CONSERVATION&PHOTOGRAPHY
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HOUBARA BUSTARD

BY PETER HUDSON

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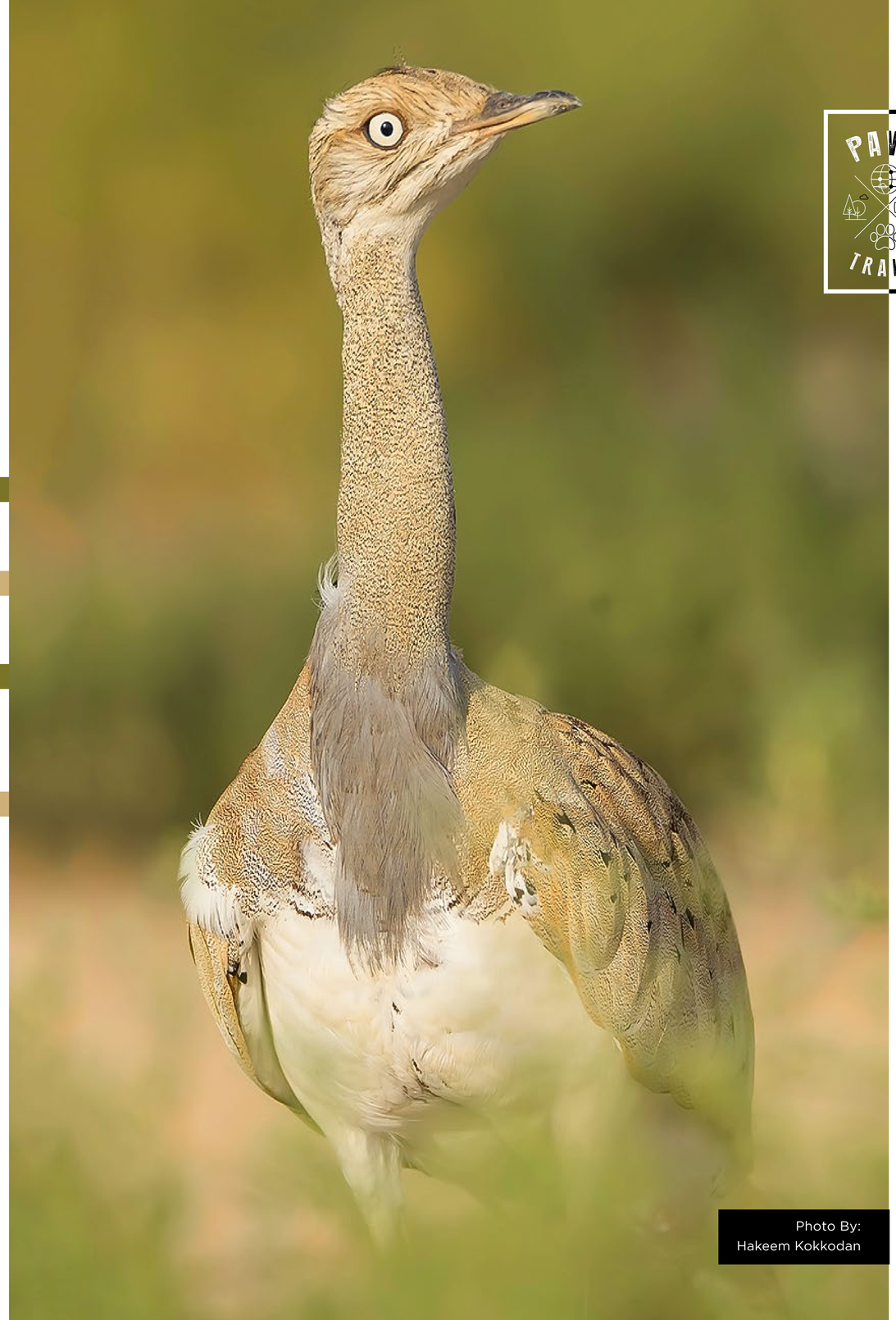

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Hakeem Kokkodan

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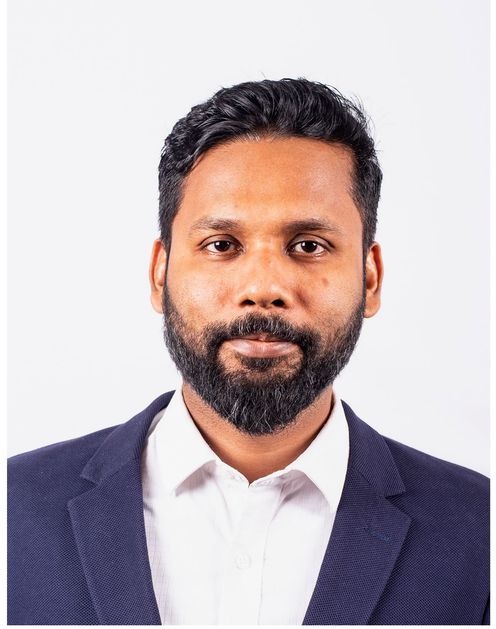


Raghul Patteri
Editor

EDITOR'S DEN

Welcome to the fifth edition of PT Aware.

There are some species whose identities are indelibly linked with that of some communities. The Houbara Bustard is one of those charismatic beings, with strong bonds to the Arab and other ethnic communities of Asia and Africa.

The scenes of a falcon chasing down a Houbara across the arid landscapes are emphatic of the legends of falconry and the history of the Arab civilization. Traditional hunting had to a great extent stayed away from over exploitation, but today poaching and unregulated hunting is taking its place.

In this edition, Dr. Peter Hudson takes you through the intriguing world of the Houbara and other birds of the bustard family. Peter has insightful knowledge on the species from his association with the National Avian Research Center in Abu Dhabi, which is reflected in this article. Read about the intriguing lives of migratory birds and the many threats that they face across their migratory routes, and why the conservation of migratory species is a different beast, with inter-continental implications.

Conservation is subjective, and with migratory birds conservationists need to think quickly and be ready to think outside the walls of the traditional conservational areas. Latest scientific breakthroughs help to study and predict the migratory routes and anticipate and prepare for the safety and feeding needs of the birds along the way.

PT Aware brings you interesting facts about different species and conservation issues from around the world. We associate with brilliant scientific minds and gifted photographers to bring you the best of both worlds, the latest scientific perspective and spectacular photographs. We are grateful to all the wonderful photographers who contributed their Bustard images for this edition. Our next edition will focus on Giraffes, so prepare to upload your photographs of these towering mammals. Selected photographs will be published in the next edition to portray the story of these gentle giants.

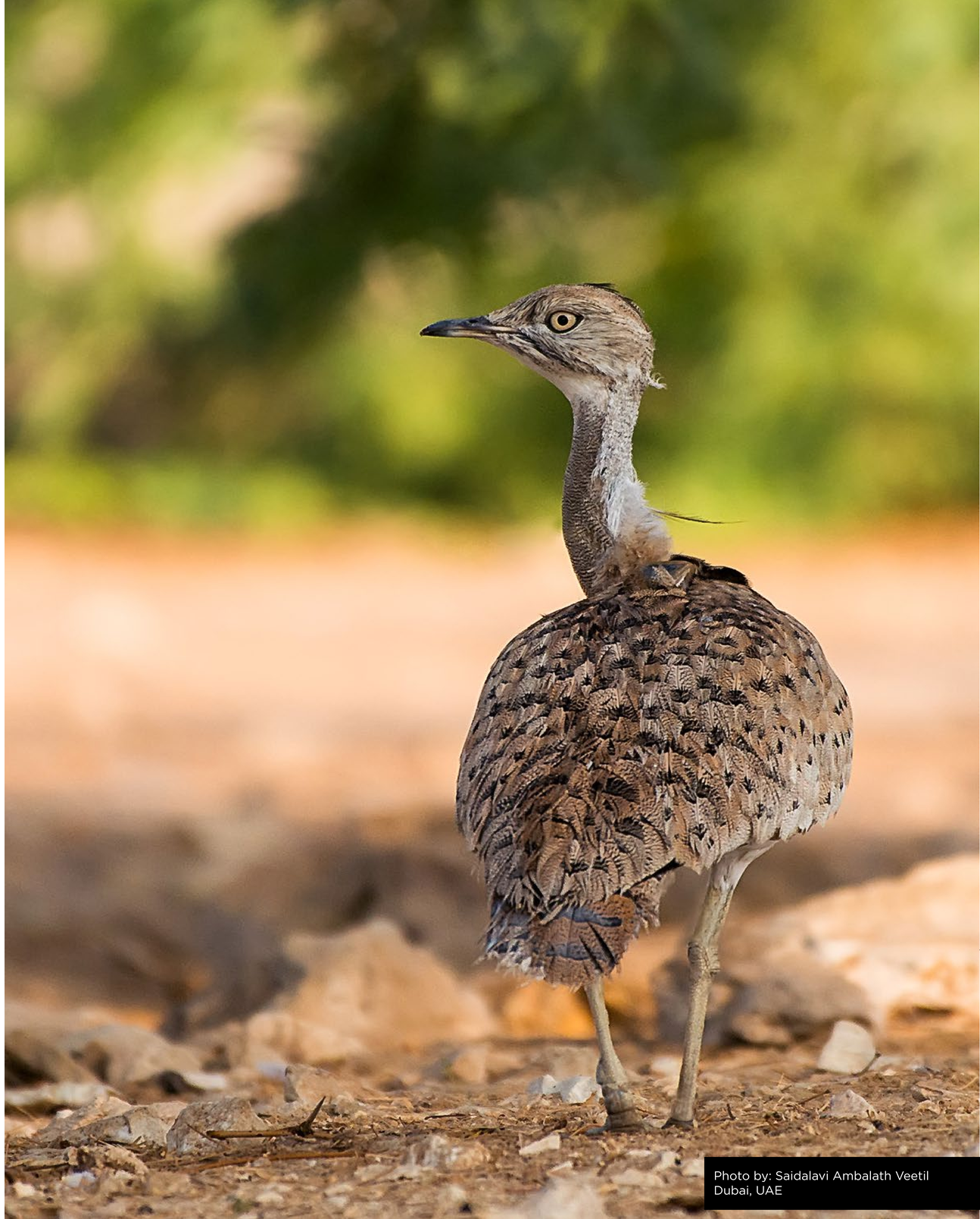


Photo by: Saidalavi Ambalath Veetil
Dubai, UAE

FOUNDERS' NOTE

Birds are wonderful subjects to photograph – difficult, but wonderful. At the Paws Trails bird photography workshops, we have had the good fortune to introduce many enthusiastic photographers to the joys of freezing the avian beauties in flight. The Arabian peninsula offers wonderful opportunities for this genre of photography and is an affordable and easily accessible hobby to residents of the Middle East.

