

Hornbill



BOMBAY NATURAL HISTORY SOCIETY



COVER PICTURE

In the cover picture Mr N. Sivaganesan, Scientist associated with the BNHS Indian Elephant Project captures the trauma of a female elephant in distress. She had calved close to the Mysore-Ooty State Highway, passing through Bandipur-Mudumalai sanctuaries.

Concerned with the inability of her baby to get up and be nursed; and made highly nervous by the incessant din of the vehicular traffic along the Highway, the mother elephant charged at anything that moved. In the picture the two BNHS trackers who with all good intention tried to help her by carrying water to quench her thirst became the target of her annoyance.

Similar incidences often occur along the Highway within the sanctuary limits. There are cases also of elephant calves getting knocked down and other animals being run over by reckless, speeding vehicles.

Acknowledgement

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The Society was founded in 1883 for the purpose of exchanging notes and observations on Zoology and exhibiting interesting specimens of animal life. Its funds are devoted to the advancement of the study of zoology and botany in the Oriental Region. The Society also promotes measures for conservation of nature.

Membership of the Society is open to persons of either sex and of any nationality, proposed and recommended by one or more members of the Society; and also to persons in their official capacity, scientific societies, institutions, clubs, etc. in corporate capacity.

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Members receive during a year three issues of the *Journal of the Bombay Natural History Society* now in its 83rd volume, and four issues of *Hornbill*, the Society's popular publication.

Journal Editors

J. C. Daniel, P. V. Bole and A. N. D. Nanavati.
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The first annual subscription of members elected in October, November, or December will extend to the 31st December of the year following the election.

Write to:

The Honorary Secretary
 Bombay Natural History Society

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EDITED BY

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Promises, promises

We do not think any sensible person would object to development projects provided they are planned with due consideration to environmental conditions. Unhappily the cost in terms of human misery and loss of natural wealth is in most cases more than the benefits which are often, as in the case of agricultural projects, limited to a few. What we find disconcerting are the wild promises made by organisations and departments to achieve their objective. Promises, one finds out in course of time, that they had no intention to keep. We could quote several instances, but one should suffice. In the early '80s the Ministry of Shipping proposed a new port, the Nhava Sheva port across the harbour on the mainland to relieve congestion at Bombay harbour. After considering various representations, the then Prime Minister, Mrs Indira Gandhi, cleared the project on the following conditions: (a) it should decongest Bombay; (b) environmental safeguards should be built into the feasibility report; (c) land released from the existing Bombay Port areas should be used for parks and for generally greening Bombay; (d) the new port at Nhava Sheva should have properly planned green belts.

As the new port nears completion we are appalled to find that the directives have been circumvented or disregarded. Bombay Port is enlarging its container capacity which will increase congestion on Bombay roads and there is apparently no intention to hand over any land for greening as parks.

In these circumstances one views the promises made by project authorities with considerable scepticism. One can be more or less certain that the many promises that are being made as safeguards in the Narmada Projects, for instance, *will not be kept*. They are in our view meant as a sop to our fears; like giving a lollipop to quieten a child.

One should insist that the promises are put into effect *before* the sanction is given. If 1000 hectares are promised to be reforested, let us see the forests first. If the people are to be rehabilitated let us see the completion of the rehabilitation programme before the sanction is given. Otherwise the promises of the project authorities are not worth the paper they are written on.

Displaying Spotted Babblers

While coming back by the road which leads to the Hanuman Tal at Bhimashankar, on 31st July 1985 at 10.30 a.m., I heard a strange low chirruping sound from a distant undergrowth. As I turned my binoculars towards the spot, I saw two sober coloured birds perched in front of each other, which I identified as Spotted Babblers (*Pelloroneum ruficeps*) by their pale reddish brown caps and whitish underparts streaked and spotted with brown. Their size was about that of a bulbul.



I could guess that both the birds were displaying aggressively at each other. Probably both birds were males. Their wings drooped and they twitched their tails rapidly and with the drooping wings moved their bodies up and down, with the toes holding the branch of a bush. By doing so, I think, they were looking for a chance to attack. At one point one of them violently attacked

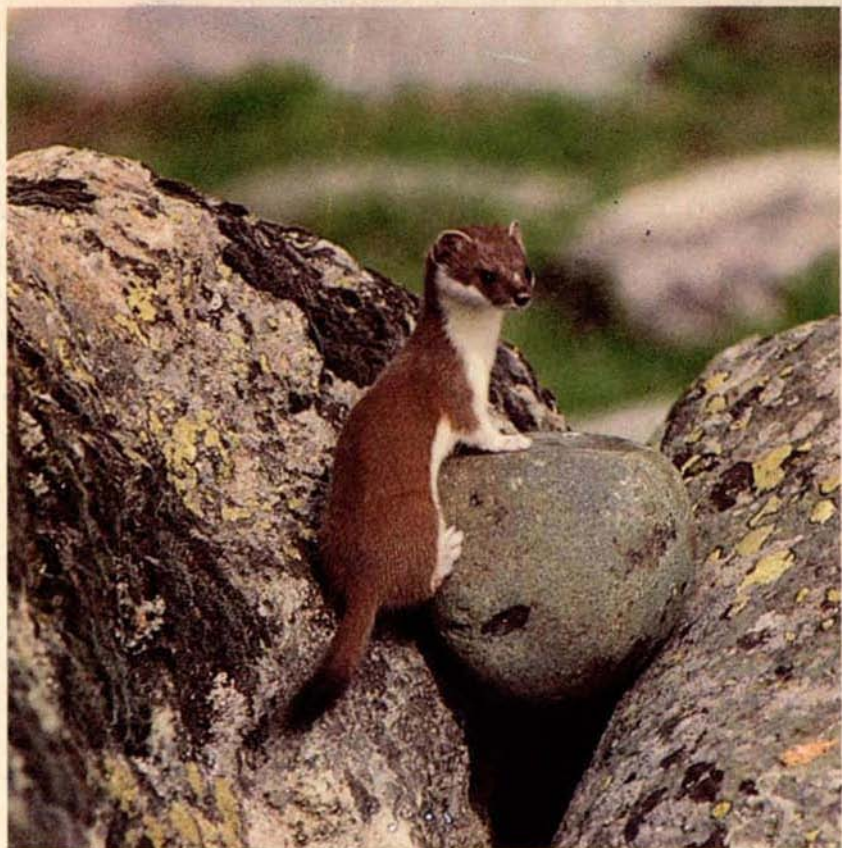
the other. The other bird saved itself by leaving the branch very quickly. But after this unsuccessful attempt to fight, both the birds started whistling so sweetly that I was absolutely delighted on hearing their rich notes. As I listened carefully, I noticed that sometimes their whistling began at the same time and ended at the same note. It was, as if two singers were singing the same song simultaneously. The call notes were like *Pretty sweet* or *He'll beat you!* When they stopped whistling, they began to give harsh, throaty chuckles and chirrups of low tone, by which I had been first attracted.

The process of chirruping, whistling and threatening each other went on for about seven to ten minutes.

By the time I left my position on the road near the undergrowth, both the birds had stopped their threat displays and resumed their usual rummaging among the rich humus.

KIRAN PURANDARE
Research Assistant

*Bhimashankar Project,
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The "most perfectly organised killing machines" in nature

RIVERSIDE BANDITS

Text & Photographs
by
Jagdish Krishnaswamy

The Liddar river, Kashmir, emerges from the large frozen lake of Tarsar which is overlooked by snow-capped mountains reaching up to 14,000 ft high. The shores are not exactly easy to negotiate — ice, snow, slush, and a multitude of boulders make progress painful and frustrating, especially when one is laden with a heavy rucksack.

The small stream gushes down towards Sekhiwas — a resting camp for trekkers and nomadic graziers alike. Downstream of Sekhiwas the Liddar splits up into streamlets that keep rejoining. In some parts away from the banks, grassy patches, studded with lichen decorated boulders and rocks, occur. It is here on that July morning of 1987 we luckily came across a pair of perhaps the 'most perfectly organised killing machines' in nature—the Ermine or Stoat Weasel (*Mustela erminea*). With their brilliant, contrasting summer coats of chocolate brown and cream, black-tipped bushy tails, flattened almost snake-like heads, slim stream-lined bodies and short legs. Less than a foot in length, they hardly looked ferocious and capable of striking terror amongst other small creatures that live in their domain. In fact they looked the very embodiment of innocent inquisitiveness as they dexterously darted in and out of crevices and holes.

What struck me most was their extreme boldness and scant concern for the presence of humans — at that time I presumed they were

young ones who have not learnt to fear humans, but now I know better.

