative hills that adorn its landscape.

Pampa de Achala is located in the

Sierras Grandes of Córdoba, Argentina (about 2,500 meters above sea level average), deploying from the town of “Los Gigantes” to Cerro Champaqui, the maximum height of Cordoba, covering about 1,500 km squared. As dreamed by Sir Arthur Conan Doyle in his “Lost World”, evolution did its own thing by transforming this alternation of grasslands and tall rocky stones into an evolutionary laboratory, isolated by its peculiarity of being a biogeographic island.

This plain of immensities and hindsight invites those who have the ability to



Red Backed Hawk (*Geranoaetus polyosoma*)



Rufous- Collared Sparrow (*Zonotrichia capensis*)

merge with the landscape to discover a large number of endemism, although for those who are not biologists, it is also an excellent hike. Mr Atahualpa Yupanqui, a transcendental musician of our land, has already said it: “For those who look without seeing, the land is only land”. It is a sea of pastures merging with the horizon rocked by the wind and the silence so deep that it is sometimes stunning.

Water Tank

The intricate array of grasslands and forests recalls the Andean landscapes that run along the backbone of the South American continent. At that height there are forests of Tabaquillo (*Polylepis australis*) with the occasional Maiten (*Maytenus boaria*). The Polylepis adorn the slopes of the mountains with their cinnamon skin, which serves as a thermal protection against the cold, which reminds some of the tobacco leaf, which made them creditors of their name: Tabaquillo. These dream forests make possible the appearance of an elf; watching them is an unforgettable experience. Its climate is so ephemeral and its beauty so delicate that it can pass from the most intense sun to a mist that does not let you see your hands, soaking everything in its path.

Below 1,700m of altitude there are abundant rocky sites characteristic of low-level shrubs, such as the Romerillo (*Heterothalamus alienus*), the Carqueja (*Baccharis articulata*), the Romerito (*Eupatorium buniifolium*) and the barba de tigre (*Colletia spinossisima*). Its unmistakable aromas whisper to us about its healing properties.

Beyond the delight of the senses this water basin stores during the summer the excess rainfall of the wet season, which gradually releases during the winter season fulfilling an essential role in the maintenance of the human life that sustains downstream.

Government Protection

Tabaquillo forests in the heights of Córdoba have been preserved and reforested for decades thanks to the efforts of various non-governmental organizations and the efforts of hundreds of volunteers headed by Daniel Renison. Since 1996 the area is protected under the figure of National Park - unfortunately the only National Park established in the province to date, although there are two more projects with different degrees of progress. To visit the Quebrada del Condorito National Park, located 97 km from the provincial capital, you must travel to the southwest, to the Pampilla Place, where the entrance to the Quebrada del Condorito National Park is located, with 40,000 hectares. The road is completely asphalted, and I recommend visiting with ample time to enjoy the panoramic views, with its changing vegetation as it progresses in height. The occasion can also be conducive to taste some “alfajores”, a tenderloin and toast with a Fernet with Cola if you do not have to drive (alcoholic mixture of fernet and cola, intangible cultural heritage of the province). Without a doubt, if the radio is heard, some quartet will sound; it will break the silence to put some rhythm in the body.

A Huge Wound

The Condorito Gorge is about 800 meters

Grass Wren (*Cistothorus platensis*)



deep and about 1,500 meters from edge to edge. From the viewpoints the visitor can enjoy numerous species such as swifts, various raptors, the American Black Vulture, and the undisputed stars, and I'm talking nothing but the world's largest birds next to the wandering albatross: The Andean Condor (*Vultur gryphus*). These giants find their most eastern nesting site in Achala and an ideal place to practice their flights. It really surprises the number of juvenile specimens that can be seen developing their flight practices when the thermal currents that come off the floor allow it. With a little luck you can enjoy contemplating the "Bath of the Condor", a natural pool where these "ugly adorable" tend to worship of cleanliness. Even in this behavior, a strict hierarchical structure is respected where the largest females are sovereigns.

Endemism with Feathers and Scales

Twelve species of birds are endemic to Pampa de Achala. Among the furnarids, are the Rufous-banded Miner (*Geositta rufipennis ottovvi*), the Common Miner (*Geositta cunicularia contrerasi*), the White-winged Cinclodes (*Cinclodes atacamensis schocolatinus*), the Cordilleran Canastero (*Asthenes modesta cordobae*), and the Puna Canastero (*Asthenes sclateri*) and the Grey-flanked Cinclodes (*Cinclodes oustaleti*), which is usually seen crossing the streams in search of aquatic insects for food. In the group of tyranids, are the Black-billed Shrike-tyrant (*Agriornis montana fumosus*) and Rufous-naped Ground-Tyrant (*Achalensis*) (*Muscisaxicola rufivertex achalensis*), which frequent grasslands and rocklands. Among



Rufous-Naped Ground-Tyrant (*Muscisaxicola rufivertex*)



Hooded Siskin (*Spinus magellanicus*)

the Ileréids, a representative that is frequently seen is the Loica or Long Tailed Meadowlark (*Sturnella loica obscura*), of striking presence together with the Plain-colored Seed eater (*cordobensis*) (*Catamenia inornata cordobensis*), the Plumbeous Sierra-finch (*Phrygilus unicolor cyaneus*) and the Ash-breasted Sierra-finch (*Phrygilus plebejus narosky*), which some people still call Oquencho.

Among the mammals of high conservation priority, an endemic canid stands out, the Achala Red Fox

(*Pseudalopex culpaeus smithersi*), a breed of distribution restricted to these mountains and currently in clear numerical recovery thanks to the protection it has after the creation of the Park, (prior to this he was a victim of poaching for sale of his leather). Also, at this point the mountain mouse (*Akodon polopi*) lives, who only inhabits the highlands of the mountains of Córdoba. Among the endemic reptiles, the Achala Green Lizard (*Pristydactylus achalensis*) stands out, of notable bluish green color, which is usually, observed sunning in

the rocky areas in summer. Among the poisonous snakes is the Yarana Ñata or Patagonia Lancehead - Snub-nosed Yará Viper (*Bothrops amodytoides*), which owes its name to its snub nose; this viper frequents the rocks where it stalks rodents for feed. Among amphibians, two endemic species stand out: the Toad of Achala (*Bufo achalensis*) and Achala Escuerzo-frog (*Odontophrynus achalensis*); do not forget the snakes, particularly *Liophis anomalus*.

