



KAZIRANGA NATIONAL PARK
**KINGDOM
OF UNICORNS**

Sprawling among the tea estates of North-Eastern India, the grassy realm of the mighty One-horned rhino is a destination the wildlife photographer cannot afford to miss



■ A quintessential Kaziranga NP image as a Wild water buffalo *Bubalus arnee* and a Great Indian One-horned rhino *Rhinoceros unicornis* cross a trail in front of a Gypsy loaded with visitors.



■ Grey-headed fish eagle
Ichthyophaga ichthyaetus.

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PHOTOS BY ANDREA & ANTONELLA FERRARI

There are some places which have an air of magic about them - an aura of legend. Such places are often to be found in the Indian subcontinent, at least according to our experience: and Kaziranga is one of them. Long we had desired to visit it, since reading about it during our long-gone youth - but politics, unrest and other matters interfered for many years, until we finally crowned our dream in 2015. And we were not disappointed, because Kaziranga it is indeed a place of fable and legend for the true nature and wildlife lover. Kaziranga is a National Park located in the State of Assam, North-Eastern India. Its environment comprises vast expanses of tall elephant grass, marshland, and dense tropical moist broadleaf forests, criss-crossed by four major rivers, including the mighty Brahmaputra, plus numerous small bodies of water. The sanctuary, which hosts two-thirds of the world's great one-horned rhinoceroses, is a World Heritage Site. According to

the census held in March 2015, which was jointly conducted by the Forest Department of the Government of Assam and some recognized wildlife NGOs, the rhino population in Kaziranga National Park is 2,401, comprising 1,651 adult rhinos (663 male, 802 females, 186 unsexed); 294 sub-adults (90 males, 114 females, 90 unsexed); 251 juveniles and 205 cubs. Kaziranga is also home to the highest density of tigers among protected areas in the world, and was declared a Tiger Reserve in 2006. The Park is home to large breeding populations of elephants, wild water buffalo, and swamp deer, and it is recognized as an Important Bird Area by BirdLife International for conservation of avifaunal species. When compared with other protected areas in India, Kaziranga has achieved notable success in wildlife conservation. Located on the edge of the Eastern Himalaya biodiversity hotspot, the Park combines high

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Indian elephant
Elephas maximus indicus.





■ *Great Indian
or One-horned
rhinoceros*
Rhinoceros
unicornis.

species diversity and visibility, and as such is an absolute must in the bucket list of the destinations to be visited by the serious wildlife photographer.

A LITTLE BIT OF HISTORY

The history of Kaziranga as a protected area can be traced back to 1904, when Mary Curzon, Baroness Curzon of Kedleston, the wife of the Viceroy of India, Lord Curzon of Kedleston, visited the area. After failing to see a single rhinoceros - for which the area was renowned- she persuaded her husband to take urgent measures to protect the dwindling species, which he did by initiating planning for their protection. On 1 June 1905, the Kaziranga Proposed Reserve Forest was created with an area of 232 km² (90 sq mi). Over the next three years, the area was extended by 152 km² (59 sq mi), to the banks of the Brahmaputra river. In 1908, Kaziranga was designated a "Reserve Forest". In 1916, it was redesignated the "Kaziranga Game Sanctuary" and remained so till 1938, when hunting was prohibited and visitors were permitted to enter the Park. The Kaziranga Game Sanctuary was renamed the "Kaziranga Wildlife

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Wild water buffalo *Bubalus arnee* with calf.



Sanctuary" in 1950 by P. D. Stracey, the forest conservationist, in order to rid the name of hunting connotations. In 1954, the government of Assam passed the Assam (Rhinoceros) Bill, which imposed heavy penalties for rhinoceros poaching. Fourteen years later, in 1968, the State government passed the Assam National Park Act of 1968, declaring Kaziranga a designated National Park. The 430 km² (166 sq mi) park was given official status by the central government on 11 February 1974. In 1985, Kaziranga was declared a World Heritage Site by UNESCO for its unique natural environment. However, Kaziranga has been the target of several natural and man-made calamities in recent decades. Floods caused by the overflow of the river Brahmaputra occur regularly and often catastrophically, leading to significant losses of animal life. Encroachment by people along the periphery has also led to a diminished forest cover and a loss of habitat. An ongoing separatist movement in Assam led by the United Liberation Front of Assam (ULFA) has crippled the economy of the region, but Kaziranga has remained unaffected by the

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Pallas's fish eagle ■
Haliaeetus leucoryphus.



Left, Indian hog deer
Axis porcinus;
right top,
Black-necked stork
Ephippiorhynchus asiaticus;
right bottom,
Green-billed malkoha
Phaenicophaeus tristis.



A pair of Royal Bengal tiger *Panthera tigris* in the far distance. This is actually a lucky shot, as - despite the high density of tigers in Kaziranga - good sightings there are neither frequent nor easy.




movement; indeed, instances of rebels from the United Liberation Front of Assam protecting the animals and, in extreme cases, killing poachers, have been reported since the 1980s.

