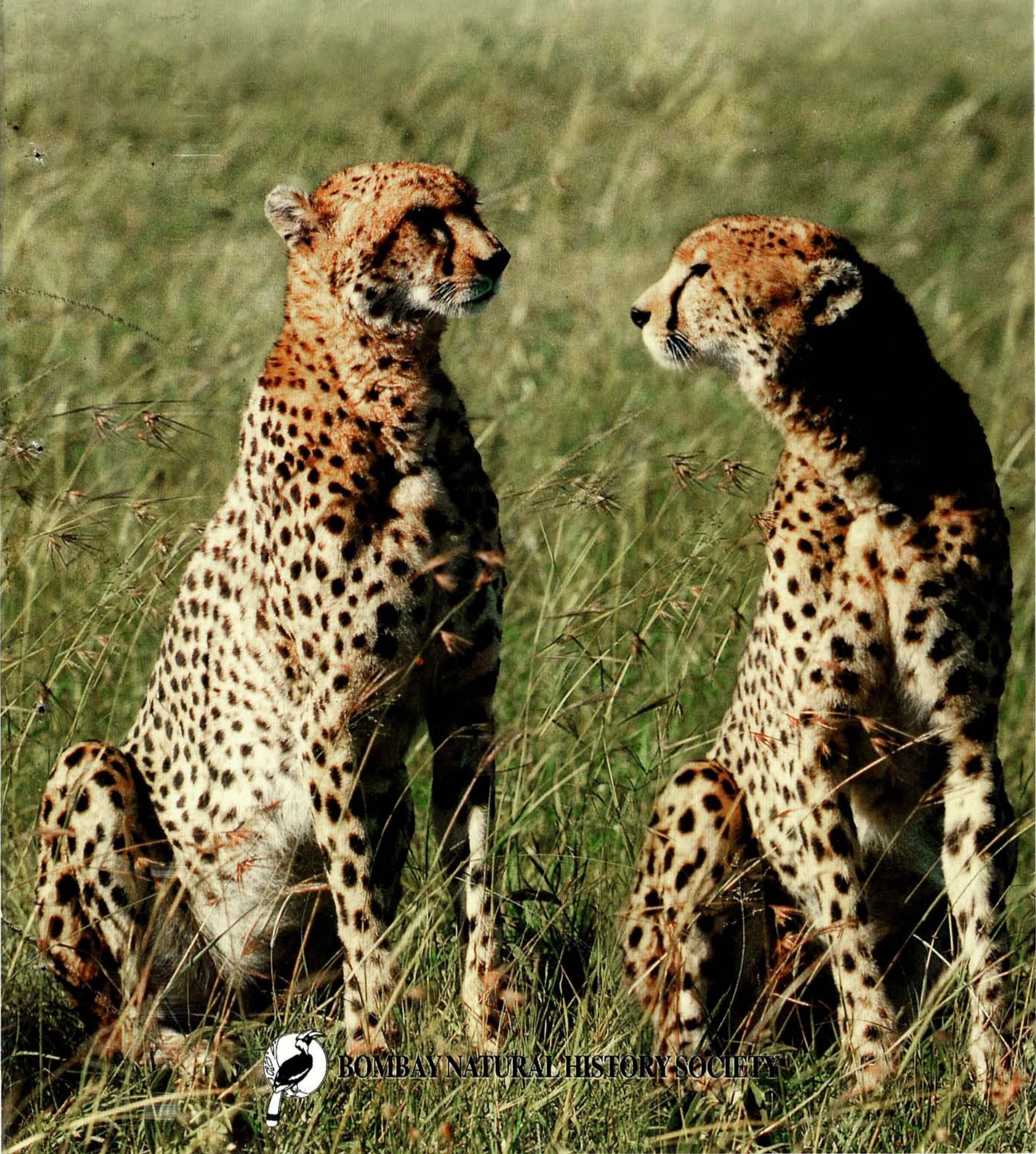


HORNBILL

ABOUT NATURE AND US

April-June, 2001



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A TALE OF TWO SAFARIS

TEXT: KASHMALAN K. DOCTOR

PHOTOGRAPHS: AVINASH SUPE

For decades, the vast grasslands of the colourful Masai tribals have welcomed enthusiasts to explore the rich wildlife heritage of Kenya in its many National Parks and Game Reserves.

The irresistible call of the wild attracts thousands to the Safaris of Kenya and Tanzania.

BIRD WATCHER

"One weak link weakens the entire chain." The loss of a species or its inability to withstand growing human intrusion in its habitat weakens the 'chain of life'. Together we have to work to strengthen our chain before it is too late.

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VIEW POINT

How does one destroy a pristine natural forest which has stood for thousands of years, a treasure house of natural wealth, a primeval inheritance for later generations?

The answer is simple — run a road through it. It will be like driving a poisonous spear into the heart of the forest ... a channel for the introduction of the infection and corruption of civilisation which will, within a few years, destroy the forest, its soil, its wildlife and its people, who will be lost in the melting pot of progress, development and exploitation.

J. C. DANIEL



A TALE OF TWO SAFARIS

Text: Kashmalan K. Doctor

Kashmalan K. Doctor is a member of the
Bombay Natural History Society.
He is an avid trekker and a nature lover.

Photographs: Avinash Supe

Dr. Avinash Supe is a gastroenterologist with KEM Hospital, Mumbai.
A member of the Bombay Natural History Society,
he is a keen photographer and loves nature and trekking.



Our driver Mtaki was having an animated conversation in Kiswahili with the driver of another vehicle coming from the opposite direction. He then increased the Land Rover's speed, prompting us to question him. "A leopard has been spotted on a tree", said Mtaki, and we were beside ourselves with excitement. Soon we approached a spot where a couple of vehicles were parked already, and came to a halt nearby. Mtaki pulled out his binoculars and peered closely at a giant baobab tree about 100-150 m to his right, "See! A leopard's head at the forked branch going to the right." We strained our eyes, unsuccessfully, despite our binoculars. Suddenly, one of my friends saw some movement and described the exact position of the leopard. Finally, we could see a small head at a distance. Since it was the last day of our trip we were ecstatic, as the drivers at the wildlife safaris in Africa had told us that spotting a leopard was very difficult, as it spent considerable time on trees. Later that afternoon, while returning to the main gate of the Park, we saw a full profile of the leopard, stretched out on a long branch on the other side of the baobab. The sun had forced it to change its position. I immediately cried out, "This is the icing on the cake".



"Nothing in my lifetime could have prepared me for the brilliant sea of pink that waited on the shore of Lake Nakuru. A pink necklace seemed to be draped upon the contours of the shore. These flamingoes appeared even more spectacular in flight, their long necks fully stretched out, the streaks of dark pink showing on their wing sides, and their bodies glistening in the occasional sunlight, were truly the most beautiful sight. Indeed, the greatest ornithological spectacle on earth!"



"The sighting of a magnificent lion at a fresh kill in Masai Mara Game Reserve was quite unexpected. Spotted hyenas and vultures had surrounded the lion, and patiently waited for him to complete his meal. Amazingly, the spot was virtually clean, save a horn, when we passed it on our way back after about 3 hours. Nature's ways are thorough, nothing is wasted here: the hyenas and vultures had done their job perfectly."

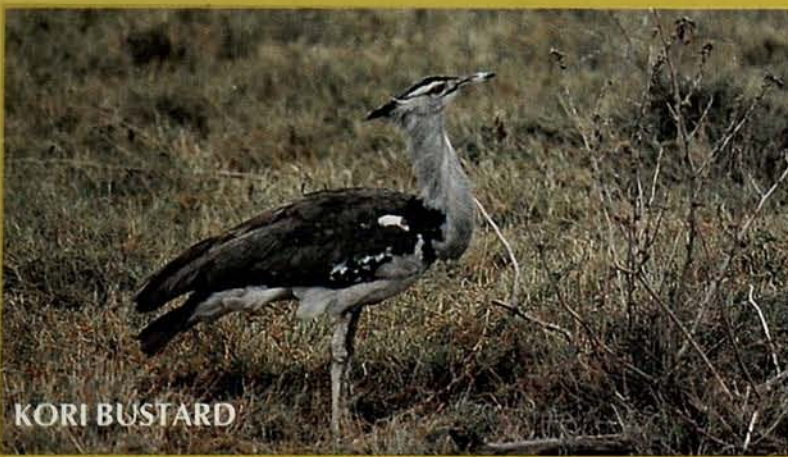
The most abiding memories of my trip to the African Safari conducted by the BNHS in August, 2000, in the company of fellow members, were the sighting of a leopard in Tarangire National Park, flamingoes in Lake Nakuru and a lion at a kill in Masai Mara. The other innumerable incidents of this wonderful trip fade among these three which will stay with me for years to come.

During one of our evening rides into the vast expanse of the Masai Mara Reserve we sighted a family of four cheetahs. On the first day, after spending some time on a small mound, the entire group strolled between two of the many vehicles

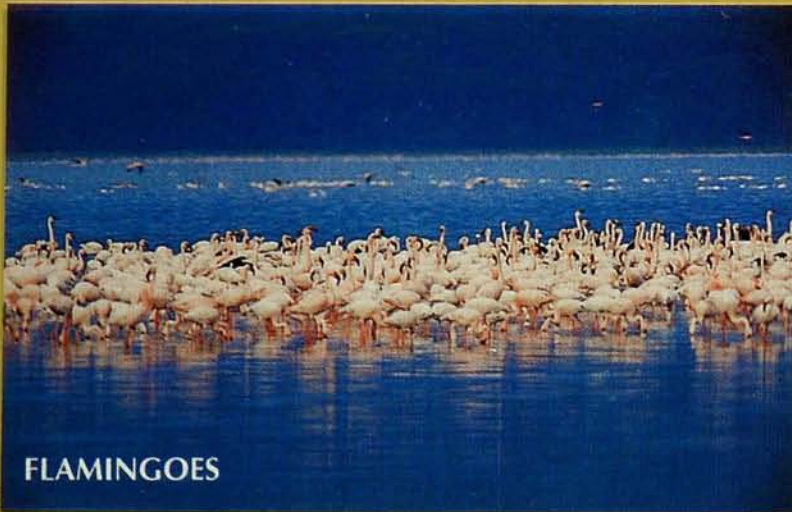
parked in a semi-circle. As they walked, we understood how they had earned the sobriquet "the fastest animal on four legs". Every straining muscle and movement of their sleek and slender bodies seemed graceful and built to perfection for speed. The cheetah known for a speed of upto 113 km/hr, in short bursts, lacks stamina. However, the 0-72 km/hr acceleration achieved in 3 seconds cannot be matched even by a racing car. Having seen a number of wildlife films, we fervently hoped that at least one of the them would demonstrate a glimpse of their prowess, but alas, that did not happen on all three days of our encounter.