Equipped with trenchant meat cutting teeth, the weasel relentlessly pursues burrow-dwelling creatures and sometimes seeks birds in the trees since it is a good climber too. Mice, rats and when in the vicinity of human settlements, domestic fowl make up its traditional menu. The Ermine kills by biting at the base of the skull. In winter the stoat acquires its lovely white coat for which it has been slaughtered in the thousands. The general hairiness of the soles of the feet extend to the whole of the pads in winter. Hairy soles provide warmth and grip on snow and ice.

The absence of any camouflage technique is explained by the compensating presence of stink glands and its aggressive behaviour. Generally solitary they have only one litter per year and a long gestation period of 200-300 days after which the young are born in the following summer, when food is easy to procure. The young ones learn fast and start hunting in seven to eight weeks. Very little information about their social life is available and even less about their breeding habits in Indian limits.

Eager to obtain photographs of a creature that very few photo-naturalists have paid attention to, I asked the rest of the group to proceed downstream, while I waited with my camera and lens poised. For half an hour the two Ermines



A hide-and-peek among the rocks

provided a delightful and highly captivating performance. Their curiosity and defiance as they played hide and seek amidst the rocks was remarkable.

A wandering American tourist joined me and the scene was transformed to that of David and Goliath — the tiny weasels holding ground despite the forbidding but admiring presence of the six foot plus human with a rucksack perched on his back, standing just a couple of metres away.

The American claimed that he had seen a snow leopard at Kolohai glacier the previous afternoon, as I drew his attention to a much smaller but equally ferocious hunter of the mountains.

It was with a heavy heart that I prepared to leave that idyllic spot with lofty mountains all round me and the roar of the Liddar drowning everything else. I looked back once more and both the Ermines cutely stood up on their hind legs looking slightly perturbed at having lost their object of interest which had provided them with so much fun and excitement. **卍**

CHERNOBYL

by
Syed Asad Akhtar

On 5th December 1986, along the serene shores of Powai lake in Bombay I ringed and released a batch of 14 common teals, *Anas crecca*. These teals had been specially brought, at the Government of India's request, from the Keoladeo National Park at Bharatpur, where one of the field stations of the Bombay Natural History Society is located. The teals which had been caught by the *Mir Shikars* had been certified as free from radioactive contamination the previous evening by scientists at the Babha Atomic Research Centre (BARC). It was exactly 228 days after the nuclear disaster on 21st April 1986 at Chernobyl, near the Soviet City of Kiev, in the Ukraine. The resultant radioactive fallout was estimated at 3.5% of the radioactive material of the reactor corresponding to some 2×10^{18} Becquerel according to a report presented by R.C. Petersen, *et al.* Radioactivity spread aerially from the Ukraine, northward to Norway and southward to the Mediterranean and reached as far as the British Isles. Sweden, Italy and Portugal were some of the countries which received the maximum fallout. The reactor fallout was detected in Bombay, around the 2nd week of May 1986. Routine monitoring of the atmosphere by

scientists of the BARC confirmed an unusually high level of radiation, which though fresh was fortunately insignificant. This was brought to light during a conversation with a Health Physicist Dr R.K. Verma working at the BARC.

According to a synopsis presented by F. Barnaby, the radioactive isotopes in the Chernobyl cloud of greatest importance are Iodine 131 (with an 8 day half-life). Cesium 134 (2.05 year half-life) and Cesium-137 (30 year half-life). Cesium gets concentrated mainly in the tissues and muscles of animals and birds which

Preliminaries prior release

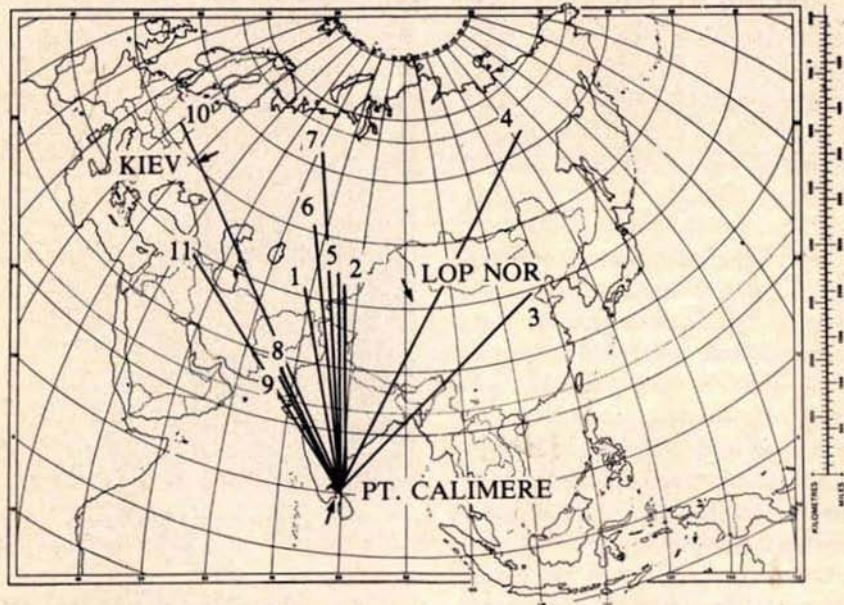
Photo: S.N. Bajaj



when consumed will contaminate the humans that eat their flesh. Radiation levels 80 times higher than normal were detected in wild Norwegian Reindeer, *Rangifer tarandus*, since they graze on lichens which extract their nutrients from the atmosphere. It has been further estimated that about 1,80,000 reindeer in Scandinavian Lapland will have to be destroyed over the next five years as abnormally high levels of Cesium resulting from the Chernobyl accident has been detected in their flesh. It has also been reported that birds take up fission products from areas contaminated by low level atomic wastes.

The importance of birds as indicators of environmental health finally dawned on the concerned authorities and in this case the extralimital migrants received special attention though belatedly. The time lapse between the disaster and the actual tests in Bombay deprived us of a very vital piece of data, as the biological half life of a radioactive isotope is much lower than its physical half life. Hence, the radioactivity in such cases is reduced to very insignificant levels and gives

Recoveries of BNHS Rings



1. *Anas querquedula*

3-6. *Calidris testacea*

8. *Tringa stagnatilis*

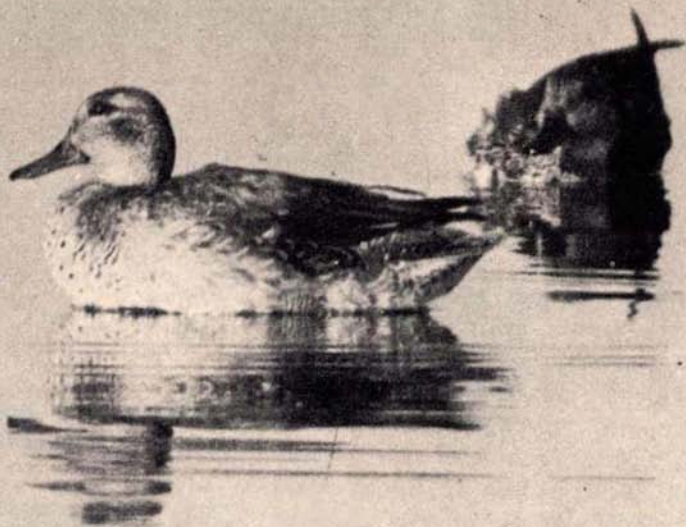
10. *Sterna hirundo*

2. *Calidris minuta*

7. *Tringa nebularia*

9. *Philomachus pugnax*

11. *Sturnus roseus*



The Palaearctic avian migrants

Photo: Asad R. Rahmani

a hazy picture until and unless the tests are carried out within the biological half life.

I asked Dr Verma the basic mechanism behind monitoring low level radiation present in nature and radiation triggered off by atomic explosions. I learnt that flights overflying these areas where atomic explosions have occurred are subjected to a scrutiny by BARC health physicists. They collect dust accumulated over the plane's wings and fuselage and test the same for specific radioactive isotopes. I queried further; what about birds overflying known nuclear testing zones? Is it not advisable to subject these migrants to random tests for abnormal radioactivity? He concurred and agreed that such a step

would be wise.