This is the first time a bird species is being featured in PT Aware, and what better subject than the Houbara Bustard. This is a bird with close ties to the Arab civilization and is also an intriguing migratory species with far ranging distribution.

Being migratory, also means that the species has good visibility and has ties with many cultures around the world. Sadly, the Houbara is today classified as Vulnerable by IUCN and declining. Being enthusiastic bird photographers ourselves, we have observed the threats faced by them first hand. It is important to ensure that traditions and conservation should co-exist harmoniously.

Houbara Bustards are unique species to photograph. But, we appeal to your gentle side to respect their space and especially not to spook the bird during breeding season. Just one failed breeding season can have catastrophic effects on populations for vulnerable species.

Thanks to all the wonderful photographers for your Houbara images. It is the aim of Paws Trails to use community photography as a powerful tool for conservation. Please keep contributing and let your images tell the tales of enigmatic species from around the world to our readers worldwide.

www.pawstrails.com

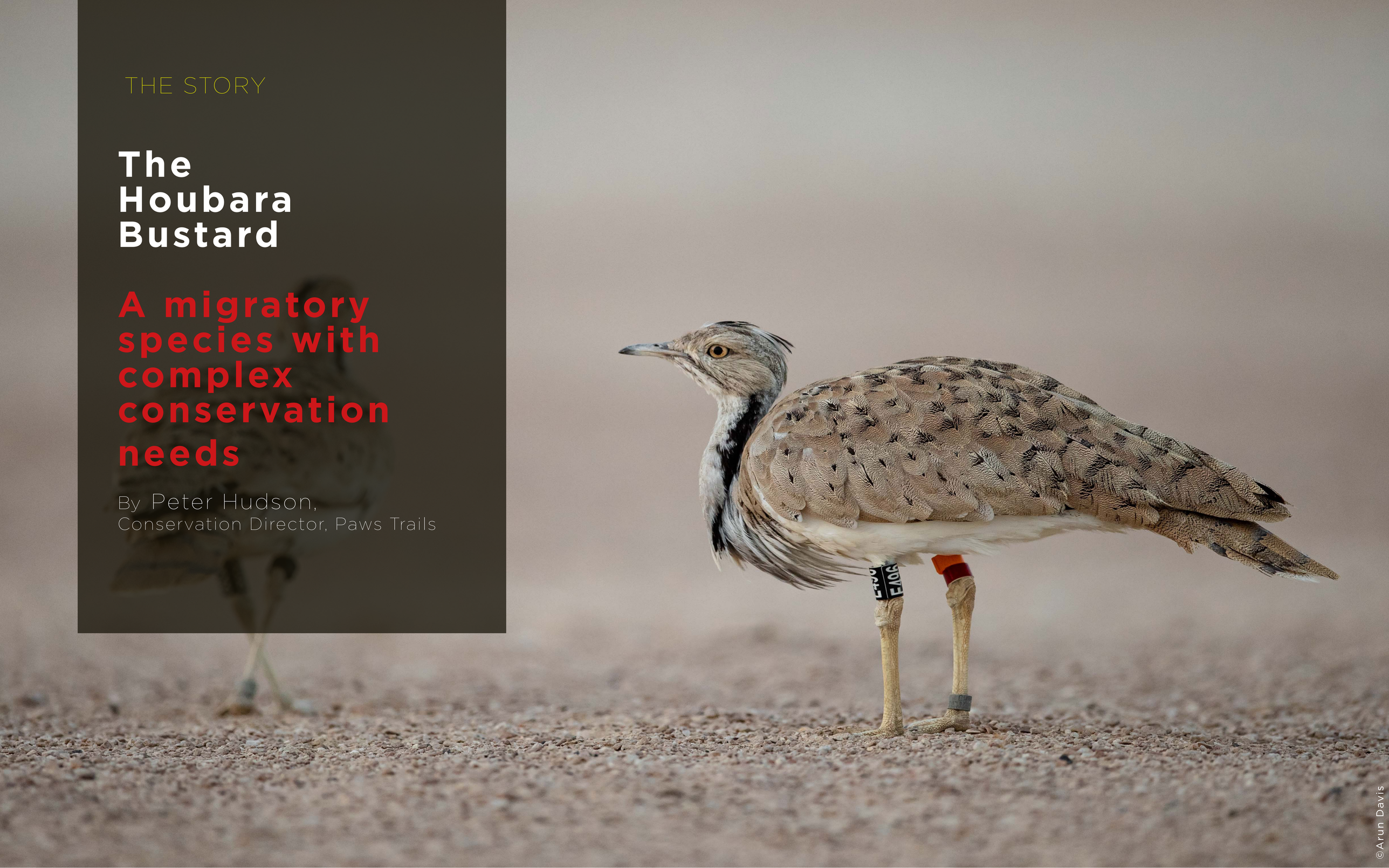
Hermis Haridas & Nisha Purushothaman
Founders - Paws Trails Explorers

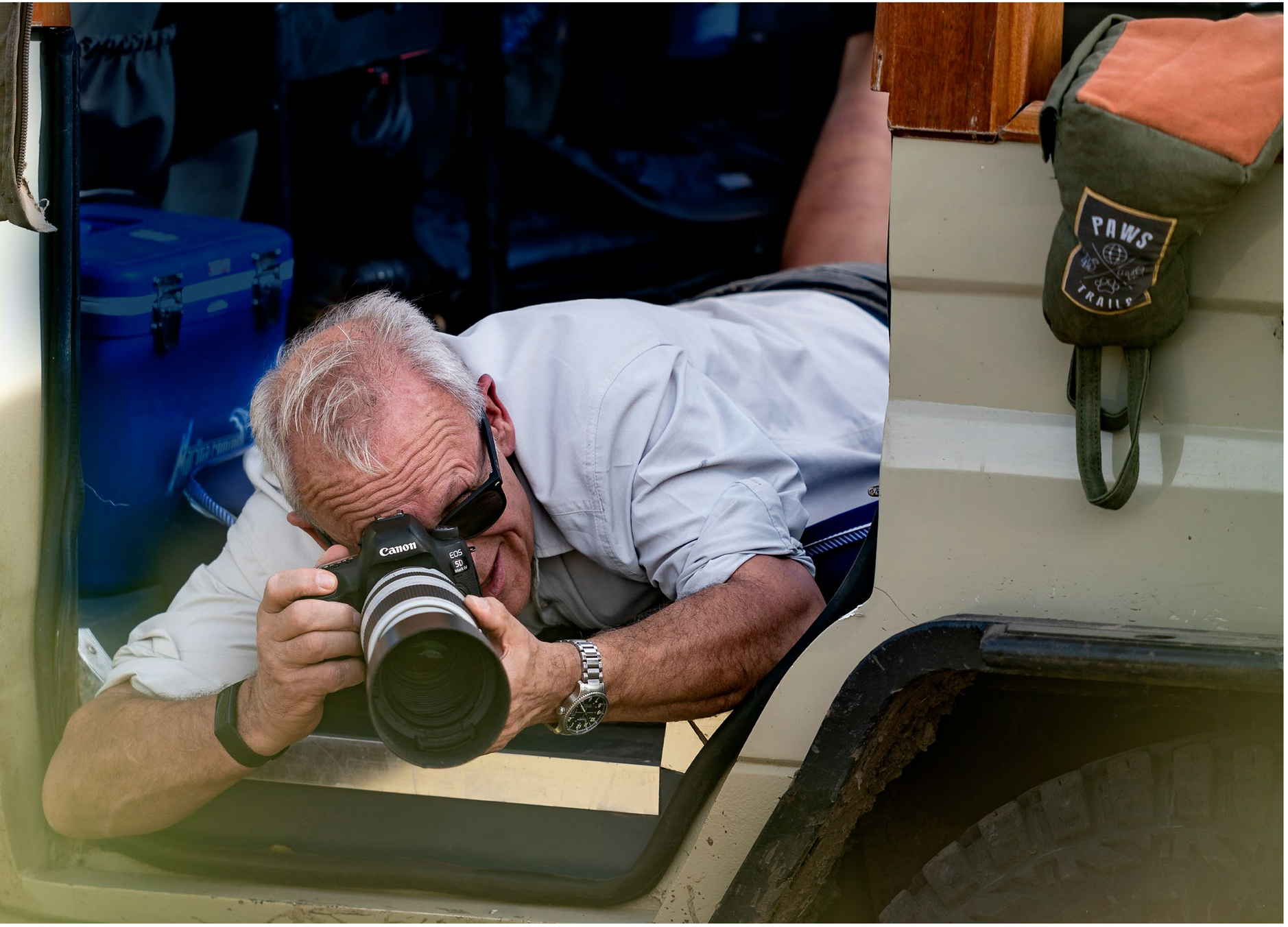
THE STORY

The Houbara Bustard

A migratory species with complex conservation needs

By Peter Hudson,
Conservation Director, Paws Trails





Peter Hudson is a scientist, photographer and conservationist. He undertook his first scientific expedition to Africa at the age of 21 and has been a regular visitor ever since. Passionate about nature, he manages his own 36-hectare nature reserve in Pennsylvania which is home to bears, bobcats and other animals.

In his professional career, Peter is the Willaman Professor of Biology at Penn State University. The focus of his research has been the infectious diseases of wildlife and in particular how new diseases emerge. He has been running scientific studies on the wolves in Yellowstone, tortoises in the Mojave Desert and bighorn sheep in Idaho. He is currently involved in a major project in Australia investigating the viruses associated with bats.

