

# HORNBILL



BOMBAY NATURAL HISTORY SOCIETY



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On cover: *Indian Chameleon*

Photo: S. R. Amladi

In recent years there has been considerable correspondence and discussions concerning the direction of the Society's activities. The objects of the Society as listed in the Memorandum of Association are wide enough to cover a large range of interests. The Society has also responded to the need of the hour in the interest of natural history in the long years of its existence—first the *Journal*, then the series of faunal surveys which brought precise information on the distribution of Indian mammals and birds, and laid the foundation for their taxonomic study. Subsequently the theme of the Golden Jubilee celebration of the Society in 1933 was Conservation, and conservation of India's wildlife and wild places continues to have the urgent attention of the Society. Recently the direction has been towards ecological field studies.

The majority of the Society's members are not scientists, but obviously have an abiding interest in natural history. To them the philosophy behind the Society can be best expressed in the words of L. H. Bailey in *LESSONS WITH PLANTS*. "It is seeing the things one looks at, and the drawing of proper conclusions from what one sees. Nature study is not the study of science, as of botany, entomology, geology and the like. It simply trains the eye and mind to see and to comprehend the common things of life, and the result is not directly the acquirement of science, but the

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establishing of a living sympathy with everything that is."

In this issue we are commencing a series on the Wildlife Sanctuaries of India and would welcome comments thereon. We are gratified by the response in the form of articles from members. The current issue has notes from members in Assam, Maharashtra, Orissa, and Tamil Nadu. We hope the trend will continue.

Edited by

J C DANIEL

S A HUSSAIN

J S SERRAO

## FEEDBACK

### 'The flowering of *Strobilanthes*'

There was a general flowering of both Karvi (*Karvia callosa*) and Whaiti (*Strobilanthes ixiocephalus*) at Mahableshwar (altitude *c.* 4500 ft; annual rainfall *c.* 250 in.) in Maharashtra in 1976 (*Hornbill*, Inaugural issue). Based on my personal observation of the behaviour of both species at Mahableshwar over a period of four decades, I take this occasion to record that the previous general flowerings on the hill occurred in 1944, 1952, 1960 and 1968—a cycle of 8 years.

Though I may have seen flowerings in other places and at other times, I am unsure of the dates. I therefore restrict my note to the locality of Mahableshwar alone and mainly to the species Whaiti. Its flowering begins in November, reaches its peak in mid December, and declines into January of the next calendar year. I have invariably been present, for some time at least, during the last five flowerings. Karvi flowers in August and September during the rains when I have rarely been present, and my evidence is based on the appearance of spikes and faded flowers at the end of the year.

At the end of their approximate 7-8 years life span (from germination of seedling), the mature plants of both species flower exuberantly *en masse* and die, but not before shedding a profuse crop of seeds which germinate during the monsoon and lay a lush carpet of tender green seedlings on the forest floor and hill slopes.

And from the *strobilanthes* seedling also springs the story of my interest in their periodic flowerings—a local belief that Junglefowl thrive on the abundant crop of Whaiti and Karvi seed and that their numbers increase in the year subsequent to the flowerings. I was curious to find out if this were true and when I first observed the flowering in 1944, I noted the date and depending on another strong local belief that plants flower every seven years, I anticipated the next flowering in 1951. To my disappointment and puzzlement, it did not occur as expected. However, the plants flowered the next year in 1952 after an 8 year interval, and the general flowerings have punctiliously observed this time schedule till now. My initial curiosity about the junglefowl, which properly is the genesis of this article, remains unsatisfied. Lamentably, I have to report that against the steep decline in numbers since 1945, an increase, if any, is not observable.

Bombay

D. J. PANDAY

### Flame of the Forest

A couple of additional points may be of interest in the body of the article like the size (dimensions) of the leaves and the flower. Also it is a utility tree in that, the leaves of this tree are stitched together with small slivers of wood and used as dinner plates. This use is seen more prominently during the wedding season.

Madras

VIVEK KUNTE

## Sport shooting and Conservation

In regard to the President's letter, the situation in Sri Lanka is very similar to that described by him for India. The difference is that in Sri Lanka legal hunting of most game is no longer possible, as since 1964 the issue of licences has been suspended. This affects chiefly leopard, bear, all deer, elephants, buffalo, etc., and is on the whole a good thing. Only wild boar and hare can be hunted throughout the year without any controls, and some game birds during the open season. Unfortunately the old breed of ethical hunter, what your President calls 'the true sportsman' has long died out in Sri Lanka. Today we have only poachers. Some do it just for the kick of it and through blood lust, but most for monetary gain and greed; none of these are acceptable motives for hunting, and it can thus be said that the hunter in Sri Lanka by and large is neither a conservationist nor has his existence any function in conservation; quite on the contrary. There is much unnecessary destruction for the sake of mammon. Outside national parks and reserves the leopard has become practically extinct and deer are never seen.

I was also interested in your note on *Eupatorium odoratum*. This is a weed well known in Sri Lanka, and has been labelled by some expressive vernacular Sinhala names. The most common is *Podisingho marang*. *Podisingho* is a name which typifies the small man, the small

cultivator, and *marang* means death. The plant is the death of the small man who has opened a piece of land for cultivation, when it is taken over by *Eupatorium* and he just hasn't a chance to keep it for his own purposes. Another name is *Mudalali nattang*, which means the *mudalali* (the land owner) is finished. Yet a third one implies that the obnoxious weed even 'flattens' rich people (*Dhanapathi mattang*). *Eupatorium odoratum* is certainly a most troublesome weed in coconut plantations, especially small holdings in the wetter parts of the country, but it also invades primeval rain forests which are being logged, e.g. the Sinharaja.