In the context of Chernobyl, a regular monitoring of extralimital migrants for radioactive contamination becomes imperative. In fact, such tests have been mooted earlier in the case of birds of the South Pacific Islands (Murora Atoll), where regular atomic tests are carried out in the atmosphere. The recovery profile of birds ringed in India (Map) shows that they come from or overfly areas where numerous nuclear establishments and testing zones are located. The most prominent is Lop Nor (40°20'N and 90°15'E) in China, where nuclear tests are carried out in the atmosphere. Fortunately, facilities do exist in this country for monitoring migrants from polluted global zones; only implementation needs enforcement. १

'A loris called Slo'

I look forward to every issue of *Hornbill* as also your esteemed *Journal*. *Hornbill* 1987(3) did not fail my expectations of it. The articles were very good especially 'A loris called Slo', which was superb. The author deserves to be congratulated for the wonderful and touching manner in which he has recounted his and his family's experiences with the two slender lorises. The accompanying photographs were very apt and greatly added to the appeal of the article. Mr. Mazumdar may have been 'accessory to the crime of trapping a wild animal', but by taking care of these lorises and showering on them love and affection, he certainly saved them from the tender mercies of quacks and medicine men. In an earlier issue of the *Hornbill* 1986(1) it was mentioned that the eyes were scooped from live individuals and used by village doctors for treatment of eye diseases. As was pointed out in the article, many animals such as lorises, bats, snakes etc. about whom little is known are the subjects of myths and superstitions. And because of this, they are subjected to great cruelty. Snakes are often skinned alive by poachers and die a tortured and painful death. It is astonishing how humans, in many cases the very embodiment of mercy and gentleness can act in this demoniac manner.

Congratulations to Mr. Carl D'Silva for the new look *Hornbill* has obtained. This and the superb cover and other photographs greatly add to the beauty of the magazine.

SIRISH KUMAR
Lajpat Nagar, New Delhi.

* * * *

"A unique Date Palm" (*Phoenix sylvestris* Roxb.)



In the above which appeared in *Hornbill* 1987(3), p. 25, the author claims that the palm he observed is the only palm tree of its kind in India and no such record is available.

This is to inform the author that he should refer to an article 'Occurrence of multi-headed palms in western India' by Vartak and Kumbhojkar appearing in *Hornbill* 1986(4), pp. 7-9.

Further I would like to add that I have a photograph of a branching *Phoenix sylvestris* taken at Mirza Chouki (Bihar) in 1964 for reproduction with this note if possible.

C.S. LATTOO

Institute of Science, Bombay.

* * * *

"Trade"

The editorial in *Hornbill* 1987(3) describing the heinous murder of a Forest Guard 'by a notorious, well-known Elephant (Ivory) and sandalwood poacher, who evidently operates under political protection' makes grim reading. I am amazed that such a shameful act is allowed to go unnoticed and that there is not one straightforward person to take up the cause for the unfortunate murdered man's family. What are the uses of all the organisations, if this sort of thing is so blatantly allowed to occur? Why is 'this poacher' not caught and shackled by the Government?

Surely, there should have been a hue and cry and some action should have been taken regarding such dastardly crime. But then, very little publicity has been given. Many of us were entirely unaware of these goings on! So naturally there was no controversy.

At Bangalore, last October, I saw in the Government managed Cottage Industries Shop any amount of things made out of ivory sold to tourists, including fully carved tusks. Yet we are asked not to wear ivory ornaments, which we have had for several years.' Is the Ban on Ivory being sold a mere farce? In fact the whole Wildlife Protection Act is just an eyewash!

(Mrs) PERIN M.R.B. JEEJEEBHOY
Bombay

* * * *

Your editorial *Hornbill* 1987(3) focusing attention on ivory trade and its deleterious effect on preservation of wild elephants in India made depressing reading. In September 1986, I had the good fortune to make the acquaintances of the cross-tusker referred to in your editorial — thanks to the hospitality of the Society's Study Group at Mudumalai, and cherish the photographs I could get of this magnificent animal. I feel so sad that it had to go the way of most of the large tuskers in South India.

Speaking of the species as a whole in subcontinental India, I should like to point out, however, that ivory poaching is not a major threat to elephants elsewhere. This is not to say that ivory poaching does not exist elsewhere. Cases of ivory poaching have been reported from Simlipal National Park in Orissa. Recently there have been four cases

Continued on page 39

DWARF OR STUNTED MACAQUES

by Percy Nathan Elijah

Does a dwarf variety of Bonnet Macaque (*Macaca radiata*) exist in India?

Observations: In my wanderings during school and college holidays at Gokak Falls in Karnataka while staying with my uncle, a spinning master in Gokak Mills next to the Falls, I was struck by the fact that the monkeys scampering about on the rocks and in the trees appeared to be a Lilliputian version of the normal macaques of my home town of Dharwar, Karnataka. As both langurs and macaques abound in Dharwar, we were familiar with their normal size and habits.

The dwarfs, in troops of 4 to 6 could be seen at all times, being not in the least shy or afraid of humans having nothing to fear from them. My brother, the Agriculturist, Mr S.N. Elijah, was for many years the Superintendent of the Government

Arbhavi Farm on the Hukkeri-Gokak Road on the opposite of the Falls from the Mills, during the war years (W.W. II), and also confirms the peculiarity of their size. It was only the other day when I was looking up my notes for a story article that memory was jogged by this queer fact!

Locale: The falls about 500 ft high, are harnessed for hydro-electric supply to the Mills as well as to Gokak city, a few kilometres away; and the gorge enclosing the Falls, the high bluffs on both sides, connected by a suspension bridge, with river bed of Deccan trap rock, form a pocket of wild, hardly populated rocky terrain ideal for animal and bird life survival.

The fauna of this area was fantastic—with palm civet cats (eating out the insides of papayas at night leaving the outer skin intact),

jackals calling at night, monkeys scampering about as above, 4 ft long monitor lizards (*Varanus bengalensis*) walking calmly along the dry river bed, sandgrouse digging for peanuts in the fields beyond the Farm, partridge, quail, golden orioles, whitebreasted kingfishers, etc. were all observed by S.N. Elijah and myself.

A panther was also reported in the neighbourhood and though it was tracked by S.N.E. (by spoor), it finally eluded him. This presupposes the presence of wild boar and herbivores, in addition to the monkeys and of course, the local tame curs, that would form its normal diet.

Beyond the Farm away from the millside, is a good stretch of open sandy soil, attracting sandgrouse and similar avifauna, while there are small caves in the rock sides, opposite the mills, no doubt the haunt of monkeys, porcupines, mongooses and the like, sheltering at night.

The Farm has plantations of maize, plantains, etc. with some garden produce of papayas and guavas.

In the unrestrained growth of scrub on the Gokak Mills side, jam-bul, tamarind, banyan, peepul and wild mango are to be seen.

Details: The bonnet monkeys (*Macaca radiata*) observed should normally have been—

NORMAL: Head and body length (HBL) = 35-60 cm (14-24 in.)

Tail length (TL) = 48-69 cm (19-27.5 in.)

Coat greyish brown with paler underparts.

Hair on head grows out in whorls from central crown to left and right.

Our Observations: (By judgment and comparing with normal sized ones we had been very familiar with and constantly met in Dharwar)

HBL = approx. 25 cm (10 in.)

TL = approx. 35 cm (14 in.)

Coat, colour and all other characteristics and habits, food, etc. same as for the normal individuals.

Locality: Gokak, Karnataka state, North Kanara; Lat. 16°06'N, Long. 74°30', Elevation: About 500/600 m (1800 ft) above M.S.L.

Stations near Gokak Road on Southern Rly. (old M.S.M.) Belgaum Cantonment: Lat. 15°55', Long. 74°50'; Dharwar (District HQ): Lat. 15°30', Long. 75°; Elevation—700 m (2300 ft).

Note: Gokak falls are probably fed by the Ghataprabha river, and its canal to the farm is full of snakes.

Conclusion and hope: As your august Society has various surveys and studies in these areas in Karnataka from time to time, can the examination of this special point, dwarf macaques, be included in the next study tour, to either prove or refute the existence of these?

Here's wishing the Bombay Natural History Society a long, long existence in the interests of all Nature lovers.

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The Marsh Mongoose

by
Indranell Das

Less than an hour's car journey from the heart of Calcutta takes one to the vast, unbroken tract along the city's eastern fringe, popularly known as the Salt Lakes. Upto the last century, the area retained its connection with the great mangrove forests, the Sunderbans, which have today retreated further south. Accounts of the region's natural history date back to that period, when a great number of important finds were made. In 1851, the naturalist Edward Blyth, who greatly influenced Charles Darwin in his early days, described the Indian pilot whale for the first time, a shoal of which was carried by a current into the Salt Lake, from the Bay. Also documented from the area by Blyth and other pioneer naturalists were such avian delights as the peregrine falcon, Baer's pochard, spoonbill and swamp partridge, in addition to

many other species, several of which have ceased to exist in the area. Over the years, the river channels were blocked up and the land reclaimed, which resulted in the disappearance of the mangrove vegetation, and with it, the birds that depended on it, like the mangrove whistler and brownwinged and storkbilled kingfisher. Nearing our time, more alteration of habitat was to follow; the dense reed beds, home of many species, disappeared, being by and large replaced by open water suitable for pisciculture and roads through which countless vehicles ply daily.