Peter established a new global health institute at Penn State that seeks to develop the concept of One Health, whereby the future health of humans is dependent on that of the environment, livestock management and the conservation of wildlife. He is an adjunct Professor at The Nelson Mandela African Institute of Science and Technology based in Arusha, Tanzania and a Fellow of the Royal Society.

peterhudsonphotos.com

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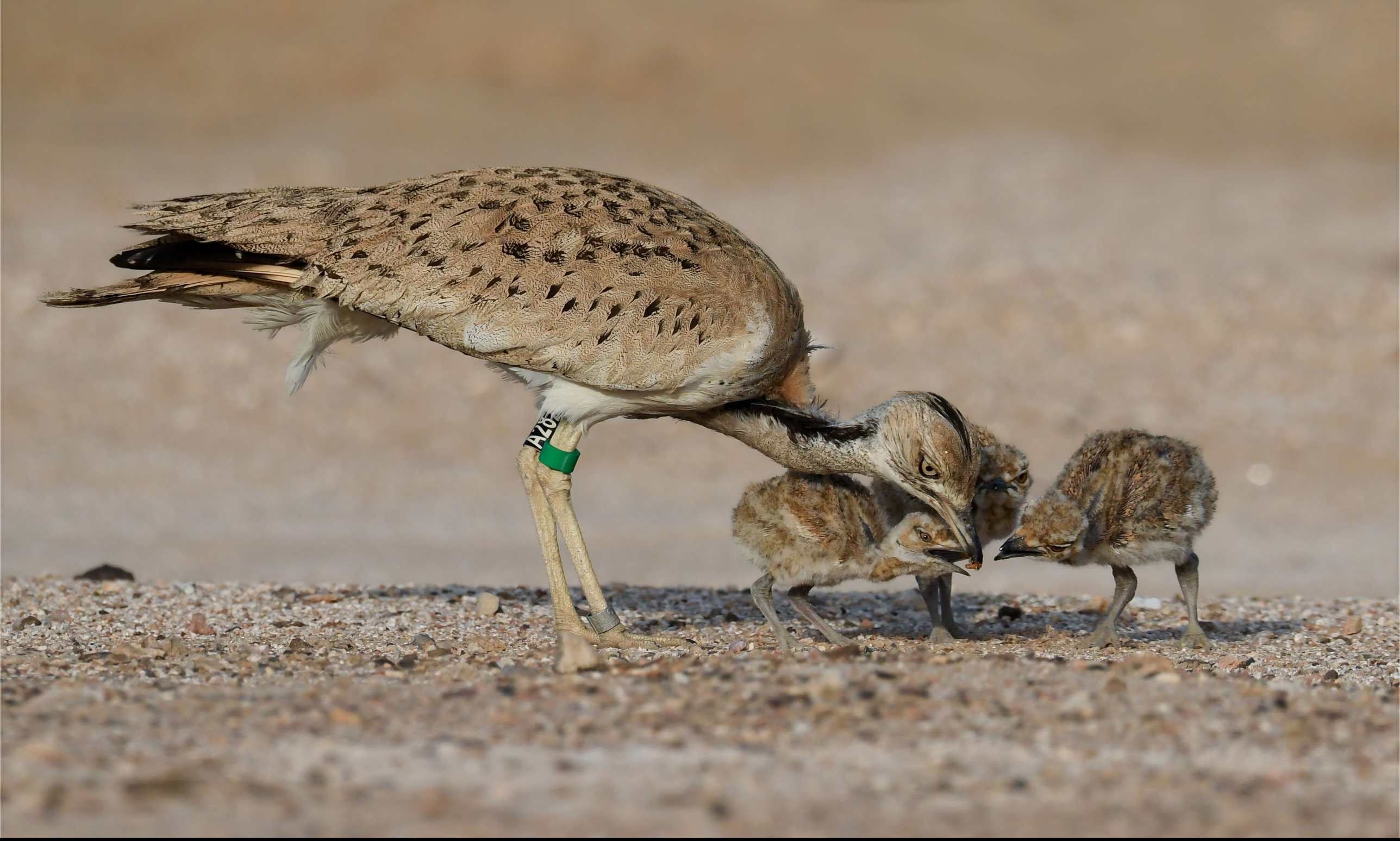


Photo by: Salma Al Suwaidi
Dubai, UAE

The Bustards ~ a special bird group

Many of us wildlife photographers have a very special place in our hearts for the charismatic bustards. If you have travelled to the grass plains of Africa, Asia or the arid areas of the Middle East then you may well have seen and photographed these spectacular birds. Many of the 23 species of bustard are large and charismatic – the Kori Bustard of East Africa being the heaviest flying bird in the world – and they also make an attractive subject for a photograph.

Male bustards perform the most astonishing sexual displays to attract females. They will strut and run around, coaxing their wings into unbelievable positions and puffing up the feathers on their chest. Some make their chest feathers form into a moustache with feathers protruding either side of the face, or even cover their whole heads with feathers while running around in an attempt to attract females. Fascinating to watch and an opportunity to obtain some stunning photographs, with the display of the Houbara jokingly descried as a “turkey riding a bicycle”. Unfortunately, bustards that are persecuted by poachers can also be very sensitive to disturbance and in the case of the Great Indian Bustard, the Ministry of Environment and Forests have had to ban photography of the bustards during the breeding season in Gujarat, in an attempt to reduce disturbance. In contrast, ecotourist groups in Spain are providing hides on the plains so photographers can capture images of Great and Little Bustards displaying. On the African savannah, Kori Bustards are totally habituated to the vehicles and, given some space, males will perform and most people return with good bustard photos.

I have had a long and interesting attachment to bustards. My roommate in Oxford was Nigel Collar who is the chair of the IUCN bustard specialist group and he spent many years collating all the information on bustards, and this is presented in the Handbook of The Birds of the World. I recall when a Great Bustard died on Salisbury plain and we had the opportunity to undertake the postmortem of this fascinating bird. Subsequently I became a science advisor to the National Avian Research Center in Abu Dhabi and was involved with their early research and attempts at breeding and understanding the wild houbara bustard.

Most bustards are really opportunistic feeders taking any form of good protein they come across, including a wide range of plant material as well as large insects, lizards and small mammals. Watching them strut and carefully move through the vegetation selecting their next meal is a relaxing and enjoyable past time. Bustards also act as a moving perch for other birds who sit on their backs and then chase and catch insects that the bustard flushes. Arabian bustards are well known as suitable moving perches for the deep red and beautiful Carmine Bee-eaters.