In the ichthyofauna there are two native fish, the Red-tailed Mojarra (*Astyanax eingenmanniorum*) and the Torrent Cat-Fish (*Trichomycterus corduense*), and introduced since the beginning of the 20th century, the Brook Trout (*Salvelinus fontinalis*) and the Rainbow trout (*Oncorhynchus mykiss*) that are reducing the population of native species. Pampa de Achara is one of Argentina's outstanding natural areas and center of biodiversity - and well worth a visit by biologists and nature photographers.



Cordilleran Canastero (*Asthenes modesta*)

© José Aparicio



Rufous- Collared Sparrow (*Zonotrichia capensis*)



Brown-Capped Tit Spinetail (*Leptasthenura fuliginiceps*)



Achala Lizard (*Pristidactylus achalensis*)



Patagonian Pit Viper or Yarara Ñata (*Bothrops ammodytoides*)



Achala Andean Fox (*Lycalopex culpaeus smithersi*)



Black-Chested Buzzard-Eagle (*Geranoaetus melanoleucus*)

TRAVELOGUE

Falkland Island - From a photo to a dream

By Adriana Sanz



King Penguin (*Aptenodytes patagonicus*)

TRAVELOGUE



Adriana is an Argentinian environmental magister and wildlife photographer. For more than 20 years, she has been dedicated to the care and protection of the natural environment. She loves nature and photography. In his photos, she seeks to sensitize the viewer by calling to reflect on the environmental deterioration that grows day by day.

In her photos, she combines art and nature, creating images that communicate what she feels when taking the photo or what happens to the portrayed. Adriana lives in Patagonia, Argentina.

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FALKLAND ISLANDS. FROM A PHOTO TO A DREAM

This journey began for me, one winter afternoon when, sitting in the living room of my house I leafed through the book GENESIS by Sebastiao Salgado. Suddenly I saw his photos of the Black-browed Albatross (*Thalassarche melanophrys*), and I was detained in the time. For a long time I looked at them and then I said to myself, "I want to travel there and I want

to be among everyone". As it is not easy to get to Steeple Jason Island, where he took some of his magnificent photographs among more than 440,000 Black-browed Albatross (*Thalassarche melanophrys*), I thought of going to West Falkland Island, which also has thousands of these birds nesting on its steep cliffs. That afternoon my trip to the Falkland Islands began and after a year and a half, I was able to be there, along with other

King Penguin (*Aptenodytes patagonicus*)









photographers who helped me to make my dream possible.

The Falkland Islands are an archipelago of South America, located in the Argentine Sea and make up of just over two hundred islands. Of all these islands, the main ones are the East Falkland Island to the east, and the West Falkland Island to the west. Northwest of West Falkland Island is Saunders Island, which is the second largest island in this archipelago and is the site of the first human settlement in the late 18th century. BirdLife International classifies it as an important area for birds. Its geographical variety and its isolated situation allow the Magellanic Penguin (*Spheniscus magellanicus*), the King Penguin (*Aptenodytes patagonicus*), the Gentoo Penguin (*Pygoscelis papua*), the Falkland Steamer Duck (*Tachyeres brachypterus*), the Kelp Goose (*Chloephaga hybrid malvinarum*), the Ruddy-headed Goose (*Chloephaga rubidiceps*), the White-bridled Finch (*Melanodera melanodera*) and many other birds settle on the wide coasts, which are sometimes also visited by photographers and cameramen. The Imperial Cormorants (*Phalacrocorax atriceps*), the Southern Rockhopper Penguin (*Eudyptes chrysocome chrysocome*) and thousands of Black-browed Albatross (*Thalassarche melanophrys*) nest on the rocky slopes of the cliffs forming large breeding colonies. All of them besieged by their predators, the Striated Caracara (*Phalcoboenus australis*) and Brown Skua (*Stercorarius antarcticus antarcticus*), who daily harass parents to steal eggs and chicks. We decided that this site would be the starting point of our trip. We also wanted to photographically work with the King

Penguins (*Aptenodytes patagonicus*). For this, we decided that the other place where we would stay for a couple of days would be northeast of East Falklands Island, in a place called Volunteer Point.

After long preparations and inquiries, we started the trip in December 2018, Southern Hemisphere summertime, crossing Argentina from north to south from different parts of the country to Río Gallegos, Santa Cruz. From there we flew to the Mount Pleasant airport located on East Falklands Island, where a small plane from the Falkland Government Air Service (FIGAS) was waiting for us, which transported us approximately 120 kilometers from east to west towards West Falklands Island. After almost an hour of flight, the Pole-Evans family, administrators of that Saunders Island where they mainly practice sheep farming, received us. We stop by a small supply store to buy some last-minute things and continue overland for another 16 kilometers to our destination called “The Neck.” In this place there is an isthmus of sand that serves as a refuge and reproductive place for various species of seabirds.

Once we reached “The Neck,” we were taken to a place where a big rock would be our only refuge. Near the big rock, we set up our tents and arranged our food boxes away from the sight of the Striated Caracara (*Phalcoboenus australis*), who kept flying over us to steal food. A kilometer from the camp, there was a place where there was a radio equipment for emergency communications and an electrical supply to charge the camera batteries.



Gentoo Penguins (*Pygoscelis papua*)



Turkey Vulture (*Cathartes aura*)

That afternoon there wasn't much time left, so I took some photos near the camp and stayed, until the sun went down, looking at the place. I still couldn't believe the privilege of being there, just two kilometers from the huge colonies of Black-browed Albatrosses (*Thalassarche melanophrys*) that I had come to look for and where my next three days would be.

