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EDITORIAL

Living up to the standard of a role model is always difficult. While agreeing to become the editor of *Hornbill*, I have my own trepidations. Will I be able to live up to the standard set by Mr. J.C. Daniel? Only the next couple of issues will tell.

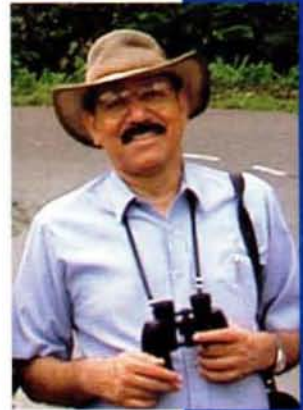
Your popular magazine was the brainchild of Dr. Sálím Ali and Mr. Daniel. The earlier issues of the *Journal* used to carry many well-written natural history articles, but by the mid 1970s the *Journal* had become too technical (and some say too boring) for the general member. So in 1976, the Society decided to start a popular pictorial magazine where members could publish their natural history observations. From its black and white pocket-book size, *Hornbill* is now all colour in A4 size format. For more than 25 years, Mr. Daniel has been editing it. From this issue, he has passed the baton on to me. I have some ideas to further improve it and make it more user-friendly and topical. While I will keep the natural history flavour of the magazine, slowly I would like to add regular columns on burning conservation issues, one story on the lesser-known sanctuaries, and a column on members' initiatives. Many members of the BNHS have their own organisations or are members of local organisations, involved in local conservation initiatives. We would like to highlight such activities to give examples of what an ordinary citizen of India can do to save nature. Please write to us, not exceeding 500 words, about the conservation actions taken by you at the grass root level.

We have nearly 550 sanctuaries and national parks in India, but many of these wonderful areas are not known outside their state or region. Kanha, Bandhavgarh, Ranthambore, Keoladeo, Periyar are becoming too crowded and too often written about. Let us explore Sitamata of Rajasthan, Suhelwa of Uttar Pradesh, Coringa of Andhra Pradesh, and Shendurney of Kerala. If you have visited such a relatively unknown sanctuary, please send us an article, with good pictures. Share your experience with other members.

There are many national conservation issues. We would like our members to be aware of them. Being aware is the first step for taking proper conservation measures. If you want to highlight some issues, please send us a note of up to 500 words. Although we have a long waiting period of nearly a year for major articles, we will publish the conservation issues on a priority basis.

For most non-biologists, scientific names are difficult to pronounce and to write (some are really difficult). Most people do not know that there is a reason for a particular scientific name – either it describes the morphological character of a species, or region of distribution, or the name is based on some mythological god or demon. Some species are named after the discoverer. During my early days, when I first read *Hemitragus jayakari*, the second word looked very Indian. It was much later that I came to know that the Arabian tahr was named after an Indian Lt. Col. A.S.G. Jayakar, who spent 30 years in Oman and first obtained this species for science. He was a medical doctor and a distinguished naturalist. Read about this remarkable man on page 23. We need more role models like Jayakar. I am sure many of our members are.

Asad R. Rahmani



HORNBILL

January-March, 2005



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Layout

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Cover

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For more information on the Society
and its activities,

write to the Honorary Secretary,
Bombay Natural History Society,
Dr. Sâlim Ali Chowk, S.B. Singh Road,
Mumbai 400 023, Maharashtra, India.

Tel.: (91-22) 2282 1811

Fax: (91-22) 2283 7615

E-mail: bnhs@bom4.vsnl.net.in

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P. Jeganathan

A passionate moment,
when etched in one's
memory, makes a
beautiful narration, and
the author has made
sure of that.



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Amidst migratory waterfowl —
CHILIKA LAKE

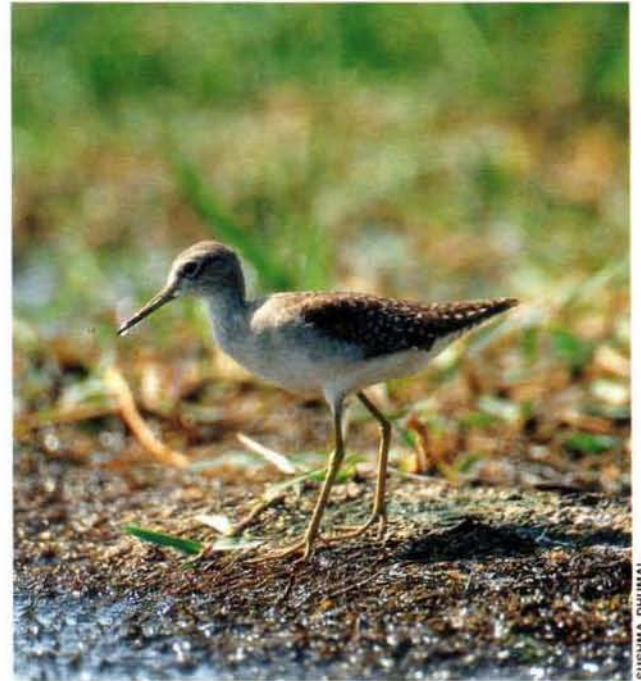
God gives all men all earth to love,
But since man's heart is small,
Ordains for each one spot shall prove,
Beloved over all.
Each to his choice, and I rejoice,
This lot has fallen to me...

Text: Sushma Dhumal

Sushma Dhumal is a BNHS member, a keen birder and an educationist by profession.

Kipling's lines are apt for Dr. Balachandran, a Senior Scientist of the Bombay Natural History Society (BNHS), euphoric to be in the field and especially among birds. He is heading a project sponsored by the Chilika Development Authority (Orissa), to evaluate the habitats of Chilika, using birds as bio-indicators, with the assistance of Mr. P. Sathiyaselvam and trappers Guruswamy and Ali Hussain. We (Usha Thorat, Sunila Navalkar, Nita Sukhtankar, Veena Gandhi and I) decided to pay them a visit. The result was a hectic, educational, thrilling three days at Chilika Lake.

December 22, 2002: The alarm woke us at 2:30 a.m. We were travelling on the Konarak Express, waiting to get off at Balugan, at 3:00 a.m. However, we got there at 4:30 a.m, which was expected, as the train takes such a circuitous route. The people waiting to receive us must have been cursing their luck.



Above: Wood sandpiper is one of the arctic nesting wader that winters at the Chilika lake

Below: The orange-red to deep blood-red beak of brown-headed gulls are conspicuous



Chilika lake

Chilika is the largest lagoon along the east coast of India, situated between 19° 28'-19° 54' N and 85° 05'-85° 38' E. What is unique about this lagoon is the assemblage of marine, brackish and fresh water ecosystem with estuarine characters. It is a hotspot of biodiversity and shelters a number of endangered species listed in the IUCN red list of threatened species, and is also a designated Ramsar site. It is the wintering ground for more than one million migratory birds. A 32 km long, narrow, outer channel connects the lagoon to the Bay of Bengal. The lagoon can be broadly divided into four natural sectors based on salinity and depth: the southern zone, central zone, northern zone and the outer channel. Flocks of migratory waterfowl arrive from as far as the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and southeast Asia, Ladakh and the Himalaya, to feed and breed in its fertile waters. A BNHS survey in 2002 listed 205 species of birds from the lagoon.

The Nalabana Island within the lagoon is notified as a Bird Sanctuary under the Wildlife (Protection) Act, 1972. The National Wetland Coral Reefs Committee of the Ministry of Environment & Forests, Government of India also identifies the lagoon as a priority site for conservation and management.

The Orissa Tourism Development Corporation (OTDC) guesthouse looked comfortable and Sunila was happy with the insects and moths that were attracted by the light outside our room. She had joined the entomology course conducted by the BNHS, and was always trying to place them in their correct families. I flopped onto the inviting bed for an hour's rest. Soon enough, the call of the *chainwallah* dragged us out of our beds. The sun was about to rise over Chilika Lake, and the sky and water were shades of blue, purple, violet and pink. That was a take-off booster for me. I picked up my camera and was out in a flash.

The day starts early here; people were up and about at 5:30 a.m. The fishermen had already put in their nets. We spotted a few waders and terns near the jetty. The pied mynas were subtly different from the ones I had seen so far.

We set out for the Nalabana Island (central Chilika), in a snug boat with a roof for cover, foam mattresses for comfort and even blinds to cut out the chill. The water in this part of the lake is brackish. The first birds to greet us were the terns, mainly whiskered. They would hover close to any boat that pulled in its fishing net. The fishing eagle and the brahmyn kite would swoop in to snatch a fish. As we crossed the fishing boats and went ahead, we came across a fairly large flock of coots and a little later, a huge congregation (4,000-5,000) of gadwalls, wigeons, pintails and coots. The gadwalls with black tails and white speculum were dabbling and so were the wigeons, which have a rusty head and a pale grey bill. Their forehead, from the beak upwards, appears as if smeared with a *chandani tilak*. The female can be distinguished from the gadwall female by its light coloured bill and a rusty tinge on the flanks. The

pintail is my favourite duck, elongated, largely grey body, chocolate brown head and a slim neck with a white stripe running down to a white breast and unusually long, pointed, black tail feathers, giving it an aristocratic look, like a tall, dark hero in coat-tails, from some romantic novel.

As we moved on we saw shovellers, with their large spatulate beaks and shiny green heads, also dabbling instead of sifting. Later we did see them sifting in shallower waters, utilising their beak, which has a peculiar shape, suitable for this mode of feeding. The common pochard with its dark chestnut head, silver grey back and two-toned bill were abundant and so were the tufted ducks; the tuft was not too obvious, but



Cameras in hand, the team is ready for bird watching in Chilika lake

SUSHMA DHUMAL



MEETHIL MOMAYA

they could be identified by their dark tails, white flanks and yellow eyes. The highlight was the lonely red-crested pochard, which moved around like a turbaned prince. At the island, behind the waders, in a line, stood white ibis (with black neck, head, down-curved bill), spoonbills, grey pelicans, greater flamingos and all the egrets, little, median and large, as if to welcome us.

Large, rufous brahminy ducks on the other side caught our attention, and as we gazed through our binoculars, bar-headed geese with yellow beaks and legs, gracefully alighted on the water. Soon we also noticed their cousins — the greylag geese, with pretty pink beaks and legs. Dr. Bala explained the difference between various sandpipers (common, marsh and spotted) and plovers (Kentish and Mongolian). We climbed up to a watchtower and saw the huge expanse of water surrounding us. (The waterspread area of the lagoon varies between 1,165 and 906 sq. km during the monsoon and summer respectively.) There were more than a lakh ducks and waders all around the island. It's always a challenge to count birds, especially when they are moving and in large

Above and below: Whiskered terns never miss an opportunity to close-in for a feed at the sight of a fishing net



SUSHMA DHUMAL

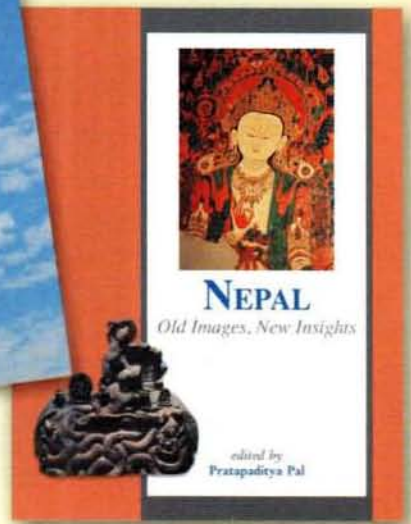
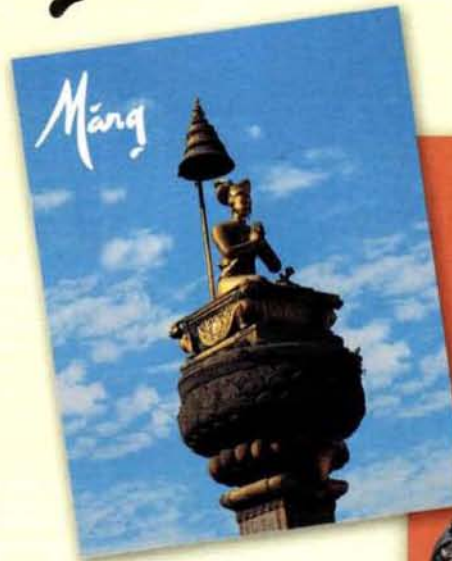
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numbers. To make a rough estimate, first select a small flock of birds, a representative sample, count the number of birds in that patch; then approximate the number of such patches in the congregation; now multiply the two values and you have the total number of birds congregating.