One of the survivors in a changed world is a small carnivore, which had managed to elude science till the mid 1960's, when the Zoological Survey of India described the marsh mongoose *Herpestes palustris*, from the marshes of Salt Lake. The most recently described, and consequently the least known of all carnivores, the marsh mongoose today survives precariously in a small area, in the north Salt Lakes. Its highly restricted distribution thus may qualify it for the position of the world's rarest mammal. With its small head, low-slung body and tapering tail, the species closely resembles the small Indian mongoose, but may be immediately

differentiated from it in the presence of a black patch in the area around the muzzle and in front of the eyes, and the possession of webs between the digits of both the fore and hindlimbs.

Field studies, as a prelude to conservation, have resulted in the emergence of considerable data on the life-history of the marsh mongoose, some of which have become causes of pessimism about the species survival outlook. The little carnivore lives in self excavated holes on inundated banks, beside the waterways, which are a few feet deep and situated under cover of dense vegetation. The monsoons are perhaps the most difficult period in the year, as the water level rises, flooding the holes, and making food difficult to obtain. The adjoining scrubland is the only area saved from floods, and here the mongoose finds refuge. Breeding season is the winter months, when generally two young ones are born, and protected by the female in the burrows. Freshwater crabs and snails are the chief constituents of its diet, though fledglings of waterbirds, discovered among the water hyacinths, as well as snakes and fishes may also compliment it. Major competitors of the marsh mongoose are the jackal and yellow monitor, both being common and have the same choice of food as the mongoose. Jungle cat and possibly the Fishing cat, also inhabit these marshes, but are of rare occurrence, and are unlikely to seriously affect the species.

In line with its preference for soft mud and shallow waters, the mongoose displays well-developed webs in both the limbs. Though field observations have not indicated that the species takes to water, there is almost no doubt that it can and does swim, especially during the high water periods. A captive marsh mongoose, however, shunned water, and even avoided moist places. Despite its small size, the otherwise tame specimen displayed a remarkably aggressive behaviour, and managed to get the better of a full-grown Alsatian dog.

The vistas are continually changing. The Eastern Metropolitan Bypass today sweeps through the area, and numerous new roads creep towards the best marsh mongoose habitat. In recent years, there have been frenzied building activities in the area—a 150,000 capacity sports stadium, a snake park, a safari park and numerous housing projects. Hence, every year the habitat continues to shrink and shrink, while the human population increases carving out more land for its multifarious activities. In addition, the mongoose is trapped in large numbers for sale in the city by professional trappers and killed at sight by fishermen, for its alleged fish-destroying potential. And while endless bitter wars rage on for the protection of Salt Lake's wild flora and fauna, the last of the marsh mongooses roam the marshes, in their last stand, unaware of their impending doom.

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NEWS, NOTES & COMMENTS

BALD EAGLE

Federal biologists at Patuxent Wildlife Research Centre in Laurel, Maryland, are using chickens to incubate American Bald Eagle eggs to encourage mother eagles to lay more eggs. Most of the hatched eagles are raised at the centre for eventual release and some are placed with adult eagles, already in the wild, to raise.

Wildlife Art News Jan/Feb. 1988

BLACKFOOTED FERRET

The last black-footed ferret known to live in the wild was captured and placed in a breeding facility operated by the Wyoming Fish and Game Department. Later in the year, Scarface, as he was dubbed, successfully bred two captive females and two litters were born. Currently, the captive breeding facility has a total population of twenty-five. Once they have two hundred breeding pairs, they will start releasing them back to the wild.

The United States Fish and Wildlife Service's National Ecology Centre in Ft. Collins, Colorado, has teams still out searching for any other wild ferrets. The New York Zoological Society has offered a \$5000 reward for verified sighting of a wild ferret in Montana.

Wildlife Art News Jan/Feb. 1988

FOR NATURE-LOVERS

Prakruti is a group of nature-lovers in Ahmedabad seeking to promote awareness and curiosity about nature. It endeavours to study and explore man-nature interaction and to balance the goals of conservation and development. Meetings are held every week and there are occasional outings. There are plans to organise lectures, filmshows, demonstrations and experiments to understand nature.

For further information please contact:

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WORLD CONGRESS OF HERPETOLOGY

World Congress of Herpetology (WCH) solicits nominations for election to the Executive Committee (EC) and International Herpetological Committee (IHC) of WCH, as well as proposals for the venue of the Second Congress. All persons are eligible to nominate.

Nominations to the EC must be seconded by any two present members of the EC or IHC (list printed in the Registration Circular available from the Secretariat, WCH, Ecology Research Group, Rutherford College, University of

Kent, Canterbury, Kent C127NY, UK; or Telex 965449 UKCLIB G). Those for IHC must be seconded by any two present members of the EC or IHC or by the governing body of an Affiliated Organization (list also printed in Registration Circular). In addition, the governing bodies of Affiliated Organizations may nominate to the IHC.

Individuals or groups who wish to propose sites for the Second Congress (to be held from 1992 to 1994) should submit one-page-maximum proposals indicating meeting and housing facilities, names of persons who might serve on local Organizing Committee, and special attractions of the site.

All seconded nominations and venue proposals should be submitted to the Secretary-General: Professor Kraig Adler, Cornell University, Seeley G. Mudd Hall, Ithaca, New York 14853, USA or Telex WUI 6713054). Nominations must be received by 1st June 1989; venue proposals should be received not later than 1st September 1989 so they can be copied for distribution and voting at the Canterbury Congress.

ROUND ISLAND

Round Island, an area of great biological interest, appears to be making a dramatic recovery from degradation caused by introduced pests. This was due to a recent intensive rabbit removal project, that was launched in this 151 ha nature reserve, located 20 km off the northern coast of Mauritius. In the 1970, the Government had the goats removed.

This area is of exceptional biological importance for it supports the last remnant of a palm savanna that was once on the northern plains of Mauritius. The two rare palms that occur there are Round Island Bottle Palm (*Hyophrobe amaricaulus*) and the Hurricane Palm (*Dictyosperma album* var. *conjugatum*). This is one of the few remaining rat-free tropical islands in the world, where eight species of native reptiles inhabit, half of which are not found elsewhere and four species of seabirds breed, including the rare Round Island Petrel. This island supports more threatened plant and animal forms than any comparable area on earth.

Until recently the whole ecosystem was seriously threatened due to over grazing by rabbits and goats resulting in widespread soil loss. The greater part of the island is now without soil.

World Birdwatch 9:3; 1987



SHIKARIS OF NANDIKOTKUR

by
Ranjit Manakadan

There exists a colony of traditional animal trappers known locally as *shikaris* at Nandikotkur, near the Rollapadu Wildlife Sanctuary (well known for the Great Indian Bustard) in Kurnool district of Andhra Pradesh. The *shikaris* trace their origin to Gujarat and claim to be of the same stock of trappers known as *pardhis* in Maharashtra. Their clansmen also live in Kurnool, Gulbargha, Raichur, Bellary and some other villages and towns in these parts. They speak a language of their own and do not understand the language, nor resemble in looks, the Narikoravan trappers of Tamil Nadu.

Two former *shikaris* of Nandikotkur, Jampa and Jalda, were appointed as bustard watchmen for the Rollapadu sanctuary since its inception in 1982. During my 3 year studies on the bustard at Rollapadu, I learnt from Jampa and Jalda quite a few things on the wildlife of these areas, the *shikari's* life style and their trapping techniques.

Most interestingly, they know the cheetah and claim to have been using it to hunt the blackbuck during early days. Jampa mentions that as a boy, he heard stories of an old member of his tribe, who had the hunting leopard to do his hunting for him. The last record of the cheetah was around the early part of this century. Two cubs were found near Nandikotkur, but efforts to rear them failed, the *shikaris* attributing the deaths to the young age at which they were taken. At about the same period, two adults were said to frequent Rollapadu areas.

The *shikaris* use noose to trap animals, the diameter of the nooses varying from thin ones for small birds like partridges and sandgrouse, to larger ones for cranes, and thick, strong nooses for blackbuck, fox and wolf. Earlier, the nooses were made from cow tendons. During the making of these nooses, the workmen would be treated as unclean by their own people (since they are Hindus) and were

not allowed to enter the houses or have any relations with their kin. Food was served outside for them. After the nooses took shape, the men after a bath and some rituals would be declared clean again! Today, nylon has replaced cow-tendons.