The first night the absence of common sounds was surprising, only the squawking of birds was heard; the noise of the wind that lashed our tents; the screech of the gas jug where we gently heated an empty can of pears that contained a frozen block of chicken curry; the rubbing of our clothes. Everything was immensity, darkness and also a lot of peace.

At 4am I was awakened by the alarm clock; it was a cold and wet morning that invited me to continue sleeping, but when I opened the closing of the tent, the colors of dawn made me jump out of my sleeping bag. In a few minutes, I was walking along the coast towards the colony, with hardly a slice of bread with jam and a drink in my backpack for later. I couldn't stop taking photos, the reflections of Blackish Oystercatcher (*Haematopus ater*), Gentoo Penguin (*Pygoscelis papua*), Falkland Steamer Duck (*Tachyeres brachypterus*) and Brown Skua (*Stercorarius antarcticus antarcticus*) on the wet sand painted with the first light of dawn captivated me the first two hours.

After traveling the nearly two kilometers of white sand on the isthmus in just over two hours, I began to climb the steep

northern slopes of Mount Richards. When I reached the top, my surprise was indescribable; there were hundreds of Black-browed Albatross (*Thalassarche melanophrys*) in their nests, small mounds of mud, precariously balanced on the steep coastal slopes where they are built. They share the space with Imperial Cormorants (*Phalacrocorax atriceps*) and Southern Rockhopper Penguin (*Eudyptes chrysocome chrysocome*), who at that time looked after their newborn chicks. For some time I could not take photos; just contemplate, as everything was much more beautiful than I imagined. After the stupor, I sat down to study them and gradually became one more member of the neighborhood. They stopped noticing my presence and I started taking photos as they continued with their lives, their courtships, their rhythms.

So I was able to photograph them as they floated in midair, capturing their courtship dances, their fights, their dynamics, their gaze. I was obsessed with the special design of the feathers that contoured his eyes. I had decided before traveling to take macro photos of those feathers immortalizing their eyes, for which I had to work very close to these birds, after they left me in complicity, to approach them.

The three days on the Saunders Islands were very intense. We were most of the day taking photos of the Black-browed Albatross (*Thalassarche melanophrys*) in its colonies; of the Kelp Goose (*Chloephaga hybrid malvinarum*) that grazed placidly with their young in the intertidal zone; of the Southern Rockhopper Penguins (*Eudyptes*

King Penguin (*Aptenodytes patagonicus*)





Saunders Island seabird colonies



Magellan Goose (*Chloephaga picta*)



White-rumped Sandpiper (*Calidris fuscicollis*)

Juvenile King Penguin (*Aptenodytes patagonicus*)



chrysocome chrysocome) gracefully descending and jumping between the rocks of the steep coasts. It was also beautiful to see the Gentoo Penguin (*Pygoscelis papua*) when feeding its chicks, attentive to the Brown Skuas (*Stercorarius antarcticus antarcticus*) and Striates Caracara (*Phalcoboenus australis*) who tried to steal the chicks, and the Turkey Vulture (*Cathartes aura falklandica*) that flew over the coasts, to feed on everything they found available.

When the midday light was very bright, we stopped for a bite to eat and rest. I remember one of the times I fell asleep inside the store after lunch and woke up hours later with so much heat that I went down to the shore and took a dip in the sea. The water was crystal clear and a deep turquoise color that differed from the Caribbean Sea only by its icy temperature. When I was about to leave, a group of big fish began to swim around me. Being suddenly surrounded by these dolphins, seeing them jump and swim around me was impossible, I just regretted not having the camera at the time, I could only record in my mind what I was experiencing.

On the fourth day, we left for Stanley city. First by land and then by plane to the city, where we could bathe, collect more food for the next days of camping, and regain our strength by sleeping in a comfortable hotel bed.

Early in the morning, we were picked up by all-terrain vehicles and traveling about 80 km our next destination. The last kilometers must be done on very difficult roads, crossing streams and peat

bogs, so it takes more than two hours to reach our new destination, Volunteer Point. It is a peninsula with an impressive white sand beach, which supports about 3,000 King Penguins (*Aptenodytes patagonicus*), 7,000 Gentoo Penguins (*Pygoscelis papua*) and many Magellanic Penguins (*Spheniscus magellanicus*), among other birds. It is a privately owned nature reserve that has a refuge equipped with bathrooms, dining room and kitchen where to prepare food, charge equipment batteries and shelter from inclement weather.

In this place where we camped for two days, we had a storm of strong winds. I was hoping that this would be able to capture different images, where the white sand would veil the figures that clean the environment of the objects, in addition to irremediably entering ears, nose, mouth, eyes and in every corner of the equipment that should be protected. We also had a night with heavy rains hitting our tents, but it stopped at first light, leaving a very freezing and wet morning, where the mist took over the landscape and allowed us to create beautiful photos. These weather complications are such when we are on vacation, but if you plan to take photos they become blessings, because they create a special and unique environment.

On the afternoon of the sixth day they came looking for us, when I saw the all-terrain vehicles that would take us back, I was overwhelmed by the tremendous sadness of thinking that it was time to go back and leave this wild and wonderful place behind. I was only consoled by the idea of having thousands of photos with me, which would allow me to relive every moment.





Gentoo Penguin (*Pygoscelis papua*) and Magellanic Penguin (*Spheniscus magellanicus*)



King Penguin (*Aptenodytes patagonicus*)

My experience in the Falklands Island was extraordinary, it is a site that still remains with an almost unchanged, intact ecosystem, where you can take photos all day without any concern, with a geography that is very easy to walk, friendly birds and incredible landscapes.

I got there inspired by a photo that pushed me to live this experience. I hope that some of my photos inspire others to travel to this magical place to be able to smell, feel, live and see the wonders that inhabit this archipelago.

Finally, it only remains for me to say that none of this would have been possible, without my photo-friends Darío Podestá, Dante Apaza and José Ramírez, whom I thank infinitely for joining this shared dream.