The few dabchicks present surprised us, as they are mostly seen in fresh water. Since the water was shallow we could see aquatic plants clearly, especially different types of algae. A large number of ducks here get food by tipping or upending. The pintails looked the funniest with their exceptionally long tails pointing vertically up.

Next day we went to the northern side of the lake that has sweet water as rivers drain into it. One of them is the deltaic drainage of the Mahanadi river system via rivers of more recent origins including Bhargavi, Daya, Nuna, and Makra, which contribute a major part of the fresh water and silt input to the lagoon, now excessive due to deforestation in the catchment area. As the boat moved through the tall Nala grass, Nita was reminded of the Sunderbans. Pink,

purple and red lilies bobbed up and down. A purple heron was tugging a long worm out of its deep burrow. Slowly, the number of birds that prefer fresh water increased — common moorhens and its larger and swankier cousin the purple moorhen, both with heavy bright red bills, white-breasted water-hens as if in a tuxedo, both the jaçanas in their non-breeding plumage, the plain reddish ruddy crake and common snipe with a thick long bill. We could see at least 15-20 jaçanas or moorhens at a time and one cannot guess how many were hidden in the reeds. We heard the water-cock but did not see one. Soon we came to a large clearing where we noticed more than a hundred black-tailed godwits, some of them were exceptionally large. This place was Mangaljodi. The Eurasian curlew too looked really large! How does it manage to carry such a long beak without tipping over, I wonder? Still further we saw huge congregations of ducks, mainly tufted ducks and gadwalls, estimated to be about 1,00,000. They are invariably seen in the same place, maybe because of the availability of food. Even the drongos seen here were large, like the godwits and curlews, and had



MEETHIL MOMAYA

Common swallows are abundant during winter around the Chilika lake

Chilika lake



SUSHMA DHUMAL



SUSHMA DHUMAL

Little tern (above) and small pratincole (below) do look different in the hand than when in flight

slightly curved-up tail ends, somewhat like a spangled drongo.

We noted that in any congregation, the coots and tufted ducks would be on the circumference as if guarding the flock, then the gadwalls and pintails. Innermost, in shallower water, could be seen the brahminy ducks, the geese and the shovellers. I guess as they exploit different feeding zones, they are not competitors and can coexist. Similarly, among waders, which feed in shallow water, the plovers and pratincoles feed very close to the shore, followed by the sandpipers and shanks, then the curlew, godwit and stints and lastly the flamingos. Nature has equipped them to feed more efficiently by endowing them with long legs and appropriate beaks. The plovers and pratincoles have the shortest legs and beaks, the flamingos the longest legs. Nets had been put up in several places to catch crabs. We met some fishermen who had caught tiger prawns and catfish. The pintails, gadwall, bar-headed

geese and wigeons are vegetarian, while the shovellers and pochards eat micro-crustraceans, other microorganisms and plants. Knowing this, poachers kill them by injecting poison in the plants.

As we approached shallower waters near a large bund, we saw open-billed storks and the grey-headed lapwing, a lifer! Dr. Bala wanted a party for each lifer. I owe him five (Of course, I didn't tell him that even the tufted duck was a lifer!). The grey-headed lapwing is quite a plain looking bird, but we birdwatchers can get very excited with anything new. Here we met some locals, who used to be poachers, but have now organised an NGO, Sri Ma Mangala Pakshi Sudharak Samiti, to ward off poachers, address environment issues, and protect the birds. They showed us stalks of lilies that had been injected with poison.

We came back to the OTDC guesthouse at around 3 p.m., packed our bags and boarded the larger plush boat. We planned to spend the night on this boat at Nalabana Island. As the sun was retiring, a large flock of pratincoles flew in to wish us goodnight. The pratincole's black tipped wings are longer than its tail, like swallows, and its beak is like a plover's. But when viewed in hand it's a pretty bird, dainty, pink



USHA THORAT

Long legs and beak help a black-winged stilt to wade into slightly deeper water for feeding

Clogging of the original mouth of the lake led to a reduction in salinity with an adverse impact on marine and bird life. Fishing is the lifeline of the region, and so the Government took action and another mouth was opened to regulate the salinity.

High tides near this inlet drive in salt water through the channel during the dry months, from December to June. With the onset of the rains, the 52 rivers and rivulets flowing into the Chilika are in spate, causing fresh water currents that gradually push the sea water out. Due to littoral drift prevailing along the east coast, the inlet constantly changes its position.

painted mouth and beautiful round eyes with white mascara.

Mist nets had been put up while we were viewing birds. In the shimmering moonlight on the dark waters, we could see the silhouettes of the birds that would start feeding and become samples for our study. Soon the first catch came in and Dr. Bala and Mr. Selvam started measuring, weighing, recording and banding them, explaining their characteristics. Identifying the birds in the field became easy after this session. They ringed 60 birds of 14 species. The grey plover with black

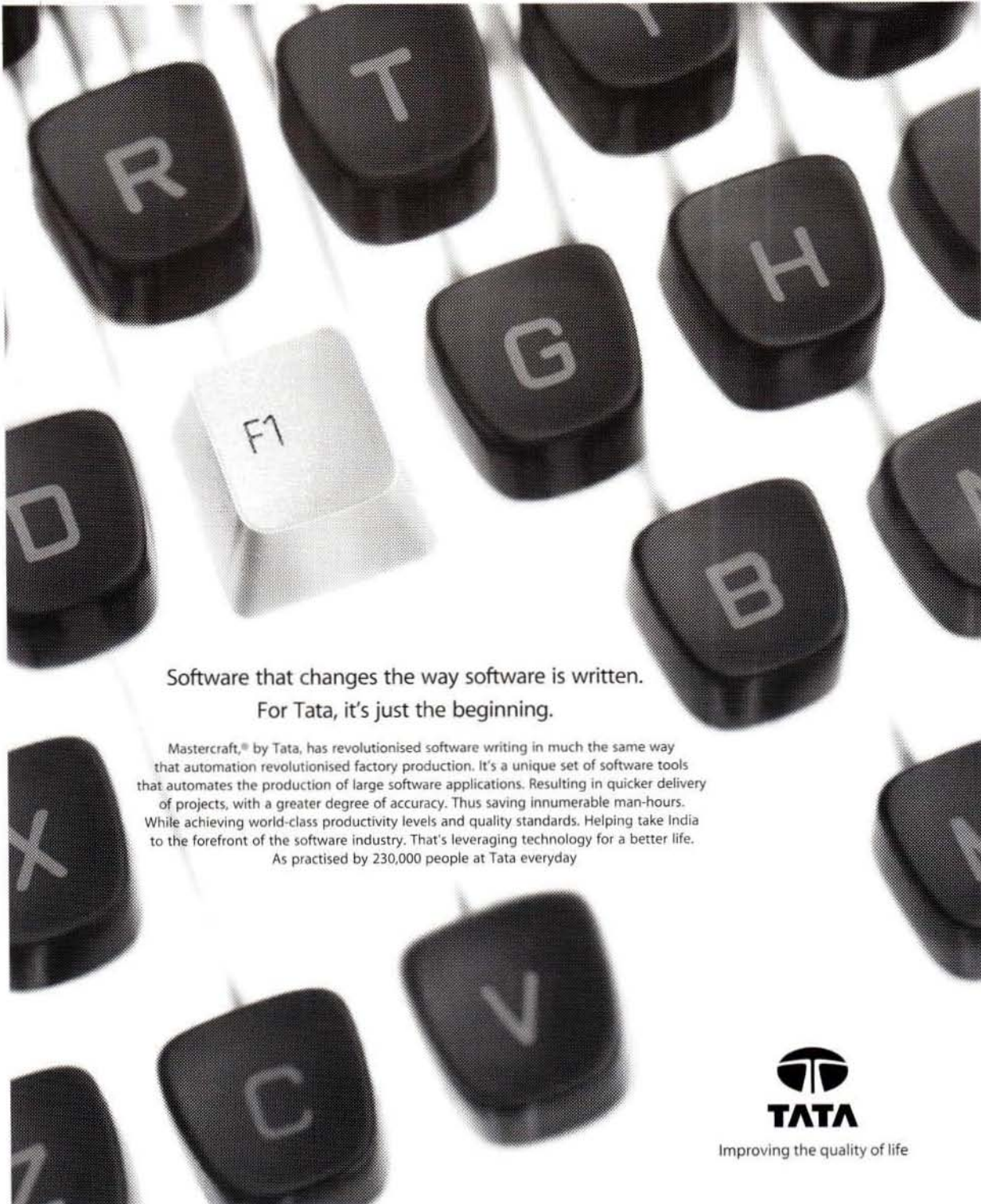
axillaries (a lifer!) was larger than the golden plover, which has an amazing golden spangled plumage. Their large round eyes make the otherwise plain plovers look quite attractive. It was dark and the moon, as it rose above the horizon, was reflecting the red colours of the setting sun. Dr. Bala, in order to improve our identification skills, started awarding us grades for each accurate identification, until we came across a strange bird. It had a thick black snipe-like bill, but otherwise looked like a godwit, just smaller (Again a lifer!). We couldn't identify it even with the help of the book and got negative marks from Dr. Bala! It was an Asian dowitcher, a very rare and near-threatened bird. The terns and Mongolian plovers were appearing with monotonous regularity. The little tern was petite and cute.

Next morning Usha and I, armed with 500 mm lenses and tripods, walked in ankle deep clayey slush to take photographs of birds flying away to their favourite feeding spots. We thought an amazing sight of huge flocks taking off might be our reward. But, unfortunately, as most of the birds were out feeding in the moonlight, they had tucked their beaks under their wings and gone to sleep. We only saw some brahminy ducks and geese flying away. We took a rough estimate of the number of birds (2,00,000), which roost here and set off for



MEETHIL MOMAYA

The sheer number of gadwall and other birds in the lake will tempt you to come back



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USHA THORAT

Little, median and large egrets congregate at the Nalabana Island

Satpada (south Chilika) towards the mouth of the lake. The lagoon is a highly productive ecosystem and its rich fishery resources sustain the livelihood of more than 1,50,000 fisher-folk who live in and around the lagoon. We went through several villages and saw glimpses of dolphins as they came up for air. We saw quite a few terns but very few congregations of ducks.

We went to the mouth and took a short walk to the beach, such a glorious golden colour! And the white surf in the bright sun was truly inviting. We ate fresh tiger prawns and mackerel *bangda* freshly fried at Rs. 2 a piece! Dr. Bala was waiting impatiently to point out the sea terns (the greater crested and the lesser crested) near the beach and explained the differences between these and the lake terns! Birds always come before other things for Dr. Bala.

A dead Olive Ridley Turtle had been washed ashore near the beach and a number of trees were uprooted near the mouth of the lake, which was clearly

getting wider and wider. It may even be necessary to bund it at some stage.

We turned back to Satpada and to the Yatri Nivas from where we returned to Puri. You cannot come to Chilika and not visit Puri and Konark.

Puri, Konark and Bhuwaneshwar temples are superb specimens of art and architecture, and are proof of superior knowledge in science in ancient India, yet one feels pained that the vandalism of nature began in such early times. The friezes in Konark depict that a large number of wild elephants were domesticated and used to move huge stones to construction sites; large forests must have been cleared, simply to satisfy some emperor's ego. No doubt, this gave a large number of people employment and scope for creativity but at what cost! History has taught us that we repeat our mistakes and rarely learn from them. Let us pledge to be more sensitive, to ensure that our grandiose developmental plans do not harm our environment, and to nurture our wild. ♪

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Call of the Jerdon's Courser

There are certain moments in every nature lover's life, which he never forgets. It could be anything – the first sighting of his study animal in the wild, or watching some rare migrant in his favourite bird watching site, or looking at his favourite tree in bloom. These moments remain vivid in one's memory for long, before they are shared with others. Let me share one such moment with you that I was passionate about, the moment when I first saw the Jerdon's courser while it called.