Except for the snake, which is their deity and is never killed even when it enters their houses, the *shikaris* kill and eat almost all other animals. Jampa lists the Redwattled lapwing (which he terms a bag of bones), stone curlew, short-eared owl (clobbered by a stick from behind, while a man keeps the bird's attention in front), jungle cat, fox, wolf, as some of their food items.

Interestingly, wolves are also caught by nooses. Capture of a wolf is doubly profitable, because besides the meat, the stuffed specimen would be paraded through villages to claim rewards from shepherds. The wolves of these areas are not generally known to carry away children, as in certain parts of Bihar

and Karnataka. However, the *shikaris* have an account of one case. A *shikari* took along his young daughter for trapping blackbuck. As she was tired, he left her under the shade of a tree and went about his job. On his return, he found a pack of wolves playing around with the head of his daughter. The story goes that he managed to chase the wolves in the direction of the nooses, trap and batter to death all of them, after which he cut open their stomachs, retrieved and cremated the remains of his daughter.

The *shikaris* are well versed in natural history. They know the breeding seasons of many birds, the time of arrival of the migrants and know of belly-wetting in sandgrouse. Jampa once startled me by saying, that the rattle cum skipper-frog-like croak sound that the displaying male lesser florican produces during displays is not produced vocally, but is created by the action of the wing feathers—a recent realisation to our florican researchers, with the help of binoculars, telescope and hides!

The Indian Fox, an item of the shikari's bag

Photo: Asad R. Rahmani





Sandgrouse is noosed on the ground Photo: Asad R. Rahmani

The *shikaris* of Nandikotkur are now at the cross-roads. Earlier, many *shikaris* gave up trapping in favour of illicit distillation of liquor, but with the recent harassment from the police and takeover of the trade by local contractors with money and political muscle power, they have gone back to hunting. The establishment of the Rollapadu Wildlife Sanctuary added to their woes. Initially, they were told to keep their hands off the bustard and the blackbuck. Soon, the demoiselle crane and the barheaded goose were added to the taboo list, both of which bring them good money during the winter season.

I recollect the scene, where a poor old ill-clad *shikari* was caught with a demoiselle crane under his arm, and given a thrashing by the Forest Department personnel. The pitiable condition of the *shikari* and his kin that had gathered there to seek his

release, erased my initial feelings of sadness for the crane, with its eyelids sewn up to cover the eyes with its own ripped-off flight feathers (to prevent the crane from jabbing human eyes if it could see) and its folded twisted legs. After all, they were only hunting to stay their desperate hunger. Why is it, that only the poor have to suffer, while the rich, who shoot for fun, go scot-free? Sadly, even nature conservation societies have quite a few *shikaris* among their members, who shamelessly and stubbornly defend the so-called sport of hunting with stupid and uncivilised cover-ups. Let them be the hunted and they will know how sporting the 'sport' is. Is conservation meant only for the rich to discuss and while away their time over tea spend their Sunday mornings; or for publicity seeking individuals; and not really for mankind as a whole— it looks like it!

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The Himalayan Newt in Captivity

by
Tej Kumar Shrestha

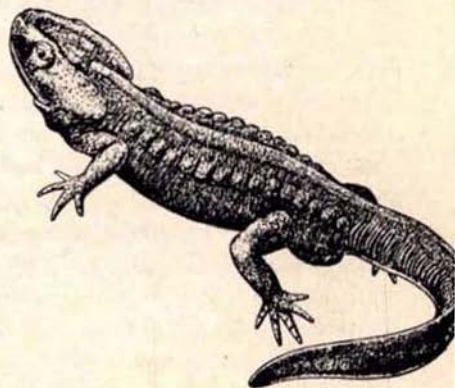
Himalayan newts are intrinsically interesting amphibians found in rockpools of moist-evergreen highland Nepal. For studying the habits and behaviour of the animal in captivity creation of an artificial woodland habitat was felt necessary. Therefore an attempt was made to set a habitat for newts by creating a woodland habitat.

The aquarium I constructed was 15 inches high, 18 inches long and 10 inches deep, with plate glass sides and slate bottom. At the bottom of the aquarium, I laid down 1 to 2 inch layer of coarse sand. Next, I added logs and humus to an additional height of two inches. In this soil base, I planted 5 to 6 small ferns which were dug out from wet walls. After arranging a few rocks and fragments of rotting logs on the top of the soil, I covered the remaining space with patches of various types of woodland moss. With a fine spray sprinkler I added enough water to give the foliage a look of

having been recently rained on, and also allowed the bottom sand to become thoroughly saturated.

I thoroughly cleaned the wild newts captured from eastern Nepal on July 15, 1983 and put them in the newly made aquarium and observed the activity of the newts in the aquarium habitat. I found them quite at home. To feed the newts I collected insects, tadpoles, fishes and mushrooms from the Bagmati

The Himalayan Newt, an unusual amphibian (After Boulenger—FBI)



river. In my feeding experiment I ran a gamut of problems. Despite plenty of room and water carefully adjusted for temperature and acidity (temperature 20°C, pH 7.2), several of my newts simply starved to death before my eyes. Some of the newts leaped out of the tank at night and died. At the end of three months only six survived.

I reared the six surviving newts in the aquarium for the next three months (September to December) very successfully. In the first week of January as the room temperature dropped to 10°C, the newts became motionless. Three of the newts had already closed their eyes. I thought the newts were dead. I put the three newts in the sun; they showed some motion and faced towards the region where the light intensity was minimum. All the newts avoided direct light and remained in the dark region of the aquarium.

To permit the hibernation needs of the newts in the aquarium I made artificial crevices by putting some dark stones, pebbles and cobbles in the aquarium floor; I prevented the entry of light by covering it with a dark polythene cover. I watched daily their activity at night, and found they were inactive and sleepy. I adjusted the humidity of the tank by sprinkling water. My children had also put a few empty cream containers as artificial shelter. I found that the containers were quite suitable for newts to lie up quietly curled up. To accommodate the more shy newts in the small place I

took a square glass container and covered it with moist soil and planted moss all over it and put it at the centre of the aquarium. Three newts entered into the new cave-like sheltering den container and stayed hibernating there. Throughout the winter extending, from January to February, the newts lay dormant in the artificially hibernating den.

Cued by the warm room temperature in early spring (last week of February 1983) the newts emerged out of the dens and showed feeble activity. They were rather restless and appeared to be seeking water. I flushed the aquarium with fresh water. This time I detected two of the newts opening their mouths constantly. On three occasions I observed one dominant newt chasing and cornering the smaller newt whose hindlimb was bleeding. I removed the injured newt and kept it in a separate container. I suspected newts to be cannibalistic and quite hungry. For feeding them I caught live cyprinid fish (*Puntius ticto*) from Bagmati, and reared them in a separate container. I killed two of them and extracted the pulpy flesh, and to provide enticement to the newt; I took a strip of flesh near the nostril of the newt. To my surprise the newt moved its head and responded by opening the mouth for a bite. After many trials I found a little positive response and finally a successful bite. First of all one newt

Continued on page 39



Elephants as guardians of gods

Animal Folktales in India

Text & Photographs
by
Bharat Bhushan

Folktale is a time honoured medium that established guidelines for man's descendants and imparted basic knowledge and wisdom. Human culture and the consequent folklore subject cultural attitudes towards delineating moralistic attitudes as guidelines for a better society. When the folklore focuses itself with natural history, attention by researchers towards attitudes of human societies to nature in both myth and

reality is necessary. Most ethnographic and anthropological research seems to have been done for objectives other than studying cultural attitudes directly.

Indian natural history is closely blended over the ages with the many diverse populations inhabiting the sub-continent. Local knowledge and beliefs indicate the extent of dependence by man on nature. Empirical folktales have always been used as conceptual tools to elaborate ideas and moralise in the end. Such folktales acknowledge and pre-empt the thought that fantasy operates in men's minds without their being aware of it. Remarkably little attention has been focused on the cultural attitudes and beliefs about animals in India.

The need to ensure protection for domestic livestock and economically important wildlife prompted the an-



*The mythical Garuda: A symbol of man's
desire to conquer the skies*

cients to envelop their *shastras* in folklore. There are various *shastras* in ancient Indian literature designed to guide one's conduct of life. Most folktales depict *niti*, the harmonious development of man's mental prowess, by blessing him with security, friendship and learning.