Colombo

TH. W. HOFFMAN

The letter from our President, Sálim Ali, on Sport Shooting and Conservation is pragmatic and very timely, particularly when most of our State Governments adopt muddled policies on Wildlife Conservation, which although sound on paper, in practice actually succeed only in defeating their purpose.

I am referring to one specific aspect in the President's letter, where he states, that the presence of true sportsmen exerts deterrent influence on the poachers.

Those well-intentioned people, who fervently advocate a blanket ban on all shooting are usually innocent of the fact that commercial poaching occurs deep in the forest during the dark hours of the night, when the 'No Shooting' enforcement agencies, the Forest Officers,

are far away in their villages or headquarters. Therefore, unless you have a separate and truly dedicated staff, vigilant for practically 24 hours of the day and specially at night, the blanket ban offers a field day to the poachers. Where the maintenance of such a large staff is not possible, then the only remedy is the presence of true sportsmen as a deterrent.

I would cite my personal experience on this subject. A dozen years back, we were camping for a fortnight in a shooting block in Madhya Pradesh in the month of April,

A little after midnight of the first night in camp, I was awakened by a resonant booming sound in the distance. In another half an hour, there was the same booming blast again, very much like the report from an overloaded muzzle-loader gun and yet perceptibly different. The next night also, there was a repetition of three booming blasts, a little after midnight.

What at first, I thought to be the blasts of over-loaded poachers' guns turned out to be something quite different. A product of the poachers' inhuman ingenuity, the blasts actually came from 'Flour bombs'. These bombs are made by fashioning round balls of explosive powder, of the size of a walnut, which are then covered over by a paste of flour and allowed to dry and harden in the sun. After that, they are strategically strewn about in the fields, half-buried. A sambar, chital or pig, entering the fields at

night from which the crops have been removed, will smell the flour and naturally bite on this hard 'Fruit'. The next moment, there is a thundering blast and half of the poor animal's face is blown away. On hearing this blast, the villagers run up with their axes and bamboo staffs and hack away at the animal, while it is still kicking and writhing in agony.

Unable to contain ourselves any longer, we drove to the Range Officer's quarters, first thing in the morning. There we collected the cooperative Ranger, his not so cooperative assistant, and the block-map, showing the villages within its boundary. By evening, we had visited every village and combined with our outraged feelings and the Ranger's genuine keenness to suppress this poaching, we managed to frighten the poachers.

The net result was that for the remainder of our stay of about 12 days, there was not a single blast at night. Of course, we shot our licensed quota of game-meat, 2 chinkara, 2 barking deer, 1 sambar, most of which meat went to the village helpers but I feel we saved much more, specially pregnant females and small ones. How much—please make your own calculations.

*Bombay*

F. D. GHEYARA

In 'Sport Shooting and Conservation' Dr Sálím Ali has supported the cause of game hunting as a sport. It has been advocated earlier

that whatever little is left of our wildlife is, thanks to these sportsmen. Conversely it is also said that the present sorry state of our wildlife is due to indiscriminate hunting in the past.

Hunting of wild animals today in any form is considered cruel and not in keeping with the current trend which is all for conservation. In the past when the forests were thicker, the animals plentiful and the aids to hunting comparatively primitive, there was some risk involved and an element of chance existed. Today the well-equipped sportsman is vastly superior such that when a quarry is sighted it is as good as dead. With their numbers greatly diminished the sportsmen cannot be too discriminate; after all he must bring back something to show for his efforts. In these circumstances anything on four legs is in danger.

Between poaching and hunting as a sport the difference mainly lies

in the motives; one does it for profit, the other for pleasure. The end result in either case is the same—one more dead animal. Which of these is more despicable is a subject for another debate, but to put the blame squarely on the poacher is to conveniently forget those countless photographs of the 'master' posing with his right foot firmly planted on the dead animal, flanked by his faithful gun bearers.

The need today is to strictly conserve what little we have in the shape of our wildlife, and to do this we must first put an end to all senseless killings. It is heartening to find that this feeling has of late been felt by so many of our sportsmen of old who have rightly traded their guns for the camera and in the process actively helped in saving the very animals which once adorned their living room walls. May their tribe increase!

*Bombay*

SAM J. BHACKA

## **SOME BEAUTIFUL INDIAN TREES**

By

*E. Blatter, Walter S. Millard & W. T. Stearn*

This book provides a simple well-illustrated guide to some of the most beautiful flowering trees to be seen in India and Pakistan. It should be of use and interest throughout the tropics. The descriptions are written in easy popular language: the illustrations have all been made from living plants. They aim to help those who wish to learn not only the scientific and local names of these beautiful tropical trees but also something about their history, cultivation and uses.

Price Rs. 40

*For members Rs. 35*

# PRESIDENT'S LETTER

WILDLIFE CONSERVATION AND THE CULTIVATOR

While passing through Delhi shortly after the Lok Sabha elections which shot the Janata Party into power, I had the privilege of a short interview with our new Prime Minister, Shri Morarji Desai. My purpose was to try and assess how much the new Central Government could be counted on for active support to our campaign for wildlife and environmental conservation which, after years of struggle, was at last beginning to show some heartening signs of getting off the ground. I told Shri Desai that whatever little success we had been able to achieve in the last few years was due largely to the support we had consistently received from the top, especially by the importance rightly attached to wildlife conservation by Mrs Gandhi personally who, like her father before her, was herself a dedicated Nature lover. I said I hoped that similar official support would continue. The Prime Minister's response was reassuring. He seemed fully alive to the situation and to the fact that the conservation of forests and wildlife was a matter of vital national concern meriting high priority. I left with a feeling that his government would do everything reasonably possible to encourage all practical efforts to that end. One thing Shri Desai said, however, is of pointed relevance and with which no conservationist will disagree; the sooner we can begin to tackle it in an earnest and

realistic manner the better. In my view it deserves the most immediate attention under the fast deteriorating conditions in India today—what with the continuing upsurge of human population aggravated by refugees from adjoining countries and repatriates from abroad all crying for food and rehabilitation. This results in further encroachment on our already overexploited forest land exposing the wildlife to unhealthy conflict with man—to graver harassment, sometimes by the genuinely aggrieved cultivator, but mostly at the hands of the anti-social poacher and commercial pot-hunter under the pretext of crop protection. The Prime Minister pointed out that all the propaganda and publicity we had so far been doing was rather like preaching to the already converted. Our appeals only reached a class of people, mostly city dwellers, who already possessed some degree of awareness of the conservation problem and of the arguments for protecting our fast vanishing wildlife, but whose interest nevertheless was largely of an academic nature in as much as that they themselves were seldom the direct sufferers. He rightly pointed out that no conservation laws or measures can succeed fully unless they had the backing of informed public opinion, which in our case means of the usually illiterate village