TOPOGRAPHY AND CLIMATE

Kaziranga is located within two districts in the Indian state of Assam - the Kaliabor subdivision of Nagaon district and the Bokakhat subdivision of Golaghat district. The Park is approximately 40 km (25 mi) in length from east to west, and 13 km (8 mi) in breadth from north to south. Kaziranga covers an area of 378 km² (146 sq mi), with approximately 51.14 km² (20 sq mi) lost to erosion in recent years. A total addition of 429 km² (166 sq mi) along the present boundary of the Park has been made and designated with separate National Park

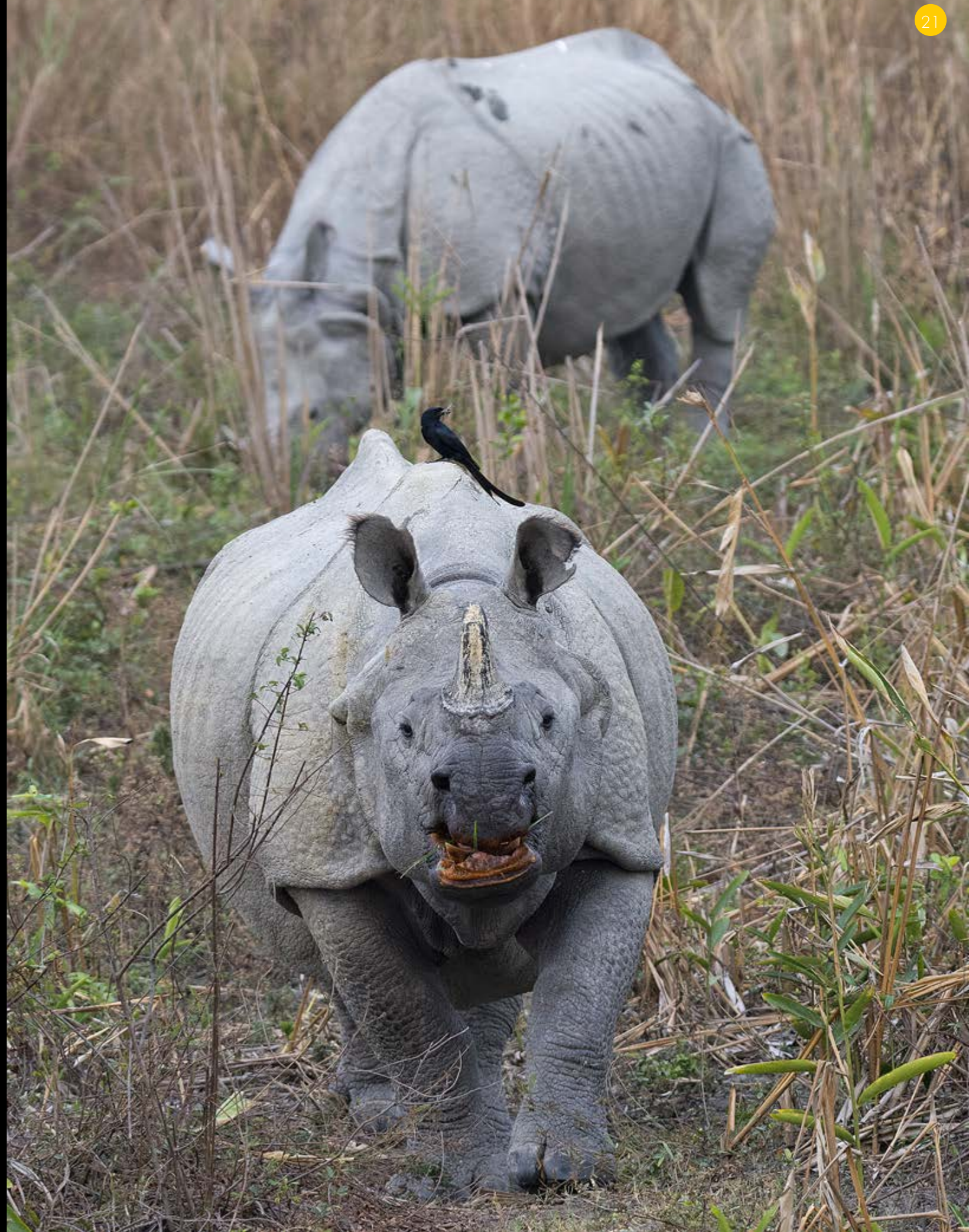
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Male Kalij pheasant 
Lophura leucomelanos.





■ *Left, Smooth-coated otters*
Lutrogale perspicillata;
right,
Great Indian
or One-horned
rhinoceros
Rhinoceros unicornis.





Great Hornbill ■
Buceros bicornis in flight -
possibly Kaziranga's
most impressive
bird species.