The *niti-shastras*, including the Ramayana, take to quoting animal thought as a vehicle of expression in Indian folklore. Hanuman, the monkey-god, is depicted as faithful and invincible, while Vali, who deserted Sugreeva, meets his end at the hands of a moralistic Lord Rama. These are well-known examples of instructing that good thoughts triumph over evil designs.

Similar symbolism is rampant in Hindu mythology and present-day religious practises. The lion is the symbol of strength, the dog, the symbol of faithfulness, the peacock embodies vanity and the white bull symbolises justice and virtue. While ancient Hinduism listed sacred animals, Jainism and to a lesser extent, Buddhism, maintained that no human being had the right to take another's life or subsist on animal life. Both these offshoots of Hinduism dictated vegetarianism.

Hindu religion is centred around the belief of the transmigration of the soul. The human body is considered to be a shell of the immortal soul. The soul is considered to inhabit some animal on the death of its human shell.

This led to the Hindus considering most animals with respect. For

example, disrespect shown to a cow by kicking it, might be directed unknowingly to one's own forefather. Lord Brahma, the Creator of the World, and Lord Vishnu, the Protector, are depicted in Hindu mythology as having been reincarnated into animal forms. Consequently, these animals were considered sacred and were immune from human misuse.

The vedantà school of philosophy tends to clothe its moral, satirical and mystic folktales in animal actors depicting a constant mental trait. The animal actors are shown to characterise the recommended path of life more vividly than men could do.

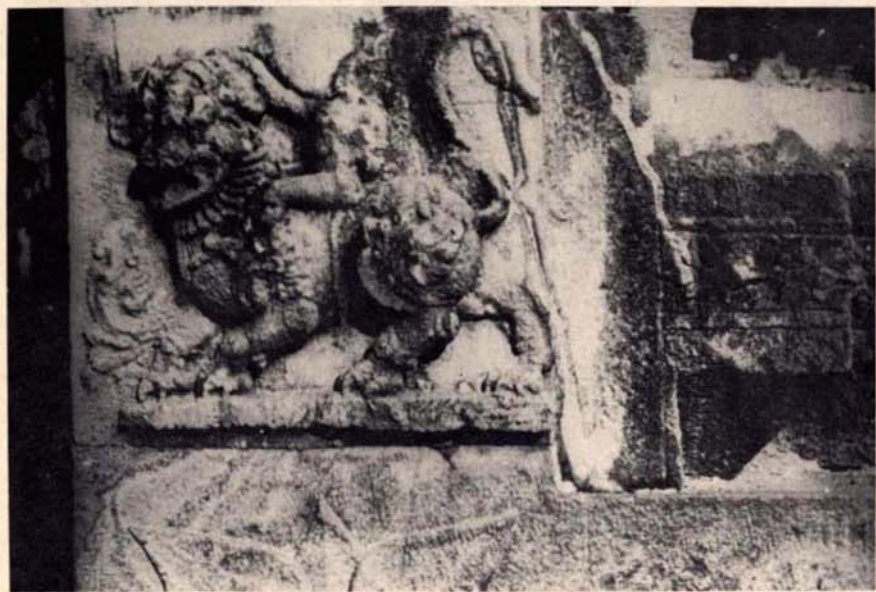
The *Hitopadesa* and the *Jataka* tales present that life's philosophy should be at the same moment, shrewd, undeceived, and free of all sentimentality. The use of animals to instruct humans on the positive view of life exemplifies the powers of the language. The style of a folktale resorting to this medium points it out as a powerful mind searching for the light of truth.

Vishnusharman's PANCHATANTRA, composed sometime about 200 B.C. personifies the positive content of *niti*. The PANCHATANTRA collection of animal stories presupposes that "joy results from three occupations—from resolute, yet circumspect, use of the active powers; from close-contact with like-minded friends; and above all, from worthy exercise of the intelligence."

Security is considered to be a

negative foundation in the PAN-
CHATANTRA. Animal actors are
depicted as necessarily situating
their inhabitation free from preda-
tion. A mouse has to reside beyond
the reach of a cat. The collection has
many pleasant stanzas depicting the
necessity of security.

“The poor are in peculiar need
Of being secret when they feed;



*A scene depicting a god or human
astride a mythical adaptation of the lion*

The lion killed the ram who could
Not check his appetite for food.”

Vishnusharman philosophises
that without the use of intelligence,
no human joy is possible. Certainly
nothing beyond animal happiness.

“A host where each is weak
Brings victory to pass;
The elephant is bound
By woven ropes of grass.”

and again:

“Woodpecker and sparrow
With froggy and gnat,
Attacking *en masse*, laid
The elephant flat.”

Later day philosophers exemplify the combination of thousands of inadmissible words into dignified poetry. Vemana, a telugu philosopher in c. 1670, was of the Vedanta school of Indian philosophy. Being a *yogi*, many of his verses breathe a spirit of devotion. Mysteriously complex, Vemana's dependence on animal beliefs as a medium of dispersing knowledge, elicit a sense of that period's close contact with animals.

Some examples of his works are:

“If you see among harmless cattle,
One handsome ox with horns,
It is indeed superior. But,
Is wisdom attained by the
Mere shaven baldness of the
sanyasi?”

and again:

“They who recognise (and pity not)
The nature of the irrational
animals, and,
contrive how to take mortgages
from them,
these are themselves the most
brutish on the earth.”

Dharma, the duty as laid down by religion or custom, is engrained in the sacred lore, the *shastras*. The scriptures, the four books of the *Vedas*, evolve into later day *niti-shastras* and prescribe day-to-day law, the *niyati*. By resorting to the



The lion, symbol of courage, strength and valour

use of animal actors, the folklore attempts to explain the *niyati* to human society.

Most social groups share the view that animals are part of us, and are firmly integrated into our symbolic systems. India needs documentation, through languages, culture and society, the role played by animals in the belief systems of our diverse peoples. Knowledge of local traditions can be used to an advantage in protecting or proposing new wildlife reserves. Some wildlife sanctuaries and the many sacred groves in India are a result of religious protection. Natural history studies need initiation in the subcontinent on ethnographic levels pertaining to taxonomy, folktale, myth, song, culture and geographic differences.

AGGRESSION IN YOUNG ELEPHANTS

Text & Photographs
by
D.K. Lahiri Choudhury

In 1968 October a young subadult tusker was causing havoc in the Garo Hills in the forests around Rongchugri on Fulbari-Tura Hill Road. It was hanging on the periphery of a herd of about 20, permanently resident in the area, and had killed four or five persons when eliminated as a rogue. The height of the animal, calculated by the circumference of the front foot, was only 7 ft 2 in. (Note. The height of an elephant at the withers, barring that of calves and very old animals with splayed toes, is calculated at twice of the circumference of the forefoot with a margin of error of c. 5%. By slightly modifying Milroy's rule of thumb, the average minimum height of an adult mature male elephant can be taken as 8 ft or 245 cm, and that of a female elephant 7 ft or 215 cm.)

In 1969 October a herd of elephants was rampaging around Chigichagri village in the Garo Hills, east of Fulbari-Tura Hill Road, a few miles southeast of Rongmachak P.W.D. Inspection Bungalow. On being asked by per-

sons in administrative authority, two Elephant Control Licensees proceeded to destroy the "leader" of the herd in an attempt to scare away the animals. While stalking up to the herd, the hunters received a most determined charge from a barely seven-footer *makna*. The recalcitrant animal pressed on with the charge even after being hit on the head frontally with a .470 solid bullet which had missed the brain narrowly, and eventually fell to two solid bullets, one from a .470, and another from a .404 only a dozen paces from the hunters.

In November 1985 while I was attending a meeting of the Asian Elephant Specialist Group, IUCN/SSC in Bandipur, one late afternoon Mr J.C. Daniel and myself slipped out of the Bandipur tourist and administrative complex in the Society's jeep looking for a lame elephant which had been reported to be hanging around. Close to the gate, on the national highway we encountered a young tusker which insisted on disputing our right of way and demonstrated at the jeep with



Above. The beginning of the rush, the head held low

Below. The end of the rush — the head tossed up with a jerk (note the flap of the ears)





Above. The close-up of the left eye — the white is showing

“mock” charges. The rush began with the head in a low position, and ended in an upward thrust of the head (note the flap of the ears). The close up of the eye at the end of the rush makes the animal's intentions clear. We sat out the rush in the jeep, and the charge was not pressed home. The dividing line, be it known, between a “mock” charge and a serious one is very thin; the proof of the pudding, if one may mix metaphors, being often in the killing. The animal then turned away, head still high, one eye cocked at the jeep. It then wheeled round to that very deceptive quartering away position, the other eye now on the jeep, the ears still and spread out: an animal tense and very much on the *qui vive*. A few minutes, and the animal started taking quick and

Below. The animal turns away — the head still high



nervous trunkfuls of grass, the ears now flat against the head, the head lower; a more relaxed animal, which nevertheless preferred to keep an eye on us.