Text and Photographs: P. Jeganathan

P. Jeganathan is a Senior Research Fellow at the BNHS. He is presently studying the Jerdon's courser in the Sri Lankamaleswara Wildlife Sanctuary.

The Jerdon's courser is a small, nocturnal, elusive bird. It was rediscovered in January 1986, near the Pennar river valley in Andhra Pradesh; the area was later declared as a sanctuary exclusively for this bird. The Jerdon's courser has since then been known only from the Sri Lankamaleswara Wildlife Sanctuary, in Cuddapah district, Andhra Pradesh.

In 2000, the Bombay Natural History Society (BNHS) joined hands with the Universities of Reading, Cambridge and the Royal Society for the Protection of Birds to initiate a research project, with the help of Darwin Initiative and the Andhra Pradesh Forest Department. One of the achievements of this joint project was the recording and identification of the call of the Jerdon's courser, which was not known before.

Why should recording and identifying the call of a bird be so significant and important? Calls indicate the presence of elusive birds, like Jerdon's courser, especially if we want to know their geographical distribution, which is poorly known. Calls can be of great help during field surveys.

February 17, 2001, was the day I heard and recognised the call of the Jerdon's courser for the first time. Right from the beginning of the study (from December 2000) I had been listening to the calls of nocturnal birds at dawn and dusk, in and around the place where we had sighted the Jerdon's courser inside the Sanctuary. Apart from nightjars, I had heard stone curlews and red-wattled lapwings regularly, and sometimes spotted owlets.

On that particular day I was at my usual place. The common Indian nightjars were the first to announce their arrival by chattering soon after sunset.



Identifying and recording the call of the Jerdon's courser is a significant ornithological event of our time

The Franklin's nightjar came next, its call lashing the air, followed by the bubbling Jerdon's nightjar. Amidst this cacophony came a series of long high-pitched whistles from the stone curlews. It was about 6.30 p.m. and the sun was just below the horizon. I expected to hear red-wattled lapwings, as they roosted there at night. But I heard something new, "*kwik-koo... kwik-koo... kwik-koo*"! The call went on for about a minute. It was peculiar and sounded as if it came from somewhere very close, not from one direction, but from three different directions within a minute. Was it the call of the Jerdon's courser? The very thought gave me goose bumps. I concentrated on the direction from where I had heard the call. I noticed some movement under a small bush and pointed a torch at it.

It was a Jerdon's courser! I was overwhelmed. I had heard the call of the Jerdon's courser for the first time. The unfortunate thing, however, was that my recording equipment was not with me. I had stayed back to listen to calls while on my way back from some other work. I regretted having missed this rare opportunity to record the voice on tape; it was nearly nine months – November 2001 – before the next opportunity arrived.

On one occasion, during twilight, I had a brief glimpse of the Jerdon's courser in flight. It landed behind a bush and immediately I heard a similar call from there, confirming that what I had heard was the call of the Jerdon's courser.

My excitement at this discovery was, however, short-lived. When I told Dr. Asad R. Rahmani, who is

◀ **Open areas in scrub jungle are the most likely places to spot a Jerdon's courser**



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the supervisor of this project, about the call, he was delighted but asked, "Have you seen the bird while it is calling?" "Not really, but I have heard the call from places where the bird was seen to walk or fly away from within a few seconds", said I. He was not completely convinced. He told me that while we could be 99% sure that it was the call of the Jerdon's courser, we could be 100% sure only if we saw the bird while it called. Would this ever be possible?

Broadcasting recorded calls may elicit vocal responses or an approach by the bird, and then I may eventually see the bird when it is calling. I did try this theory and got response from Jerdon's coursers too, but saw nothing as it was pitch dark.

We had decided not to play the call very often, fearing that the birds in the area might get habituated to the tape and eventually not respond at all. So I broadcast it once in 15 days and monitored the calling behaviour of the Jerdon's courser at dusk, to know the frequency of calls at different times of the year. In the process, I found that the Jerdon's courser does not respond to the call of its own species very often.

Though I was getting responses once in a while, I had a strong desire to see the bird while it called. I wondered sometimes if I ever would be granted this wish. My scepticism arose from the fact that the Jerdon's courser is nocturnal, and I had never seen or heard them during the day. The only way to accomplish this would be to radio tag a Jerdon's courser. The identities of calling individuals can be established at the time of recording by a combination of radio tags and calling location. This I could not do as I did not have permission to catch the bird. I was sure that the call was of the Jerdon's courser, but I could never say, "I have seen the bird while it was calling."

Meanwhile, I was busy surveying other parts of the Sanctuary with my pre-recorded tape to find them in new areas. But, I kept visiting the core area to listen to calls whenever I found the time.

May 17, 2002, was a hot summer day in Cuddapah. The Jerdon's coursers were not calling much even in the core area, as they did during winter. On that day Rahim, my assistant, and I were in the core area before our usual time. It was about 6 p.m. and the sun



The monotonous chuckling of the common Indian nightjar announces the arrival of dusk in the Sri Lankamaleswara Wildlife Sanctuary

was just above the Lankamalai hill ranges. During summer, it generally got dark at about 6.45 p.m. We had walked towards our regular listening point and suddenly we heard the very familiar call, but we kept walking. Again we heard the call, but this time it was a little closer. Sometimes when you see somebody, whom you know very well, in an unlikely place, or at unusual time, you may take some time before you recognise them. We stopped and looked towards the place from where the call seemed to come. I looked at Rahim and his face was full of joy. We had heard the Jerdon's courser!

Immediately Rahim pointed at the tape player, which had the pre-recorded Jerdon's courser call, and gestured if he should play it. I said no. Although my quest was to watch the Jerdon's courser while it called, I first wanted to see the bird in natural light. The call came from about 25 m away from us. We slowly walked towards it, and heard the call again, and it lasted for about 30 seconds. After a short while, we saw the Jerdon's courser fly to our right. It flew away with gentle wing beats, showing the white rump, and the white patches at the tip of the primaries. Fortunately for us, it landed where there were no big bushes, about 20 m away from us. It looked around and slowly walked a few short paces. We immediately lay down on the forest floor since there was nothing between the bird and us except stones and grasses. Oh! That beautiful orange throat patch! It was a treat to watch this enigmatic bird in sunlight. All the while my heart was thumping and

The courser's call

my mind was begging that bird "Please open your beak, I want to see you while you are calling."

The Jerdon's courser must have read my mind. It turned away from us and went behind a small thorny bush. Though it was not fully visible, it wasn't completely out of my view. As soon as it went behind the small bush, I heard a faint "kwik-keo" from there. "Well, I have seen the bird in sunlight. I have heard the call, which appears to come from that bird. But I am yet to see it while it calls." I believed my eyes, but everything that one sees and hears need not be the truth. I had been dreaming about seeing the bird while it called, right from the day I recorded its call. There was no place for supposition this time. I was not ready to console myself with the incomplete performance of that Jerdon's courser.

Rahim asked me again if he could play the tape. I did not want to miss this golden opportunity to convert 99% surety into 100% certainty. This time, without hesitation, I asked him to play the tape. We played it only for 15 seconds and stopped. We were watching the bird anxiously for its reaction. As soon as we stopped the tape, the live bird started uttering the initial notes of its two-note call several times, but it still stayed behind the small bush. We waited patiently and after three minutes we played the tape again for 15 seconds. This time the bird didn't disappoint us. It ran away from the bush with a lowered head and hunched body that helped

us take a good look at it. Then it turned and looked towards us and stood upright. Though it had not responded vocally, its behaviour indicated that it was alarmed. But this wasn't what I wanted. Finally, after five minutes we played the tape again for 15 seconds and then it finally happened. It started calling! Right in front of us and this lasted for about half a minute! At last, I really was seeing the Jerdon's courser while it was calling, that too in ample sunlight.

So, this is how the call of the Jerdon's courser was recorded and identified nearly 15 years after its rediscovery. We used this call in the tape playback survey to detect its presence in new areas. We found this elusive bird in three new places in and around the Sanctuary. Historically, the Jerdon's courser was known mainly from Andhra Pradesh. It has been reported from Khammam, Nellore, Anantapur and Cuddapah districts in Andhra Pradesh, and also from a place called Sironcha, in east Maharashtra. But now they are regularly sighted only in and around the Sri Lankamaleswara Wildlife Sanctuary. It may occur wherever suitable habitat exists. But those places have not yet been surveyed. It is very important to conduct a large-scale survey to find the Jerdon's courser in new areas, since its habitat is reducing due to various anthropogenic activities with every passing day.

One of our team members, Dr. Rhys Green, floated the idea of familiarising this call to birdwatchers in Andhra Pradesh, so they could inform us if they



Radio-tagging a Jerdon's courser may help to understand its interaction with the red-wattled lapwing, a bird seen in scrub jungles

heard this call from new places. It is difficult to see this bird since it is small, nocturnal and furtive, but one can hear its calls in the evening in a potentially suitable habitat. As a small team cannot possibly survey the entire state, we have designed a small sound box, which reproduces the call of the Jerdon's courser. This call can be heard by gently pressing both sides of the box. It is not loud enough for broadcasting, but does help the listener remember and identify the call. This box has been distributed among birdwatchers, forest department officials, villagers, and tribal people in the Cuddapah district. We have also distributed brochures in local languages that briefly explain the aims of the project, call listening procedures and our contact details.


Four major expeditions were organised by the BNHS to find this bird before it was rediscovered. Many locals, forest officers, hunters, bird trappers were interviewed; pictures showing differences between the Indian courser and the Jerdon's courser were widely distributed. Eventually, it was found near Reddipalli village in Cuddapah district. But till date we know very little about the geographical distribution of the Jerdon's courser. It has mainly been reported from scrub jungles with open areas. It does not seem to prefer dense scrub forest or more open forests and calls mainly in the evening, starting 45-50 minutes after sunset, continuing for a few minutes to about 20 minutes. The bird gives between 2 and 16 calls in a sequence at about one call per second. Each "kwik-koo" can be considered as

one call. It has been estimated that the call can be heard from c. 200-250 m.

If you are in Andhra Pradesh, and plan to visit the scrub jungle for bird watching, do write to us so that we can send this sound box to you. All you need to do if you find scrub jungles with open areas, is to go out in the evening just before sunset, and listen for night bird calls. Try to stay there until about one hour after sunset.



This sound box helps a listener remember and identify the courser's call

If you are in a group, try to spread out, about 200 m between each listener, to cover more area. If you hear the Jerdon's courser call, I am sure it will be an exciting and unforgettable moment for you. And then do not forget to inform us; do share these moments of joy with us too. 

After a long wait the Ministry of Environment and Forests, Government of India has granted permission for radio telemetry studies on two Jerdon's coursers on March 14, 2005. The Chief Wildlife Warden, Andhra Pradesh has also given a no objection certificate.

The Bombay Natural History Society and the Royal Society for the Protection of Birds, U.K. will soon start a study in the Sri Lankamaleswara Wildlife Sanctuary, Cuddapah district, Andhra Pradesh. Radio-tagging will help to unravel the secret life of the Jerdon's courser. Some of the intriguing questions that we plan to seek answers to are

- How large is the home range of the Jerdon's courser?
- Does the Jerdon's courser move between areas and habitats?
- What is the Jerdon's courser's population?
- Where does the Jerdon's courser nest?
- When do Jerdon's coursers breed?

We at the BNHS thank the Ministry of Environment and Forests, Government of India and the Andhra Pradesh Forest Department for granting us permission to conduct this study.

About Books

Reviewed by Asad R. Rahmani

Hugh Gantzer and his wife Colleen are well-known travel writers. Hugh was an officer in the Indian Navy, a judge advocate, the first executive in a shipping company and a tea trader. He spent his early years in the forested areas of what are now Jharkhand and Uttaranchal. He lives a retired life with his wife in a cottage in the Himalaya. This husband and wife team still travels for almost six months a year, as can be seen by their numerous articles in newspapers and magazines.