Saunders island - The Neck



King Penguin (*Aptenodytes patagonicus*)

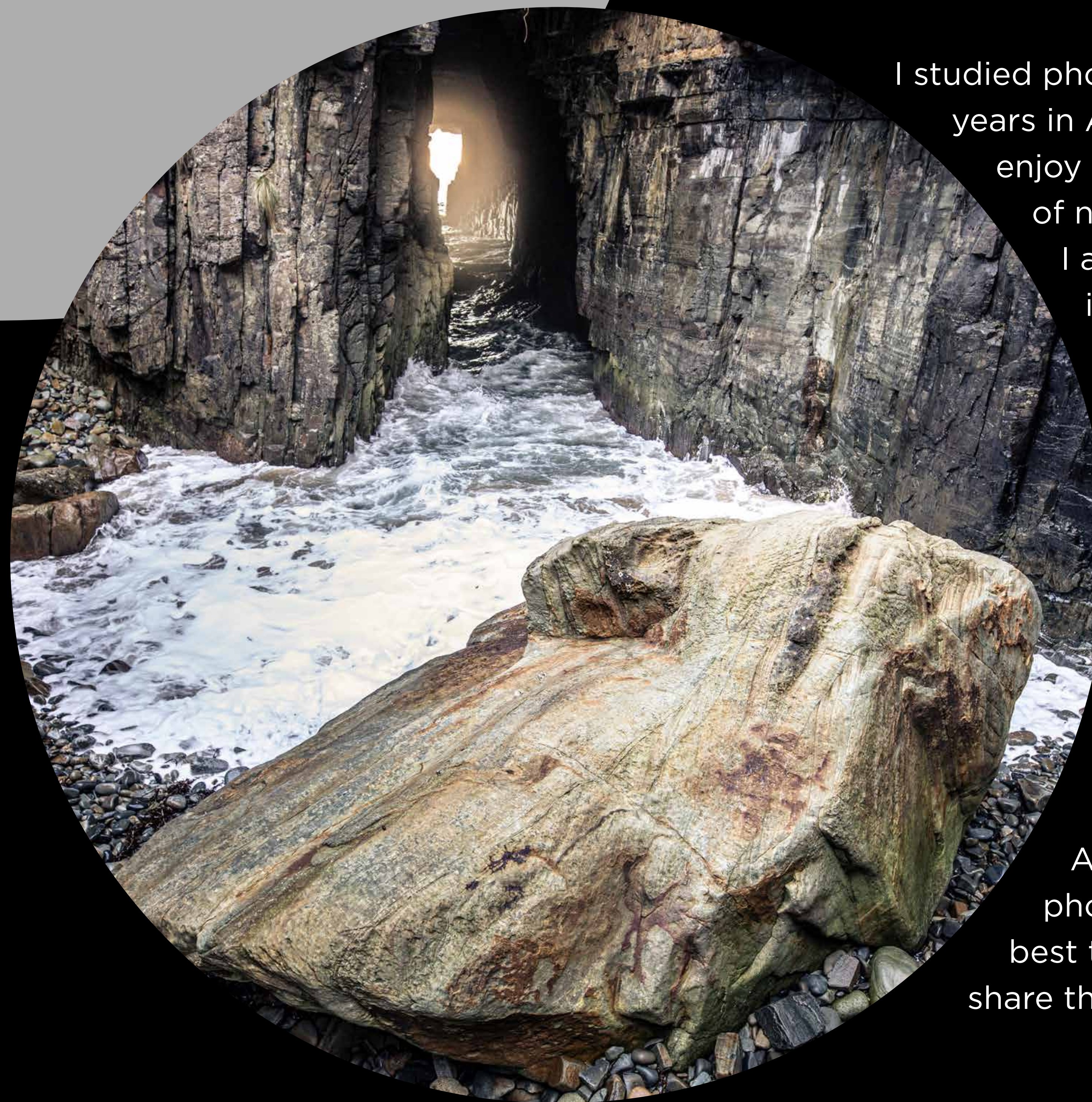


King Penguin (*Aptenodytes patagonicus*)

Tasmania is the island-state south of the Australian Continent, and about one-half of its land are crown lands mostly managed as National Parks. Tasmania lies almost equidistance between Antarctica to the south and the equator to the north. I am an Argentinian nature photographer now living and working in Tasmania, and greatly enjoy exploring the wide variety of National Parks with my camera.

The wide variety of terrain – mountains, lakes, forests, ocean waters, pounding surf, sand beaches, towering sea cliffs of black volcanic rock- provide a multitude of photographic opportunities. Tasmania's weather is always changing – brilliant blue skies, black rain clouds approaching, gray drizzle, and white sleet and snow. On some days, one can experience all of this weather in one day.

I studied photography for eight years in Argentina, and now enjoy practicing the art of nature photography. I am particularly interested in landscapes and wildlife because I think that showing the nature world through my lenses is one way to collaborate to fight against the destruction of our natural treasures. As a global traveler, photography is the best tool that I have for share the amazing places



Remarkable Beach

Tasmania, Australia – Nature's Photographic Paradise

By Santiago Navarro



Cape Huey

that I have been, but also is a bridge that allows me to go deep in the meaning of our relationship with the planet. Being in middle of a peninsula, watching the sea from a cliff, walking in a forest or waiting for the sunset in a mountain and watching the milky way at night from a beach are invaluable gift that I want share

with all the world.

One of my favorite National Parks here in Tasmania is Tasman National Park, located in south Tasmania, 70 min driving from Hobart, the capital city. Tasman National Park covering 107 square kilometers, is an amazing place full of wildlife like wallabies, wombats, Tasmanian

Tasman National Park



devils, possums and many others. This spectacular environment also shows fascinating rocks formation and 300 meters high sea cliffs that provide incredible views. For those who like physical activities there are many walking tracks. The coastal track has side tracks to three different capes - Cape Pillar, Cape Raoul and Cape Hauy, stunning corners of the park's peninsulas.

Because of the pandemic, I am trapped in paradise in Tasmania. Luckily I have a job managing a dairy farm with 1,000 cows. On my days off, I grab my camera gear and head off to a new and wonderful National Park, looking for the perfect mixture of light, weather, rocks and water. I am a lucky young man exploring the world.