IN KENYA

Tsavo Kenya's largest National Park was established in 1948. It spans an area of more than 21,000 sq. km and is divided into two parts — *Tsavo (West)* and *Tsavo (East)*. Crocodiles and hippopotamus are found in various pools and the famous *Mzima Springs*, in *Tsavo (West)*, which is a must see for tourists. The landscape consists primarily of bush grasslands and acacia trees.



KORI BUSTARD



FLAMINGOES

Lake Nakuru situated 158 km northwest of Nairobi, covers an area of 188 sq. km. The spectacular formation of flamingoes and other birds seen here has been described as the greatest Bird Show on earth by many ornithologists. It has recorded more than 450 species of birds. The landscape consists of the soda lake fringed by swamps and dried forest occupying higher areas. The depth of the lake varies depending on the seasonal rains.



SUPERB STARLING

Amboseli near the Tanzanian border is a 390.26 sq. km park gazetted in 1974. Its name is derived from the whorls of dust rising vertically at regular distances due to the breeze. Home to over 378 species of birds and 56 species of large mammals, it was recognised by the UNESCO as a Biosphere Reserve in 1991. On the way to *Amboseli* is the tar-like surface of the *Shaitani* Lava flow, a frozen remnant of the eruption that took place centuries ago.

We visited the *Tsavo*, *Amboseli* and *Lake Nakuru* National Parks, and *Masai Mara* Game Reserve in Kenya. *Amboseli* is the best for viewing birds because of its innumerable swamps, amidst very dry areas, and *Masai Mara*, undoubtedly, for viewing large animals and the annual migration of lakhs of wildebeest and zebra from *Serengeti* in Tanzania, which we missed. We arrived at the reserve in late August, which is the fag end of the migratory season.

On our first evening in *Tsavo*, we saw an ostrich with 9 babies stepping daintily (like a model on the catwalk) towards us. It walked calmly towards

our vehicles in measured steps and then veered off to its right. At first, we all assumed that it was a female, but later learnt that since it had dark feathers and was accompanied by babies it was a male!

We had an exciting, exhilarating and adventurous drive from our camp site at *Amboseli* to *Namanga*, a border town in Kenya. A part of the route went over the vast dried-up bed of *Lake Amboseli*, its red mud stretching out as far as the eye could see on all sides. We sped along at more than 70-80 km per hour: what a bone-rattling journey it was!

My safari with the BNHS ended in Kenya.

Masai Mara is a National Reserve, this 1,672 sq. km area is located in southwest Kenya and was established in 1961. It continues as the world famous Serengeti National Park on the Tanzanian side of the border. It is best for viewing large herbivores. The migration of the wildebeest and zebras between Serengeti and Masai Mara is described as one of the greatest wildlife spectacles ever seen. The highlight of this reserve, however, is a morning ride in a hot air balloon — of course that costs money.

(Courtesy: *Spectrum Guide to Kenya, Camerapix*)

IN TANZANIA

Ngorongoro Crater is one of the natural wonders of the world, which resulted from a volcano now extinct for at least 2,50,000 years. When active, its eruptions blew out the peak, leaving a bowl-shaped crater 20 km across and 600 m deep — the biggest in the world. Thousands of animals live on the crater floor. It has many springs and a large salt lake Makat fed by the Munge river.

Lake Manyara National Park is situated on the way from Arusha to Ngorongoro Crater, covering an area of 325 sq. km with 5 distinct vegetation zones. It boasts of a large number of animal and bird species, the most beautiful being the flamingoes, and the most famous the lions.

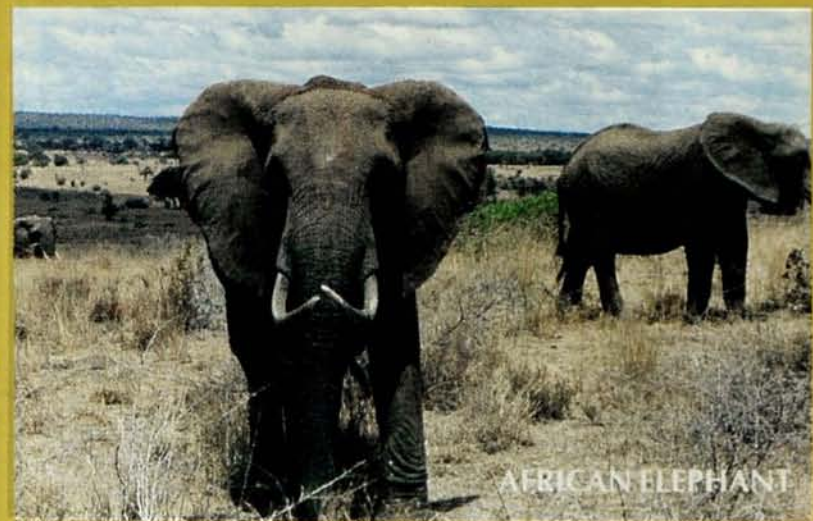
Tarangire National Park is 114 km from Arusha and has a variety of wildlife. It is particularly well known for its vast herds of elephant and giant baobab trees.



CHEETAH



WHITE RHINOCEROS



AFRICAN ELEPHANT

I then headed to neighbouring Tanzania, on an extended visit with my friends. Here we visited the Ngorongoro crater, Lake Manyara and Tarangire National Parks. The Ngorongoro crater is one of the Natural Wonders of the world. The two-horned black rhino is only one of the members in the long and varied list of its dense wildlife population.

Our rooms, in the tourist lodge, were situated at a height of 600 m at the rim of the crater, giving us a most awe-inspiring view. We visited our 4-legged friends in 4-wheel-driven vehicles, as only these are allowed to take visitors down to the crater. At Lake Manyara, we saw vast

herds of elephants and a few greater flamingoes, besides a variety of other birds.

Then, like all good things, to use an old cliché, our trip came to an end. The entire tour was a huge success, as we had the thrill of staying in tents and saw an astonishing range of wildlife in their natural habitat. We left late in the afternoon, more than satisfied with our 12-day tour. The vivid images of the Tarzan books and films like *Hatari* and *Born Free* had come alive. And most important, my childhood dream had finally transpired. I need not fear to pinch myself now — it was indeed an

AFRICAN SAFARI.



The fauna that you might see on your trip – Uncle Noah couldn't have done better

Giraffe, olive baboon, blue monkey, vervet monkey, wart hog, hippo, Grant's gazelle, Thomson's gazelle, impala, topi, reedbuck, waterbuck, lion, cheetah, two-horned white rhino, spotted hyena, wild buffalo, white-bearded wildebeest (gnu), zebra, leopard, African elephant, black-backed jackal, crocodile, two-horned black rhino, eland (largest antelope), dik-dik, Ruppell's vulture, Nubian vulture, saddlebilled stork, yellow-billed stork, purple heron, grey heron, grey hornbill, ground hornbill, silver-checked hornbill, white-crested hornbill, red-billed hornbill, yellow-billed hornbill, pelican, spotted dove, tawny eagle, lilac-breasted roller, superb starling, crested bustard, kori bustard (the largest bustard in the region), magpie shrike, paradise flycatcher, African jacana, Goliath heron, white-headed buffalo weaver, secretary bird, ostrich, Egyptian goose, white ibis, black glossy ibis, crowned crane, lesser flamingo, greater flamingo, stint, black-winged plover, lark, red-billed duck, yellow-billed duck, Marabou stork, white-browed coucal, ruff, speckled mousebird, little bee-eater, fishing eagle, white-bellied go-away bird, osprey, guinea fowl, goshawk, peregrine falcon

(These local names are somewhat different from the ones used in India).

— African Safari —

The Bombay Natural History Society will be arranging its third eight-day African Safari in August 2001. The first batch will leave Mumbai on August 8, 2001 and the second on August 15, 2001.



The trip covers the African plains of Kenya ranging from Masai Mara, Lake Nakuru, Amboseli up to Samburu in northern Kenya to see the spectacular concentration of wildlife of the African savannah against the backdrop of the snowcapped Mount Kilimanjaro, Africa's highest mountain, immortalised in world literature by Ernest Hemingway.

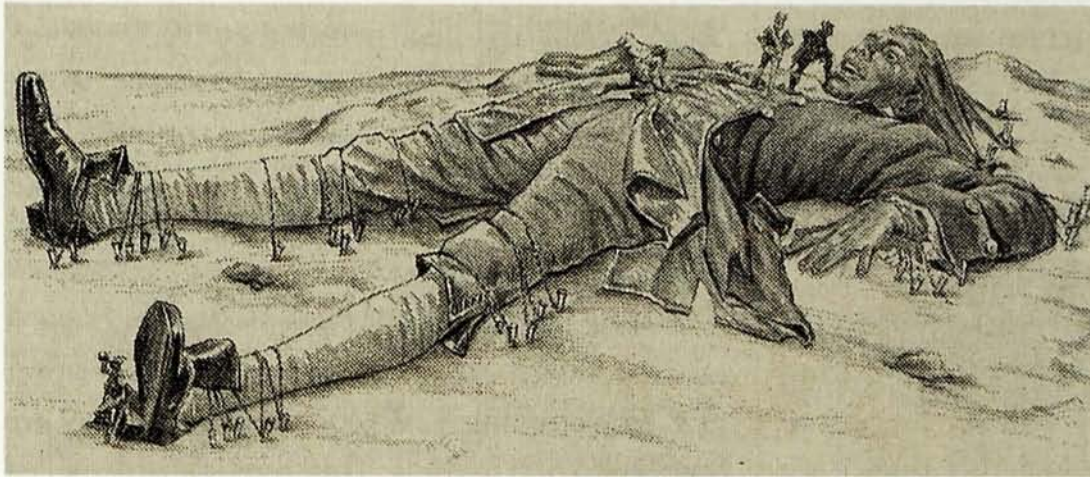
For details please contact Mr. P.B. Shekhar, Programme Officer, BNHS
at ☎ 282 1811 or bnhs@bom4.vsnl.net.in

SEASHORE LORE

40. The Gentle Giants

*The turtle on the naked strand
Peels to the air his pewter snout,
And rubs the sky with slotted shell
The heart's dismay turned inside out.*

Laurie Lee



Beefsea

Sea turtles are cousins of land tortoises which opted to go into water. For life in the sea, their legs have become flattened into swimming paddles. While these are very effective for swimming, they are no good for walking. When the female visits the shore for laying eggs, she has to drag her body laboriously over the sand. The domed shell of land tortoises has become flattened and streamlined. As reptiles, they breathe air through lungs and, like us, will drown if not allowed to come up to the sea surface for a breath of fresh air. But they can remain under water for half an hour. Male turtles can be distinguished by a slightly longer tail, with a narrower base, and a concave plastron (underbelly).