*(contd on page 36)*



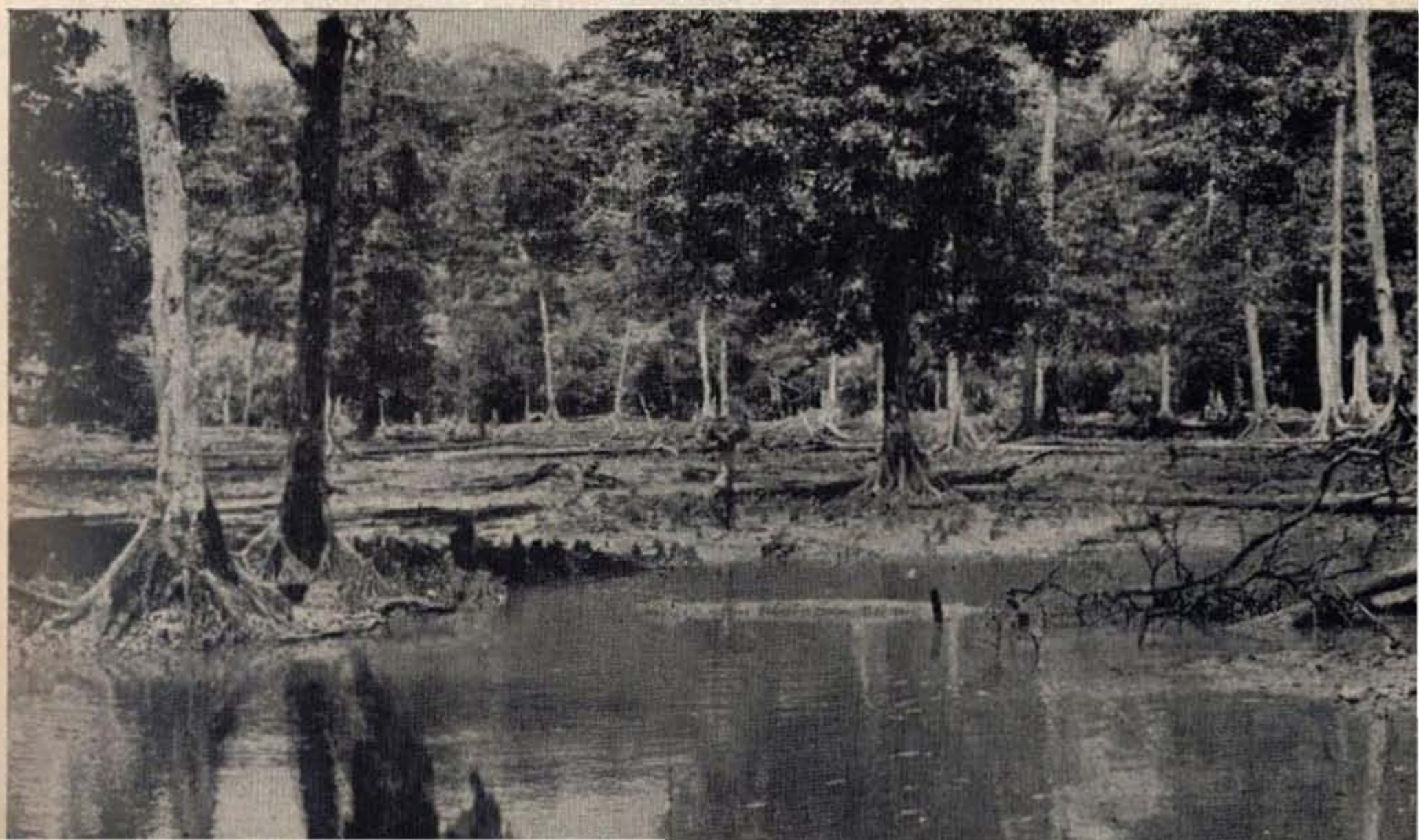
## Two reptile nests

In May 1976, I found myself at the Diglipur jetty, North Andaman. It was exciting to be here, to see the captured deer at the dock, to force our way through the tall grass along Mugger Nullah, to find a Mangrove Pit Viper in the mangroves, and watch a pair of giant Smith's Geckos on the rest house ceiling. I was there on official business however, and most of the month in North Andaman was spent slogging through crocodile habitat looking for nests. Allen Vaughan, a friend born and raised in Mayabandar introduced me to the slightly eerie rain forests and muddy mangrove swamps. This early part of the monsoon was not bad; true,

we got soaked at least once every day but it was rarely stormy. The leeches hit us hard as we crossed the stretches of broadleaf forest; by the time we reached the cane, phoenix and mangrove fringe we would have a collection of over 100 on each leg. We would sit on the mound of an old aboriginal kitchen midden and peel off boots and socks; the leeches could be scraped off with a *dhau* (knife) and the rest of the day would be spent wading the brackish mudflats and exploring the edges and islands of tall grass, clumps of phoenix palms and cane stands.