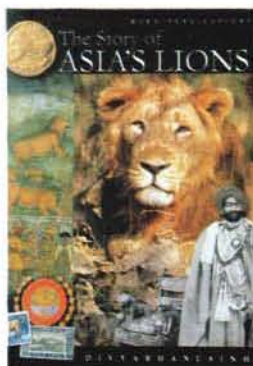
In this book, Hugh has splendidly woven *shikar* stories of the British rule in pre-Independence India. He starts with a 2-3 page introduction before the story, giving vivid details of the lifestyle of the Burra Sahibs and *shikar* at the time when wildlife was plentiful and forests clothed most parts of the hills and valleys of Dehra Dun, Mussoorie and other places. Hugh is a perfect raconteur. The stories come alive with his description of the smallest details. The only things missing are the exact dates and sometimes the name of areas where a particular incident had taken place. One has a feeling that Hugh has embellished some of the accounts by his own rich experience of living close to nature. Or, are these just stories and not facts?

Careless editing is the only drawback of this book. There are many spelling mistakes; even pages are transposed or mixed up (e.g. pp. 20-23). There are some non-scientific statements also, for example, jackals becoming rabid in hot weather (p. 55), or obliquely calling a rabbit a rodent (p. 71). Do all jackals become rabid in summer? Rabbit belongs to Order Lagomorpha and not Order Rodentia. Lagomorphs were originally classified as rodents (Duplicidentata) but by 1912, the two orders were separated. Even the subtitles on the cover and title page vary. The cover reads "The Black Beast of Mussoorie and other Stories", while the title page reads "The Black Beast of Mussoorie and other Tales". Despite these mistakes, the book will be liked by people who are fond of *shikar* tales (or stories!).



The Black Beast of Mussoorie and other stories, 2004.

By Hugh Gantzer.
Rupa and Co.,
New Delhi.
xi + 137 pp.
(19.5 x 13 cm).
Price: Rs. 150.
Paperback.



The Story of Asia's Lion, 2005.

By Divyabhanusinh.
Marg Publications,
Mumbai.
259 pp.
(28.5 x 22.5 cm).
Price: Rs. 1850,
US\$ 49, UK£ 30.
Hardback.

Reviewed by J.C. Daniel

This is a superbly produced book on the history of the lion in its relation to man. Both lived in the past in the same habitat, semi-deciduous forest and grasslands from North Africa to the plains of the Ganges, except in the lush grasslands and forests of the Indus Valley where in the Harappan culture the tiger replaced the lion, in a streak of wetlands in a generally deciduous landscape.

A well-researched book on the history of lion and man during the millennia, when their history in writing and in sculpture recorded the relationship between the two. The first nine chapters of the book record the gradual and steady decline of the Asiatic lion throughout its range, and the final and disastrous meeting of the species with its nemesis, the last conquerors of the Subcontinent, the British and the weapons they used impartially on man and beast. The lion lost out rapidly till the Nawabs of Junagadh extended protection to the few hundreds left in the remote forests of the Gir. In the final chapters, Divyabhanusinh succinctly describes the problems that face this gravely endangered remnant population of the lion. The number supposed to exist fluctuates like the temperature of a man with malaria, depending on whether the government or an independent body does the counting. The lion is a critically endangered species, likely to be wiped out by contagious disease as had happened to lions in some parts of Africa. I believe it is amazingly shortsighted of the

State Government to claim proprietary rights over the lions of the Gir. A person from Gujarat who settles outside Gujarat still remains a Gujarati and an Indian. Why should not a similar privilege be extended to a small pride of lions in a new habitat in India? The lion is of special significance as a national animal as it adorns our national emblem.

A well-written book. The only fault I can find is that it is a "Coffee Table" production, unwieldy and not meant for reading in comfort. Especially if you prefer to read in bed and you have to fold yourself up to make a reading stand! The question all of us should seriously consider is whether under existing circumstances the lion will survive this century. 🐾

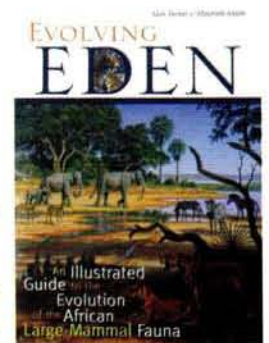
Reviewed by Asad R. Rahmani

Africa never fails to fascinate; whether it was the so-called big game hunters of the last century, or the camera and binocular clutching wildlife enthusiasts of our present times, or the palaeontologists searching fossils in the Olduvai Gorge, or the anthropologists researching evolution of human cultures, Africa is the continent for them. Unlike other continents, Africa has preserved its large mammalian diversity — a sort of 'museum' for wildlife biologists and palaeontologists to study the nature of mammalian, including human, evolution. As the dust jacket indicates, this exquisitely illustrated book links the evidence of the past with that of the present, examines the evolution of the mammalian fauna of Africa within the context of dramatic changes over the course of more than 30 million years of primate presence. The authors have discussed human evolution as a part of the larger pattern of mammalian evolution.

The first author is a Professor of Vertebrate Palaeontology at John Moores University in Liverpool, England, while the second author works at the National Museum of Natural Sciences as a palaeontological artist. This combination has resulted in a fascinating book, not always easy to read due to heavy scientific jargon, but nonetheless important for present-day conservationists who want to protect this "Garden of Eden".

The book is divided into five major chapters starting from the Continental Drift, Climate Change and the Motors of Evolution to the Evolving African Mammalian Fauna. The book attempts to link the evidence of past with the present. The description of mammals is classification-wise, starting with Order Primates and ending with Hyraxes. First, brief information about the extant species is given, followed by descriptions of fossil species. It is interesting to note that there used to be 70 species of hyenas, now only four survive! Based on the fossil records found in Libya, there used to be a large elephant (shoulder height 3 m), named *Stegotetrabelodon syrticus*, with two pairs of tusks. Presently, we have only five species of rhinoceros in the world, all gravely endangered due to poaching and habitat destruction, but fossil records indicate that more than 16 rhino genera were found in Africa and Europe alone, over the past 20 million years. The zebras typify Africa in the minds of many people, but they are relatively late arrivals. The origins of the Equidae, to which the extant three species of zebras belong, along with asses and horses, possibly lie in North America during the Eocene. From there, the early equids migrated through the Bering Land Bridge to Siberia, across Europe and into Africa around 2.5 million years ago.

This book may not be compulsory reading for conservationists concerned with the plight of the wildlife of Africa (and other continents), but for evolutionary biologists, it is an important work. 🐾



Evolving Eden:
An Illustrated Guide to the Evolution of the African Large-Mammal Fauna, 2004.
By Alan Turner and Mauricio Antón.
Columbia University Press, New York.
269 pp.
(26 x 18 cm).
Price: Not given.
Hardback.



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Jayakar's Tahr

Text: Pratap Velkar

Pratap Velkar – a Chartered Architect – is a member of the Society and Col. Jayakar's great grandnephew.

The second half of the 19th Century saw the discovery and description of the last among the wild goats new to science, the Arabian tahr, whose two relatives are only found in the Indian subcontinent, the Himalayan tahr in the Himalaya and the Nilgiri tahr in the hills of the southern Western Ghats. The Arabian tahr, the smallest of the group is restricted to the hills of the United Arab Emirates, and Oman.

The Arabian tahr is named *Hemitragus jayakari* after the remarkable Indian, Lt. Col. Atmaram Sadashiv Grandin Jayakar IMS, who first obtained it from the hills of Oman. Lt. Col. A.S.G. Jayakar was one of the outstanding products of the intellectual renaissance that happened in India in the second half of the 19th Century, when a dormant Indian Society blossomed out in many fields of endeavour. Born in Bombay (Mumbai) in 1845, he graduated in Medicine from Grant Medical College and took his MRCS and LRCP degrees in London, and passed into the Indian Medical Service being one of the first Indians to do so. Jayakar spent thirty years of his service life as Medical Officer and often as the British Consul in the Sultanate of Oman. A distinguished scholar in Arabic, he wrote voluminously on Omani proverbs. He was above all an incomparable naturalist and collected extensively the land and marine life of Oman.

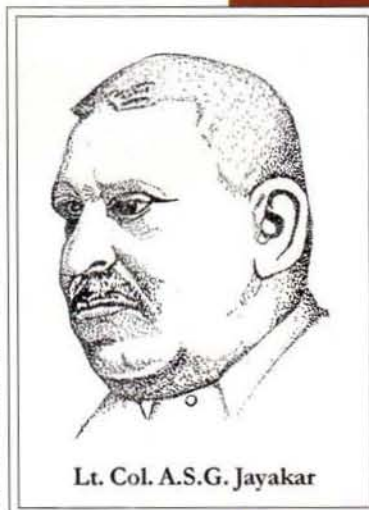
His notes on the tahr state that he obtained the specimen from Arabs and that they were "in all probability shot at a great height between 1,500 and 2,000 feet. I have no personal knowledge of the habits of the animal but am informed by the Arabs that it does not go in large herds, but in groups of a few. As there appears to be a good deal of vegetation above a certain height it seems that they rarely if ever come down into the valley below."

A cliff dweller and a relict of a period of more temperate climate, its distribution is dependent on water availability. Though largely restricted to the hills of Oman, it is found in other hills of the United Arab Emirates. The estimated number is currently more than 6000 and the species is presently listed as "vulnerable" by the IUCN.

During his thirty years service in Oman, Jayakar spent all his leisure hours in the collection of natural history material and periodically sent them to the British Museum (Natural History) for study.

The scientists at the British Museum, who studied Jayakar's large collection of land and marine forms, described two mammals, one lizard, twenty fishes and a scorpion from the collection as new to science. Of these, 10 species were named after Jayakar, probably the highest number of species named after a single person from one locality.

Jayakar has thus been immortalised as a distinguished naturalist. ■



Lt. Col. A.S.G. Jayakar



SOURCE: PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF LONDON, 1894

Arabian tahr *Hemitragus jayakari*



FLYING BEAUTY
HARLEQUIN MOTH
Campylotes histrionicus



Indotyphlus maharashtraensis

ASHOK CAPTAIN

FINDING HIDDEN GEMS

Text: Varad B. Giri

Varad B. Giri is a Research Assistant in the Herpetology Section, Collections Department at the Bombay Natural History Society.

“Varad, will it be raining in Koyna?” asked my good friend Sameer Kehimkar. We were on our way to Humbarli, a small village near Koynanagar in the Satara district of Maharashtra, in the second week of June 2003. This survey was part of our ongoing Environmental Impact Assessment project in that area. Vinod Patil, Field Assistant in the Collections Department of the BNHS also accompanied us. Little did I know then that this was the beginning of yet another journey for a new caecilian discovery for Maharashtra, *Indotyphlus maharashtraensis* 😊

“Yaa saabeh!” (Welcome sir), said Shankar Desai our local field guide in Humbarli, one of the best trackers I have met. He knows the forest in and around Humbarli like the back of his hand, and with him around we felt secure. The

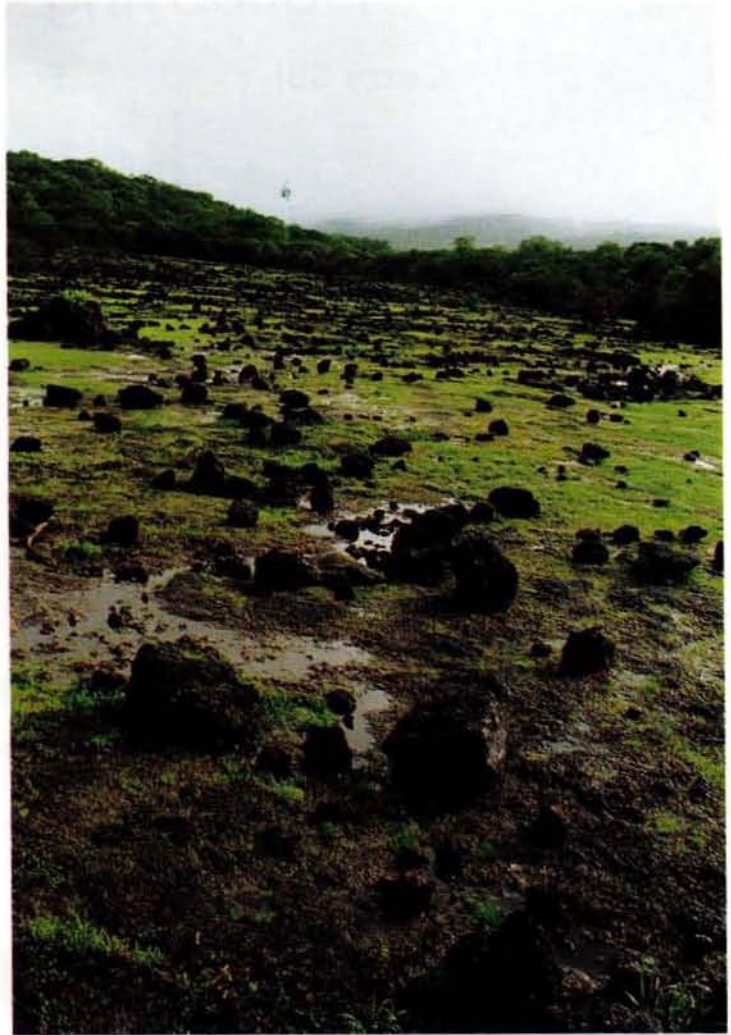
motorable road was closed as it had been raining for the last few days. And so, after some tea, we trekked to 'Bear's Den', our field station, a small self-contained temporary house with three rooms. Located right outside the forest and close to Dhanagarwada, a small settlement with a few houses, it was a serene place, far away from all modern amenities. The roof and walls were built of metal sheets and according to the builder it was 'leak-proof'.