Five kinds of sea turtles, all distributed widely over the world, but all highly endangered species, are found in India. The commonest is the olive

ridley turtle (*Lepidochelys olivacea*). Growing to a length of 80 cm, they are not particular about their diet; they feed on fish, prawns, crabs, lobsters, snails, oysters and sea urchins. Unlike other turtles, females visit the shore in huge numbers to lay their eggs. This congregation for nesting is known as "arribada" — a Mexican word describing the arrival of vast numbers of turtles to nest on a beach.

Mating takes place in the shallow sea near the nesting beach. After the clutch of 80 to 160 eggs (35-40 mm diameter, and about 35 g) is laid, mostly at night, the female fills the pit, smoothens the sand and covers it with plants such as the creeper *Ipomoea* or seaweeds. The number of nesting females is so vast that there is not enough room for eggs. Females which come later often dig up nests where eggs had been laid by females that arrived earlier on the beach. The eggs hatch after 50-60 days. The young have three distinct keels on the back.

Gahirmatha in Orissa is now on the world map, as 1,00,000 to 6,00,000 olive ridley turtles

nest there over a short stretch of beach within a fortnight. There are two arribadas in Gahirmatha — the larger one in January followed by a smaller one in March. The arribadas coincide with blooms of jellyfish (Hydromedusae). A hundred kilometres from Gahirmatha, there is another arribada, where 1,00,000 turtles nest on a 3 to 4 km stretch of beach.

The eggs are round and have a thin, papery shell, without lime salts. They are white and look like table tennis balls. If dropped, they will not crack (unlike birds' eggs). The temperature of the sand in which they are laid determines the sex of the baby turtle. Incubation at 26°-28°C will result in an all-male clutch, whereas at 31°-32°C, it will result in females only, in loggerhead, green and olive ridley turtles. The pivotal temperature, at which both sexes develop, is 29°-30°C.

The eggs hatch after 50 to 60 days and the young dig their way up even if born during daytime. In most cases, they wait for the sun to set and emerge at night. Although they cannot see the daylight while buried, they feel the heat of the sand during the day, and as the sand cools in the evening, they emerge. However, if it rains in the day, cooling the sand, they come up mistaking it to be night.

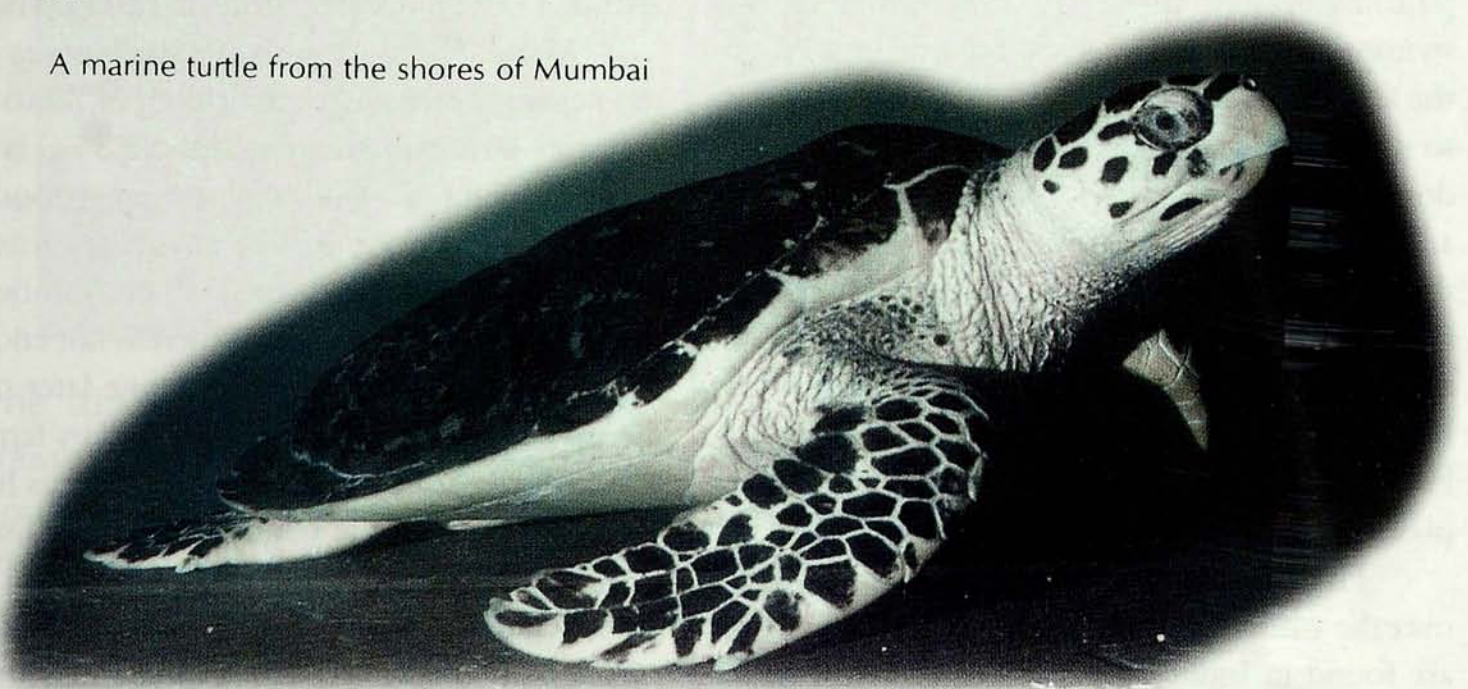
The newly hatched young find their way up from the pit in which the eggs were laid, and unerringly crawl towards the sea, even if they cannot

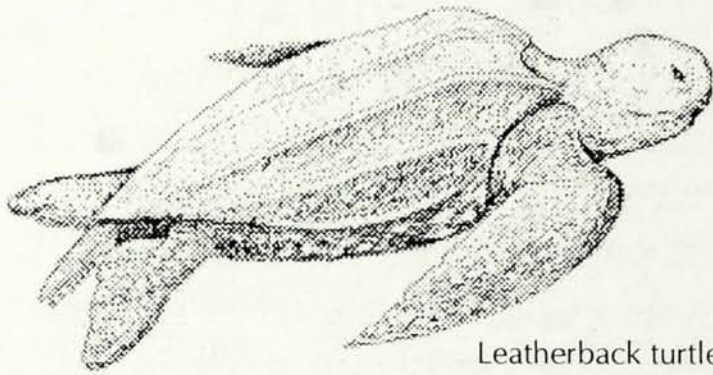
see the water, as when there is a high sand dune between them and the sea. The sky looks brighter over the sea than over land due to light reflected over the water. For thousands of years, this proved them in good stead, preventing them from struggling on to land. Unfortunately, modern well-lit roads running just inside sandy beaches confuse them, so that they crawl away from the sea, only to die. Compared to the fairly huge adults, the newborns are only a few centimetres long, and fall prey to crabs, gulls, terns, kites, water monitors, dogs, jackals and boar before they reach the sea. Even there they are not safe, as groupers, sharks and other fish await their arrival. If the hatchlings survive this ordeal, they will spend the rest of their life in the sea, and only the female will venture, years later, on to land to lay her eggs.

Loggerhead turtles (*Caretta caretta*) are often confused with the olive ridley; they are larger (1.2 m; weighing 110 kg) and longer. They are not seen to nest in India. They feed on hard-shelled crustaceans and molluscs.

The hawksbill turtle or carey (*Eretmochelys imbricata*) can be easily distinguished from other sea turtles by the overlapping scutes (plates) on its back. It grows to a length of 85 cm. The jaws are strongly hooked, and there are two claws on each flipper. It feeds mainly on sponges and in India it nests in the Andaman Islands.

A marine turtle from the shores of Mumbai





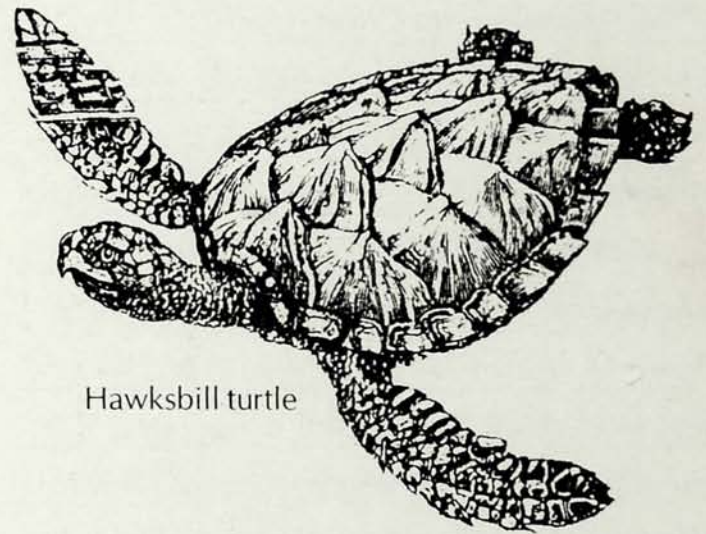
Leatherback turtle

The green turtle (*Chelonia mydas*) is named so from its green fat. It grows to a length of 1.4 m, weighing 150 kg, and the adults consume up to 4.5 kg of sea grasses and seaweeds every day. This is the turtle that is famed for turtle soup, fat, calipee (cartilage) and meat. Though it is not eaten by many people because it is considered an incarnation of Vishnu, its eggs are eaten. The flippers are cut off to make shoes from the leather, for walking on sharp coral.