The **salt-water crocodile** must drink fresh water with fair regu-

*A typical mangrove habitat*





Above: *Nest of an Estuarine Crocodile.* Below: *Nest of a King Cobra*





*Above: A partially opened nest of a King Cobra. Below: King Cobra hatchling*



larity and ideal habitat are the occasional freshwater streams which flow into the numerous brackish creeks around the islands. In the last 10 years the majority of these streams have been colonized, cleared and planted with paddy, the crocodiles destroyed and scattered. There were still some crocodiles. We saw several of last year's nests

and some fresh eggs were on sale in Diglipur market! It was not until we got to Kishorinagar on the Parangara Creek that we finally located a nest. I was tunnelling painfully through the cane thickets on my hands and knees when I came to a small clearing with a massive mound of rotting leaves and sticks, I yelled to Allen and a friend who

*A partially opened nest of an Estuarine Crocodile*



accompanied us and they soon came through. We were amazed at the size of this crocodile nest, about six feet across at the base and about three feet high. We peered around for the female whom we knew must be nearby. It was only after we took a few pictures that one of us saw the female, a 9 footer lying absolutely still in a dark tunnel of bamboo and cane. She was facing us and though one of us kept a large pole handy she never hissed as we examined the nest and then collected the eggs. The 51 goose egg-sized hard crocodile eggs were under a thin layer of rotten leaves at the top of the nest. Local crocodile egg collectors reported finding up to 120 eggs in a really big nest. Several of the old nests we saw had water filled ditches, excavated by the female, next

to them. The eggs were hand-carried the 10 miles to the Kalighat jetty where we got the next day's ferry to Mayabandar. These eggs got to Madras by air two weeks later and in early August, 39 babies hatched.

Back at Mayabandar we barely had time to enjoy a sumptuous wild pork lunch at Allen's house when his brother stomped in to tell us they had seen a snake lying coiled up on a mound of leaves, something like a nest. There is only one snake which makes a nest and we were quickly on our way to Pani-ghat to the Vaughans' farm. Just a 20 minute walk through the half cleared forest and we arrived at the bamboo groves. Allen's brother, Brian took us straight to the spot and sure enough there was a **king cobra** coiled and asleep on her leaf mound nest. It was dark in the

*A creek in the Aerial Bay, North Andamans*



forest and I was shaking with excitement so no worthwhile photographs resulted from this rare encounter. The female was thin and weak from her nest building, egg laying and at least a month's fasting. She made no effort to attack as we disturbed her and only tried to escape. The nest was 36 inches in diameter at the base and 12 inches high. It was large compared to the size of the  $7\frac{1}{2}$  feet snake and the effort required to construct it must have been great. The 18 eggs were in a cup-like "nest" at the base of the pile just as fully protected from the monsoon rain as the elevated crocodile eggs were protected from flooding. The eggs were 6.5 cm long and leathery, larger but otherwise very much like eggs of the common cobra. There was no compartment or layers in the nest as has been reported in the Society's *Journal* (39:186), the female evidently spends the whole 8 to 10 weeks of incubation on the open top of the nest. 16 babies hatched on July 8th and two of

these, now at Madras Snake Park are over 1 metre long and each feed on an average of 3 small water snakes or striped keelbacks a week.

Every traveller's note has a small plea against dooming wildlife to the fate of the 90% we have destroyed since 1900. This note is no exception. The naturalist visitor to the Andamans (who does not merely do a "launch and rest house" tour) is shocked at the rapid denudation of the original island vegetation and wild creatures. Man is "winning" once again. The main flow of refugees and settlers to the island has stopped but what about the children of the over one lakh population? They want land, and even if unsuitable for one year's farming it is being cleared, usually illegally. The Andamans will, ironically, get all the attention it needs once it has enough fish canning, timber and tourism industries. For much of the wildlife and forests *it will be a bit too late.*

R. WHITAKER

*Mangrove and cane — nesting habitat of Estuarine Crocodile*



# NOTES, NEWS AND COMMENTS

## Field Research Funds

The Society offers financial assistance to members and others from specific funds endowed for the purpose. The monetary assistance is on a fairly small scale dependent as it is on the interest earned on the corpus of the funds. We would be grateful for donations to increase the corpus of the various funds, which in addition to **Salim Ali Nature Conservation Fund** (SANCF) (reported in *Hornbill* Jan.-March 1977, p. 9) comprise the following:

### **Salim Ali/Loke Wan Tho Ornithological Research Fund**

Established with a preliminary donation of Rs. 10,000/- by Dr. Salim Ali, the corpus of the fund now amounts to Rs. 2,20,136/-. The major contributors were the estate of the late Loke Wan Tho Rs. 1,43,700/- and Dr. Salim Ali Rs. 48,500/-.

The fund has so far supported four Research Fellows working on ornithological problems.

### **Charles McCann Vertebrate Fund**

Constituted in honour of the former Joint Curator of the Society Mr Charles McCann by Mr Humayun Abdulali with a donation of Rs. 10,000/-, the corpus now totals Rs. 19,865/-.

The aim of the fund is to support field work on any group of vertebrates. The field trip to Narcondam Island reported in the inaugural issue was organised by Mr Humayun Abdulali and financed from this fund.

A small legacy of Rs. 3,000/- left

by the late **Lt. Col. R. W. Burton** who could be considered as one of the pioneers in the Conservation movement in India has also been invested as a **Conservation Fund** and the interest accrued is used to further conservation projects.

We would welcome contributions to these funds. In addition we have **Dorabji Tata Fieldwork Fund** based on grants received from Dorabji Tata Trust.

Applications for assistance should be addressed to the Honorary Secretary, Bombay Natural History Society.