Far left, Ringneck or Rose-ringed parakeet *Psittacula krameri*; left, Great Indian or One-horned rhinoceros *Rhinoceros unicornis*.

status to provide an extended habitat for increasing the population of wildlife or as a corridor for safe movement of animals to Karbi Anglong Hills. Elevation ranges from 40 m (131 ft) to 80 m (262 ft). The Park area is circumscribed by the Brahmaputra river, which forms the northern and eastern boundaries, and the Mora Diphlu, which forms the southern boundary. Other notable rivers within the park are the Diphlu and Mora Dhansiri. Kaziranga has flat expanses of fertile, alluvial soil, formed by erosion and silt deposition by the Brahmaputra. The landscape consists of exposed sandbars, riverine flood-formed lakes known as *beels*, (which make up 5% of the surface area), and elevated regions known as *chapories*, which provide retreats and shelter for animals during floods. Many artificial *chapories* have been built with the help of the Indian Army to ensure the safety of the animals. Kaziranga is one of the largest tracts of protected land in the sub-Himalayan belt, and due to the presence of highly diverse and visible species, has been described as a "biodiversity hotspot". The Park is located in the Indomalaya ecozone, and the dominant biomes of the region are Brahmaputra Valley semi-evergreen forests of the tropical and subtropical moist broadleaf forests biome and a frequently flooded variant of the Terai-

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Lineated barbet 
Psilopogon lineatus.

■ *Great Indian
or One-horned
rhinoceros
Rhinoceros
unicornis are often
found bathing in
pools and rivers.*





Top left, Jungle
Owlet *Glaucidium
radiatum*; top right,
Osprey *Pandion
haliaetus*. Bottom right,
Red-breasted parakeet
Psittacula alexandri;
bottom left,
Blue-throated Barbet
Megalaima asiatica.



Great Indian
or One-horned rhinoceros
Rhinoceros unicornis.



Indian elephant *Elephas maximus indicus*.



Duar savanna and grasslands of the tropical and subtropical grasslands, savannas, and shrublands biome. Kaziranga is also surrounded by lush green tea plantations, most of them contributing heavily to Assam's economy. The Park experiences three seasons: summer, monsoon, and winter. The winter season, between November and February, is mild and dry, with a mean high of 25 °C (77 °F) and low of 5 °C (41 °F). During this season, *beels* and *nullahs* (water channels) dry up. The summer season between March and May is hot, with temperatures reaching a high of 37 °C (99 °F). During this season, animals usually are found near water bodies. The rainy monsoon season lasts from June to September, and is responsible for most of Kaziranga's annual rainfall of 2,220 mm (87 in). During the peak months of July and August, three-fourths of the western region of the park is submerged, due to the rising water level of the Brahmaputra. It was found that 70% of the National Park was flooded as on 3 August 2016. The flooding causes most animals to migrate to elevated and forested regions outside the southern border of the park, such as the Mikir hills. 540 animals, including 13 rhinos and mostly hog deers perished in unprecedented floods of 2012. However, occasional dry spells create problems as well, such as food shortages and occasional forest fires.

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Top left, Pied myna or Asian pied starling *Gracupica (Sturnus) contra*; top right, Spangled drongo or Hair-crested drongo *Dicrurus hottentottus*; bottom right, Chestnut-headed bee-eater *Merops leschenaulti*; bottom left, Greater coucal *Centropus sinensis*.





■ *One-horned rhino Rhinoceros unicornis and Barasingha Cervus duvaucelii. Due to high humidity, excessive dryness or the soot and ashes from burning grasslands, skies in Kaziranga are very rarely blue.*

A TREASURE TROVE OF WILDLIFE

Kaziranga contains significant breeding populations of 35 mammalian species, of which 15 are threatened as per the IUCN Red List. The Park has the distinction of being home to the world's largest population of the Greater One-Horned Rhinoceros (1,855), wild Asiatic water buffalo (1,666) and Eastern Swamp deer (468). Significant populations of large herbivores include elephants (1,940), gaur (30) and sambar (58). Small herbivores include the Indian muntjac, wild boar, and hog deer. Kaziranga has the largest population of the Wild water buffalo anywhere accounting for about 57% of the world population. Kaziranga was declared a Tiger Reserve in 2006 and has the highest density of tigers in the world (one per five km²), with a population of 118, according to the latest census. Kaziranga has the rare distinction of being one of the very few places in the

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■ Monocellated
cobra *Naja*
kaouthia.



■ Far left,
Changeable
hawk-eagle or
Crested hawk-
eagle *Nisaetus*
cirrhatus; center,
Indian roller
Coracias
benghalensis;
right, Oriental
pied-hornbill
Anthracoceros
albirostris.

■ Indian elephant
Elephas maximus indicus with Wild
water buffalo
Bubalus arnee
grazing in the
distance. It is easy
to understand
why Kaziranga
is known as "the
Serengeti of Asia".





Left, Blue-bearded bee-eater
Nyctyornis athertoni;
right, River Tern
Sterna aurantia.



world which contain breeding populations of three big cats outside Africa - the Royal Bengal tiger, the Indian leopard and the Clouded leopard. Kaziranga had a population of around 30 Bengal tigers during the 1972 census, which grew 187% to 86 in the 2000 census, distinguishing Kaziranga with one tiger for each five km² of park area, the highest tiger density in the world. Due to Kaziranga's higher prey density compared to other Parks of India, the tigers in here may grow to a larger size as a result. Other felids include the jungle cat, fishing cat, and leopard cat. Small mammals include the rare hispid hare, Indian gray mongoose, small Indian mongooses, large Indian civet, small Indian civet, smooth-coated otter, Bengal fox, golden jackal, sloth bear, Chinese pangolin, Indian pangolins, hog badger, Chinese ferret badgers, and particoloured flying squirrel. Nine of the 14 primate species found in India occur in the Park. Prominent among them are the Assamese macaque, capped and golden langur, as well as the only ape found in India, the hoolock gibbon. Kaziranga's rivers are also home to the endangered Ganges dolphin. Kaziranga is home to a variety of migratory birds, water birds, predators, scavengers, and game birds. Birds such as the lesser white-fronted goose, ferruginous duck, Baer's pochard duck and lesser adjutant, greater adjutant, black-necked stork, and Asian openbill stork

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Great Indian
or One-horned
rhinoceros
Rhinoceros
unicornis.