The leatherback turtle or luth (*Dermochelys coriacea*) is the largest of all sea turtles, growing to a length of 1.8 m and weighing 450 kg; an exceptionally large specimen was 2.56 m long and weighed 916 kg! Unlike other turtles which have a hard shell of keratin plates laid over rigid bone, leatherback turtles have a thick, somewhat flexible, skin-covered cartilage over a mosaic of thousands of small, plate-like bones. There are seven prominent longitudinal keel-like ridges on the back, and five on the belly. The front flippers are long and clawless. It is the most aquatic of all sea turtles and is found in offshore waters. It swims long distances; a female tagged in South Guiana (South America) crossed the Atlantic Ocean and was found at Ghana (West Africa). It can dive down to 475 m and stay submerged for half an

hour. Moreover, though not warm blooded, it can maintain a body temperature of 25°C in water of 8°C. This is because the arteries and veins in the flippers run close to each other so that the cold blood from the skin is warmed by the warm blood of the arteries, enabling the turtle to swim even in freezing waters.

Leatherback turtles feed on jellyfish, and this poses a serious problem. They mistake plastic bags floating in the sea for food and swallow them. After several plastic bags are ingested, the gut becomes impacted and they starve to death.



Hawksbill turtle

All sea turtles are highly endangered. They are caught for their meat and eggs. Apart from that, oil spills and the resulting tar balls foul turtles and clog the eyes and nostrils of newly hatched ones. Pollution causes papilloma (herpes) or tumours around the eyes, mouth, flippers and belly of green turtles. Boulders and tetrapods, placed close together on beaches to check erosion of land, block the paths of female turtles clambering up the shore to lay their eggs. And many get caught and drown in trawl nets not fitted with turtle excluder devices. 

We are grateful to

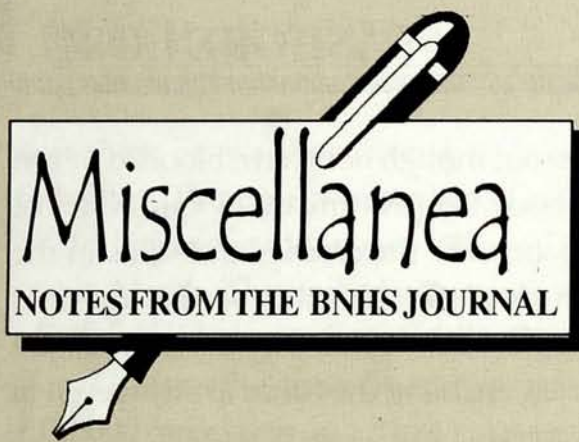
SETH PURSHOTAMDAS THAKURDAS & DIVALIBA CHARITABLE TRUST

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for a generous corpus grant to support the publication of *Hornbill*.

Their consistent support is greatly appreciated.



An unusual method of curing scorpion stings

My attention has been drawn to a note of *The Times* on the June 13, 1960 (late London air edition) entitled 'An Indian Painkiller'. When the correspondent, probably an ex-D. C. S. man, was sitting with one Agarwal, a Dy. Magistrate in Saharanpur, he was stung by a brown wasp. Agarwal offered to cure him with a none too clean steel-bladed paper-knife and the correspondent hesitatingly agreed. With the knife point held flat under his forefinger, Agarwal crisscrossed slowly and steadily the area of the sting, firmly scratching, but never breaking the surface. Each time he was careful to ensure that the knife point crossed the exact point of entry of the sting and with each stroke the correspondent felt relieved. After a dozen passes or so, the pain had virtually disappeared. Subsequently, the correspondent used this cure successfully for scorpion and wasp stings. He also mentions an instance when his treatment was interrupted by a Sub-Inspector of Police who, by similar methods, 'put back' the pain! This was, however, removed a few minutes later in the same fashion and one is left with the impression that the pain could be 'switched' on and off!

About 30 years ago, a cousin F. H. B. Tyabji, started farming near Ahmednagar in the Bombay-Deccan. The area was a wilderness and very little medical attention was then available.

Under these circumstances, my cousin, with a bottle of iodine and a few standard mixtures, soon became the local doctor.

Among the many complaints of various kinds, which were brought to him, he found that scorpion sting was a constant occurrence. About this time, he was informed that certain signs accompanied by verses from the Koran would cure the pain and he decided to give it a trial.

A rectangle was to be drawn complete with diagonals and a triangle at the top, without lifting the instrument off the skin, the Arabic lines being recited throughout the performance.

The response was instantaneous and amazing. At the first performance the pain was said to have dropped for an appreciable distance and, if repeated two or three times, disappeared completely. A person literally writhing with pain would be treated and return happy and cured within a few minutes. Tyabji's fame spread far and wide and victims crowded to him for the 'miraculous' cure. With more experience he noticed that the designs did not have to be very carefully drawn and that he could skip portions of the prayer. Later, he would merely make passes with his hands and omit the recitations.

but the cure worked just the same.

I understand that he treated hundreds of cases and failures to relieve pain were very rare.

This is not all, and I have an experience of my own to relate which occurred in 1948, at Chikalda.

Returning from a morning's walk, I found the khansama in great agony, having been stung on the hand by a scorpion, and the pain having gone up to his shoulder. On the table lay a scalpel, which I had been using for skinning birds. I picked it up and seized the victim's arm. Fearing, perhaps, some sort of amputation, the khansama shrank from me, but I merely made some passes over his shoulder, barely touching the skin. My inquiry regarding the efficacy of the cure was met by a blank stare, but I repeated my actions and was told that the pain had dropped to the elbow.

A few more passes had the man completely cured, except for slight discomfort at the initial puncture. My wife was present and I do not know which of us three was the most surprised at what had happened. I have not had another opportunity to try out this cure, but am surprised that it is not better known and has not been more closely investigated by the medical profession. I have no explanation to offer.*

Humayun Abdulali

Bombay, August 1, 1960.

* Eds: A psychosomatic reason surely, but effective treatment justifies the means.

Cannibalism in Hedgehogs

During my studies on the embryology of hedgehogs, I collected a large number of them. In the laboratory, I keep them in wooden cages of large size, and try to provide natural conditions for growth.

Once our servant forgot to feed them for about a week, leaving the hedgehogs hungry and famished. One evening, I noticed two of them attacking the posterior limbs of a young one on the move, which were later chewed. The young one made a pathetic noise, which was not clearly audible.

After a short while, the attackers succeeded in unrolling it and started eating the abdomen. Soon, three others joined them. I cannot, however, ascertain whether the mother of the young was also among these, since the body of a hedgehog is covered with spines making it very difficult to identify the sex just by looking at one.

On another night, a hedgehog *Hemiechinus a. collaris*, died a natural death. Next morning, I observed both *H. a. collaris* and *P. micropus*, busy feeding on the carcass. In January 1953, I fed them on a dead specimen with its abdomen cut open. Most of the hedgehogs present in the cage relished the viscera.

Thus, both types of cannibalism are present among hedgehogs: feeding on a dead companion, and killing and feeding on it. However, when properly fed, the animals do not usually molest one another.

Ishwar Prakash
Pilani, April 24, 1953.

Butterflies

THEIR EARLY STAGES

Text: Naresh Chaturvedi and Isaac Kehimkar
Photographs: Isaac Kehimkar

COMMON WANDERER

Pareronia valeria

Adult: The Common Wanderer has a wingspan of 65-80 mm. It prefers well-wooded and open forests throughout the country, and is very fond of flowers. The light bluish-white female is less common and is more heavily marked than the male with black, broad venations with a few small bluish spots along the fore and hindwing borders. This pattern helps her escape predation as she appears similar to the distasteful Blue Tiger butterfly. Females are not as frequently seen as the males.

Foodplants: Mainly thorny capers like *Capparis zeylanica*, *C. moonii*, *C. rheedii* and sacred barna (*Crateva adansonii*).

Egg: Whitish, oval with longitudinal ridges, crowned with pointed teeth at the top. Eggs are laid in small batches of 7-8. As the egg matures, four pale rosy lines get darker.

Larva: The green caterpillars soon disperse on hatching. They have groups of 2-3 white spots on either side of the 5th and 12th segments. The caterpillar may be marked with brown slanting lines and blotches on its sides. They are always seen resting on the midrib of the leaf, and feeding on the leaf edges.

Pupa: The pupa is a dull light green with white variable markings and a pale spiracular line. The distinguishing features are its head process which is long and slightly curved upwards at the tip, and the prominent wing case.

GREAT ORANGE TIP

Hebomoia glaucippe

Adult: The Great Orange Tip is the largest butterfly among the Pierids. It has a wingspan ranging from 80-100 mm. This strong flier is very fond of flowers and can be seen at damp patches, probing for moisture, with other butterflies. It is confined to Peninsular India and Sri Lanka. In the north, it is seen eastwards from Nepal. It prefers forested regions and is common during monsoon, though at places it can be seen throughout the year.

The female differs from the male with its smaller orange patch, enlarged black spots on the forewing, and a black, dentate border and a row of black spots on the hindwing. The Great Orange Tip shows two distinct forms i.e. wet and dry season forms. When resting, its forewings are folded back into the hindwings thereby showing the protective mottled reddish-brown markings of the hindwing and tip of forewing which merge with the surroundings. During flight they suddenly come down and fly close to the ground for a distance.

Foodplants: Mainly thorny capers like *Capparis zeylanica*, *C. moonii* and sacred barna (*Crateva adansonii*).

Egg: Typical tall, bottle-shaped eggs crowned with sharp teeth and longitudinal ribs are laid singly. They are pinkish-white and turn yellow on maturing.