### **Kerala Natural History Society**

Started by a small band of naturalists in Trivandrum, the State capital, the Society has now produced its first journal. The editorial succinctly explains why such societies should be formed wherever possible, and require the support of all conservationists, for "an organisation, once it has gained some recognition, can act effectively, or at any rate, maintain a sustained effort, more easily secure the support of the press, the politician and the common man. We live in a world where it is the vociferous crowd, not the whispering of reason or common sense that gets a hearing." The main force behind the Society are two members of the Bombay Natural History Society, Prof. K. K. Neelakantan, who teaches English at the University and is a very competent ornithologist, and Mr. S. S. Nair, a post-graduate research student at the University of Kerala.

## Newsletters

### *Hoolock*

One of the decisions taken at the University Grants Commission workshop, reported in the inaugural issue of *Hornbill*, was to bring out a newsletter on Wildlife Ecology and Research, which would act as a medium for the exchange of information between institutions and interested individuals and would help to identify people qualified to deal with problems of wildlife research. The name *Hoolock* is after the only ape in the country whose exuberant and remarkably loud call can still be heard in the forests of Meghalaya. The first issue has a review by Zafar Futehally of the workshop's deliberations; a note by Madhav Gadgil on the ecological research programmes at Bandipur Sanctuary, Karnataka, by the Indian Institute of Science and a note by J. C. Daniel on the wildlife research undertaken by the Bombay Natural History Society. We hope that contributions other than those by the three editors will be available for future issues.

### *Crocodile Specialist Group*

The Survival Service Commission of the IUCN has several specialist groups for endangered species. The Crocodile Group under its energetic Chairman, Wayne King, of the New York Zoological Society is particularly active. This issue of the *Newsletter* reviews happenings since the group last met at Maningrida in Australia in April 1976. One of the remarkable conservation success

stories concerns the status of the American alligator which has been, through conservation measures, brought from endangered to threatened status and in some areas completely removed from the endangered list. The *Newsletter* reports that in one such area "where hunting is permitted, a September-October (30 day) harvest yielded 4389 hides from approximately one million acres of marsh. The State estimates 115,000 'gators in that one area. The hides ranged in size from 4'-13' and brought an average price of \$ 116.00 or \$ 16.55 per foot. Alligator farmers were also allowed to crop during this season and provided an additional 360 hides. Total revenue from the season was \$ 539,672.00."

### *Marine Turtle*

Published by N. Mrosovsky of the University of Toronto, Canada, aims at exchanging information on all aspects of Marine Turtle biology and conservation, and to alert threats to marine turtles as they arise. The first issue reviews the position of sea turtles in various regions, and has a useful note on tag loss and corrosion problems which should make persons planning tagging projects move with caution.

### *International Primate Protection League*

Singapore is apparently the main base of supply of endangered species of monkeys and apes to zoos the world over, who have no qualms about importing species which are on the protected list of the country



of origin. IPPL is investigating the arrival in Canada *via* Singapore of the Liontailed Macaque of the Western Ghats of South India, which is one of the fully protected species listed in Schedule I of the Wildlife Protection Act 1972. Protection of primates is apparently an uphill task, involved as the animals are in medical research and being highly valued as zoo exhibits.

#### *Madras Snake Park*

Describes happenings in the reptile world in India. A survey of Gharial sites in Madhya Pradesh was largely negative. Captive breeding programmes show continued success. The results of the Uttar Pradesh Forest Department's breeding programmes are particularly impressive: 345 hatchlings of the Gharial in 1976, about twice the natural population as estimated by the surveys of the M.S.P. Uttar Pradesh also has the best Gharial sanctuary, the 400 sq. km Girwa Gharial Sanctuary in Bahraich district, with an estimated population of 20 adults.

#### *Project Tiger*

The first newsletter of the Project reviews progress of the Project which was established in 1973 "to promote and maintain population of tigers at a natural level". Nine sanctuaries with different biotopes were selected for the exercise: Manas (Assam), Sunderbans (W. Bengal), Palamau (Bihar), Simlipal (Orissa), Corbett (Uttar Pradesh), Ranthambhor (Rajasthan), Kanha (Madhya Pradesh), Melghat (Maharashtra) and Bandipur (Kar-



*On kill at Champaran, Bihar*

A non-Project Tiger!

What is his future?

*Photo: S. P. Shahi in BACKS TO THE WALL*

nataka). Curiously enough the newsletter carries very little information on the tiger as such and this from Corbett, Simlipal, and Melghat perhaps reflects the interest of the field directors. There is of course the report of a tiger of Bandipur that was run over by a vehicle on the Mysore-Ooty Road, and was perhaps the first tiger victim of a road accident. We understand that a case has been registered!

## Mishmash

### *Pugprinting Leopards of Borivli*



The Society has had for many years a continuing interest in the leopards living in the Borivli National Park on the municipal limit of Bombay. The leopards had been drawn to bait, and had been often seen on the Park roads at dusk. We had analysed the droppings and found that they subsisted more or less exclusively on the numerous stray dogs existing among the hutments on the fringes of the Park. Our suggestion that we be permitted to photograph the leopards over bait to determine the number was not approved by the Forest Department who offered to assist in determining the number by tracing pugmarks as is being done in tiger project sanctuaries in the country. Members were trained in pugmark tracing and we now await reports from the Divisional Forest Officer of pugmark sightings by his Forest Guards for members to trace, check and verify.

*Figures  $\frac{1}{2}$  natural size*



**LEOPARD**



**HYENA**



**JACKAL**



**JUNGLE CAT**

## *Nepenthes khasiana* An endangered species

It was more than a hundred years ago in 1873 that Sir Joseph Dalton Hooker first described and named the Pitcher Plant as *Nepenthes khasiana*. The plant takes its specific name from its type habitat the Khasi Hills in the state of Meghalaya and has not been so far found elsewhere. The plant's botanical interest lies in the fact that the leaf-tip elongates and modifies into a long purplish green pitcher-like structure. These pitchers are the carnivorous parts of the plant. Insects attracted by the colourful lids of the pitchers fall inside the pitchers and are drowned in and digested by the fluid secreted and accumulated at the bottom. This modification of the leaf makes this plant a classic example of insectivorous plant for our schools and colleges. The plant grows only in a few localities and in small populations in the state of Meghalaya.