■ Top left, Banded krait *Bungarus fasciatus*; top right, Orange-bellied Himalayan squirrel *Dremomys lokriah*. Bottom right, Indian wild boar *Sus scrofa*; bottom left, Hog badger *Arctonyx collaris*.

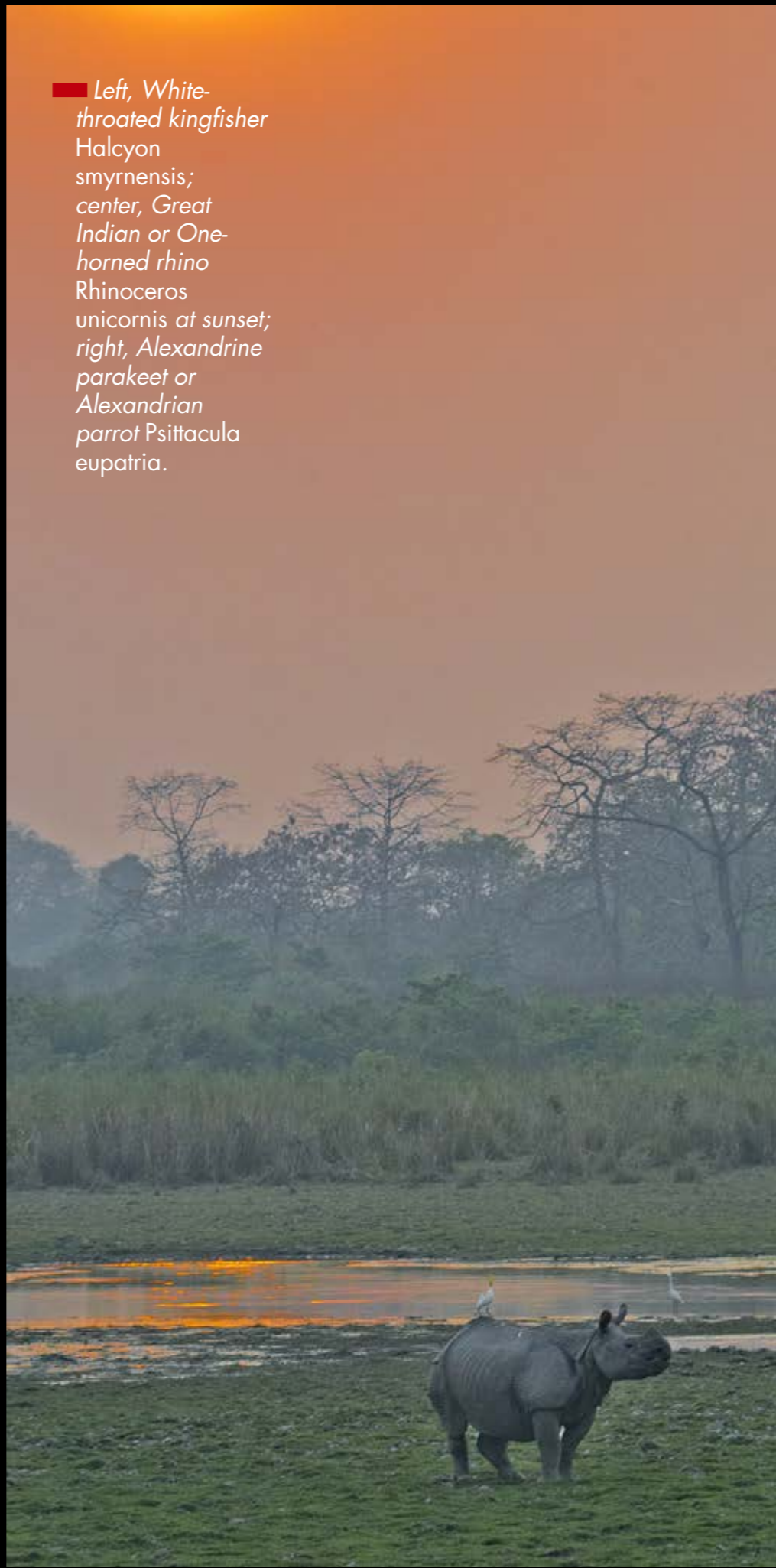


Indian elephant *Elephas maximus indicus*.