Cape Pillar

Bombay Hook National Wildlife Refuge, United States

By Donna Brok

Not Just Another Great Blue Heron Not at Bombay Hook National Wildlife Refuge on the Delaware Bay, near Smyrna, Delaware, United States. This refuge is located on the Atlantic Ocean in eastern United States. Bombay Hook is a premier place to catch *Ardea herodias* of North America in their beautiful habitat. You will be rewarded with a phenomenal birding experience every year at Bombay Hook NWR. Go in different seasons to encounter the vast variety of migrating birds. The park includes one of the largest tidal salt marshes in the mid-Atlantic region, a magnet for migrating birds.

The US Fish and Wildlife Service manages a system of 568 refuges including over 150,000,000 acres. President Theodore Roosevelt dedicated the first refuge, Pelican Island in Florida in 1903. Fishing and hunting are permitted in most of the refuges.

The refuge's freshwater impoundments provide mudflat habitats for migrating birds in spring, especially herons. The refuge has four impoundments - Raymond Pool, Shearneck Pool, Bear

Swamp Pool, and Finis Pool. Water levels are managed seasonally, providing spring mudflats for shorebirds, then they are flooded in the fall for dabbling ducks to access seeds.

The impoundments attract millions of migratory ducks, and it is a welcome stopover for shorebirds, neo-tropical songbirds, like warblers, and wading birds, like a variety of herons.

The marshes are a critical stop for these migrating birds on their way to their northern breeding grounds. Routinely, you will spot eagles, Hooded Warblers, American Avocets, Dunlin, Semipalmated Sandpipers, Dowitchers, Yellowlegs, Semipalmated Plovers, Saltmarsh Sparrows, Northern Pintail, and Green-winged Teal. There is much variety and abundance of birds at Bombay Hook. You will also see Shoveler Ducks, Snowy Egrets, Osprey at Finis Pool, harriers, and tens of thousands of Snow Geese. What is more exhilarating than 30,000 or more Snow Geese arriving in October at Raymond Pool, all taking flight at once before you? It is magical!

Great Blue Heron (*Ardea herodias*)



Osprey (*Pandion haliaetus*)



©Donna Brok

Mammals include red fox and kits, found on the opposite side of the park. Watch for rabbits and groundhogs along the scenic drive, and gray squirrels hopping amongst the trees, all dodging the Barred Owl. Later in the year, Short-eared Owl can be found around Shearneck or Bear Swamp Pools, and of course, white tailed deer scamper about in winter too. It truly is a nature lover's paradise.

But beware in late spring, driving through

the 12 mile ride, the car windows will be coated with all sorts of flying, biting bugs. On the left is the freshwater marshes, and on the right is the salt water marshes. Bugs are there too. Each marsh has its own ecological niche for the wildlife that inhabits it. When you enter the Refuge, the Visitors Center is on your left.

Check out the many Purple Martin stations. It is fairly common to see the birds flying in and out. These birds are

very good at eating those pesky bugs I mentioned.

The Great Blue Heron is a most commonly found bird. Its adult wingspan ranges 5 1/2 to 6 1/2 feet. The predation style used by herons is pretty well known. They stand still in shallow water, wait for fish to come near, and then impale prey with a head thrust, called the 'bill stab'.

They are a large bird which can capture fish larger than those caught by other

heron species. Don't pass over those commonly seen herons at the tidal mudflats. They might just do something interesting besides stand still like a statue.

Donna Brok is an architect by profession. She is an avid traveler and wildlife photographer since the age of fourteen. Donna teaches photography classes, does presentations, and judges throughout camera clubs.

Black Skimmer (*Rynchops niger*)





Miniature Paper Art
By Nayan & Vaishali



Nayan and partner Vaishali are miniature paper cut artists based in Ahmedabad, Gujarat (India).

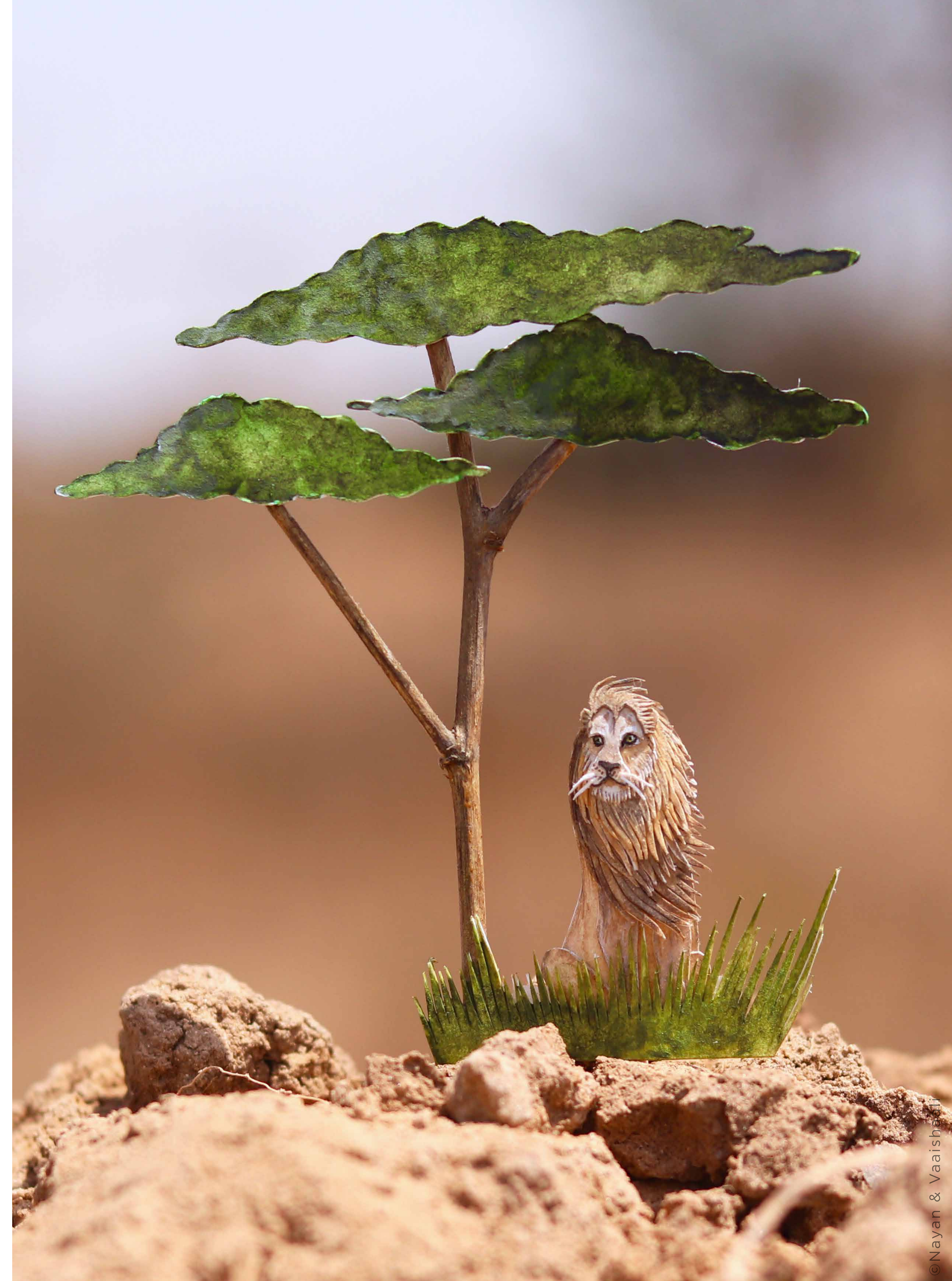
They make miniature hand-painted layered paper cut artworks