Owing to their botanical interest, the pitchers, as well as the plants, are collected in large numbers by students and biological supply houses. This, coupled with the destruction of the habitat by other factors, such as the removal of the forest for fuel, timber, etc. has considerably reduced the extent of areas in which the plants once existed.

Efforts to grow the plant at Shillong have met with limited success. Though grown for several years, the general vegetation and size of the pitchers are not as good as they are under natural conditions. Plants

have also been grown in pots in the Botany Department of the Cotton College at Gauhati and the Botanical Garden of the Botanical Survey of India at Howrah. But in these plants the formation of the pitcher is not very satisfactory.

Healthy growth of the plants and the pitchers takes place only in the natural habitat and hence conservation of the habitat of the plant is important.

Fortunately the Forest Department of Meghalaya has now taken action not only to protect the habitat of the plant, but also to educate the public about the importance of the plant. An illustrated pamphlet in English and local languages has been produced.

*'Pitchers' of the Pitcher Plant*  
Photo: Botanical Survey





*Pitcher Plant in natural habitat—Photo: E. P. Gee*

The locations where the pitcher plant grows are of great interest to botanists and naturalists. The Botanical Survey of India at Shillong provides facilities to students to see and study the plants growing in their experimental garden at Shillong and Barapani, and discour-

ages collections from the natural habitat.

The Government of India have included this plant in the list of items banned for export.

S. K. JAIN  
A. K. BAISHYA

*NEPENTHES* is derived from the Greek for WITHOUT and CARE. It is the only genus of the family *Nepenthaceae*, with about 70 species found only in the East. The generic name given by Linnaeus is in allusion to the statement in the 'Odyssey', where Helen so drugged the wine-cup that its contents freed men from care and grief. Linnaeus in naming the genus truly expressed the feeling with the words: 'If this is not Helen's *Nepenthes*, it certainly will be for all botanists. What botanist would not be filled with ad-

*miration, if after a long journey he should find this wonderful plant? In his astonishment past ills would be forgotten when beholding this admirable work of the Creator.'*

A 'Good method of propagating *nepenthes*' is illustrated by L. H. Bailey in THE STANDARD CYCLOPEDIA OF HORTICULTURE, Vol. 2. The cutting is inserted in an inverted garden pot, wedged with a stick to keep the cutting tight in the hole at the bottom of the pot. The roots form in the air, without the aid of sand, water or even moss.—EDS.

## PERSONALIA

We offer felicitations in this issue to those among our members who have completed fifty years of membership.

60 +

**Dr Salim Ali** Joined 1916

The Society's President is also the oldest member. Dr Salim Ali has been contributing articles to the *Journal* from Vol. 31, 1926.

**Mr R. C. Morris** Joined 1917

Mr Morris spent his working life as a coffee planter in the Billigirangan Hills in Karnataka. One of the best hunter-naturalists he contributed articles on big game shooting and wildlife. The first article appeared in Vol. 26 for the year 1919. Now retired, he lives in the United Kingdom.

**Mr J. S. Armstrong** Joined 1917

Now lives in New Zealand.

**Mrs D. W. Reid** Joined 1918

Now resident in the United Kingdom.

**Dr H. R. Rishworth** Joined 1918

When in India was Principal Medical Officer of the pre-nationalised Great Indian Peninsular Railway (G.I.P.). Now lives in the United Kingdom.

50 +

**Mrs C. G. Lushington** Joined 1923

Now resident in the United Kingdom.

**Mr D. E. Reuben, I.C.S. (Retd.)**  
Joined 1924

Retired as the Chief Justice of Bihar High Court. Was a member of the Executive Committee till 1975, and an editor of the Society's

*Journal*. Has published several notes commencing with Vol. 45, 1945.

**Lt. Col. A. C. Moore** Joined 1924

Now resident in N. Ireland.

**Mr P. R. Sherred** Joined 1924

Resides in Kumaon, Uttar Pradesh, India.

**M. Jean Delacour** Joined 1925

One of the world's foremost ornithologists; author of *THE WATER-FOWL OF THE WORLD* in four volumes and other publications.

**Nawab of Cambay** Joined 1926

Now resident in Bombay.

**Mr R. J. Clough** Joined 1926

Interested in ornithology. Recorded Snipebilled Godwit from the Chilka Lake. Has contributed papers to the *Journal* commencing from Vol. 40, 1941.

**Mr D. G. Sevastopulo** Joined 1926

An authority on Indian moths and butterflies. Has published several papers in the *Journal* commencing from Vol. 36, 1933.

**Mr J. L. H. Williams** Joined 1926

Worked as a tea planter in the High Range in Kerala. Drew attention to the pale coloured (white) form of the Gaur in the Palni Hills, Tamil Nadu. Published a note on it in Vol. 65, 1970. Now lives in the United Kingdom.

**Mr C. W. D. Kermode** Joined 1926

Now resident in the Isle of Man.