Larva: The larva is green with a bead-like whitish band running along either side from the head to the 13th segment. The lower half of the beads are orange except on segment 3 where it is blue. The front dorsal half of the body is convex, the caterpillar when alarmed raises it to mimic a snake. Birds, who are major predators, instinctively back off on seeing a menacingly moving 'snake'.

Pupa: The well-camouflaged pupa is not easily located among the caper bush and usually prefers a leaf to pupate under. It is dark, yellowish-green with purple dorsal and lateral headbands. The head process is conical at the base.

COMMON WANDERER



GREAT ORANGE TIP



CATERPILLARS



PUPAE



ADULTS

THE PICTURE OF YOUR LIFE

If all the good you've ever done

Were painted on a wall,

Into a picture framed in gold,

Would it be large or small?

If every smile appeared in blue

Depicted as the sky,

And clouds of black were painted on

Each time you told a lie...

If trees of green would show each time

You gave a helping hand,

How many would your background show

How dense would be the stand?

And if each act of kindness

Would mean a shining ray

Of sunlight, on your work of art

Would it be light as day?

Or would your picture look like night

With skies more black than blue,

And shadows dark, instead of trees?

It all depends on you.

For every man must paint his own

And all the world will see

It hanging in the halls of bliss

For all eternity

Anonymous

Sent in by K.P. Karamehandani



"Strengthen your Infrastructure"

A transcript of the Prime Minister, Mr. Atal Behari Vajpayee's letter to the State Chief Ministers.

"In recent years, there has been an increase in the number of killings of wild animals like tiger, panther, elephant, rhino, musk deer and other species. Several cases of illegal export of wildlife products, derived from various species, have been detected from time to time. This is a matter of great concern.

One of the major reasons for decline in standards of wildlife protection is the large number of vacancies at various levels in the field formations of the Forest Department, and need for greater commitment on the part of the officials. Certain states have made drastic cuts in the number of sanctioned posts in the department and have also banned filling up of vacant posts. Allocations to the sector have also been grossly inadequate. There is also need for upgradation of the skills of the staff, both in respect of prevention of wildlife crime and successful prosecution of the offenders. An effective mechanism for intelligence gathering needs to be developed and steps for designating special courts for trying wildlife offences taken. Further, effective infrastructure for communication, adequate mobility and sophisticated weapons have to be made available to the forest staff if we want to protect and conserve our flora and fauna.

I hope, after a review of the situation relating to your state, the issues mentioned above would receive your personal attention so that wildlife protection gets the priority it deserves."

Sent in by Nirmal Ghosh

J.S. Serrao Remembered

It was with shock that I saw the photo of J.S. Serrao and read of his demise while looking through the pages of the July/September, 2000 issue of the *Hornbill* magazine just received! While I did not know him well, I found myself shaking my head in agreement as I read his obituary. There is nothing I can say in addition. He was a fine man and a credit to the BNHS, which he served so well in the latter half of his life. We will miss him. Our condolences to you and his family.

Dave Ferguson (by email)

■ ■ ■

Wildlife and Human Conflicts

I read a sad article in the *Asian Age*, January 5, 2001, regarding the rampage and strange behaviour of wild animals in Assam's forests. The rapid destruction of forest vegetation and encroachment by humans into "Animal Territory" is the cause of tragic human-wildlife conflicts, resulting in occasional deaths of humans. All wild animals are instinctively scared of humans and it is only ruthless persecution that makes them dangerous to humans who live in the vicinity of forests. The future of wildlife in India seems bleak, unless we realize that India's wildlife preservation is also a part of India's priceless heritage and culture.

Rudolph A. Furtado (by email)

■ ■ ■

Don't give a dog a bad name

The July-September, 2000, *Hornbill* was great reading. I would like to make a comment on the note on lantana (*The Young Naturalist*). It is advisable not to invest any plant with good or bad attributes. I have learnt this from my several decades of raising the issue of the use of *Prosopis juliflora*. Lantanas and congress grass, or any other "weed",

are successful to the extent of levels of exploitation and mismanagement of the native vegetation. The much touted qualities of these plants merely reflect their not being subjected to the same pressures as other plants. Lantana and the American prosopis are not browsed on, and are less sought after as fuel, so they proliferate. It has been my experience that both these exotics disappear, or rather fade into the balanced flora in areas strictly preserved. Lantana and prosopis just get overshadowed by taller native species, and their seedlings are effectively smothered by grass.

Let us not “combat” these exotic and invasive species. Rather, let us see them as litmus tests for the management of land. We might also consider ways and means of utilizing these and other weeds like water hyacinths by the human population. The bottom line in the note on Lantana strikes out the first — “A versatile shrub” is just that because “lantana is poisonous for cattle.” This is true of the forest department favourite and my obsession: *Prosopis juliflora (chilensis)* or the gando (hadkayo) baval of Gujarat and other states like Tamil Nadu and Andhra Pradesh.

Lavkumar Khacher, Gujarat.

■ ■ ■

Do fish come down with rain?

I noticed a strange phenomenon on a visit to a project site. The place: outskirts of Dhandhuka town in Gujarat; the time: mid monsoon. This region has scanty rainfall and often faces drought. There is a shallow pond about half a metre deep. The area is about 10 x 25 m. There are eucalyptus trees around the pond, buildings on one side, a farm on the other, gently sloping towards the pond. There was about 30 cm of water in the pond.

To my surprise, I found plenty of small fish (fry), about 15-20 mm in length, among weeds and grasses in the pond. The river is about a

kilometre away from this place. It was almost dry, with a few scattered ponds here and there. There were no running streams anywhere. There was no possibility of fish coming upstream to breed, as in high rainfall areas such as Konkan.

The carpenters, masons and other workers said that the fish may have come down with rain. I do not laugh at their idea, though I happened to read in a science magazine that algae cells go up with vapour, are stored in the clouds, and come down with rain.

Could anyone explain this, please?

Remigius de Souza, Mumbai.

■ ■ ■

It rained fishes and frogs today

The rain of fish in ‘Miscellanea’ (*Hornbill*, October-December, 2000) is not an isolated incident. Even frogs and turtles are known to “rain”.

In the *Statesman*, Kim mentioned a rain of fish on June 11, and again on September 1, 1912 in Muzaffarpur district, which covered his tennis court and the adjoining maidan in a silvery sheet. A similar rain of fish at Ahmedabad on August 24, 1981 was reported in the *Daily*. The local inhabitants, believing in ahimsa, collected the live fish and released them in a nearby pond.

Among the 48 “rains” of animals between 300 BC and 1901 AD compiled by Dr. Gudger of the American Museum of Natural History, New York and published in “Natural History” of 1921, is a rain of turtles of such intensity in Salonica (Greece) that invading foot-soldiers trampled on 2-3 turtles at every step. Dr. Gudger brought out another list of 26 rains of fish in 1929. Dr. S.L. Hora has compiled a similar list for India in the *Journal & Proceedings of the Asiatic Society of Bengal*, June 6, 1934.

B.F. Chhapgar, Mumbai.



MAN BEYOND COMPARE



HUMAYUN ABDULALI
(1914 – 2001)

*“As long as I live, I’ll hear waterfalls and birds and winds sing.
I’ll interpret the rocks...and get as near the heart of the world as I can.”*

John Muir’s maxim could jolly well have been for Humayun Abdulali, the grand old man of Indian ornithology, Emeritus Scientist, ardent conservationist in deed.

Where does one begin the saga of Mr. Abdulali, one of the pillars on which the BNHS evolved? The precipice above Kanheri Caves where he would dangle perilously to observe falcons? The reed-filled swamps and grasslands where, submerged in ooze, he would hunt out nesting warblers and rails and larks? The chase for frogs in the hills around Mumbai? The BNHS bird room where he painstakingly toiled for decades cataloguing a priceless, monumental collection, uncovering hitherto unknown aspects of Indian ornithology? The many meetings in the hallowed premises of the BNHS whose concerns were central to his way of life and where he ardently championed the cause of conservation in a style inimitably rare and genuine.

All said and done, I must return to under the jamun tree on the shores of the amphitheatre that is Vihar lake in Mumbai’s National Park. Here Mr. Abdulali would be of superlative quality, his field chairs set up, the bottomless flask on the ready. Here one and all would meet him, share the morning’s experiences, become conversant with nature’s great secrets from the guru himself. That peculiarly Einsteinish look about him was perhaps nature’s gameplan and how fortunate were some of us to be around for over a decade with him, under tree and in marsh and grassland and forest and on hill-slope.

Mr. Abdulali’s passion for nature evidently developed from shikar. A bird in hand aroused his curiosity immensely and opened new vistas of conservation. Undeniably, he was birdman extraordinairé and though ornithology was the focus of his work, he was a champion conservationist and naturalist to the core, long before it became a fashion.

This indefatigable fighter played the decisive role in getting Mumbai's City Forest — the unique National Park — protected. He brought its unique value to the notice of the powers that be half a century ago when conservation was not even a dream. And as one of us, Anish, rightly said, "the pleasure of walking in this extraordinary wilderness is a priceless gift to us by people like him."

Stories about Mr. Abdulali's many raids and cases against poaching and environmental intrusions are legendary, as indeed his sense of humour, even a bit sarcastic at times but serving the purpose well, and never with an intention to hurt. My colleague Rishad Naoroji put it aptly when he described Mr. Abdulali 'A rare personality with old world charm, his gruff exterior masked a soft heart and a genial disposition.' He was never ungentlemanly even in his many arguments across the table. What he was is brutally honest and forthright, a fact often misconstrued by many and which led some to believe that Mr. Abdulali was a difficult person to get along with. This was entirely erroneous. He could get along with anyone trustworthy and with such people he was highly devoted and encouraging.

Enormous is one word to describe Mr. Abdulali's body of work. More than 250 scientific papers, myriad book reviews, the campaigns to get the export of frog-legs banned, the crusades against the many vested interests that threatened to swallow Mumbai's National Park, the unending cataloguing of birds, the describing of new findings, the reintroduction of the grey junglefowl in Mumbai's wilds, the Act for Wildlife Protection for the Bombay Government, which has served as a model for the present Wildlife Protection Act. For over a decade between 1950 and 1962, he was Hon. Secretary of the BNHS, and a Member of the Executive Committee for more than 50 Years!