Bustards have also been an important source of protein for people in Asia and

Photo by: Faisal Fasaludeen
Dubai, UAE

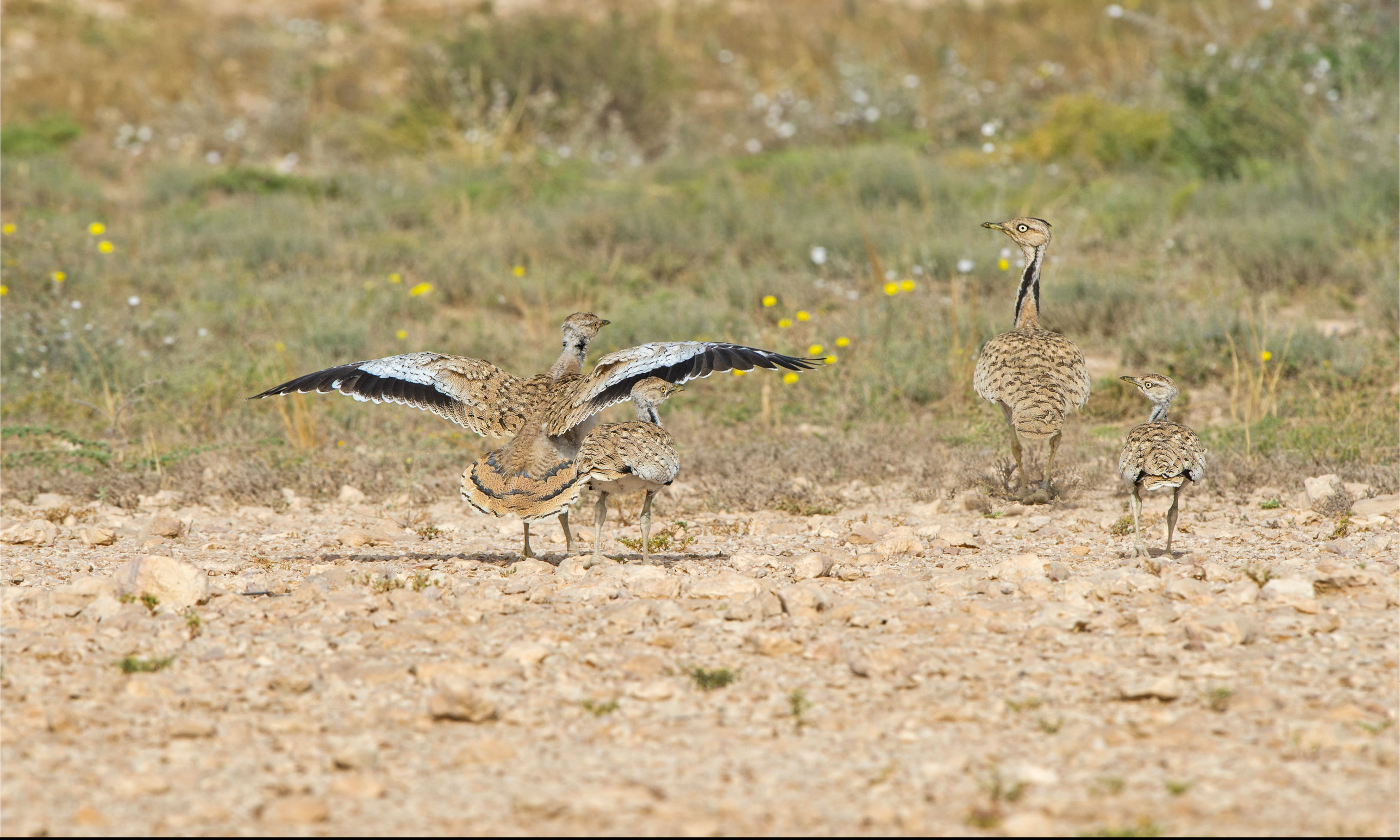


Photo by: Dileep Anthikad
Dubai, UAE

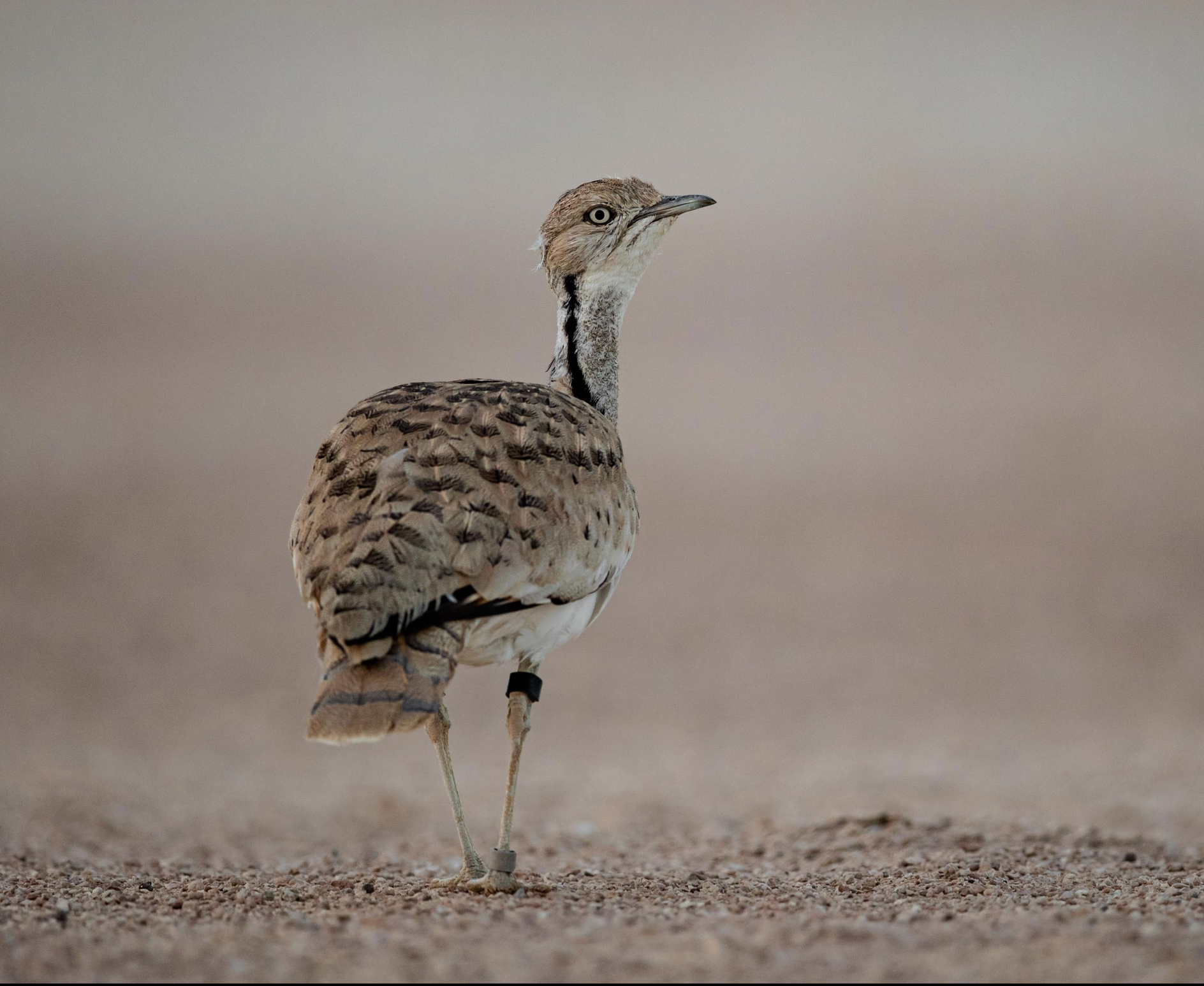


Photo by: Arun Davis
Dubai, UAE

Africa and traditionally, bustards have been hunted with falcons in Arabia and other Asian countries. Along with the traditional forms of hunting, there has been unregulated hunting, and worst of all poaching of birds during the breeding season when the removal of birds can have a significant impact on their population.

The Asian Houbara Bustards

The Houbara bustards are now divided into two distinct species – the African species that is distributed across north Africa and the Asian species, found in Saudi Arabia and United Arab Emirates that is also found northwards across Iran into Afghanistan, Kazakhstan, Pakistan and Turkmenistan. While there are pockets of resident birds in parts of Arabia, the Asian houbara bird is primarily migratory, breeding in central Asia and then migrating into the Arabian Peninsula to over-winter before moving back to their breeding grounds in early spring.

Both species of the Houbara are listed by IUCN as *vulnerable*, meaning that the species is likely to become threatened with extinction unless actions are taken to alleviate the threats on survival and reproduction. The houbara species are not the only threatened species, the Bengal Florian and the Great Indian bustard are considered critically endangered and the latter has been wiped out from 90% of its original range through habitat loss and hunting. Ludwigs Bustard is *endangered*, the Great and Little Bustard are both considered *vulnerable*, primarily through habitat loss. The patterns are obvious, these birds are

losing habitat and suffering from poaching and unregulated hunting.

The Asian Houbara population is estimated at something between 33,000 – 67,000, although making such estimates is far from easy since it inhabits breeding grounds in remote and often inaccessible areas. Almost all our knowledge comes from the valiant efforts of The International Fund for Houbara Conservation, based in Abu Dhabi. They count and estimate numbers biannually. Kazakhstan probably holds more than 50% of the global population and these are the breeding grounds and source of most of the migrants that move into the Arabian Peninsula for the winter months. The findings indicate that in the first decade of this century, numbers fell by 26-36%, with anecdotal evidence that numbers had also declined in Iran although estimates coming from the population in the Bukhara Province of Uzbekistan indicate breeding numbers maybe stable. The primary drivers of the decline are the same as the other bustard species, habitat loss and over exploitation.

Conserving resident species is far from easy, but these trials become infinitely more difficult and complex when dealing with a migratory species. In this instance the birds need good protection not only in their breeding grounds so the adults can breed and produce many young, but also at the multiple stopping off points between their breeding and over wintering grounds. In these migratory locations, they need to obtain food and shelter while they recover before the next leg of their journey and of course need protection once they get to their over-

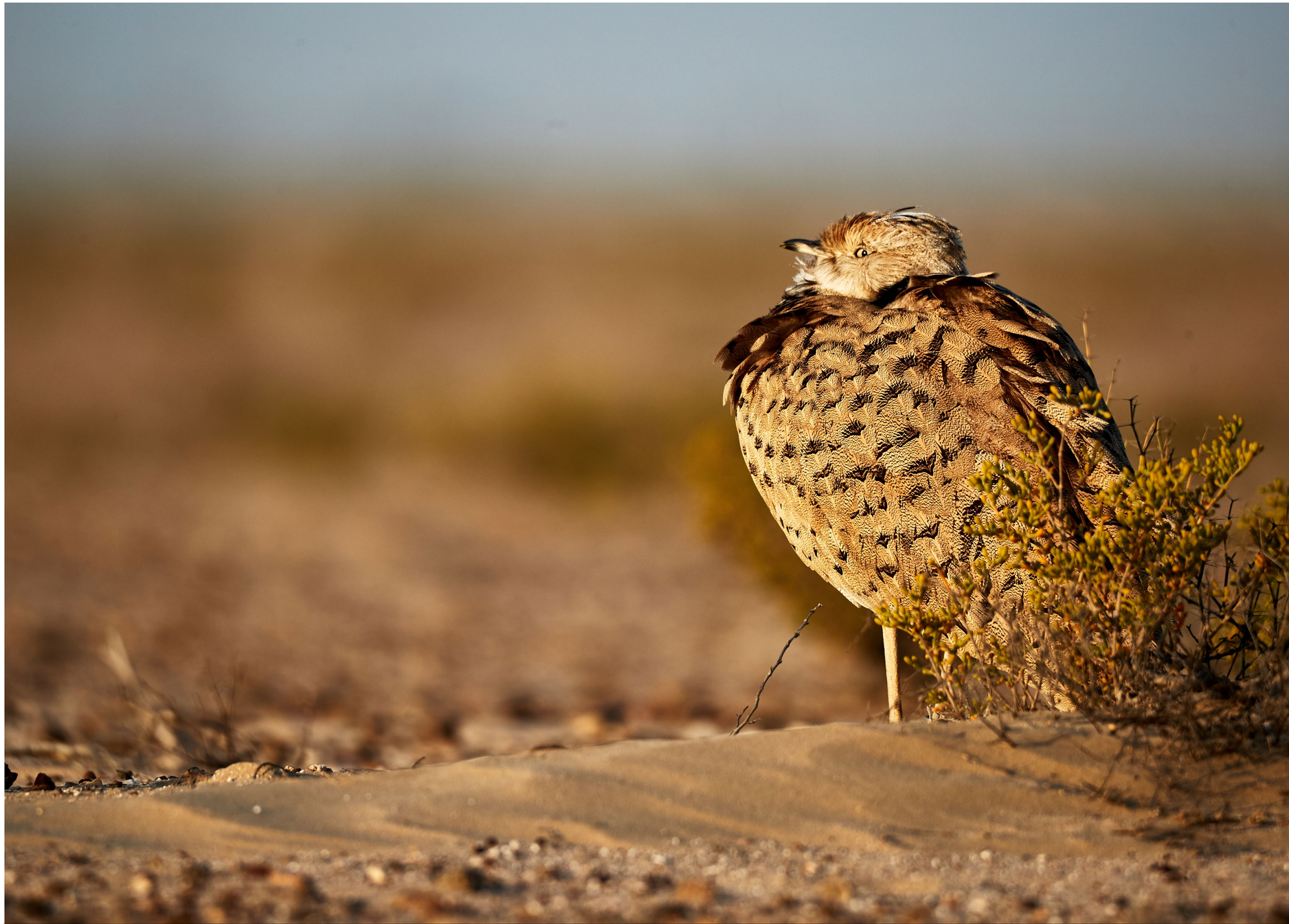


Photo by: Peter Hudson
Dubai, UAE

wintering grounds. This means having protection available in multiple countries, sometimes on multiple continents, so the challenges for ensuring the persistent survival of these birds are really complex.