[instagram.com/nvillustration](https://www.instagram.com/nvillustration)

1,000 Days of Miniature Art

We started birding in 2017, our story began on a rainy day. We were at our favourite place, a water canal near our studio and a Golden Oriole flew above our head. At that time, we didn't know what bird that was, but its bright yellow colour caught our eye. We were so mesmerised by that beautiful bird, we couldn't peel our eyes away from it. We came the next day to find it but it wasn't there, so from that very day our

search for the Oriole began and it took us to many different places where we discovered other birds like Drongos, Stilts, Cormorants, Ducks and many more. We were so fascinated by all these different species of birds living around us which generally people are not aware of. We decided to share the beauty and significance of these birds with the common people through our art. We took up this challenge of making





highly detailed birds every single day, in a miniature size so that it creates more curiosity for the viewers and engages them in learning more about the birds. We started our series on 1st January 2018, initially as a 30 day challenge but after the completion of our first month we got amazing responses from people. Hence, we decided to continue it for the whole year. But after the first year we couldn't stop because there are so many other species which needs conservation and awareness among the common people. So finally, we extended our challenge to 1,000 artworks and included animals and plants also in it. Now we are done with more than 900 artworks and still going strong.

We have dedicated this series to our little feathered friends as a gesture of thankfulness for their immense love and support in our lives. Our hope is that people understand the significance of birds and animals in their lives and help to save them.

The main motive of our series is to spread awareness and knowledge about nature through art.

"Climate is changing we should also change now."

Process,
Each artwork is made by cutting it in different layers on paper and then hand painting them with water colours. Each layer is hand assembled to give a final three-Dimensional look to the artwork. Each artwork takes about 4-6 hours to complete.











YOUR GALLERY



Vipul Ramanuj

Fat-tailed Scorpion (*Orthochirus krishnai*)



YOUR GALLERY

Kaushik Vijayan

Pharaoh Eagle-owl (*Bubo ascalaphus*)





YOUR GALLERY



Kamal Bownaan

Cheetah (*Acinonyx jubatus*)



YOUR GALLERY



Munib Chaudry

Grévy's Zebra (*Equus grevyi*)



YOUR GALLERY



Keziah Williams

Arabian Sand Gazelle (*Gazella marica*)



YOUR GALLERY

Heather Thorning

Spotted Pardalote (*Pardalotus punctatus*)



YOUR GALLERY

Sourav Mookherjee

Baya Weaver (*Ploceus philippinus*)





YOUR GALLERY



Mahesh S

Red Fox (*Vulpes vulpes*)



YOUR GALLERY

Mukund Dass

Bluethroat (*Luscinia svecica*)





YOUR GALLERY



Rajendra Dharashivkar

Tickell's Blue Flycatcher (*Cyornis tickelliae*)