I first met Humayun on the morning of June 9, 1976. He was almost half a century older

to me, but somehow we hit it off instantly, and there cannot be a more compelling reason for an intense bond with nature than the opportunity to be with him and accompany him on more than 200 field visits, mostly around Mumbai, but voyages of discovery they were all, and an insight into the real Humayun, so child-like and inquisitive.

Emulating Mr. Abdulali's great work is not going to be easy, fraught as the issues pertaining to environment are with much uncertainty and cynicism. He taught us that protecting our wilderness was going to be one continuous battle and that we must not shy away from fighting for it if we have to. It is imperative that we all come together in continuing with the objectives and thinking of this great naturalist.

Some months ago I met Mr. Abdulali for tea at his residence. It so happened that he had recently visited the National Park (I think that had been his last visit) and for the first time in more than 80 years Humayun had been unable to see a bird that his long time friend Rachel Reuben was showing him. It was a red-breasted flycatcher. His soft face, ripened and exhausted, was moist with tears. I had never ever thought I would see Humayun cry. They were tears of a sorrow I had never before experienced and cannot describe in words.

I was to meet him for tea at his Bandra residence on 14th May. Unfortunately I couldn't make it and called him to tell so. "After Kihim then" said Mr. Abdulali. "We are not so sure when we will get back since it is a long holiday we are taking". I know Humayun Abdulali has not gone very far. I can still feel his awesome presence just round the corner, around Culvert 13 just past the Pongam Valley slope in Mumbai's peerless wilderness, the spot where we first met. There was so much more to him than merely the breath of his body and we were so fortunate to know that side.

— Sunjoy Monga

The Young Naturalist

Compiled by: V. Shubhalaxmi & Vibhuti Dedhia

Nature Craft



Activity designed by Priti Sawant,
Educational Assistant, BNHS

What would you make if someone asked you to list five things that you could make from an egg-shell. Difficult? Not any more. Next time your mother picks up an egg to make some goodies for you offer to break the egg for her. Carefully break the egg at one end, empty the yolk into a container, and wash the shell absolutely clean. Let it dry. Pull out your drawing kits and let your imagination run wild.

Learn to make an Egg-citing World

- Draw an outline of the animal you want to make with a pencil.
- Cut out body parts like ears, tail, trunk, wings, feet, beak etc. from a piece of cardboard.
- Use cotton, where needed, to give the body the shape you want.
- Paint the eggshell and other body parts.
- Paste the dried, painted parts together, ensuring that the open part of the shell is well hidden, to complete your egg-citing piece of art.

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Just for you dear Young Naturalists

The last date the slogan contest declared in the last issue of Hornbill has been extended to September 30, 2001. For details see Hornbill January-March, 2001.



K. SAMEER



V.I. THAYIL | DPA

*Meet the second largest land mammal on earth — the endangered Asiatic Elephant *Elephas maximus*.*

Reporter: Good morning Mr. Tusker. Why are you alone today? Isn't Mrs. Tusker accompanying you?

Mr. Tusker: You see, we don't live in families. We are together only during the mating season. We males are solitary, while females stay in groups, never parting from their original group.

R: An evergreen bachelor! But why is it so?

T: The calf takes a long time to grow, and to protect it the females have to live in groups, so they can defend themselves easily. The bonding between the mother and calf, which starts in the womb, is very strong. We have the longest gestation period among mammals, nearly two years! Once mature, young males leave the group, whereas females stay on.

R: So many elephants in a group, with such huge bodies, would require enormous quantities of food and water!

T (laughing): Yes, we are the second largest mammals on land. With a height of 3 m and 1.4 m long tusks we weigh about 6,100 kg. My African cousin, the largest land mammal, is 3.4 m tall and weighs around 7,110 kg. It has 2.1 m long tusks.

R: A family of wild body builders! Do the females also have tusks?

T: No, in fact that's where we differ from our African cousins who have tusks, both male and female. We also have tuskless males or makhnas, who are more well built than us.

R: That's interesting. What do you eat, and how much?

T: We are strict vegetarians, living mainly on woody plants, palm, bamboo and other grasses. We need

around 270 kg of food / day and can draw about 9 litres of water at one time with our trunks. Large elephants drink about 227 litres of water a day. We feed gregariously, that is in groups, and spend most of our time eating, so we are constantly on the move. Not only would entire forests be devastated, but water bodies would also go dry if we stayed in one place too long.

R: Unbelievable! Does this huge body protect you from natural enemies?

T: Firstly, no one is an enemy in our world, we are all predators and prey. Yes, tigers do attack our calves sometimes. But our only serious enemy is man, with his greed for ivory.

R: Yes, your ivory does fascinate most humans.

T: Our tusks are meant for self defence, whereas man uses them to decorate his drawing rooms. The males are thus dreadfully persecuted by poachers. This massacre creates an imbalance in our population, threatens our existence, and may finally result in our extinction. The takeover of elephant habitat by man is another big threat. We once inhabited all the lands from Iraq in the west, throughout Asia south of the Himalaya, to China in the east. Today, we aren't seen in Pakistan or the countries to its west. Our last strongholds in India, Sri Lanka, Burma and other parts of southeast Asia should be spared such a fate.

R: You and your African cousin are the sole survivors of a once rich and varied group of elephants. Was the woolly mammoth one of your extinct ancestors?

T: Yes, and it's our turn to join them now.

R: I'm not surprised – I'm told that not very long ago you walked the forests of this sub-continent. What happened?

T: In the 4th century, our ancestors roamed the dry tracts of Punjab and Saurashtra — today our range has shrunk to the forested hilly tracts of South India, Central India, the Himalayan foothills and the northeastern states. The once long, continuous stretches of forests are now intersected by roads, breaking them up into fragments, which cannot be our home. Habitat loss and poaching has reduced our population to around 15,000 only.

R: That is truly a tragedy. We must promise to say no to ivory and other wildlife products, to help protect gentle giants like you. Thank you and good bye!

T: Goodbye, pal! It's nice to know that young folk care.

Can we afford to lose the Great Indian Bustard?



Text: Aasheesh Pittie

Photographs: Ranjit Manakadan

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“Bashtad, saar!” Allahbaksh’s downplayed guttural words brought me to an abrupt halt. Taking the telescope from him, I pointed it in the direction of his gaze and after a few anxious moments of squinting through the eyepiece and twiddling the focusing ring, managed to crystallize a sharp image. An adult male great Indian bustard stood under a *Morinda* tree. Stretching to his full height, he plucked ripe, black fruits from the lowest branches and swallowed them. The setting sun lit the bird in stark relief and through the scope I could see him very clearly. He walked around the tree as he fed. Once he stood for a couple of minutes behind the bole of the tree, and peered around as though aware of our presence, waiting for us to move on. When we stood our ground in silence, he must have realized that we meant no harm and began to feed. Suddenly I realized there was a fox scampering around playfully beyond the bustard! It spun like a top after its tail, breaking away to dart here and there in meaningless abandon — fun and frolic are not the privilege of

man alone. Momentarily distracted by the bustard, I looked away. When I looked back towards the fox, it had vanished. Meanwhile, the bustard, either sated or having consumed all fruit within reach, walked away leisurely towards the northeast boundary of the Park.

This area was a sort of hump in the gentle undulations of a flat, tabletop landscape and was a traditional displaying spot for male bustards. With an inflated gular pouch and erect neck feathers, the bird cocked his tail all the way over his back and began to strut in circles. I didn’t see any females, but I was far away. He may have spied one or two on the other side of the hump and begun his act in silence. He did not utter the booming call that carries for half a kilometre. We watched him till the light began to fade, and a red-headed merlin hawked swallows successfully in the gloaming. In two days, we counted three bustards, one male and two females.

In the 1980s, when bustards were first sighted here and a sanctuary proclaimed for them, 35-40 birds had been sighted within the span of a few hours. Rollapadu was considered the best bustard habitat on the Deccan Plateau. More than

half a dozen males could be seen displaying from a single vantage point! For a decade or so, the young sanctuary was protected, managed and studied with zeal. Bustards were seen in good numbers. They bred and their nests faced the vagaries of success and failure. Above all, individual numbers did not decrease.

Total protection of the habitat also boosted populations of other denizens. Blackbuck increased, quite literally, by leaps and bounds! There are about 400-450 now. Wolves too increased, as must have other mammals like foxes and blacknaped hare. In the resulting dynamic tussle for food and territory, subtle changes began to erode the ground from under the bustard's feet. Species become extinct individual by individual. There are many theories about the causes of this debacle. Too many people and the resulting agricultural boom, too many blackbuck (as a result of protection), widespread grazing within the sanctuary resulting in the increase of unpalatable vegetation for grasshoppers, the bustard's prey, and clandestine poaching being some. Slackening of guard by those entrusted with the care of this irreplaceable natural heritage and national treasure — for it is not found elsewhere in the world. They seem to have forgotten that protection is only the first step towards ensuring the survival of a threatened species, that active management is its logical corollary.

This is the situation across the entire reducing range of the great Indian bustard. Hanging by the thread of apathy and negligence is a member of a family that evolved 40-50 million years ago, perfecting a way of life on the short grass plains and arid regions of India. From its stronghold in the Thar (where its populations have halved since the 1980s), across Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh and Karnataka, the bustard is slowly but surely losing out. It has already been exterminated by us from Punjab, Haryana, Uttar Pradesh, Orissa and Tamil Nadu. The bustard is not ready to die yet. We are choking it to death.

The disappearance of any species from the



AH! WATER: The bustard, like most desert animals, is known to survive for days without water

face of the Earth is an irreversible tragedy whose finality cannot be emphasized enough. It is a physical loss for the natural world, a broken link in the proverbial chain of life. Increasingly, almost singularly these days, extinction is a direct result of human activity. By perpetrating these tragic and callous acts, we walk a one-way path that leads to the very precipice from which there is no turning back.