Migratory animals and legislation

In 1979, under the aegis of the United Nations Environment Program, the Convention of the Conservation of Migratory Species signed a treaty to provide a global platform for the conservation and sustainable use of migratory animals and their habitats. This came into force in 1983, with 128 member states and is the only global and UN-based inter-governmental organization established exclusively for the conservation and management of migratory species throughout their range. This convention demonstrates the willingness amongst many countries to do something about the protection of migratory species but, the devil is in the detail, and really, we need to know what habitat to protect and where. We need hard science, and an understanding and insight on how to conserve these migratory species

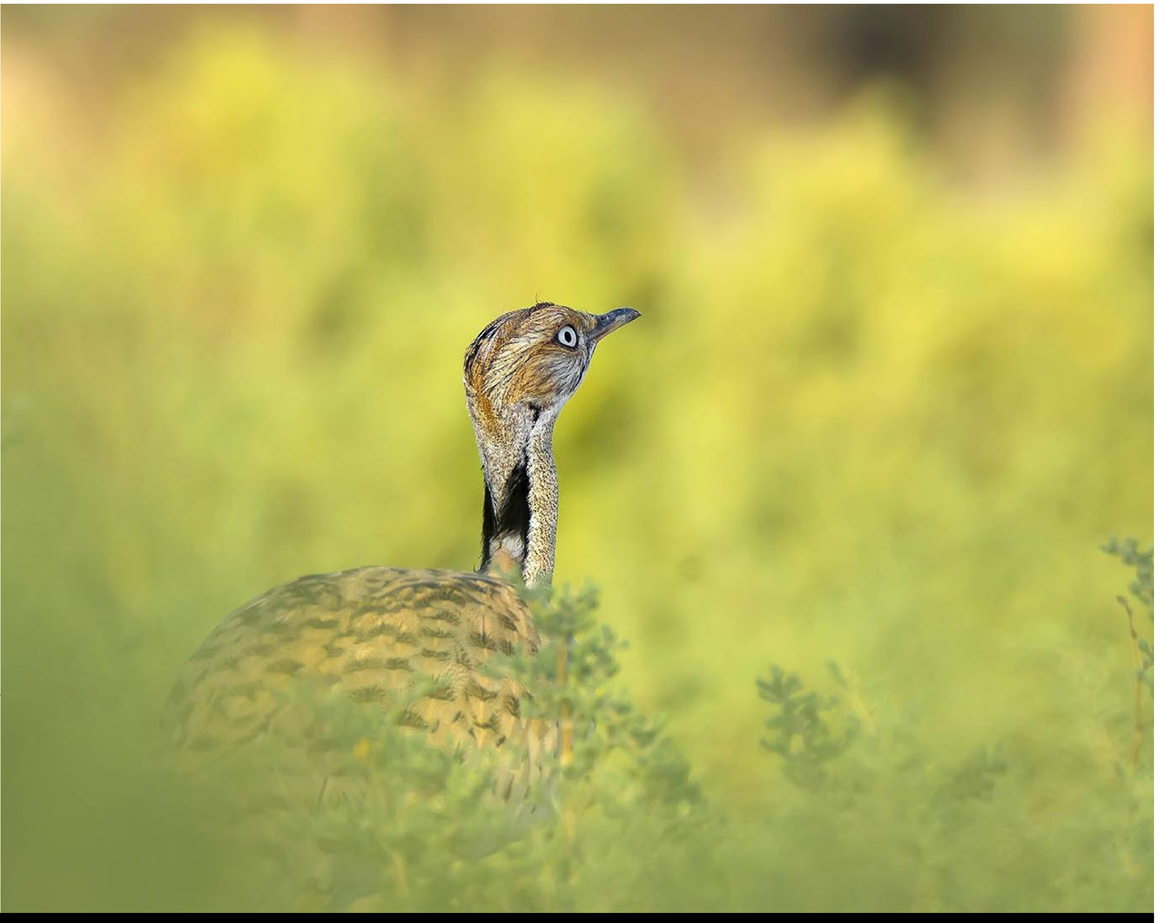


Photo by: Hakeem Kokkodan
Dubai, UAE

The bigger challenges of protecting migratory species

Legislators who laid down conventions for the protection of migratory animals 40 years ago had little idea of the dire and difficult situation we are now facing today. Global change, including habitat loss and increases in the burgeoning and demanding human population is changing traditional land use in unpredictable ways. Climate change is shifting the time of breeding and migration and so changing the distribution of animals such that the habitat we tried to manage twenty years ago, is no longer suitable for the same species today. Add in all the additional needs for migratory species and we have a real conservation headache.

More than 80% of bird species are migratory in the temperate regions of the world and protecting these species presents a huge conservation challenge, since threats are geographically separated and vary throughout the year. In this respect, a recent scientific study has shown that only 9% of 1451 migratory bird species are adequately covered by protected areas across all stages of their annual cycle. Inadequate protection, along with habitat loss and degradation and climate change, are all contributing factors to the decline of more than half of the migratory bird species across all major flyways in the last 30 years. This is a truly alarming situation.

What is needed is a complementary network of protected areas. This may require creating, enhancing, or retaining habitat conditions on a temporary basis, with the appreciation that in a few years, the birds may have been forced to change their flight paths and utilize habitat elsewhere. We need to be adaptive with our conservation measures, so we can provision habitat when and where migratory species most need it. To achieve this, we must be able to predict where the animals will be over the course of the year, to identify areas that are suitable for the migrants and create cost-effective mechanisms to protect that habitat when the birds arrive.
One novel solution that has been proposed, is to move away from the traditional government owned protected areas for migratory species towards the idea of “renting” habitat from private landowners through short-term agreements1. The advantage for migratory species includes the ability to adjust the timing, extent, and location of provisioned and protected habitat to better match species’ needs and to adapt to both long term and short-term changes in climate and conditions. Conservation actions can also scale faster, since temporary habitat enhancements can be less expensive than permanent protection, all the time assuming you are dealing with a suitable habitat on the private lands.