**Mr C. Suydam Cutting** Joined 1928

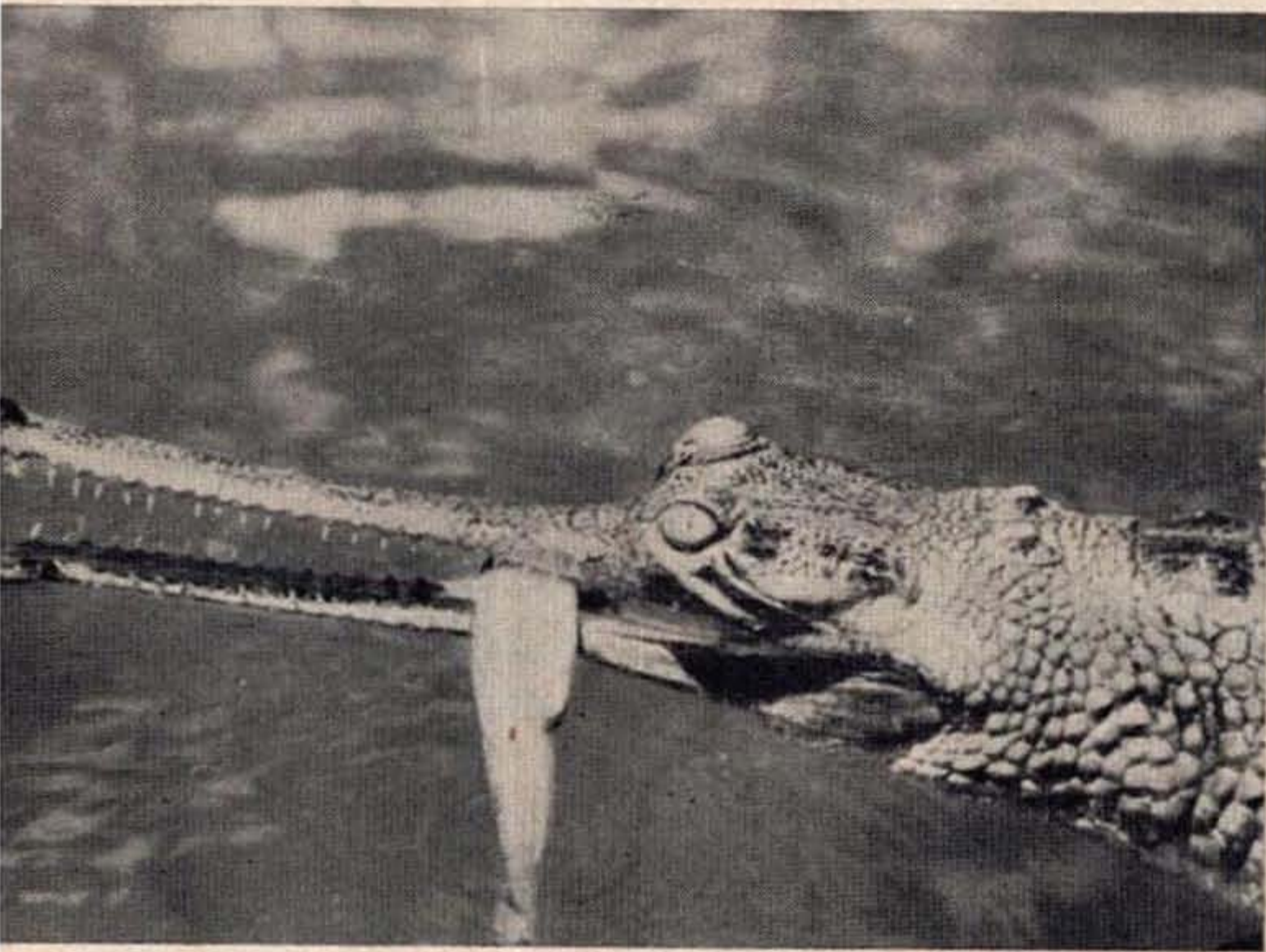
Co-sponsored the Vernay-Cutting Chindwin Expedition organised by the Society. Now resident in the United States of America.

## GHARIAL FEEDING

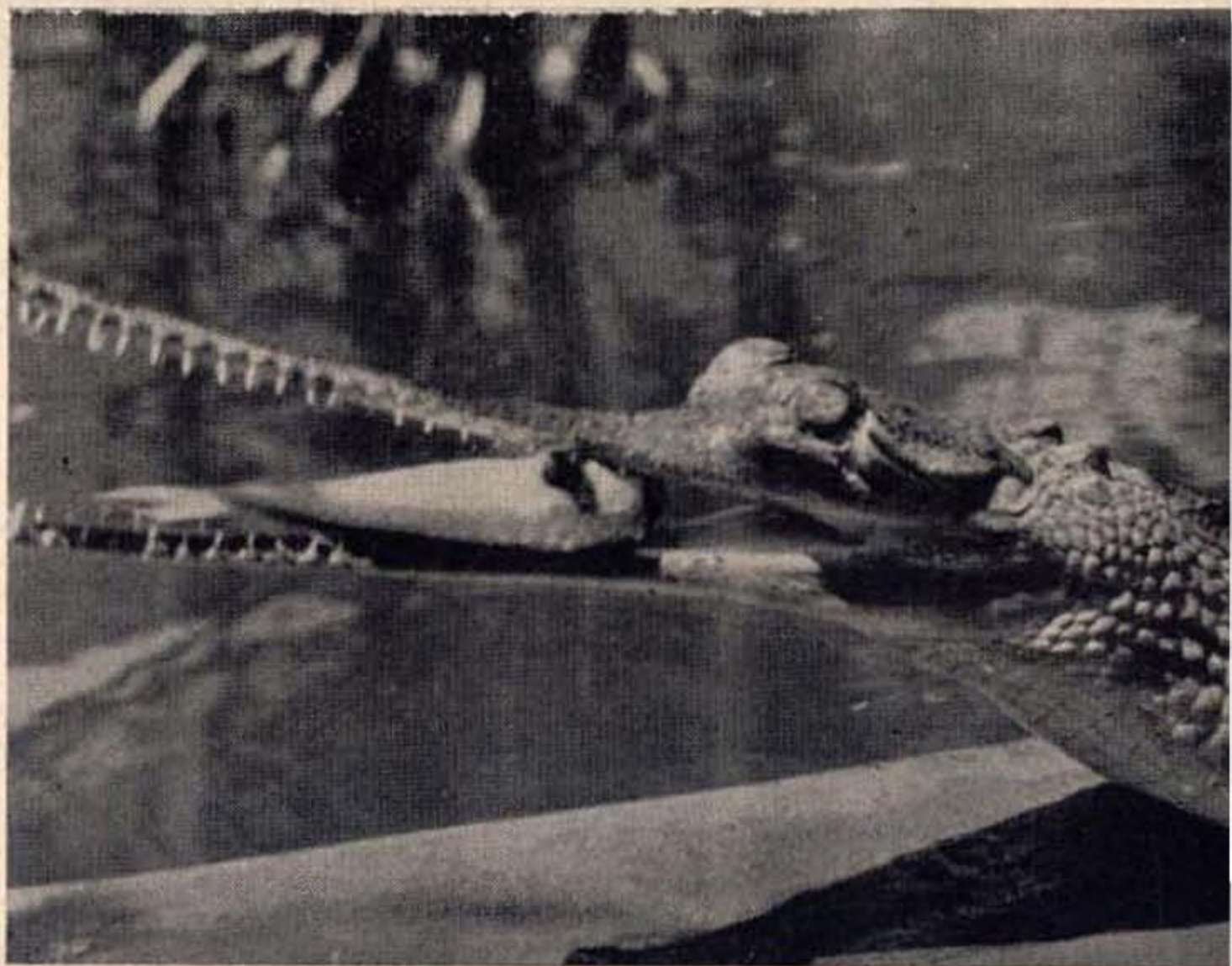
Gharial (*Gavialis gangeticus*) is a highly specialized fish eating crocodile endemic to the Indian Subcontinent. The long and slender snout with numerous sharp and pointed teeth are the main adapt-