migrate from Central Asia to the Park during winter. Riverine birds include Blyth's kingfisher, white-bellied heron, Dalmatian pelican, spot-billed pelican, Nordmann's greenshank, and black-bellied tern. Birds of prey include the rare eastern imperial, greater spotted, white-tailed, Pallas's fish eagle, grey-headed fish eagle, and the lesser kestrel. Kaziranga was once home to seven species of vultures, but the vulture population reached near extinction, supposedly by feeding on animal carcasses containing the drug Diclofenac. Only the Indian vulture, slender-billed vulture, and Indian white-rumped vulture have survived. Game birds include the swamp francolin, Bengal florican, and pale-capped pigeon. Other families of birds inhabiting Kaziranga include the great Indian hornbill and wreathed hornbill,

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■ *Left, White-throated kingfisher Halcyon smyrnensis; center, Great Indian or One-horned rhino Rhinoceros unicornis at sunset; right, Alexandrine parakeet or Alexandrian parrot Psittacula eupatria.*



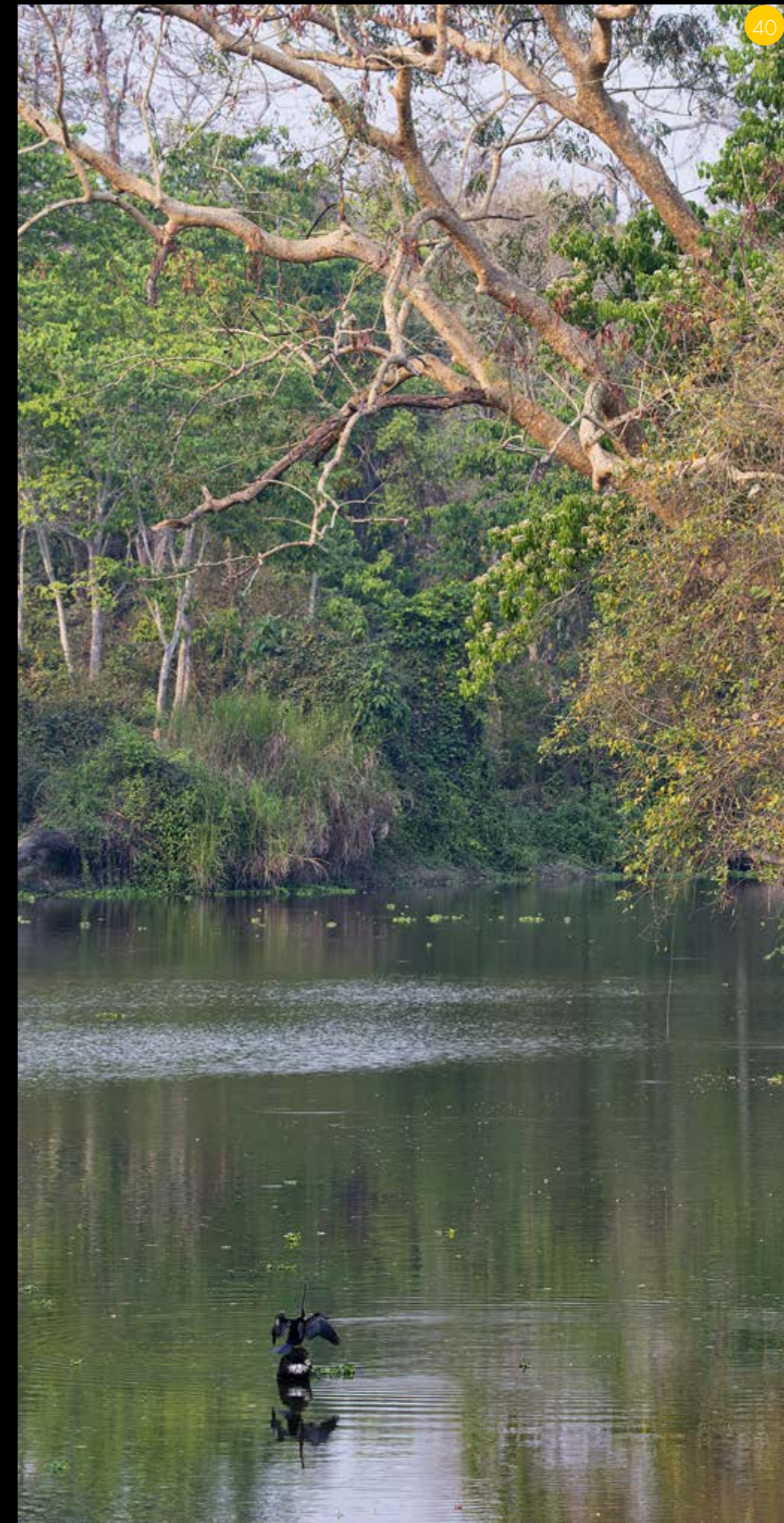
■ *Indian elephant*
Elephas maximus
indicus.