Have you ever wondered what humanity is losing, beyond the physical impoverishment that the loss of a species brings to an ecosystem?

To me, the great Indian bustard is as important a part of this planet as is a tiger or a tiger beetle, a danaid eggfly or an earthworm, churning soil and breathing life into mud. The extinction of each species diminishes me and negates my intelligence, as it does yours. The bustard stands for the well-being of our grasslands and the myriads of life forms comprising that ecosystem. It strides through a landscape that gave character to my nation and my brotherhood — Gujar, Maldhari, Bishnoi.


In accepting its presence and rejoicing in its freedom, I can stand erect and be a part of the land



DRY CLEANING: The bustard dust bathes regularly to rid itself of parasites and keep clean

that has sculpted the genes of our agrarian lifestyle. The bustard struts in a wilderness that cannot be found within the insular and limited activities of human societies. It beckons the one human

character that soars above them — our unassailable spirit. We cannot survive the 22nd century successfully within the confines of our achievements alone. Our spirit yearns to walk with the bustard and to thrill at the grasshoppers jumping underfoot. To feel the wind's caress as it bends a sea of grass heads as far as the eye can see. To ruminate at the ebb of day under a gently burning, purpling, blackening sky. For deep down we realize that the spirit of the land peoples our breath, and ultimately strengthens our work. This spirit is the only constant

in our temporal world. It will not be denied. 




Aasheesh Pittie is a keen ornithologist and Hon. Secretary of the Birdwatchers' Society of Andhra Pradesh.

Dr. Ranjit Manakadan is a Senior Scientist at the BNHS.

The Ministry of Environment and Forests, Government of India, has awarded the Dr. Salim Ali Wildlife Fellowship Award for 1999, to Mr. K. Thulsi Rao, Assistant Conservator of Forests, Srisailam, for the study entitled 'Management Perspective of Great Indian Bustards in Rollapadu and its surroundings in Andhra Pradesh'. Mr. Thulsi Rao will coordinate the project under the guidance of Dr. A.R. Rahmani, Director, BNHS.

This study is the first step towards integrating the socio-economic development of people of Rollapadu with that of the management of the great Indian bustard.

Important objectives of the Project

-  To determine the exact breeding areas and constraints on such areas.
-  To study the ecology of the bustard with special reference to the breeding success of the species and investigate parameters required for breeding success.
-  To prepare a management plan with more emphasis on eco-development around Rollapadu and buffer villages for complete protection of the bustard populations.

The First Step!!



A leaf from a diary

Text and Photograph: Akash Deep Baruah

February 5, 2001. It was my first visit of the millennium to Udayamarthandapuram Bird Sanctuary. The migratory season was coming to an end and I wanted to see how the Sanctuary was faring. The number of bird arrivals in the Sanctuary had been, in general, dismally low due to poor rainfall. I wanted to have a look at the newly constructed rest house — upon reaching it I was appalled to find it painted a weird combination of green and chocolate. So much for taste and finish! I asked the contractor to repaint it like the

Thambusamy Rest House in Point Calimere Sanctuary and to make sure, gave him the fear of incurring the Conservator's wrath if he had failed to do so. After having a bottle of warm "coldrink" and the obligatory 'Goodday' biscuits I proceeded for the Sanctuary. Going by the unfailing consistency with which every inspecting official is offered this particular brand of biscuit, I wonder if it would be proper to adopt it as the logo of field inspection.

My thoughts dwelt on the declining visit of waterbirds to the Sanctuary. The matter had been troubling me for quite sometime and I tried hard to find some answers. Of the several reasons cited for the declining birds, the death of the *Prosopis juliflora* trees inside the Sanctuary was attributed to be the most important reason. The logic behind this was that the death of the trees reduced perching sites for visiting birds. Another reason, cited by a sanctuary watcher, was the presence of two cemeteries near the southern boundary of the sanctuary. The watchman informed me that during



NARROWLY MISSED THE AXE: The timely adaptation of the *Inca dulce* trees for perching, by heavy birds, saved them from the axe

cremation, the local people often light fireworks scaring the birds off. As cremation is a regular feature, it was likely that the noise disturbed the birds. I had myself once witnessed how a distant gunshot near Point Calimere Wildlife Sanctuary had scared a group of flamingoes who deserted their feeding grounds for the rest of the day.

There was this gathering opinion that the *Inca dulce* trees which had been planted on the mounds are not ideal perches for waterbirds. Apparently, the branches of this tree are not stiff enough to take the weight of the waterbirds. Now, why *Inca dulce* (locally known as *Kadukkapuli*) was planted on the mounds instead of acacias is another story. But the prejudice against this species seems to have stemmed from the general impression of the birds perching in great numbers on *Acacia nilotica* trees of Bharatpur Bird Sanctuary and elsewhere. Waterbirds have been visiting this country since ages and prior to introduction of acacias either in this country or on the mounds at Bharatpur, in Keoladeo National Park. As *Acacia nilotica* comes up well in waterlogged areas, it had established itself in the seasonally flooded bird sanctuary, and turned out to be one of the best perches, thorns notwithstanding.

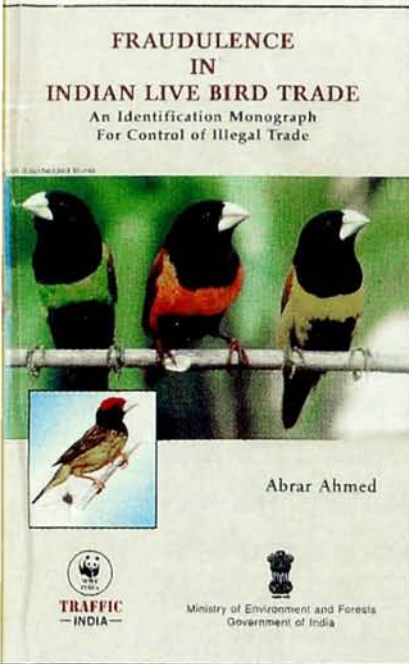
In the first few years, most of the birds had refused to sit on *Inca dulce* branches in Udayamarthandapuram. But gradually they learnt to do so. Last year, I observed about a hundred or so open-billed storks, fairly heavy birds, sitting on a single tree. There must have been about 5,000 of them, mostly roosting on the *Inca dulce* trees. Today, I again saw about fifty of them perched on the branches of a single tree. This may be what we call adaptation. Just as we were on the verge of cutting down the *Inca dulce* trees and replacing them with acacias!

I have kept the issue of declining bird arrival for the end as I would like, my readers to carry a thought and add to it. I have come across many wetland patches in the course of my official sojourns and have often observed some seemingly

excellent wetlands devoid of any avian life. In contrast, many smaller waterbodies have attracted far better crowds of waterbirds. I was reflecting on the issue of poor visit of waterbirds to this apparently excellent bird refuge when it occurred to me that the only thing common to those empty water spreads and the Sanctuary was the presence of weeds, reeds, grasses and floating masses of water hyacinth, all of which had encroached so much into the waterspread area that today not more than 15% of the Sanctuary consists of open waterbodies. Consequently, only birds that thrive on the floating vegetation like the pheasant-tailed jaçana *Hydrophasianus chirurgus* and purple moorhen *Porphyrio porphyrio*, and a few non waders like pond herons *Ardeola grayii* and egrets can really thrive here. I could see a few dabchicks and garganey teal *Anas querquedula* swimming in the available open areas. This may not be an original observation and, there may be still better explanations for the same. But I do have this strong feeling that weeds are choking the life out of the Sanctuary and if this situation is allowed to continue, it may not be long before it becomes totally unfit for waterbirds.

Another important factor influencing bird arrival is water retentivity of the tank. The Sanctuary tank has not been desilted for many years and is fast silting up. It has become absolutely essential to remove the weeds, desilt the tank and regulate the water flow in and out of the Sanctuary as per the requirement of the visiting birds. Also, the outflow should be stopped once the water depth in the deepest part of the Sanctuary reaches about a metre, which should be just about the optimum depth to permit the maximum variety of birds. This is easier said than done, as one has to consider the huge factor of local anthropogenic compulsions. But, surely someday a compromise can be worked out, best suiting all sides. That would be a real 'Good Day'! 🍀

Akash Deep Baruah is Wildlife Warden at Nagapattinam.



FRAUDULENCE IN INDIAN LIVE BIRD TRADE: AN IDENTIFICATION MONOGRAPH FOR CONTROL OF ILLEGAL TRADE

by Abrar Ahmed.
Published by Traffic-India, New Delhi, 1999.
Pp. 23, (14 x 21.5 cm).
Price, free on request to WWF, India.

Reviewed by: Ranjit Manakadan


The author of the publication, whom I have met on a number of occasions, has been very active in researching and documenting the illegal trade in live Indian birds, ever since he joined Traffic-India (the Wildlife Trade monitoring division of WWF-India) in the early 1990s. This publication is intended to be a guide for the Indian enforcement personnel to detect fraudulence in the illegal traffic in live Indian birds, as traders have been palming off wild birds as captive-bred exotics. The booklet will also help pet bird enthusiasts to recognise signs of doctoring of common birds to resemble rare and expensive ones.

The necessity for such a book is not questionable, but the author should have put in more time, effort, and information to make it technically sound. Besides the unwarranted brevity, the publication abounds with grammatical errors, spelling mistakes, wrong and bad phrasing, and other errors. Example: the first sentence in the third paragraph of the preface; the last sentence on p. 17: 'sometimes' is printed as 'some times' and a non-existent word 'misdeclared'. On p. 24, the pointer intended to show the supercilium in the bird diagram is directed towards the eye instead. Scientific names of the black-throated weaver and

streaked weaver have been interchanged (p. 16). Were the editors on leave?

The book is otherwise quite an eye-opener for the layman. It was surprising to know that around 250 species of Indian birds and 70 exotic species have been recorded in the Indian live bird trade. After the Government of India stopped the trade in 1990, only captive-bred (domesticated) species can be sold or exported. It is a wonder how munias and parakeets are still being sold so brazenly in most parts of India.