This was my third visit for documenting the herpetofauna of this area. The study area is mainly undulating terrain dominated by semi-evergreen forest on the hill slopes and rocky plateaus on the top, locally called *sada*. *Sadas* look barren as they are full of laterite rocks with few patches of grass. In summer, this place is as hot as an oven. But contrary to its inhospitable facade, it is a refuge to some interesting herpetofauna. The main *sada* in our study area was about 1 km wide and 3 km long.

"*Saab*, check carefully. These *sadas* are swarming with *Phoorsas* (Saw-scaled vipers *Echis carinatus*)," warned Shankar Mama. This was during my first visit in summer. Then and during subsequent visits, in summer, I turned over many rocks on this *sada*, but found only one *Phoorsa* and a few Jerdon's snake eye *Ophisops jerdoni*. "You may not see them now due to the heat, but during the rains there are a variety of frogs and *phoorsas* everywhere on these *sadas*," said Balasaheb Dhebe, another field guide from Dhanagarwada. I was suspicious and thought he was exaggerating.

At around 4.30 p.m. we reached 'Bear's Den'. The *sada* was just behind our field station. It was windy and the *sada* was hidden by a thick mist. This blanket of fog soon dispersed and we saw green grass sprouting in many places, and small puddles of water on the entire *sada*. An incredible metamorphosis! Tempted by the promise of finding some exciting herpetofauna we hurriedly moved to the field station to organise the evening trail.

Sameer was very excited and promised to find something rewarding. I was very confident



VARAD GURI

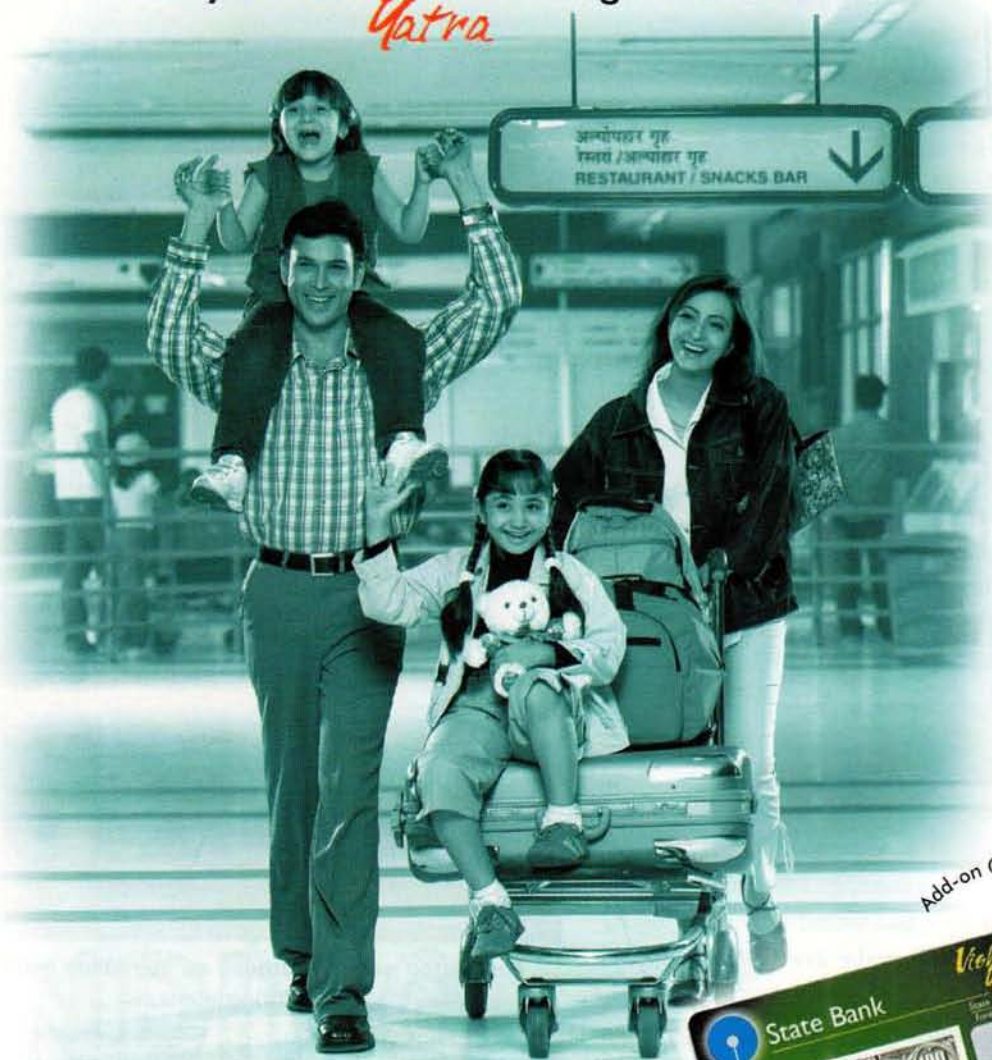
The barren *sada* undergoes an incredible metamorphosis during monsoon

about his ability. After all, he and Vithoba Hegde had helped me discover my first new species, the Amboli caecilian, *Gegeneophis danieli*. ☺

Since we had some time on hand before starting our search, we decided to take a good look at our field station — our home for the next 10 days. The monsoon had just begun and I received a rude shock when I saw water in one room. It was our bedroom! We decided to sleep in another room with less water. But it started raining and after half an hour all the rooms were filled with water. Our so-called 'leak-proof' den was actually 'water permeable'. Of the three rooms, only one was a little dry, the only abode for the four of us during the next 10 days.

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At dusk we armed ourselves with raincoats and set out on the night trail. The *sada* was teeming with activity. Dhebe Mama had not been exaggerating. The rains had transformed the *sada* into a breeding ground for a number of frog species that were calling all over it. One call was different and without much difficulty we soon located one of the least known, endemic and endangered species, the Koyna toad *Bufo koynayensis*. They were calling from everywhere, and after some time we realised that the *sada* was crammed with them. On this encouraging note we started our survey, and saw two different species of cricket frogs *Fejervarya* sp. and checkered keelback water snake *Xenochrophis piscator* during

the trail. It was a good beginning. The rains did not let up day or night. The right time for amphibians and reptiles! We planned to spend the day in the forest and nights on the *sada*.

Our first morning trail was also fascinating. We began our search in an open patch of grassland, locally called *Dhawad mal*, which is surrounded by the forest and used for grazing by livestock. Disappointed, we entered the forest adjacent to *Dhawad mal*. Shankar Mama and Dhebe Mama were leading Sameer and me. Suddenly, without warning, they both started running and instinctively we also ran after them. After about 150 m we reached an open area near a stream and stopped. "What happened? Did you see something?" we asked Shankar Mama. He smiled, looked down and said "Just look at your legs." We realised why we had run. Our legs were covered with leeches! The next 10 minutes were spent removing them, no less than 20 from each leg. ☹

We continued our search for the next few days and nights and explored all possible habitats. Apart from many common species, we saw interesting species like the Humayun's wrinkled



(L-R) Vinod, Sameer, Shanker mama, Dhebe mama crossed streams to reach the *sada* everyday

frog *Nyctibatrachus humayuni*, bronze frog *Sylvirana temporalis*, Bombay bush frog *Philautus bombayensis*, Jerdon's snake eye *Ophisops jerdoni*, saw-scaled viper *Echis carinatus*. But Sameer was not quite happy. He was looking for caecilians.

We thought of changing the plan of action. "Varad, I think due to heavy rains whatever was on the *sada* will have been pushed by the rainwater towards the border, so today we will search in that area," Sameer explained. To check his hypothesis, we started our search at around 9.30 a.m. It was raining as usual. After about an hour, Sameer found a common wolf snake *Lycodon aulicus* under a rock. A new find, so we rushed to Sameer. He handed the snake to me and resumed his search. I was talking about the snake to our field assistants as they were eager to know more. Suddenly, I heard an elated Sameer call, "Varad, I've got it!" He was holding a tiny earthworm-like animal in his hand, which he passed on to me and without losing time, resumed his search.

"Yes, this is a caecilian, great!" I said. "What species? Is it something interesting?" Sameer let loose a series of questions! "It looks like

Hidden gems

Indotyphlus,” was my diplomatic answer. All of us, including our local guides, started an intensive search. After two hours we spotted two more specimens. “*Saab* this is *Irula* and is commonly seen during rains. We get them while we plough our fields and they grow bigger,” Shankar Mama said. “They don’t bite and are very slimy,” he added. We retired to ‘Bear’s Den’ for the day with our rare find. But my mind refused to rest. What species could it be?

I went back in July with my colleague and best friend Vithoba Hegde of the BNHS and Ishan Agarwal, and this time too we spotted

burrowing animals and are mostly seen during rains. In India, they are mainly concentrated in the Western Ghats, with a few records from the Eastern Ghats and northeastern India. Because of their external features the bigger caecilians are sometimes mistaken for snakes and the smaller ones for earthworms. India is rich in caecilian diversity with three families, four genera and 25 species, which represent about 13% of the caecilian species of the world. The families represented in India are Ichthyophidae, Caeciliidae and Uraeotyphlidae. Family Caeciliidae is represented in India by two genera – a Western Ghats endemic, *Indotyphlus* with one species and *Gegeneophis* with six species (three new species have been recently added to this list).

This was the information available when I started looking for literature. In India, studies on caecilians are in the nascent stage. But experts like Dr. M.S. Ravichandran of Zoological Survey of India, Kolkata and Dr. G.K. Bhat from Bhandarkar’s College, Kundapura, Karnataka have made efforts to unearth information on these hidden gems.

Back in the Collections Department of the BNHS, I was keen to know more about this animal. My preliminary observations indicated that it was *Indotyphlus*, a genus endemic to India with only one known species *battersbyi*, which is reported from Lonavala and Khandala in Maharashtra. I compared

the specimen with *I. battersbyi*, but it differed greatly. I e-mailed this information with some scanned images of the specimens to Dr. Mark Wilkinson and Dr. David Gower of Natural History Museum, London, experts on caecilians, with whom I collaborate on caecilian research.