One good example of this was undertaken in the Central Valley of

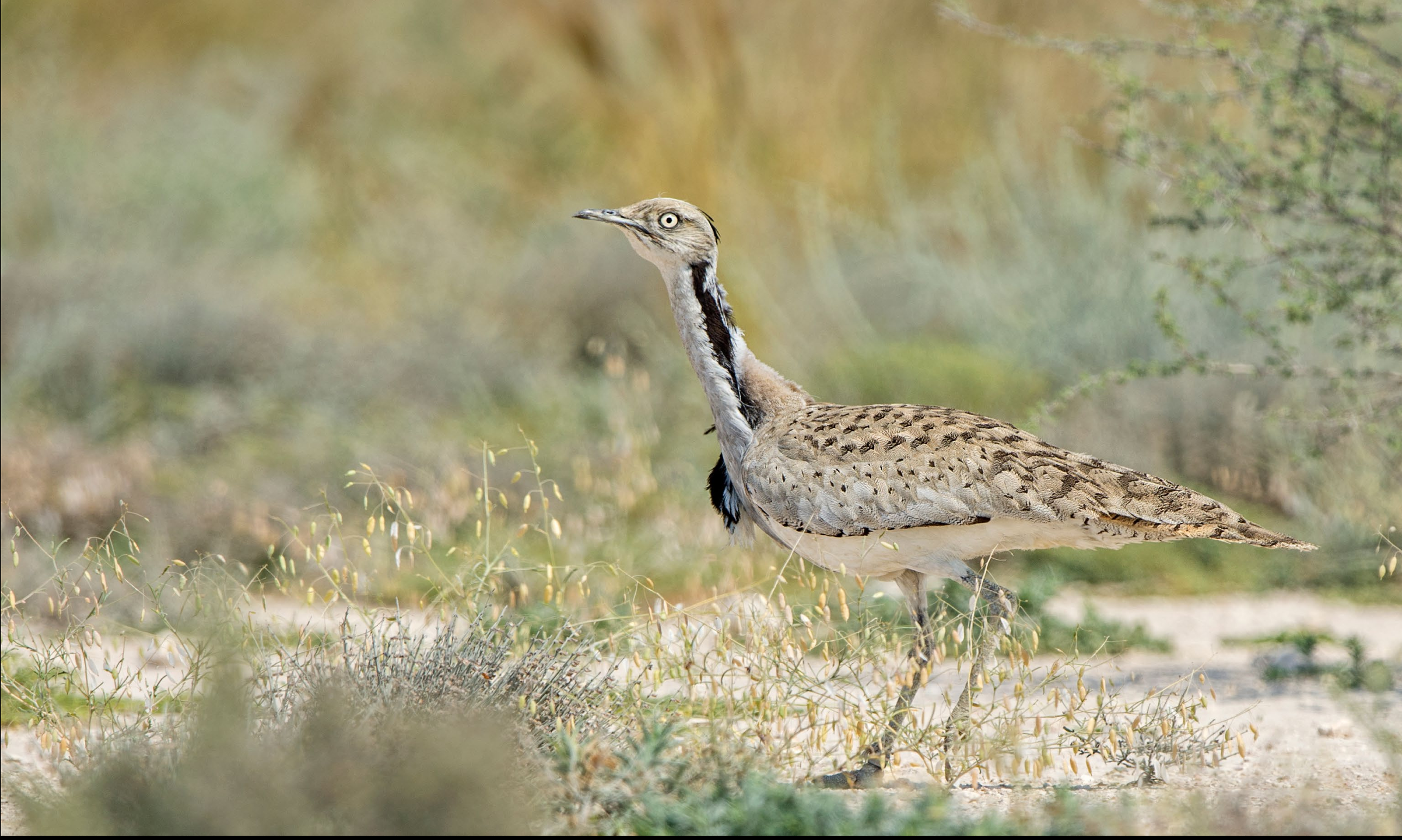


Photo by: Dileep Anthikad
Dubai, UAE

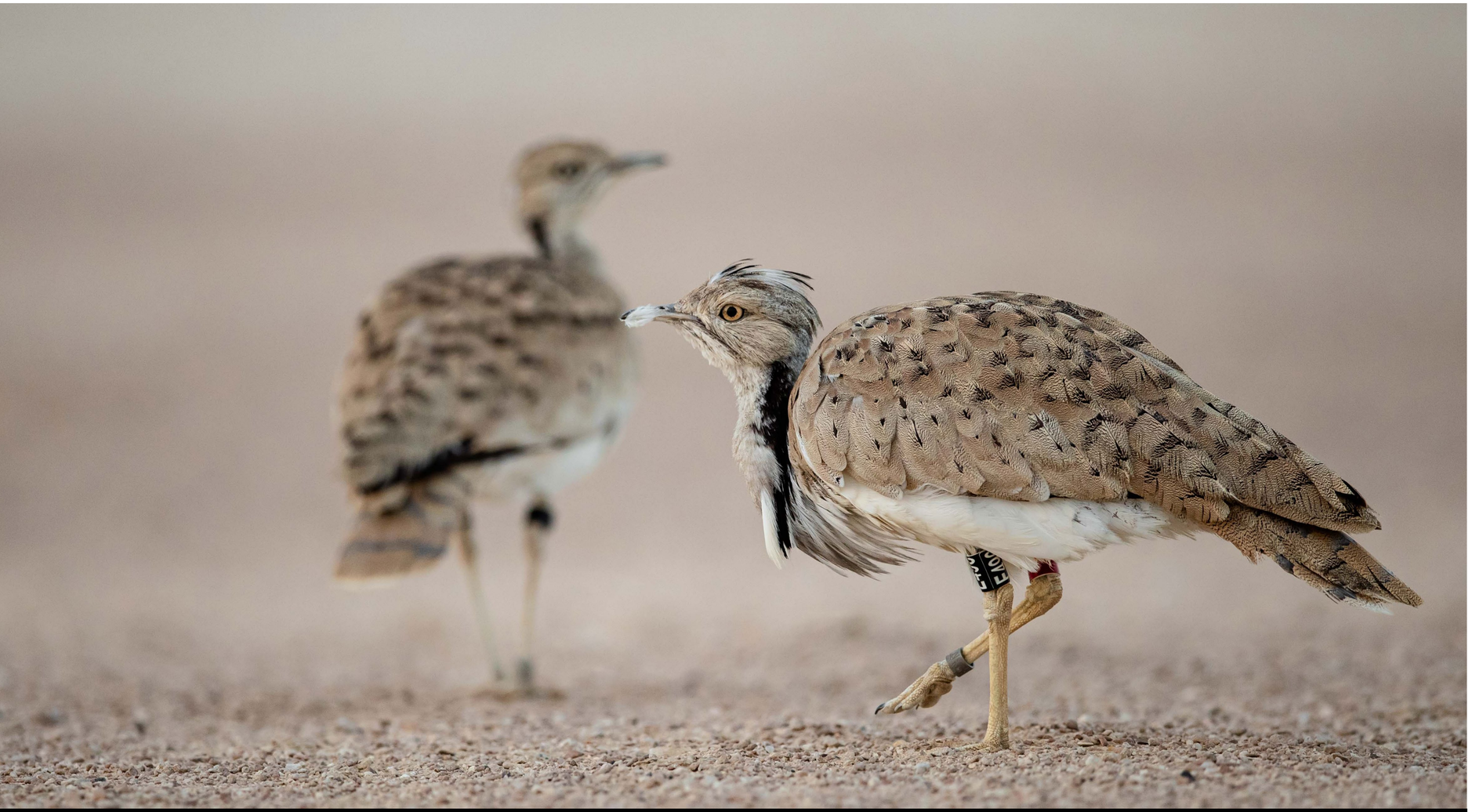


Photo by: Arun Davis
Dubai, UAE

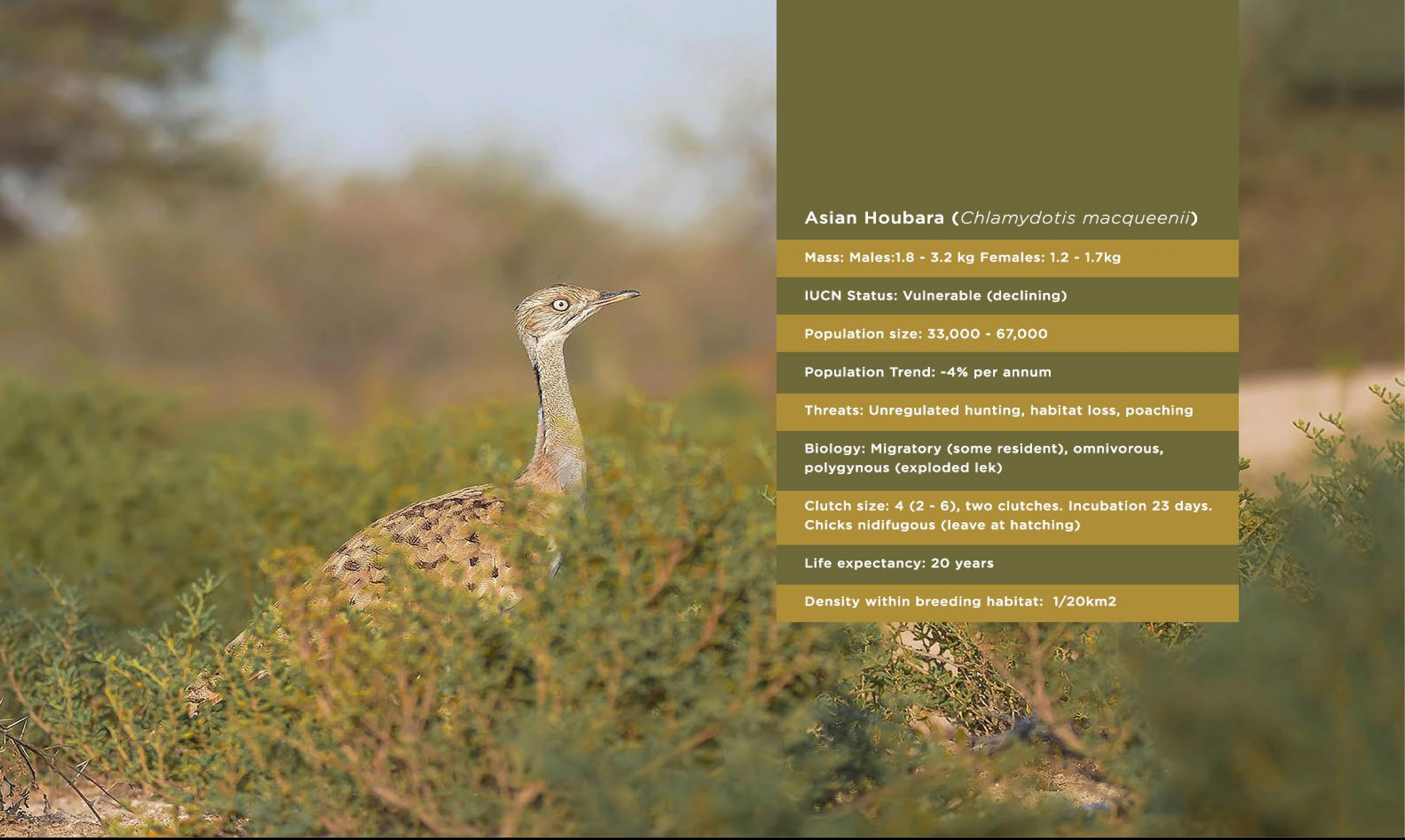
California (USA), with rice farmers who were paid to create temporary habitat for vulnerable migratory shorebirds. They showed that if you have precise information about the species' distribution, movement and habitat requirements then this short-term dynamic approach can have large conservation benefits. Other studies have shown that focusing solely on maximizing the over-winter population size without considering their connection through stop-off places to breeding areas can lead to big reductions in abundance in parts of the species distribution.

Houbara conservation strategies

Much of the desire to protect and conserve the houbara species come from deep seated traditions of hunting houbara with falcons. The primary objective here is to retain traditions by conserving the prey and ensuring there is a sustainable off-take of animals that can be harvested each winter and still leave a good population to breed and be productive in the following year. In this respect, preserving habitat is important, as is working with the countries that own the breeding grounds. The essential component for a migratory bird is knowing the migration routes, so efforts can be made to assist and protect the birds during their migration and ensure a good population on the over wintering grounds.

The leader in the research and conservation efforts of the houbara have been the International Fund for the Conservation of Houbara (IFCH) based out of Abu Dhabi. Not only do they undertake fundamental research and collaborate with other governments and bodies across the range of both houbara species, they also run a hugely successful breeding and release program.

The numbers are impressive. They have refined the breeding production of houbaras with great success. Since the production started in 1997, they have bred nearly half a million birds from all centers and are currently producing more than 50,000 birds a year, with 64,295 in 2019. They have released a total of 324,600 and now release about 45,000 a year at multiple locations across the range of both houbara species. The release is taking place both in the wintering grounds and in the breeding grounds



Asian Houbara (*Chlamydotis macqueenii*)

Mass: Males:1.8 - 3.2 kg Females: 1.2 - 1.7kg

IUCN Status: Vulnerable (declining)

Population size: 33,000 - 67,000

Population Trend: -4% per annum

Threats: Unregulated hunting, habitat loss, poaching

Biology: Migratory (some resident), omnivorous, polygynous (exploded lek)

Clutch size: 4 (2 - 6), two clutches. Incubation 23 days. Chicks nidifugous (leave at hatching)

Life expectancy: 20 years

Density within breeding habitat: 1/20km2

Photo by: Hakeem Kokkodan
Dubai, UAE

with the objective of first, supplementing the wild population so that numbers can increase and breed. The second objective, is to release the wild birds from hunting pressure by providing additional birds as a prey base for traditional falconry.