■ *Left, Oriental garden lizard Calotes versicolor; right, Oriental darter or Indian darter Anhinga melanogaster in a forest river landscape.*

Old World babblers such as Jerdon's and marsh babblers, weaver birds such as the common baya weaver, threatened Finn's weavers, thrushes such as Hodgson's bushchat and Old World warblers such as the bristled grassbird. Other threatened species include the black-breasted parrotbill and the rufous-vented prinia. Two of the largest snakes in the world, the reticulated python and rock python, as well as the longest venomous snake in the world, the king cobra, inhabit the park. Other snakes found here include the Indian cobra, monocled cobra, Russell's viper, and the common krait. Monitor lizard species found in the park include the Bengal monitor and the Asian water monitor. Other reptiles include fifteen species of turtle, such as the endemic Assam roofed turtle and one species of tortoise, the brown tortoise. 42 species of fish are found in the area, including the Ocellated Pufferfish. So - after going through such a long list - one really can understand why a visit to Kaziranga is imperative at least once in one's life. Nothing is guaranteed of course - as usual in nature - and many species won't show up, or only be glimpsed briefly; but we can guarantee that many others will, and that the magic of Kaziranga will make the trip well worth it. ●



One-horned rhino ■
Rhinoceros unicornis - notice
the typical, unmistakable,
Steampunk-looking "riveted
ironclad" appearance
of its thick hide.





■ Left, a trio of basking and severely endangered Assam roofed turtle *Pangshura sylhetensis*. Right, Indian elephant *Elephas maximus indicus* enjoying a dust bath.



A very exotic-
looking male
Kalij pheasant
Lophura leucomelanos -
this species is relatively
common in Kaziranga.

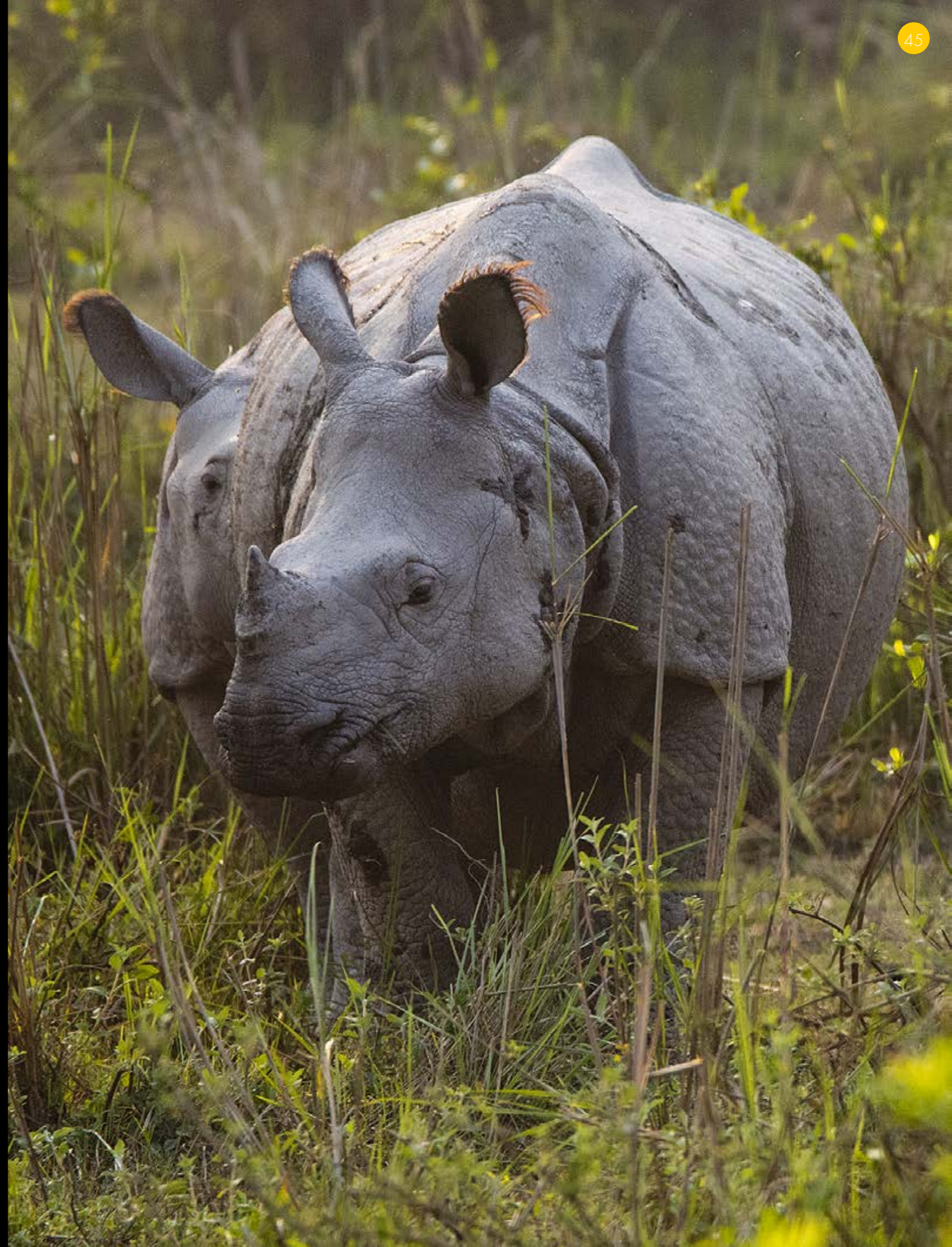





This Great Indian Rhinoceros (Rhinoceros unicornis) has been severely wounded in a fight with a rival - rhinos can inflict horrifying bites using their sharp front teeth.