My association with David and Mark began in 2001. I had their support in the discovery of *Gegeneophis danieli*. Also, when I started work on Indian caecilians, the literature available to me was limited. David and Mark promptly send



VARAD GIRI

Phoorsa are so common in the *sada* that one can find them under most of the rocks

these caecilians in good numbers. The next year, in late monsoon, I returned to check their status with my good friend and ‘Guru’ Ashok Captain, accompanied by Ishan. We didn’t expect many sightings, but to our surprise, we spotted them in good numbers. This was a good indication of a healthy population. One reason for taking Ashok along was to get some good photos of this pretty amphibian and he did succeed in doing so.

Caecilians are amphibians of the Order Gymnophiona, which are elongate, limbless

me any new information on caecilians. On their second visit to the BNHS, they loaned us a binocular microscope, an essential tool for observing minor details on small specimens of caecilians. They are also helping me generate funds for my future research on caecilians of Maharashtra.

After two days of anxious waiting, I got a short reply from David, "Varad, it's something interesting; we will take a look during our next visit to BNHS." In October, at the BNHS, they took a close look at the specimens. After some meticulous observation Mark said, "Varad congrats, one more undescribed species." I was very happy. Then we (mostly Mark and David) gathered essential data, which took us many days. Mark asked me what I would name the species, I immediately asked, "Is it alright if we name this species after Maharashtra, the state in which this species is found?" And without much discussion they readily accepted my suggestion. They returned to London, and we interacted generally through e-mails. Our paper was published in the journal *Zootaxa* in November 2004.

Thus, *Indotyphlus maharashtraensis* came into existence — another successful collaborative effort. This is a new addition to the list of amphibians, which are declining at an alarming rate.

Is this the end? Is it sensible to stop with this new discovery? No! So with the help of Mark and David we submitted proposals for funds to carry out some ecological studies on this species. This will give us an insight on their ecological needs and the information will be vital in planning some conservation measures. They are not 'charismatic' animals hence one difficulty is a dearth of funds for studying these hidden gems. We hope to succeed, so that our coming monsoon will be at Koyna, to study our new friend. ☺



VARAD GIRI

You cannot miss the bronzed frog when you walk along the forest streams

Proposals for funds to carry out ecological studies on this species have been submitted. But caecilians are not 'charismatic' animals hence one difficulty is a dearth of funds for studying these hidden gems.



VARAD GIRI

The Jerdon's snake eye, a tiny lizard, can be seen only in the *sada* in the study area



SAVE THE TREES

response



SAVE THE TREES

Roof-top Secrets

I can add to Lt. Gen. Baljit Singh's story (*Hornbill* Jul-Sep, 2004) about red-wattled lapwings nesting on the roof of the British High Commission, Malcolm Macdonald's residence. At that time I was Reuters correspondent in India and a keen bird photographer. One day, Mr. Macdonald called me and said that he had had to hoist the Union Jack on his roof for the Queen's Birthday on June 6. The flapping flag disturbed a pair of lapwings which had made their nest there, but he had spotted that they had moved to the roof of the Defence Ministry. He arranged permission from Krishna Menon, then Defence Minister, for me to go to the roof and photograph the nest.

I was provided with a bamboo ladder and up I went early one morning. I placed my hide 3-4 m from the nest, which had three eggs, and set up my camera. Soon after I settled down, the lapwings returned and behaved normally, showing no concern about my hide or the click of the lens. For a week I went up to take photos and view the behaviour of the birds. Being June it was very hot, even in the early morning; in fact, so hot was the roof that I often could not keep my feet on it. One can imagine what it was like at the nest, which consisted only of small pieces from the cracked surface of the roof. The lapwings would alternately take over brooding, usually having wetted their belly feathers to cool the eggs. A hot wind blew, and it was amusing to see a lapwing, which had its back to the wind, being lifted off.

One morning I arrived to find a team of workers on the roof, water-proofing it before the monsoon. I climbed the ladder and, as usual,

peeped over the parapet to see if a lapwing was on the nest before I got on the roof. Men were spreading cement on the roof, and two women were sitting in front of my hide, almost within arms length of the nest, and a lapwing was sitting on it. I raised my head above the parapet. The lapwing reacted with alarm and flew off. I climbed up and had a look at the eggs; they were cracked and it was clear that the chicks must have been roasted in the heat and the lapwings were wasting their time.

I shared Mr. Macdonald's curiosity about nest material, and counted the small pieces; there were 367. How amazing that the lapwings had spent so much time and energy building this nest, and how sad it was that their chicks had died. I hoped they would choose a more suitable place for a new nest and breed successfully.

My wife suggested that I should have disguised myself in a sari. Imagine the police finding a foreigner with cameras, clad in a sari, climbing up the side of the Defence Ministry.

Peter Jackson, via email



Why ignore Mumbai's leopards?

Whilst the article on problematic leopards by Ms. Vidya Athreya in the *Hornbill* Jul-Sep, 2004 issue was interesting, I wonder why there has

been no reference to the leopard menace in Mumbai. Mr. Peter Jackson, Chairman of the IUCN Cat Specialist Group, makes a fleeting reference to Mumbai leopards.

I think it is fairly common knowledge (and widely discussed on e-groups) that there is a seriously flawed policy at work in Maharashtra with respect to translocation of wild animals. Problematic and/or man-eating leopards are being translocated from Junnar to Mumbai and perhaps, vice-versa. I also understand that leopards tagged by Ms. Athreya have been found in cage traps in Mumbai. These leopards are suspected man-eaters.

Shouldn't the *Hornbill* compile and present a detailed article on these leopards? Why the hesitation? What we read in the newspapers and hear from the media is in bits and parts. In time they will be forgotten. The *Hornbill* should present a factual account for posterity. Editors like Mr. J.C. Daniel authored a book on leopards and Mr. Sunjoy Monga takes an active part on man-leopard conflict in Sanjay Gandhi National Park.

This may be a good opportunity for the BNHS to do another detailed study on Mumbai's leopards and seek funds (for the study) from city corporate houses.

On a personal note, I always felt that the evergreen Aarey Milk Colony must be harbouring their own, albeit small, population of leopards that have learnt to survive in close proximity to Aarey employees.

Kiran Srivastava, Mumbai



ERRATA

Hornbill Oct-Dec, 2004
pg. 10 in photocaption for common kestrel **read** lesser kestrel





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The Millennium Ecosystem Assessment

Compiled: Rushikesh Chavan

Rushikesh Chavan is Assistant Conservation Officer at the BNHS



NIRANJAN SANTI

**“Man did not weave the web of life; he is merely a strand in it.
Whatever he does to the web, he does to himself.”**

We have often read and also quoted these words of Chief Seattle in our works. But for most of us they are just words that are read, appreciated, used and then forgotten. Humans are supposedly the most intelligent of all the species on Earth, but our intelligence seems to be in vain. We choose to ignore the deterioration that we cause to the environment everyday. The damage and destruction that we have brought about around us in the last four decades surpasses that of the past 400 years. Modernisation has been a boon to mankind, but it has resulted in a substantial and largely irreversible loss to the diversity on Earth. It's time that we remember that ecological well-being means economical well-being, as all our resources come from our environment.

The Millennium Ecosystem Assessment was called for by the United Nations Secretary-General Kofi Annan in 2000 in his report – ‘We the Peoples: The Role of the United Nations in the 21st Century’ – to the UN General Assembly. Governments subsequently supported the establishment of the assessment, through decisions taken by three international conventions, and the MA was initiated in 2001. The MA was conducted under the auspices of the United Nations, with the secretariat coordinated by the United Nations Environment Programme, and it was governed by a multi-stakeholder board, which included representatives

of international institutions, governments, business, NGOs, and indigenous people.

The Millennium Ecosystem Assessment was carried out between 2001 and 2005 to assess the consequences of ecosystem change for human well-being and to establish the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human well-being. The MA responds to government requests for information received through four international conventions — the Convention on Biological Diversity, the United Nations Convention to Combat Desertification, the Ramsar Convention on Wetlands, and the Convention on Migratory Species — and is designed to also meet the needs of other stakeholders, including the business community, the health sector, non-governmental organisations, and indigenous peoples. The sub-global assessments also aimed to meet the needs of users in the regions where they were undertaken.

The MA is intended to be used to identify priorities for action; as a benchmark for future assessments; as a framework and source of tools for assessment, planning, and management; to gain foresight concerning the consequences of decisions affecting ecosystems; to identify response options to achieve human development and sustainability goals; to help build

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individual and institutional capacity to undertake integrated ecosystem assessments and act on the findings; and to guide future research.

A final draft approved by the MA Board on March 23, 2005 identified three major problems associated with our management of the world's ecosystems are already causing significant harm to some people, particularly the poor, and unless addressed will substantially diminish the long-term benefits we obtain from ecosystems.

First, approximately 60% (15 out of 24) of the ecosystem services examined during the Millennium Ecosystem Assessment are being degraded or used unsustainably, including fresh water, capture fisheries, air and water purification, and the regulation of regional and local climate, natural hazards and pests. The full costs of the loss and degradation of these ecosystem services are difficult to measure, but the available evidence demonstrates that they are substantial and growing. Many ecosystem services have been degraded as a consequence of actions taken to increase the supply of other services, such as food. These tradeoffs often shift the costs of degradation from one group of people to another or defer costs to future generations.

Second, there is established but incomplete evidence that changes being made in ecosystems are increasing the likelihood of nonlinear changes in ecosystems (including accelerating, abrupt, and potentially irreversible changes) that have important consequences for human well-being. Examples of such changes include disease emergence, abrupt alterations in water quality, the creation of "dead zones" in coastal waters, the collapse of fisheries, and shifts in regional climate.

Third, the harmful effects of the degradation of ecosystem services (the persistent decrease in the capacity of an ecosystem to deliver services) are being borne disproportionately by the poor, are contributing to growing inequities and disparities across groups of people, and are sometimes the principal factor causing poverty and social conflict. This is not to say that ecosystem changes, such as increased food production have not helped to lift many people out of poverty or hunger. In all regions, particularly in sub-Saharan Africa, the condition and management of ecosystem services is a dominant factor influencing prospects for reducing poverty.

The *Summary for Decision-makers* presents the four major findings of the Millennium Ecosystem Assessment on the problems to be addressed and the actions needed to enhance the conservation and

sustainable use of ecosystems.

Finding #1: Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fibre and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.

Finding #2: The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, but these gains have been achieved at growing costs in the form of degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation



Degradation of ecosystem services has worsened over the last four decades

of poverty for some groups of people. These problems, unless addressed, will substantially diminish the benefits that future generations obtain from ecosystems.

Finding #3: The degradation of ecosystem services could grow significantly worse during the first half of this century and is a barrier to achieving the Millennium Development Goals.

Finding #4: The challenge of reversing the degradation of ecosystems while meeting increasing demands for their services can be partially met under some scenarios that the MA considered, but these involve significant changes in policies, institutions, and practices that are not currently under way. Many options exist to conserve or enhance specific ecosystem services in ways that reduce negative trade-offs or that provide positive synergies with other ecosystem services. ♻️

For details visit www.MAweb.org



Is it their song,
or the music in your heart?