Next year, again, in nearby Mudumalai while going up to a forest observation post overlooking a stream, a small tusker barely 7 ft or so at the shoulders, made determined demonstrations at our jeep. Dr V. Krishnamurthy, who was accompanying us, said that there were two such animals of the same height: one a 'left tusker' and another a 'right tusker', and both of them were notorious for charging at vehicles. He expressed his apprehension that one day the animals might cause some damage to a vehicle and its occupants.

In 1986 April while the census parties of West Bengal Forest Directorate were moving through the forests of Jaldapara Wildlife Sanctuary in North Bengal on elephant back looking for wild elephant for the purpose of enumeration, the departmental tusker Lal Bahadur (height about 9 ft) on which the leader of the census party was riding, was determinedly charged by a young *chakna* tusker well below 8 ft, whereupon, true to its form, Lal Bahadur fled. This young bull has become notorious for its aggressive behaviour, though it has not killed a man yet.

On 26th November, 1986, a small tusker was declared a rogue for killing a person in Lohar Singh Division of Mary View Tea Garden in

Kurseong Forest Division in North Bengal, and was shot dead on January 7, 1987. It had killed, including the last victim, 5 persons and injured 1. The circumference of the front foot of the animal was 1.19 m (3 ft 10¼ in.) and therefore, the estimated height of the animal at the withers was 2.38 m (7 ft 9½ in.) (p.c. G.S. Mandal, Chief Wildlife Warden, West Bengal).

On 7th January, 1987, one young *makna* (circumference of forefoot 99 cm; estimated height 1.98 m or 6ft 6in.) chased and killed one Ukil Roy at Tista Bhanga Ghat near Nodhabari village at about 11 p.m., chasing the man over a distance of 200 m (p.c. S. Dhandiyal, DFO, W.L. Division I, W. Bengal).

Sometime in 1987 in the proposed Royal Manas National Park in Bhutan, when the Chief Warden Mr P.B. Subba was moving in a jeep one evening, his jeep was attacked by a subadult tusker and smashed beyond retrieve. Just luck saved Mr Subba (p.c. Dr Charles Santiapillai).

On May 30, 1988, at about 3-30 a.m., an Army *jawan*, one Dayaram (35), Naik/CLK no. 6921779, his unit attached to the Army Supply and Ammunition Depot located in Bengdubi forests under Bagdogra Forest Range of Kurseong Forest Division, West Bengal, was killed by a tusker near a *gurdwara* within the Army camp area under 16 Field Ammunition Depot, Bengdobi. He along with 2 other persons was sleeping on the verandah of the

gurdwara when one small tusker in the company of a larger *makna* came close to where they were. Dayaram tried to run away. He was chased by the tusker over a distance of 50 m, and killed by the breaking of his neck by the elephant's trunk—certainly an unusual way of killing by elephant. The measurement of the front foot-print was 122.5 cm, which would give an approximate shoulder-height of 8 ft (*p.c.* G.S. Mandal).

In May, June, and July, this animal seriously injured 3 other persons, one an Army *jawan*; one of the injured, reportedly, later succumbing to his injuries in the hospital. I was told that a lady, pillion-riding behind her N.C.O. husband on a scooter, was picked up by this animal which had ambushed them from behind. She got away with only minor injuries as the animal dropped her and beat a retreat, frightened by the ensuing fracas to which, no doubt, the *phutt-phutt* of the scooter engine had contributed generously (*p.c.* S. Dhandiyal). The generally held view around the army camps, however, was that she had been spared in response to the husband's earnest prayer to Ganesh Baba, offered with folded hands and due humility.

Be that as it may, on the 7th June the tusker struck again. At about 9.30 in the evening, the tusker came close to one of the labour huts of Belgachi Tea Garden (Kurseong subdivision of Darjeeling civil district—the place of the incident

only a few miles from the place of incident on May 30), occupied by one Saligram Karua, his wife Budhani, and their two children. All tried to run away. Others escaped, but not Budhani, who was chased over a distance of about 30 m and trampled as well as gored to death. The measurement of the circumference of the front foot print of the animal was 122.0 cm; close enough to the foot print measurement of the killer of Dayaram on May 30. Besides, the description of the animal on the two occasions, gathered locally, also tallied (*p.c.* G.S. Mandal).

This aggression in some adolescent/immature male elephants does not seem to have been adequately reported yet. These animals often are a nuisance, and seem to delight in proving their might to themselves and to the wide world by chasing people, not infrequently to the bitter end; an extension, as it were, of the bird-chasing propensity one observes in very young elephants.

It is tempting to hypothesize on the cause of such behaviour. Is it due to difficulties in social adjustment in a normally gregarious animal, soon after expulsion from the family group when nearing the age of sexual maturity? One notes how some of these expelled subadult animals continue to hang round the periphery of the herd/family group, moving along with it along transhumance routes; and how some, probably at a later stage, graduate



Above. The deceptive quartering away position: the head still high and slightly turned, one eye on the onlookers, ears spread out and still

Below. The animal starts feeding in quick, nervous snatches: Displacement behaviour?





from this hanger-on status to the role of junior partner in *maljuria* groups ("bachelor parties") whereby the process of learning by observation and emulation continues even after expulsion from the family group.

This aggression may also have implications for the reproductive behaviour of elephants. To take up the case of the Jaldapara '*chakna*', already referred to above, it is now a regular nightly feature at the Hollong *pilkhana* of the sanctuary, where it has managed to cover, brooking no competition, almost all the available Departmental cow elephants, going to the extent of causing abortion in a cow elephant carrying 11 months by forcing its unwanted attention on the expecting mother. Sometime back, it

The captured animal is being removed to camp from the site of immobilisation, through the army depot

unhesitatingly took on and gored Balaji, a young but very tall (for its age) Departmental *makna* (slightly over 9 ft or 275.8 cm—a foot taller than the '*chakna*') It seems possible, therefore, that the intraspecific dimension of this aggression may have a significant part to play in the competition for mating, i.e. body-size alone may not be the decisive factor in such competitions, the meek in such cases not necessarily inheriting the cow.

The management aspect of the problem poses some teasers. The present practice is to tolerate the aggressive behaviour up to a point; and when it hardens into mankill-

ing, to destroy the offender. With such animals, three other options are theoretically open to managers: (i) immobilization and translocation to a safer area (practised successfully with a rogue tusker (8 ft 9 in.) by Karnataka Forest Department in March, 1987); (ii) capture by immobilization and subsequent training; and (iii) immobilization/sedation, followed by a sound thrashing by larger *koonkis* imparting to the youngster a never-to-be-forgotten lesson in good manners, and eventual release.