■ *Left, an armed National Park warden on patrol - rhino poachers are a serious problem in Kaziranga, and get shot on sight; right, One-horned rhinoceros *Rhinoceros unicornis* female with its offspring.*





Red-breasted parakeet 
Psittacula alexandri.



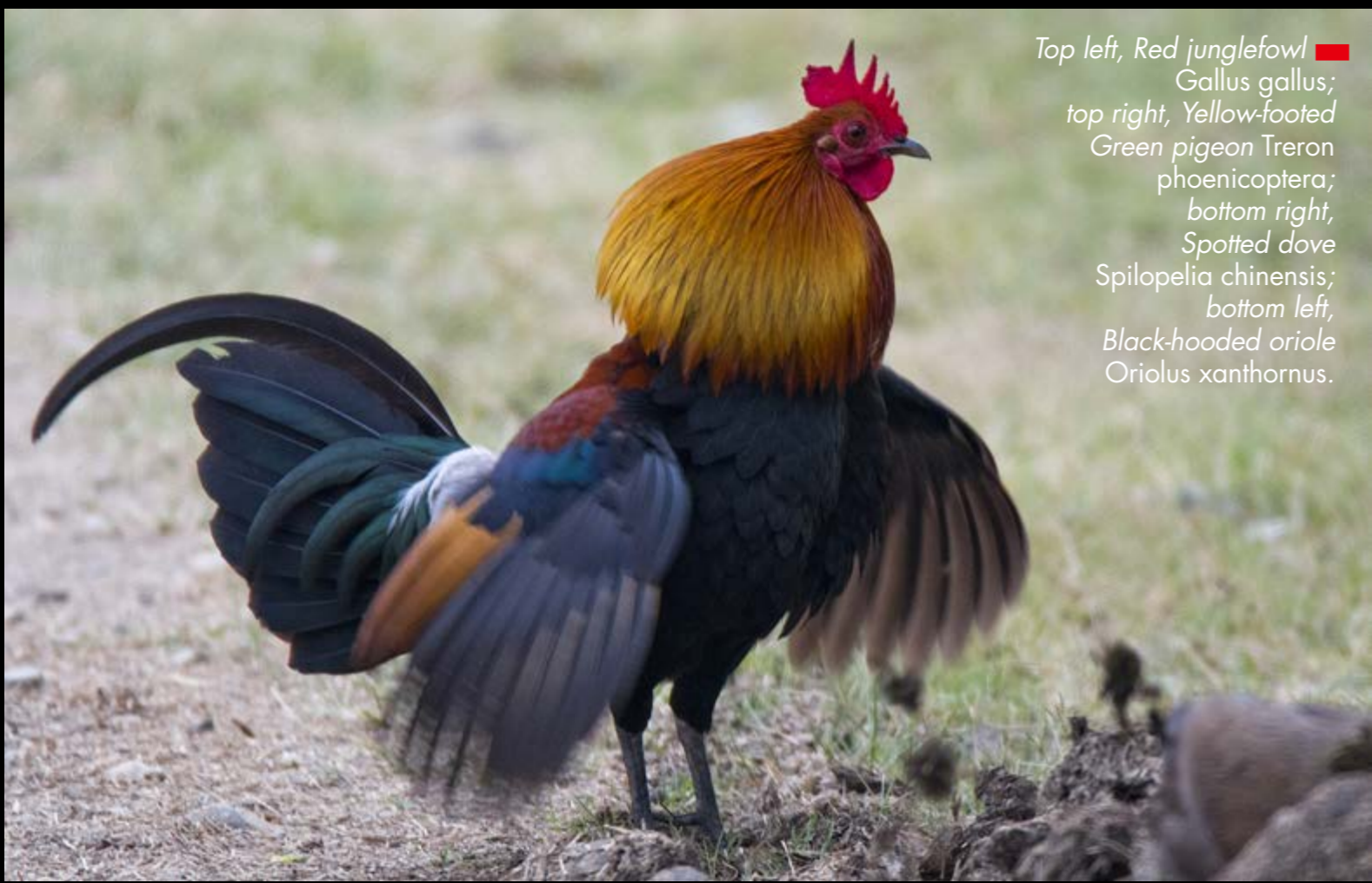
Indian elephant ■
Elephas maximus indicus.

■ Left, Common Bengal monitor *Varanus bengalensis*; right, Orange-bellied Himalayan squirrel *Dremomys lokriah*, preying on a beetle.



■ *Indian elephant*
Elephas maximus
indicus.





Top left, Red junglefowl ■
Gallus gallus;
top right, Yellow-footed
Green pigeon Treron
phoenicoptera;
bottom right,
Spotted dove
Spilopelia chinensis;
bottom left,
Black-hooded oriole
Oriolus xanthornus.



Indian hog deer ■
Axis porcinus.
This is a very common species in Kaziranga, often seen in large groups.



Top left, Common Hoopoe
Upupa epops;
 top right, White-rumped shama
Copsychus malabaricus;
 bottom right,
 Purple Heron
Ardea purpurea;
 bottom left,
 Blue-bearded bee-eater
Nyctyornis athertoni.