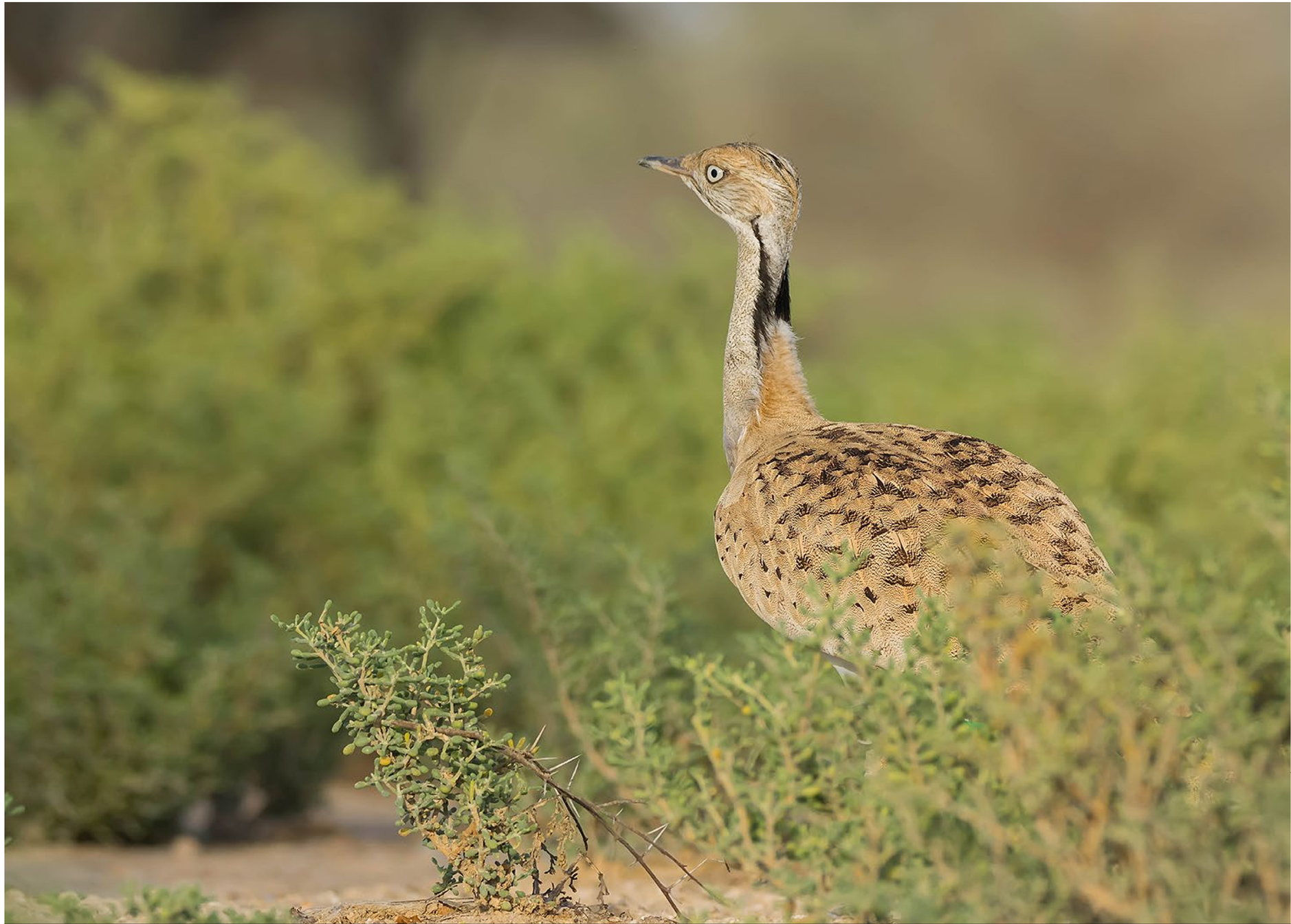
Of course, the survival of released birds will always be a fraction of the wild birds, they lack the experience and specific knowledge that wild birds glean from their mother and experience. Even so some of the females that were bred in captivity and released have subsequently bred in the wild.

To obtain further insights into this and the movement of the released and wild birds, the IFCH have been deploying satellite radio transmitters and have put out 2,600 tracking devices on birds in more than 10 countries across the range of the houbara and in due course we will know if some of these join the migratory populations and make their way back to Kazakhstan.

The final pillar of any conservation program is awareness of the issues, and the IFCH have a strong educational program that works with children across the range of the houbara. This increased awareness about conservation in general is good and positive and children tell their parents what they have learnt about habitat management and protection.

Ref:

1. Reynolds, M,D., Dynamic conservation for migratory species. Science Advances 2017: vol3: 8, e1700707, DOI: 10.1126/sciadv.1700707



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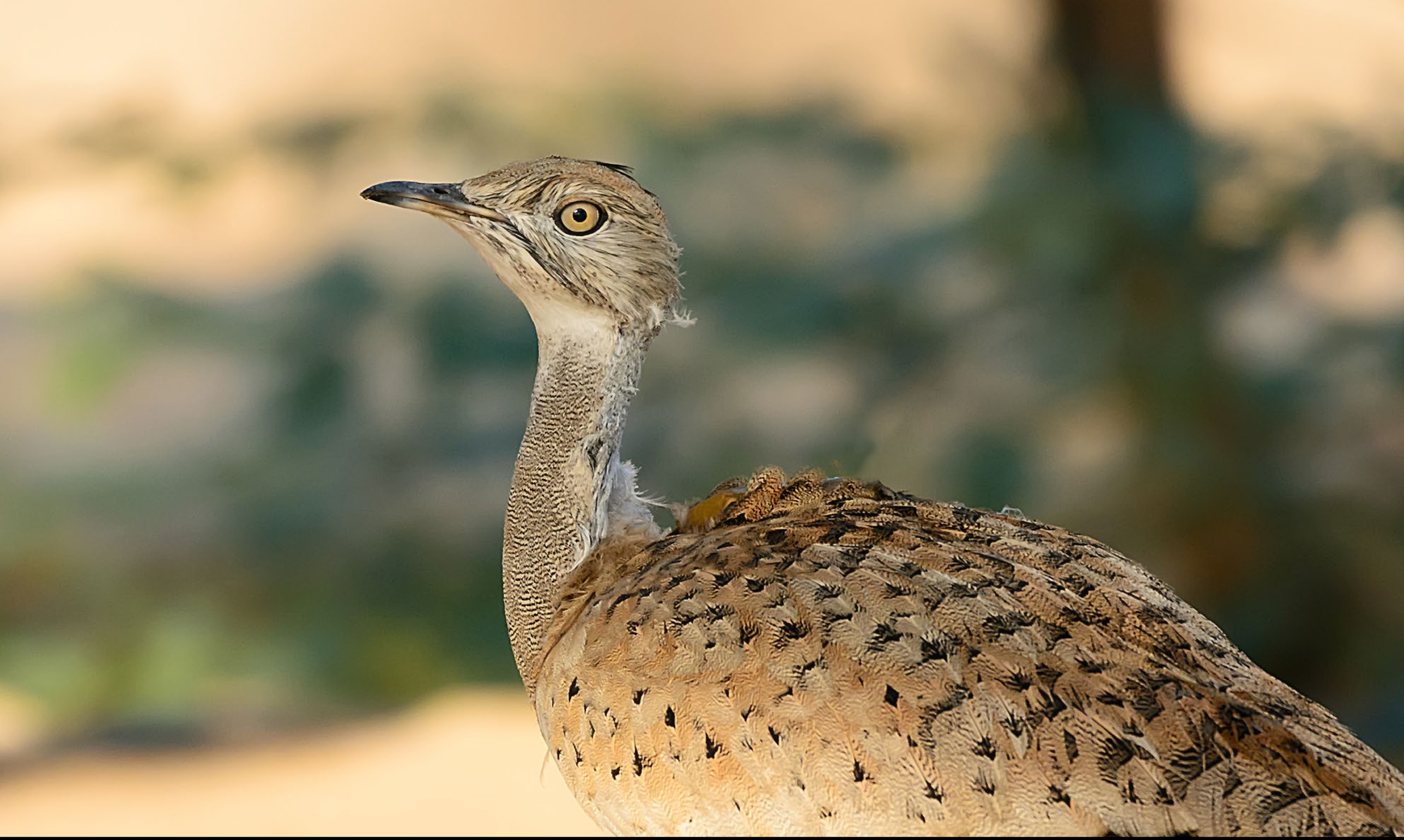