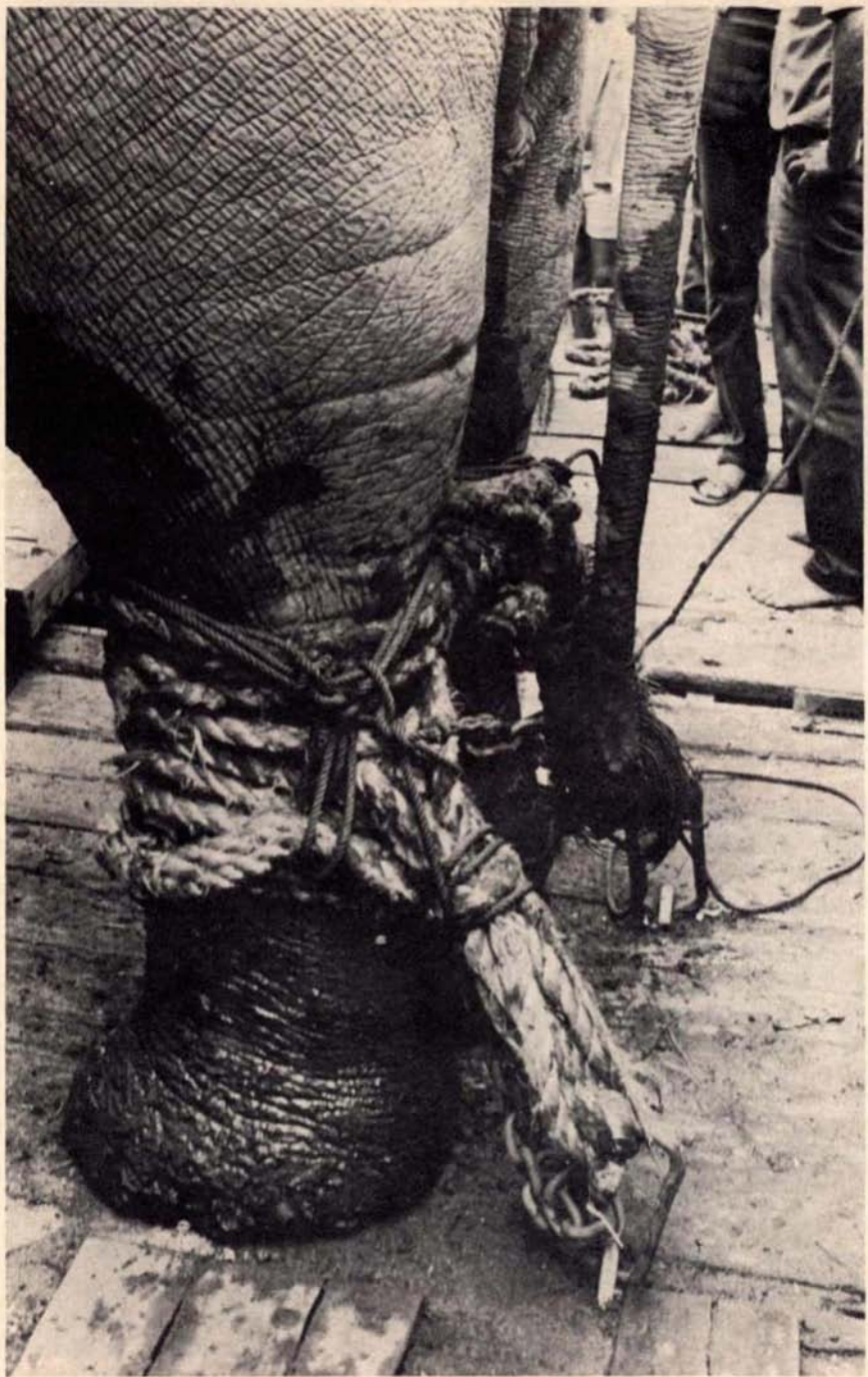
With the first option, it is suggested that a nylon collar, preferably with luminous paint for easy detection at night, be put on the animal before release, so that the behaviour and movement of the animal can be monitored later. A radio-collar, of course, would be the ideal thing.

Capture by chemical immobilization followed by training (option ii) has been attempted successfully with young bulls: it was tried, for example, with a young tusker, later named Agasthi, by the late S.R. Choudhury, and recently with a sizeable number of elephants by Karnataka Forest Department. These animals, however, were not known to be especially aggressive.

It would be instructive to see how aggressive animals responded to the training process. Incidentally, the time may not be far away when mild chemical sedation/tranquillization will become standard prescription in the initial stages of the training pro-

The captive being loaded on to the lorry





gramme for wild elephants, when the stress and strain of getting used to constant human proximity is maximum. To come back to the topic of aggressive animals' response to the training process, Janardan, calf of a Forest Department cow elephant in north Bengal, was extremely aggressive at three years. The animal, just over 6 ft now, though still spirited, is after training disciplined and tractable.

The experiment with thrashing by larger *koonkis* (option, iii) seems worth trying out, as the dominant position of larger animals is usually readily accepted by the smaller and younger ones. This is the role the 'sardari *koonkis*' ('leader *koonkis*', a term used in eastern India: usually tuskers of outstanding size and bulk) play when bringing out freshly-captured wild elephants from a stockade.

In the last week of July 1988, Mr G.S. Mandal, Chief Wildlife Warden of West Bengal, had to choose between the options available, as detailed in the preceding paragraphs. The question was, how to deal with the last mentioned rogue tusker in Kurseong Forest Division of the Northern Circle of West Bengal forests. The option of liquidation was relegated to the background, but not closed. It was decided to try out the other available options first. The animal was initially immobilised with a mixture of *Etorphine hydrochloride* (M 99) and *Acepromazine maleate*, and subsequently removed to camp,

2½ km from the site of immobilization, under Rompun L.A. (*Xylazine hydrochloride*) and tied to *koonkis*. Initially, since the animal was not unmanageably large for the available Departmental *koonkis*, both additional option No. (i) (capture, translocation, and release) and option No. (ii) (capture and training) had been kept in view. The argument in favour of option (ii) was that in north Bengal conditions one could not rule out the possibility of further conflict with man subsequent to the release. The argument in favour of option (i) was that the animal, released in a reasonably large area of natural forest with a low density of human population all around, might find itself free from the tension of living in small patches of degraded forest surrounded by human settlements and thus become less aggressively disposed to man, and might eventually rehabilitate itself in its new surroundings without continuing to pose serious threat to human life. A nylon collar with luminous paint had been put on the elephant, the first thing after capture. It would, therefore, be possible to identify and recapture/eliminate the animal without much fuss, if it continued to be difficult even after release in a new area. After a detailed discussion with the trainers following the capture, it was held that the chance of mortality in the course of training with this particular elephant in the hot, humid weather of July was unacceptably high. Besides, it was



more desirable to try to rehabilitate the animal in the wild than to try to domesticate it. On these considerations Mr Mandal finally decided to exercise the first option (capture, translocation, and release).

Accordingly, the next day the animal was carried in a Departmental lorry, the body of which had been specially modified for the purpose, from Taipoo block of Bagdogra Forest Range of Kurseong Forest Division in the extreme west of North Bengal forests, close to Nepal border, to the core area of Buxa Tiger Reserve in the eastern part of the North Bengal forests, close to Assam, a distance of about 180 km. The translocation was carried out under Rompun. The journey time, with breaks for tea and refreshments, and several booster doses of Rompun on the way, was 8 hours. The road followed was mainly, NH 31, the arterial road connecting Assam and the North-East with the rest of India. The traffic on the road was ex-

Negotiating the Tista bridge near Jalpaiguri town at 60 km per hour

cessively heavy, and slowed down considerably the progress of the convoy consisting of the lorry carrying the captured animal, 3 more lorries carrying 3 *koonkis* for the unloading and release operations, and several jeeps carrying the officers and staff of the Forest Directorate.

The drill for capture and translocation, and the drug-regime followed were adaptations from the practice in Malaysia, as initiated by Mr Mohd. Khan bin Momin Khan, Director General of National Parks and Sanctuaries, Malaysia, and as brought to near-perfection in the field by the darting team headed by Mohd. Shariff Daim.


For details of doses of drugs used and other technical data, Mr G.S. Mandal, Chief Wildlife Warden, West Bengal, P-16, India Exchange Place Extension, New C.I.T. Bldg., 3rd Floor, Calcutta 700 073 may be contacted.

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feedback

of ivory poaching in West Bengal: two in North Bengal and two in South. Ivory poaching in Cachar Hills and Karbi Anglong districts of Assam is not uncommon. Cases of ivory poaching have also been reported from different localities of Arunachal Pradesh as well as from Meghalaya, particularly the western Khasi Hills. But this is not a problem of the dimension it has assumed in South India, which has been going on for many years now at the rate of about 150 tuskers a year, according to one informed source. I find it difficult to understand how such extensive poaching can go on over the years inspite of official vigilance. It would be sad, however, to stop trade in Asian ivory all over India just because poaching cannot be contained in South India. I am

afraid, the recent regulations banning trade in raw and finished Asian ivory has already proved counter-productive, as by checking the supply of legitimate Indian ivory, such as ivory in government custody, it has predictably raised the price of ivory and thereby has made poaching more attractive to unscrupulous operators than ever before. The thing to do is take stringent measures to put down ivory poaching in South India which seems to go under everybody's nose, and not, in frustration, put an end all over the country to a traditional craft developed over thousands of years.

D.K. LAHIRI CHOUDHURY
45, Suhasini Ganguly Sarani,
Calcutta. 

the Himalayan newt

snapped the fish. At three days interval I gave them fish as food, which they readily accepted.

Himalayan newts swam in the aquarium most of the time but occasionally they surfaced to stay on the elevated stone platforms. I also detected evidence of skin moult in the captive newts. The moulted cast floated in the water of the aquarium as transparent bags. To reduce moulting rate I put the newts in well water having pH 7.6. I found the

pH range admirably suited captive newts. I found prolific moulting of the newt while being kept in chlorinated water of pH 4 to 6. I have reared the captive newts successfully for the past two years in my woodland aquarium. They have now almost become pets.


The Himalayan newt is declining fast in highlands of India and Nepal. Its natural habitat should be preserved and pollution monitored. Besides this, captive breeding should be intensified in order to revive the low population level of newt. 



Photo: Ravi Sankaran

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