■ Great Indian
or One-horned
rhinoceros
Rhinoceros
unicornis.



■ Top left, Swamp francolin *Francolinus gularis*; top right, Asian Barred Owllet *Glaucidium cuculoides*; bottom right, Green Imperial pigeon *Ducula aenea*; bottom left, Red Collared dove *Streptopelia tranquebarica*.





Left, Kalij pheasant *Lophura leucomelanos*; right, Ringneck or Rose-ringed parakeet *Psittacula krameri*.

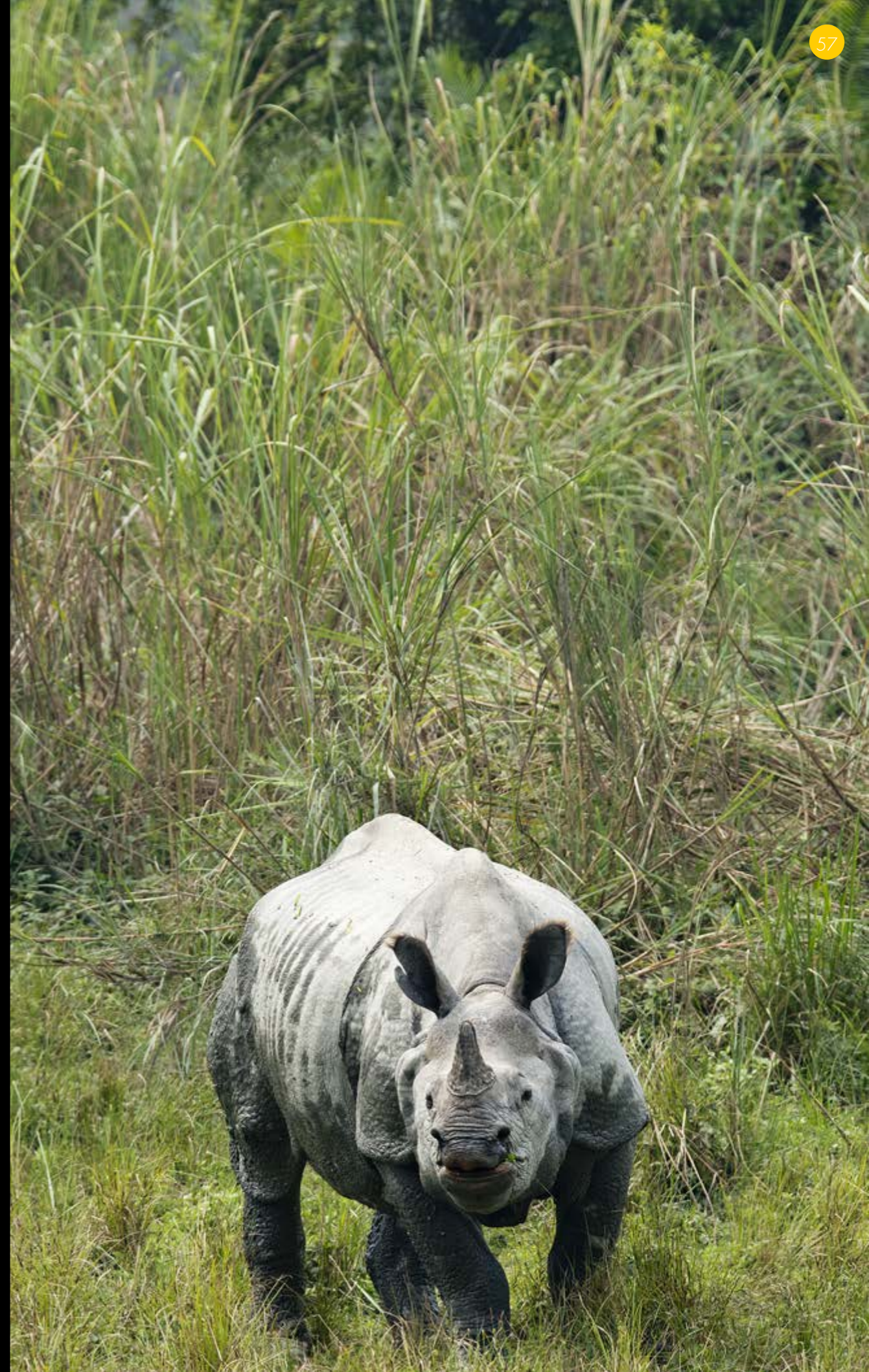




Smooth-coated otters *Lutrogale perspicillata*. This species can often be seen in noisy, chattering, very active groups by the riverbanks.



■ *Left, Indian elephant* *Elephas maximus indicus*; *right, Great Indian or One-horned rhinoceros* *Rhinoceros unicornis*.




Great Indian
or One-horned
rhinoceros
Rhinoceros
unicornis.



Left, Smooth-coated otters *Lutrogale perspicillata*; right, Crested serpent eagle *Spilornis cheela*.





Left, Great  Hornbill *Buceros bicornis*; right, Green-billed malkoha *Phaenicophaeus tristis*.





Great Indian ■
or One-horned rhinoceros
Rhinoceros unicornis.