Photo by: Saidalavi Ambalath Veetil
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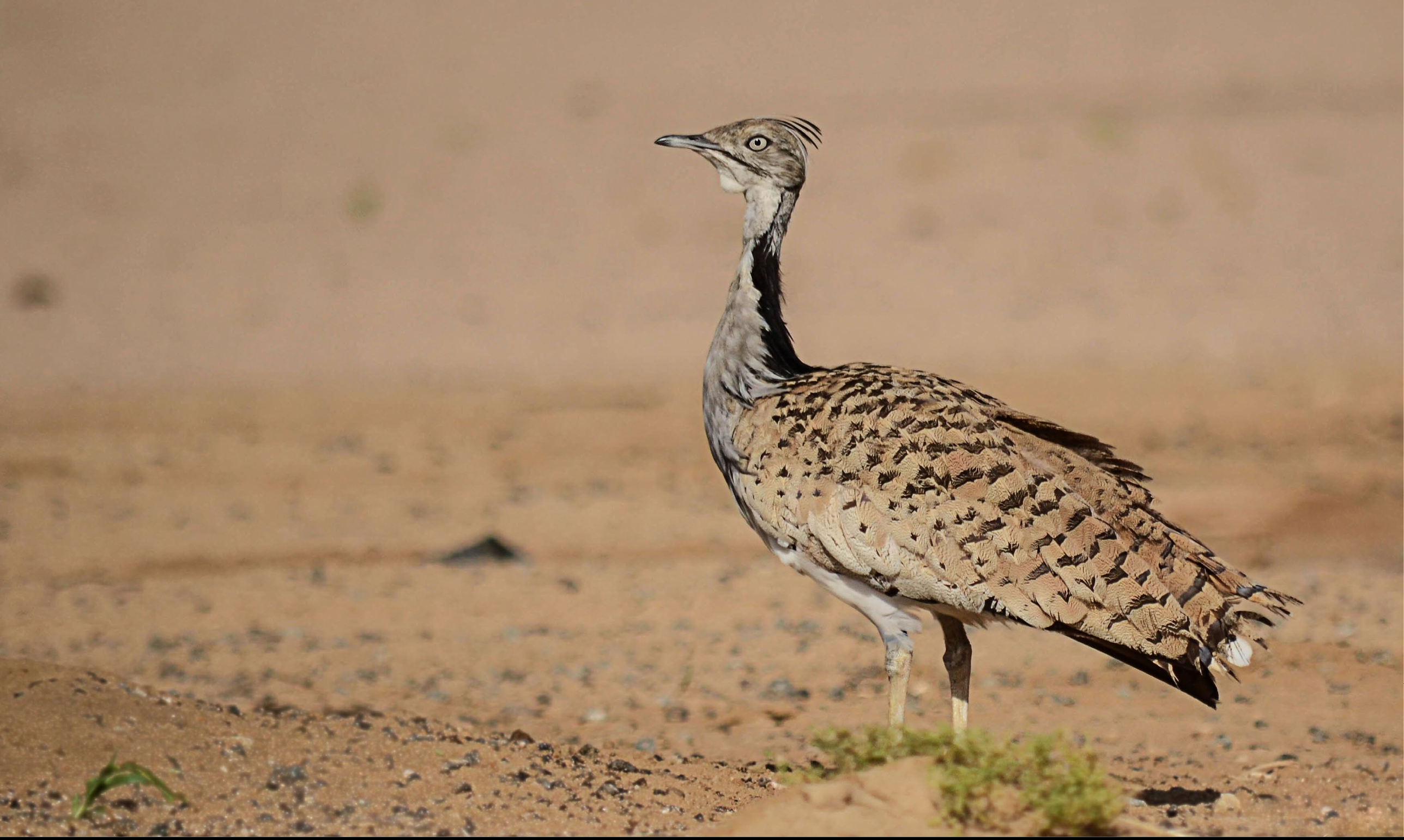

Photo by: Rahul Chandran
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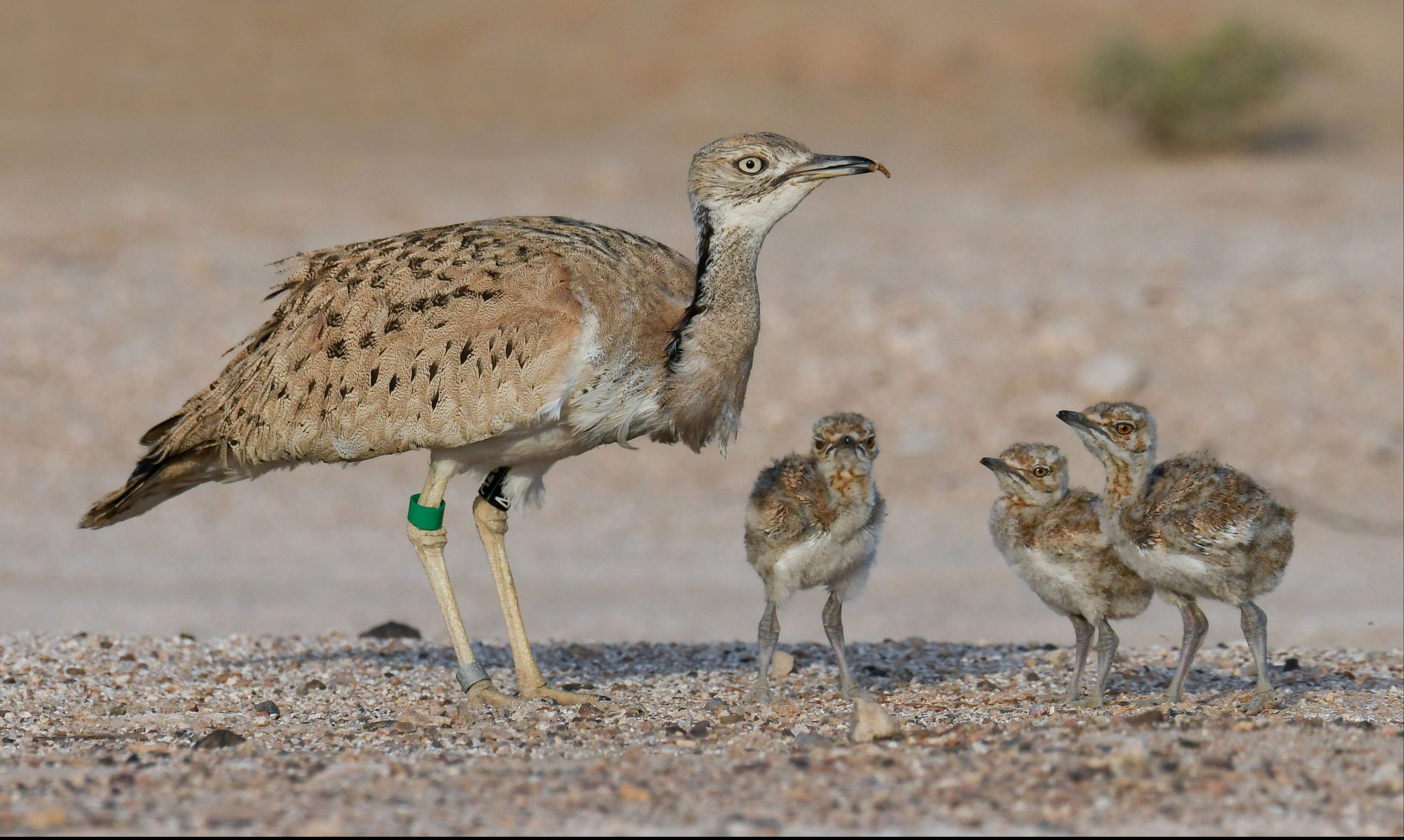

Photo by: Salma Al Suwaidi
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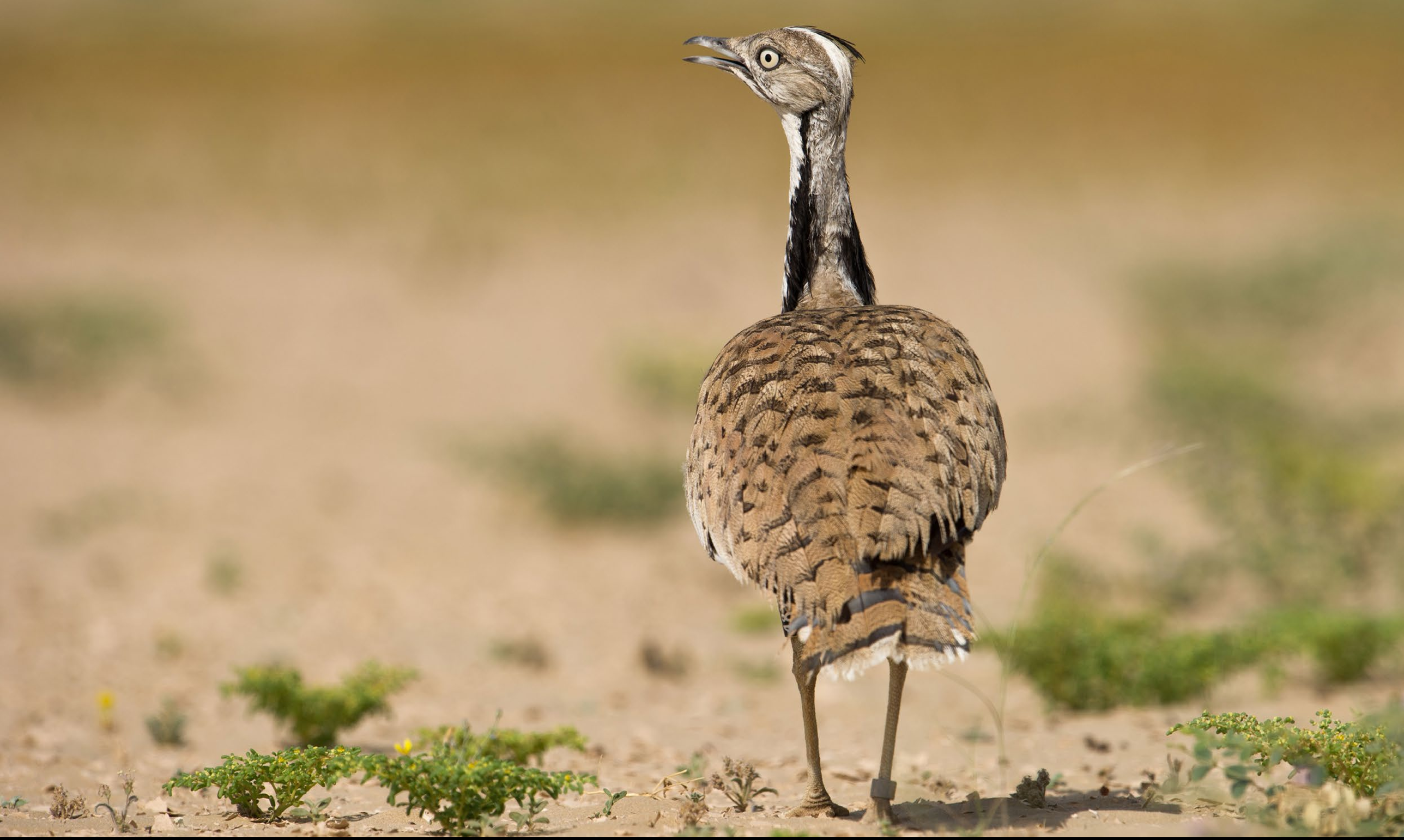

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