Methods of 'doctoring' birds to resemble rare, expensive, or 'trade-permitted' species and *vice versa*, to dupe buyers or enforcement authorities, make interesting reading. Female red munias *Amandava amandava* are dyed and declared as the rare endemic green munia *A. formosa*. The latter is exported under the trade name tiger finch to fool the enforcement authorities. Wild quails are declared as domesticated Japanese quails to the enforcement authorities, and vice-versa to the customers! Horns are fabricated on the head of the spotted owlet *Athene brama* to give it an appearance of the horned owl (*Bubo* spp.) — a species popular in black magic. In some cases, two different species are sold as pairs (e.g. blackheaded bunting *Emberiza melanocephala* and redheaded bunting *E. brunniceps*). This reminded me of my childhood, when I regularly had white-throated munias *Lonchura malabarica* palmed off on me as females of both the blackheaded *L. malacca* and spotted munia *L. punctulata*, in the bird market at Coimbatore! There are many other interesting examples exposing the con man's ingenuity and the ignorance and gullibility of both the customers and the authorities.

To sum up, I hope the author brings out a revised edition of the publication, and puts in more thought and professionalism to give justice to the tag of 'monograph' attached to the booklet. 

Lemmings in the Arctic, Waders at Point Calimere

What's the connection?

COMPILED BY RACHAEL REUBEN

Every winter at wetlands, inland as well as coastal, flocks of little stints (*Calidris minuta*) draw the bird watcher's eye. These tiny waders seem to be in constant motion, running on the mud, feeding, fluttering and flying weakly. Tens of thousands of them congregate at Point Calimere, and it is here that Dr. S. Balachandran and his associates have been studying them and other wader species as part of the BNHS bird-ringing programme. Weight, age and moult are recorded for each bird that is trapped and ringed. Over the years, many fascinating details of their lives have emerged. In the hand, the buff-coloured fringes to wing coverts, which distinguish first-year birds (those fledged in the summer of the same year), can be clearly seen. These fringes form distinct scaly patterns, which fade slowly over the season. Adult birds are more grey and less obviously patterned. Another difference is the considerable wear and tear shown by wing coverts and primary feathers in newly arrived adults, which begin moulting immediately and complete the moult before January. Young birds begin moulting later, just before departing for the breeding grounds.


The proportion of first-year birds in the population fluctuates dramatically. In a year of high breeding success, there may be 77% or more juvenile little stints. In other years, the percentage may be less than 10%. Balachandran noticed that breeding failures occurred at three-year intervals (in 1986, '89, '92, '95 and '98) followed by a recovery in the next breeding season. Other species also followed this cycle, for example the curlew sandpiper (*Calidris ferruginea*), which is also very

common at Point Calimere. In good years, first-year birds made up 40 to 60% of the population, but could fall to less than 3%. The grey plover (*Pluvialis squatarola*) showed similar fluctuations, but they were less clear since the numbers trapped were quite small. But there were species like the lesser sand plover (*Charadrius mongolus*) in which proportions remained stable from year to year, varying from 30 to 50% without any particular rhythm.

So what makes the lesser sand plover different? The answer is that this species breeds in Ladakh, Tibet and western China, while the little stint, curlew sandpiper and grey plover breed in the marshes and willow scrub of the Arctic Tundra. Here they nest on the ground, where the arctic foxes which roam the area can easily find them. To counter their vulnerability, little stints lay many eggs: 4 to 5, sometimes 6 in a clutch. The slightly larger curlew sandpiper lays 3 to 4. But waders' eggs are not the foxes' first choice. If lemmings are available, foxes mainly ignore the waders' nests and prefer to feed on lemmings. On an average, 22 days are needed for waders' eggs to hatch and for the nestlings to leave. Scientists working in Siberia estimate that when lemmings are abundant there is an 86% chance that a wader's nest would escape predation for that long. As a result, very large numbers of juveniles surge into the population at the end of the summer, and this is reflected in the catches at the wintering grounds. However, lemmings have cycles of abundance. Population explosions occur periodically, which lead to migration in search of food and heavy predation. Every third year lemmings become scarce and the foxes then turn their attention to

the breeding waders. Now there is a less than 1% chance for a nest to escape destruction. The result is nearly total breeding failure, the little stints with their large clutches of eggs doing slightly better than species which lay fewer eggs. Every third year then, hardly any fledglings have survived to be captured at Point Calimere.

Waders breeding in the north fan out in autumn to winter in countries other than India as well. It is interesting to compare studies carried out elsewhere with those at Point Calimere. A subspecies of lesser sand plover which breeds in eastern Siberia and winters in Australia increases its weight by about two thirds with reserves of fat and protein in April, at the end of its stay in the wintering grounds. It needs these reserves for the long non-stop flight to east Siberia. This makes an interesting contrast with lesser sand plovers which winter at Point Calimere: by April they are only about half the weight of the Australian birds. This is because they have to fly a much shorter distance to the central Asian plateau, and can stop to feed at staging areas along the east coast, north of Point Calimere, as ring recoveries at Kaliveli and Chilka lakes during spring passage have shown.

Recoveries of ringed birds provide information on longevity as well as flight routes. Some recoveries may be made after only a few months; for instance a little stint and a curlew sandpiper bearing Polish and Russian rings respectively, were ringed as fledglings in the Arctic and were caught at Point Calimere shortly afterwards. The longest interval between ringing and recapture has been 11 years for the little stint and 12 years for the curlew sandpiper. Two recoveries of lesser sand plovers at Point Calimere after 18 and 20 years show that this species is comparatively longer lived. Many more details of the secret lives of waders are being unravelled as the bird ringing studies are analysed. 

Dr. Rachael Reuben is a former Director of the Centre for Research in Medical Entomology, Madurai.

Are the olive ridley turtles returning to Mumbai?


Compiled by Varad Giri



VARAD GIRI

A recent BNHS survey on the present status of sea turtles, along the coast of Maharashtra and Goa, indicated an alarming decline in the population, which can be attributed to the poaching of eggs and meat of turtles by humans and incidental catches in fishing nets.

Nesting of olive ridley (*Lepidochelys olivacea*) and green sea turtle (*Chelonia mydas*) has been reported in the Girgaum Chowpatty, Governor's Gate, Juhu, Versova, Gorai and Marve sea fronts of Mumbai. These, however, are stray and old records, and no recent information on sea turtle nesting has been recorded. Developmental activities along the coast and accidental drowning after being caught in fishing nets are the major threat to this group in Mumbai. Sea turtles are believed to be incarnations of God, and are not killed for meat here.

On May 31, 2001, one olive ridley sea turtle was caught in the fishing net of Mr. Kishore Patil and Mr. Asher Woralikar in Worli, who brought it to the shore. Mr. Pandesh Woralikar, an active member of the BNHS, immediately informed the BNHS about this find. The turtle was examined and photographed by the BNHS team and released immediately, with the hope that this solitary visit, after a long time, is just a beginning and that the olive ridley will return to breed, in Mumbai, as they did some years ago. 

Varad Giri is a Research Assistant at the BNHS.

World Environment Day Celebrated



Dr. A.M. Bhagwat inaugurating the exhibition while Mr. Bittu Sahgal (right) and others look on

As part of activities surrounding World Environment Day, June 5, Bombay Natural History Society and Sanctuary Magazine jointly organised an exhibition at Churchgate station, Mumbai, on June 6, 2001 to highlight the environmental problems faced by the city. The exhibition was inaugurated by Dr. A.M. Bhagwat, Member, BNHS, Executive Committee. Mr. Bittu Sahgal, Editor, Sanctuary



Commuters at the exhibition were all ears listening to volunteers who explained environmental problems

magazine was also present during the inauguration.

The exhibition addressed issues such as air pollution, deteriorating water quality, and reducing tree cover, all of which contribute to the falling quality of life in the city. About 3000-4000 commuters visited the exhibition, of which about 400 expressed their willingness to join hands to protect the environment. ♣

Book on Indian Wild Flowers released

Common Indian Wild Flowers, a new BNHS publication was released by Mrs. Pheroza Godrej, President, National Society of Friends of the Trees at Hornbill House on March 9, 2001 amidst a packed hall of nature lovers. Through its new publication, the BNHS aims to popularise the study of flowers commonly seen in one's backyard, roadside and forest and bring people closer to nature.

The book is a superbly illustrated field guide to the indigenous flora of the Indian plains and peninsula, with 240 colour photographs of common Indian wild flowers, with notes on the size, habit, habitat and distribution.

The book has been published with financial assistance from the Tata Social Welfare Trust which is a part of the Sir Dorabji Tata Trust. The Trust has sanctioned Rs. 30 lakhs to set up a 'New Titles Publication Fund' at the BNHS.

The author, Isaac D. Kehimkar, who also gave an illustrated talk on the occasion, is well known to



(L-R) The author with Mrs. Pheroza Godrej, Mr. B.G. Deshmukh, President, BNHS

members as he has been working with the BNHS for the last 22 years, and is presently the Public Relations Officer. He is a keen naturalist, an accomplished photographer and contributes regularly to nature publications. He is especially interested in reptiles, amphibians, insects and botany. ♣

SNAP SHOTS

ANISH ANDHERIA

Anish is a naturalist, wildlife photographer and a BNHS member



“The status of a dead tree is no less than that of a living one”. Termites, with the help of microscopic bacteria in their gut, decompose complex cellulose and recycle it back into the environment, causing deep tunnels through dead tree trunks. These newly created berths are later occupied by larger creatures to evade predation, or to enjoy an afternoon siesta. In fact, animals like the common Indian monitor *Varanus bengalensis*, seen resting in one such hollow at Keoladeo National Park (KNP), Bharatpur, depend largely on dead logs for survival. Thus, such seemingly dead trees are in reality harbourers of life! They provide refuge to surprisingly large numbers of birds, small mammals, reptiles and a plethora of insects.

The renowned mass congregation of wetland birds at KNP attracts photographers from all over the globe. They swarm the sanctuary with a single-minded obsession of capturing the avifaunal spectacle on film. However, one should recognise that KNP is first a complex multifaceted ecosystem and then a bird sanctuary! The above picture not only reiterates this fact, it also highlights the importance of “expecting the unexpected”. In nature there might never be a second chance!



COMMON INDIAN WILD FLOWERS

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