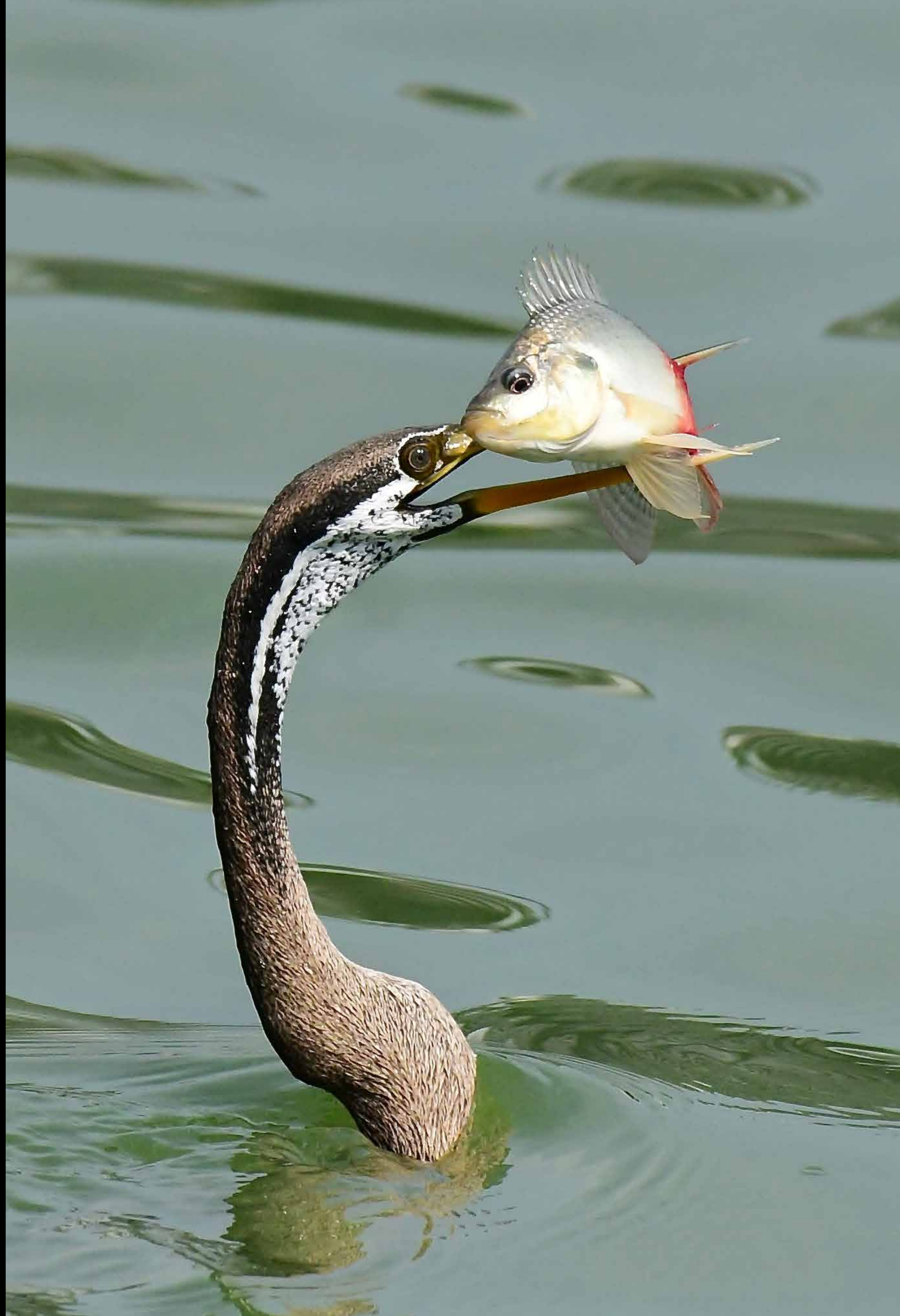


YOUR GALLERY

Rajesh Thapliyal

Crested Serpent Eagle (*Spilornis cheela*)





YOUR GALLERY



Rajiv Basu

Oriental Darter (*Anhinga melanogaster*)



YOUR GALLERY



Parag Shinde

Indian Cobra (*Naja naja*)



YOUR GALLERY



Vaibhav Agarwal

Gray Langur (*Semnopithecus*)



PHOTOGRAPHY

YOUR GALLERY



Sangeetha Damodaran

Little Owl (*Athene noctua*)