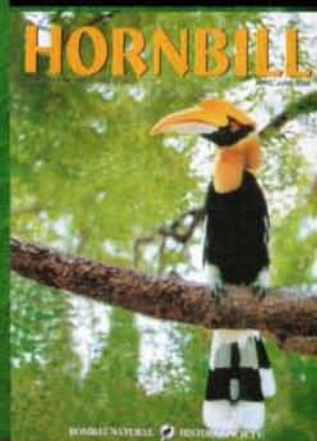
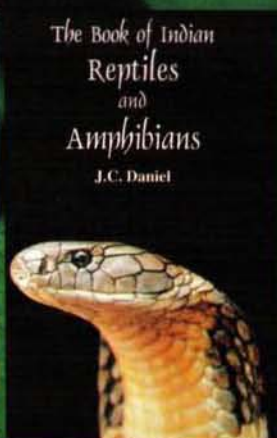
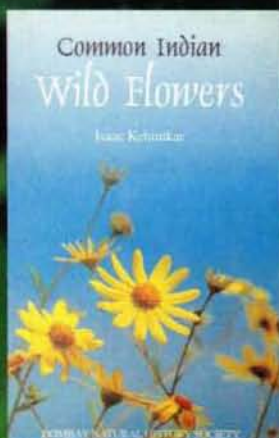
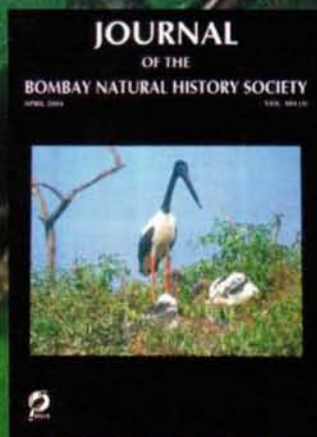
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For details visit: www.bnhs.org

Sethusamudram Ship Canal Project

The Government of India formed a Public Sector Company – Sethusamudram Corporation – in August 2004 based in Chennai. Tuticorin Port Trust (TPT) has been designated as its nodal agency for constructing the 260 km long and 12 m deep canal originating from a point south of Tuticorin Port and ending south of Point Calimere. The Environmental Impact Assessment (EIA) report submitted by the National Environmental Engineering Research Institute (NEERI) indicates that c. 84 million cu. metre of material will be dredged from the sea. This material is to be dumped on shore, near shore and sea bed locations; the dumping sites will be identified with the help of satellite images. The canal could be used by up to 30-35,000 dwt vessels, the restriction being their draught. Trained pilots will conduct the vessels without causing much damage to the environment and to the fishermen. The canal will be completed within 4 years at a total cost of Rs. 2000 crore.

Why is the Sethusamudram Ship Canal Project unviable?

- ❑ The NEERI report does not include authentic quotes from a professional dredging company like the Dredging Corporation of India Ltd. (DCI). The dredging cost of Rs. 1700 crore is footnoted: “in case rock is found in the bottom, the cost will go up.”
- ❑ This mammoth operation is based on pure ‘guestionment’! It is a well known fact that no

ANOTHER WHITE ELEPHANT TIED TO OUR DOORSTEP?

Text: Commander G.V.K. Unnithan, IN (Retd)

Commander G.V.K. Unnithan was a Navigation and Missile specialist in the Indian Navy. He is a serving Master in the Mercantile Marine and is presently engaged as Training Faculty. He is a member of the BNHS Executive Committee.



The public response, during all hearings, was against the proposed project

dredging capacity of this nature exists in India. International dredging companies have already moved in for the kill. This will cause massive outflow of foreign exchange. The expertise and trained manpower will not be indigenised, and hence the amount of employment generated will also not be encouraging.

- ❑ The economic viability of the Project is also of concern. The resultant reduction of 400 miles (20-30 hours) between ports, as is very often trumpeted, is only between Tuticorin and the ports of Eastern sea board (where no substantial trade exists, except for coal import). Even the Tuticorin-Singapore distance will not be lessened. Besides, the slow speed

transit of the vessel through the canal, over 130 miles, means that the ultimate gain will not be more than 12-15 hours. The savings on fuel will only be 1,200-1,500 US\$ (max. 2,000 US\$). At present a 15,000 tonne freighter pays about 21 cents per tonne for entry into Tuticorin, which is more than 3,000 US\$. The toll charges will then have to be pegged below this amount.

- ❑ An earlier survey had predicted 2000 transits through the canal annually, and the cost recovery period of the project as 19 years. The inevitable cost escalation, uncertainty in the maritime trade, draught/size restriction of the vessels through the canal, the stress and strain to which the vessel and

her crew are subjected consequent to prolonged pilotage waters, availability of an easy alternate ocean route, diminishing popularity of the Tuticorin Port due to the new container terminal at Kochi Port on the international shipping route, coupled with the phasing out of the Tuticorin Thermal Plant after the commissioning of the Kudankulam Nuclear Project (2007), negating the need for import of coal into Tuticorin Port, all affect the viability of this ambitious Project.

Earthquakes, Tectonics and Tsunamis

Despite the fact that the project area has been threatened by several earthquakes and tsunamis in the past, no mention of it is made in the NEERI's EIA Report.

The major recorded tsunamis caused due to earthquakes were:

- May 1874: Off Bangladesh – Damage to Khulna, Midnapore area 12 lakh people died.
- December 31, 1881: Car Nicobar Islands. Scale 7.9 – Tsunami waves hit Pamban.
- August 1883: Krakatura, off Sumatra, waves hit Madras
- 1938: 7° 50' N, 79° E, which is south of the project Site. Scale 7.
- June 26, 1941: Andaman Islands. Tsunami waves struck Chennai.
- November 25, 1945: Off Mekhran coast of Pakistan Scale 6.6; People perished in Pasni, Karachi and Mumbai. Damages to Karachi Port.
- December 24, 1964: Off Sumatra Island. Scale 6.7; Tsunami waves washed away Rameswaram Island. 1800 deaths.
- 1993: 6° 81' N, 78° 30' E.

Southwest of the Project Area. Scale 4.6.

- December 26, 2004: Scale 9.0. Equivalent to 32 billion tons of TNT or 2 million Hiroshima size nuclear bombs – waves 50 m high at 400-500 mph (speed of a jet liner) hit 3000 miles (African shores) after 7-8 hours. 1,17,000 deaths, 5 million homeless.

The International Indian Ocean Expedition of 1975 had pointed out that at 7° 50' N and 79° E, an earthquake had resulted in the eruption of a volcano in 1938, and it was still dormant at that time. Another predicted site, 6° 81' N, 78° 30' E, had since erupted in 1993. The present condition of these volcanoes is not ascertained. In fact the NEERI Report, though a good part of it is from published secondary data, does not even mention these facts.

The widespread damage caused by the tsunami waves of December 26, 2004 was significantly reduced in places, where virgin beaches with sand dunes were protected by natural

barriers like mangroves and shrubs. Point Calimere's forest cover and Muthuppattai's mangrove beaches are cases in point. The damage was reduced in the southern Tamil Nadu Coast from Manappad to Kilakkarai. It could be argued that this area is in the shadow of Sri Lanka from the epicentre. From the fury of the recent catastrophe, the effect of the tsunami waves on the envisaged canal, and the probable damage to the coast as well as the ships caught trapped in the canal, can well be imagined.

Public Hearings

The Government has created a Special Purpose Vehicle with an initial investment of Rs. 800 crore. All the Port Trusts, Shipping and Dredging Corporations of India are members and are likely to invest a minimum of Rs. 50 crores each.

In September 2004, a series of public hearings were conducted by the Government in all affected districts of Tamil Nadu. The public response was against the project. Various NGOs, including the BNHS,



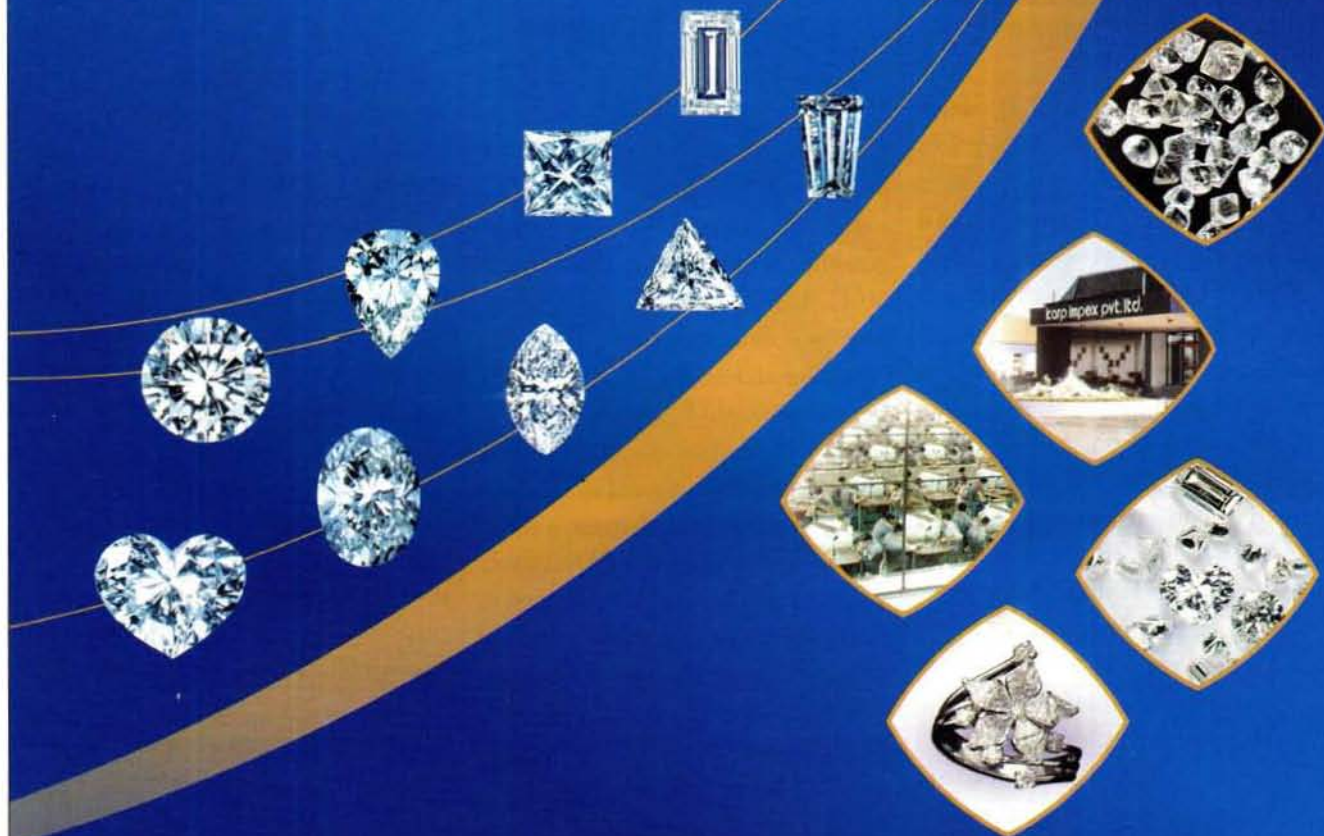
The impact of the proposed project on marine life is unimaginable

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political parties and other organisations condemned the environmental destruction and its adverse impact on fisher folk. These hearings were declared inconclusive and the Government scheduled another series of public hearings during the end of November 2004, in the hope that the tide would turn in its favour.

There was widespread resentment in Sri Lanka as reported in the *Hindustan Times* (September 8, 2004) and frequently in the *Hindu*. Not one report from Sri Lanka supports the Project. The Government of Sri Lanka has formed an expert committee. These developments led the Indian Government to issue a noteworthy press release on October 20, 2004, which mentioned that a high power committee of experts was being constituted under the chair of the Minister of External Affairs to study the implication of this Project on Sri Lanka. It appears that this subject was discussed between the Prime Ministers of both countries at New Delhi in early December 2004.

A high power delegation of the Shipping Ministry, headed by the Shipping Minister himself, had undertaken a study tour of the Suez and Panama Canals during the middle of November 2004. The Minister had stated that both the Canal Corporations expressed interest in the Project, but refused to elaborate. He also said that the local fishermen will be given employment in the Project. However, it is noteworthy that these canals could be compared with the Sethusamudram only in their aspects of port operations and revenue. The history, geography, and above all, the necessity for the canals



SOURCE: FRONTLINE JULY 2, 1999

The proposed canal will pass close to the Gulf of Mannar National Park

are very different from it.

The nodal agency, the TPT undertook a massive and aggressive campaign through the print and electronic media during November-December 2004 to influence the public by highlighting the merits of the Project. Various sops were showered on the media by full page campaigns, despite the negligible circulation of some of these papers in the affected areas. A case in point is the full page campaign in the *Economic Times*, Mumbai, November 1, 2004.

The second series of public hearings were conducted from November 19-30, 2004 at the affected district headquarters in Tamil Nadu. Contrary to the earlier hearings, these were compartmentalised for each group, i.e. political parties, local bodies, fishermen, NGOs etc. Interaction among the groups was not allowed. This was denounced by the public. One NGO went to the Chennai High Court on December 1, 2004 requesting copies of the proceedings

of the earlier hearings. Interestingly, the TPT also approached the same court to direct the District Collectors to submit the reports. While rejecting the first petition, the Court opined that development should not be halted for environmental issues and directed the District Collectors to submit the reports to the Government in due course.

While speaking to the *Economic Times* on December 20, 2004 Shri D.T. Joseph, Secretary, Minister of Shipping sounded less enthusiastic about the Project, and said that more studies will have to be carried out. Shri Pradipto Ghosh, Secretary, MoEF, in mid-February 2005 at Mumbai, stated "Lot of studies have to be undertaken prior to commencement of the Project." The Finance Minister, during his budget speech, while congratulating the Kerala Government for speedy implementation of preliminary works on the container terminal project has indirectly blamed the Tamil Nadu Government for not pushing forward the environmental clearance for this Project. In a front page exclusive report, *Indian Express* on March 9, 2005, carried the apprehension of the Prime Minister's Office as to the efficacy of this Project based on the NEERI report in the wake of the tsunami.

Present Status

Contrary to all expectations, the Finance Minister on May 5, 2005 announced that the Cabinet had given final clearance for the Project. On May 6, the Shipping Minister announced at Chennai that the

Conservation Notes

Project would be inaugurated in June 2005 and that dredging by DCI would commence immediately. He expects the canal to be operational by 2008. The total expenditure is now pegged at Rs. 2424 crores; the Project will start accruing profit in the 10th year, latest by 13th year of operation. He did not mention the project's finances breaking even after 19 years of operation this time. He also declared that as per the revised estimates, 3050 transits of vessels are expected annually.

The Central Government may be happy about clearing a controversial project, promised in the Common Minimum Programme of the UPA coalition, well ahead of the next year's State Assembly elections of Tamil Nadu. There are, however, no reports of the dates of the mandatory clearances, if at all

accorded, from the State Pollution Control Board, Ministry of Environment and Forests and Planning Commission.

Or, could it mean that once the apex body had given its green signal, all other intermediate, but essential clearances become irrelevant. Are the figures cited correct? Examine this

If the Project completion is extended by a year then it would incur an additional cost of Rs. 363 cr. The amount Rs. 2787 cr if invested would earn @ 5% (lowest possible) an interest of Rs. 1811 cr after 13 years. The total expenditure on the Project would then be Rs. 4598 cr.

The Shipping Minister estimates that 3050 vessels will use the canal annually and the canal will start earning profit after 13 years.

Hence, total transits for 13 years would be 39,650, i.e. each transit will

fetch about Rs. 11,60,000/-.

If the same vessel crosses the ocean around Sri Lanka, an additional 20 hours, the fuel expenditure being \$100 per hour, the expenditure incurred (100 x 20) @ Rs. 45 would be Rs. 90,000/-.

Which vessel would spend a million rupees to gain a mere 20 hours and subject the vessel and her crew to enormous stress and strain consequent to the 260 km canal (16 hours) canal pilotage?

In the light of the recent catastrophe, it is worthwhile for the MoEF to expand the scope of the studies further and consider the recommendation of experts in the field, before rushing into this project. The ecosystem in the project area is unique and fragile, and if we fail to preserve it for posterity, we will be unjust to future generations. ■

Living with the TIGER

In the wake of the tiger problem in the country, it will be reassuring for our readers to learn that the Bombay Natural History Society (BNHS) is already underway in doing its bit for tiger conservation.



BNHS has started intensive campaigns in tiger reserves

The Conservation Dept of the BNHS, under its Tiger Cell, has started the Satpura Landscape Tiger Project, funded by the Born Free Foundation in 2004. The project has five partners. BNHS will work primarily towards getting people's support from five Protected Areas [Melghat, Satpura, Pench (Madhya Pradesh), Pench (Maharashtra) and Tadoba-Andhari] for tiger conservation.

An Education Mobile Unit, fully equipped to carry out intensive campaigns in each Protected Area, was flagged off from the Office of the Conservator of Forests, Tadoba National Park. The function was presided by Shri Naqvi, IFS, Chief Conservator of Forests (WL), Maharashtra State.

Over the past few months, the education team has covered the Tadoba and Pench Tiger Reserves. Interactions with the village heads, *gram panchayat* members, bamboo collectors, farmers, teachers, school children as well as the Tiger Reserve staff and forest staff of the two Protected Areas aided data collection on which the project activities will be based. ■

BNHS Announces Island and Oceans Initiative

The Bombay Natural History Society's Island and Oceans Initiative is working on globally endangered coastal and oceanic habitats and species.

Under this Initiative the BNHS and LEAD-UK, with financial support from Darwin Initiative, has launched a major project in the Lakshadweep Islands entitled 'Conserving Giant Clams through establishment of Community Reserve in the Lakshadweep Islands'.

Giant clams are recognised as priority species for conservation in India. All species of giant clams (*Tridacna maxima*, *Tridacna squamosa* and *Hippopus hippopus*) are listed under Schedule I of the Wildlife (Protection) Act, 1972. They are also among the first marine species to be listed under the Act. At present, ecological and biological aspects of giant clams in India have not been studied. The proposed project will document these for the first time. It will also complete the mapping of giant clam distribution on 20 islands in the Lakshadweep Archipelago.

Under this project the BNHS will arrange theme based and structured training programmes for graduate and post graduate students, representatives from academia, NGO's and representatives of the Indian Armed Forces on coral reef conservation.



PANKAJ SEKHARIA

The endangered giant clams are now recognised as priority species for conservation

Volunteer Opportunities for College Students

BNHS needs volunteers for this project in Lakshadweep. We will offer local hospitality, including lodging and boarding, in Lakshadweep. Travel arrangements will have to be made by the participant. ■

For further details contact:

Mr. Deepak Apte

Conservation Officer and Principal Investigator
Bombay Natural History Society
Project Giant Clam

'Sagarika' Near Syndicate Bank
Kavaratti 682 555, Lakshadweep.

Email: dapte@bnhs.org, deepak@leadindia.org

THE WAY OF THE DRAGON

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With projectile tongue and prehensile tail,
With insatiabe appetite and cryptic colour,
Stalking silently in forest cover
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Predator at large.

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Stealthily it makes its way,
To within striking distance.
Both eyes focussed with clear intent,
Its tongue shoots out to a variable extent,
Affixes to the prey.
Then drawn back into its mouth,
Without much ado to be quartered out;
Only to survey the area again
In the never ending predatory game.

Neil Soares



EDITORS' CHOICE

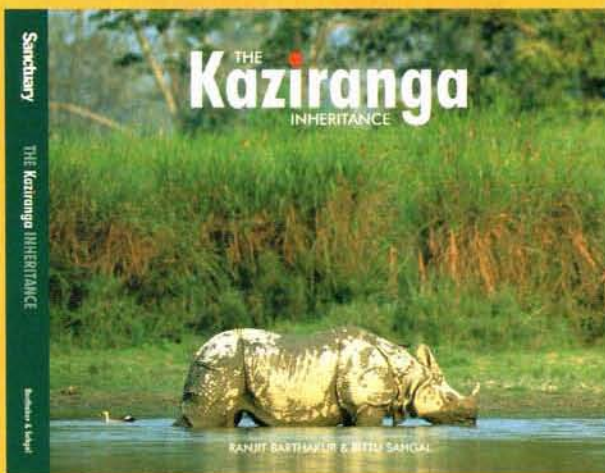
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Sheila Dikshit inaugurates CEC-Delhi



Mrs. Sheila Dikshit, Chief Minister, Delhi State appreciated the display rooms at CEC-Delhi

A new Conservation Education Centre (CEC) of the Bombay Natural History Society (BNHS) was inaugurated at the Asola Bhatti Wildlife Sanctuary, New Delhi on March 11, 2005, by Mrs. Sheila Dikshit, Chief

Minister, Delhi State. Mr. Rajkumar Chauhan, Forest Minister, Delhi Government was also present on this occasion. The Government of Delhi has provided financial assistance to develop and operate the Centre for three years.

CEC-Delhi will design and implement conservation education programmes for children and adults from Delhi and surrounding areas. The Centre has thematic displays and a self guided nature trail. The programmes will also include thematic workshops for amateurs on bird watching, study of insects, nature photography and conservation issues. It will work closely with the Forest Department, local NGOs and BNHS members. ■

For details contact: Mr. T.K. Sajeev
Education Officer and In-charge
Conservation Education Centre,
Asola Bhatti Wildlife Sanctuary,

Near Karni Shooting Range, Tughlaqabad,
New Delhi 600 044, India. Tel.: (91-011) 2604 2010

Celebrating 365 days of nature information

On April 22, 2005 the Nature Information Centre (NIC) of the Bombay Natural History Society (BNHS), at Sanjay Gandhi National Park (SGNP), Mumbai completed one year of service towards nature conservation, through nature education and public awareness. April 22nd is also celebrated as Earth Day.

The BNHS-NIC is a joint venture between the Forest Department and BG India. At a get-together on this occasion Mr. Prashant Mahajan, Centre Manager, CEC-Mumbai gave a presentation on the important activities of the NIC and its achievements during the year. Mr. R.B. Sule, IFS (Retd), Ex-Principal Chief Conservator of Forests, Maharashtra State was the chief guest. Mr. Prem P.S. Yaduvendu, Chief Conservator of Forests Wildlife, Mumbai, Mr. Kapil Garg, Managing Director, BG-India and Dr. P.N. Munde, CF & Director, SGNP also graced the occasion.

Five individuals were felicitated for their outstanding support towards the centre's activities and for their help in nature conservation. They are Mr. Anand R. Bharati, Ex- DCF, SGNP; Mr. Uddhav Kholamkar, President, Association of Heads of Secondary Schools, West



School and college students are regular visitors at the NIC

Ward; Mr. Vinayak Parab Senior Editor (*Loksatta*) and in-charge *Mumbai Vrittant*; Ms. Anuja Chawathe Reporter (*Loksatta*) and Ms. Janaki Fernandes Reporter (*Mid-day Metro*, Borivli). Each nominee was presented with a trophy.

A new ticket counter and 3-D Model signage were inaugurated by Mr. R.B. Sule and Mr. Kapil Garg respectively on this occasion. ■

Teens train to care this summer



BNHS PHOTOLIBRARY

Casting pug-marks was one among the many things that teens of Mumbai learned this summer

This summer students from Mumbai had a unique opportunity of participating in a 'Vacation Training Programme on Bioresources' jointly conducted by the Bombay Natural History Society (BNHS) and the Department of Biotechnology, Government of India. The month long residential course was designed to enhance their awareness on the relevance of bioresources, and the relationship between bioresources and biotechnology.

The course was held from May 2-27, 2005, for students 15-18 years of age, at BNHS's Conservation Education Centre, Mumbai. The students were provided with books and other material, and free transportation, boarding and lodging during the training. The course comprised of extensive field trips to different ecosystems within the city such as Sanjay Gandhi

National Park, Borivli, Godrej Marine Centre, Vikhroli, Flamingos at Sewri and Aksa beach. Study visits were organised for the Homi Bhabha Centre for Science Education, Mankhurd, National Environmental Engineering Research Institute, Worli, Maharashtra Nature Park, Dharavi, Orchid Hotel, Wilson College and Blatter Herbarium. The interactive indoor sessions included poster and skit presentation among others. The highlights of the course were the individual research projects designed on the flora and fauna of the BNHS land. The course provided opportunities for hands-on experience in the field and interaction with eminent experts from various fields.

The course, for the 30 participating students, was financially supported by the Department of Biotechnology and technically by the BNHS. It also would not have been possible without support from our volunteers, 10 of whom were involved throughout the course. ■

Distinguished Service Award

The Awards Committee of the Society for Conservation Biology (SCB), a premier professional society for those seeking to conserve biological diversity, has selected Dr. B.C. Choudhury, Executive Committee member of the Bombay Natural History Society as the recipient of the 2005 Distinguished Service Award. The award is in recognition of his extraordinary contribution to the conservation of India's biodiversity, particularly the olive ridley sea turtles, gharials and the sarus cranes through science, policy and advocacy. The Awards Ceremony will be held at the 19th annual meeting of the SCB in Brasilia from July 15-19, 2005. ■

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