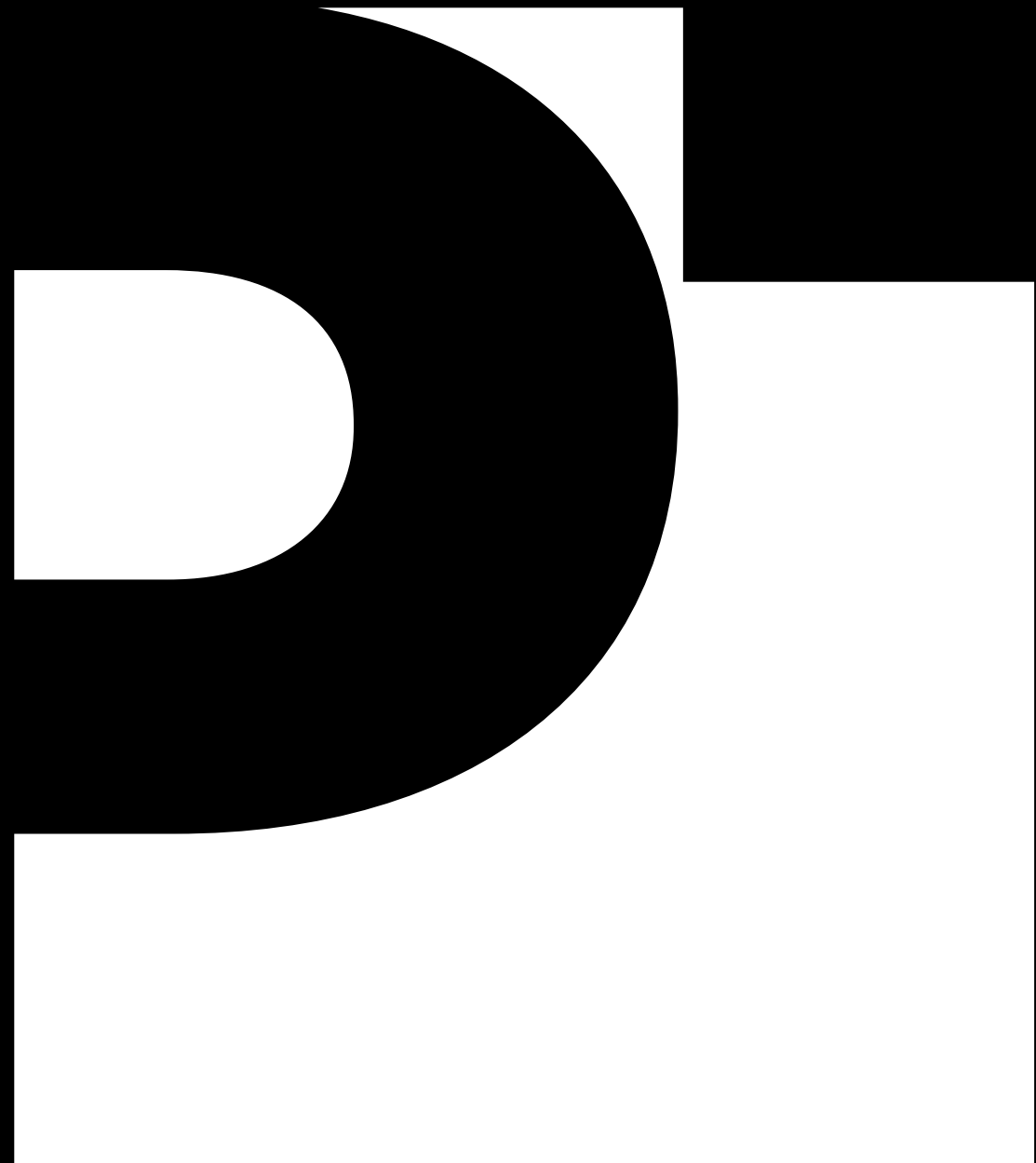


YOUR GALLERY

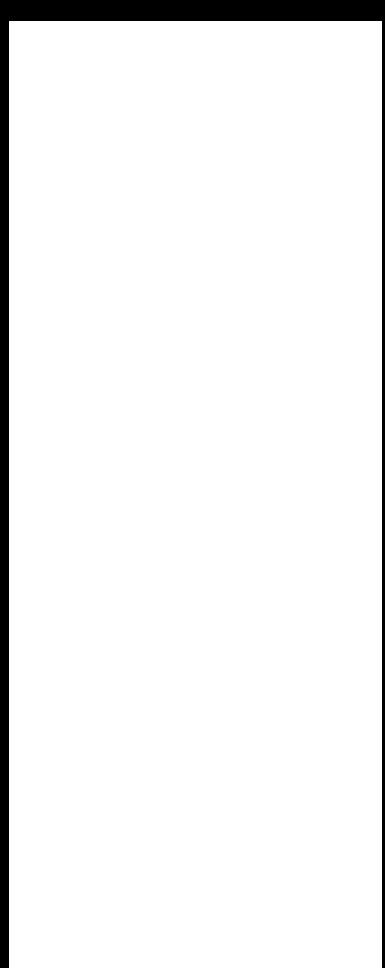


Mahesh Kulkarni

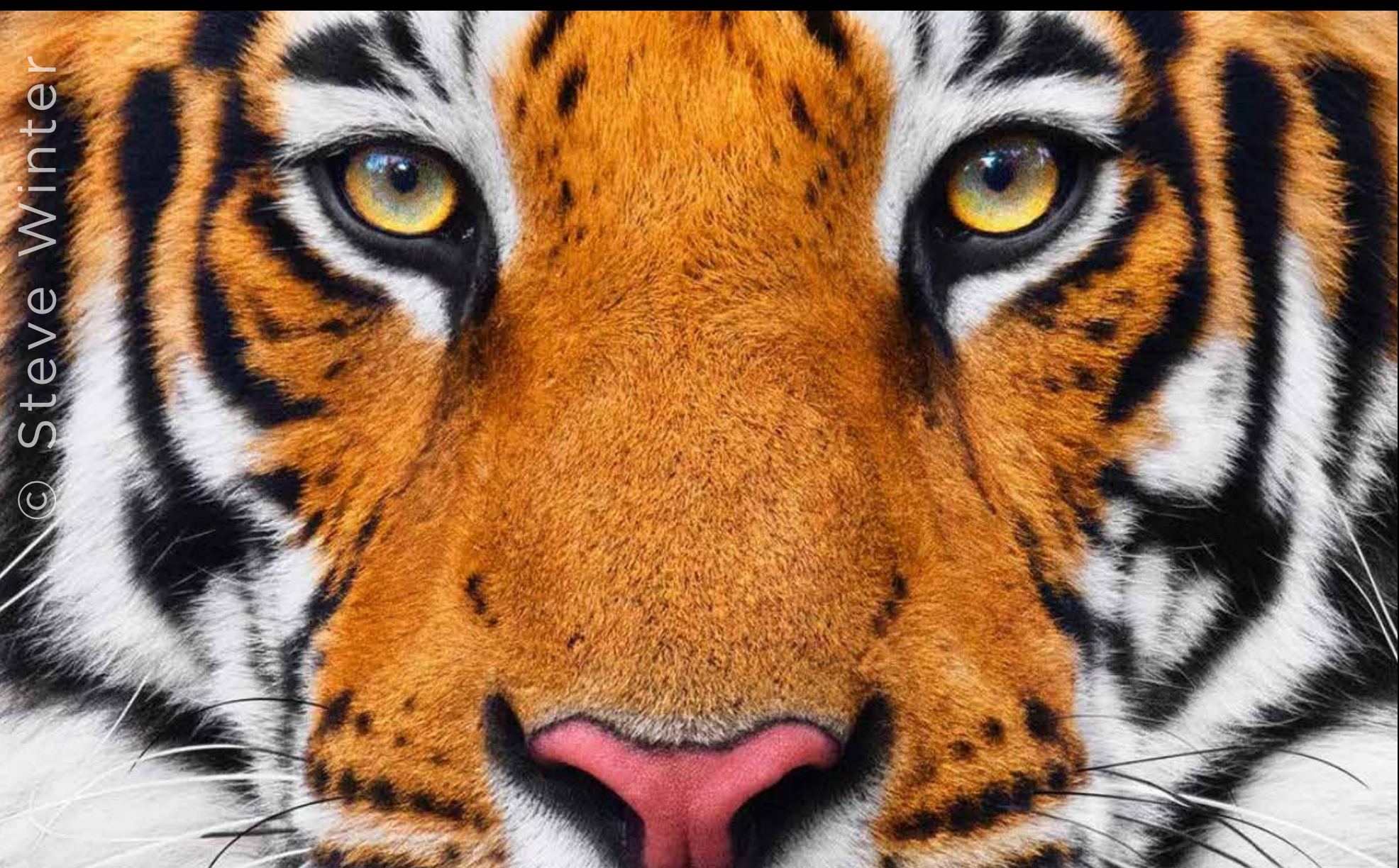
Laggar Falcon (*Falco jugger*)



EXPLORERS



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FEATURES



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