ations for the reptile's piscivorous habit.

After catching a fish, the gharial may remain on the surface of the water to swallow it, or it may leave the water and come out on the land for swallowing it in safety.

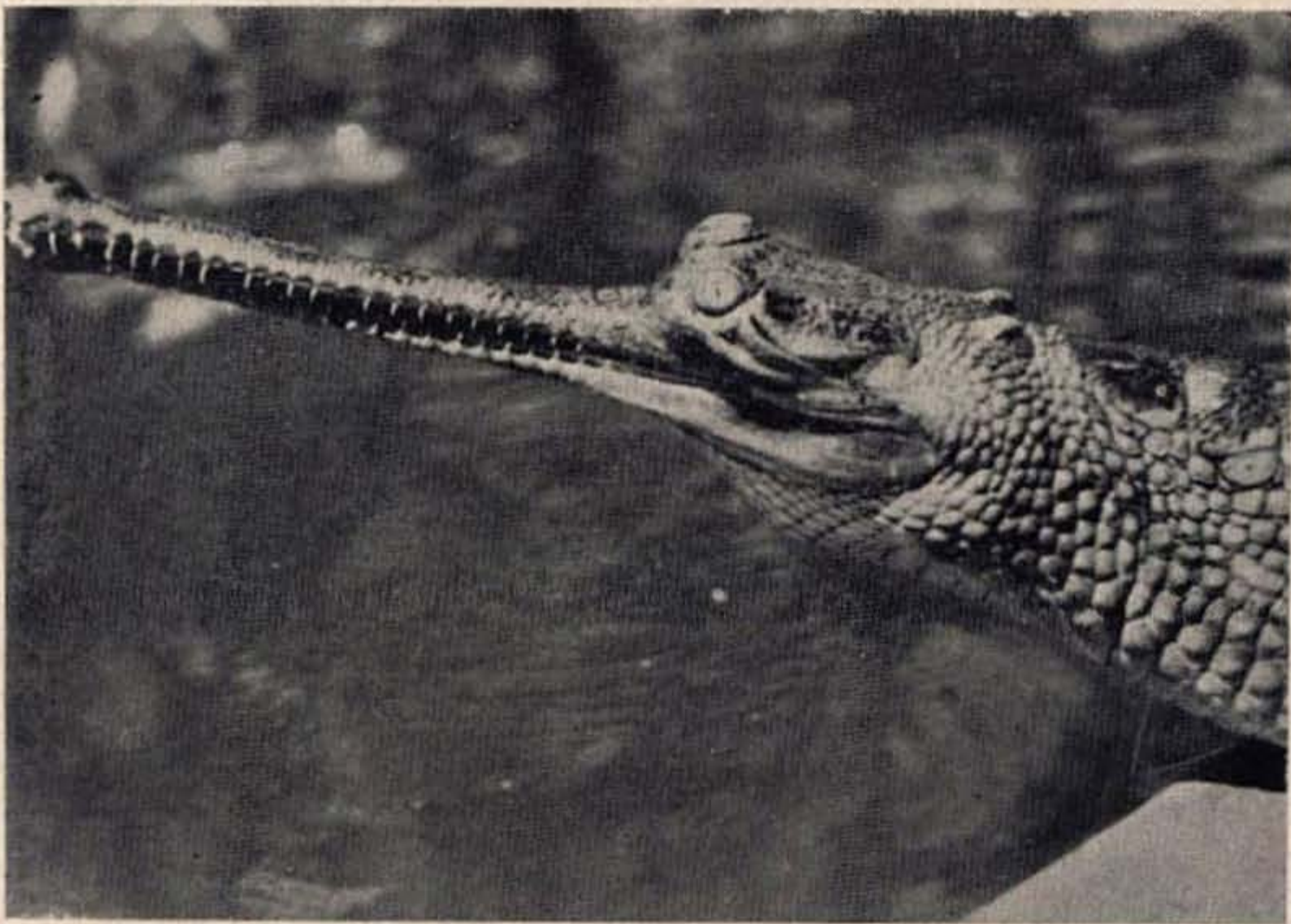
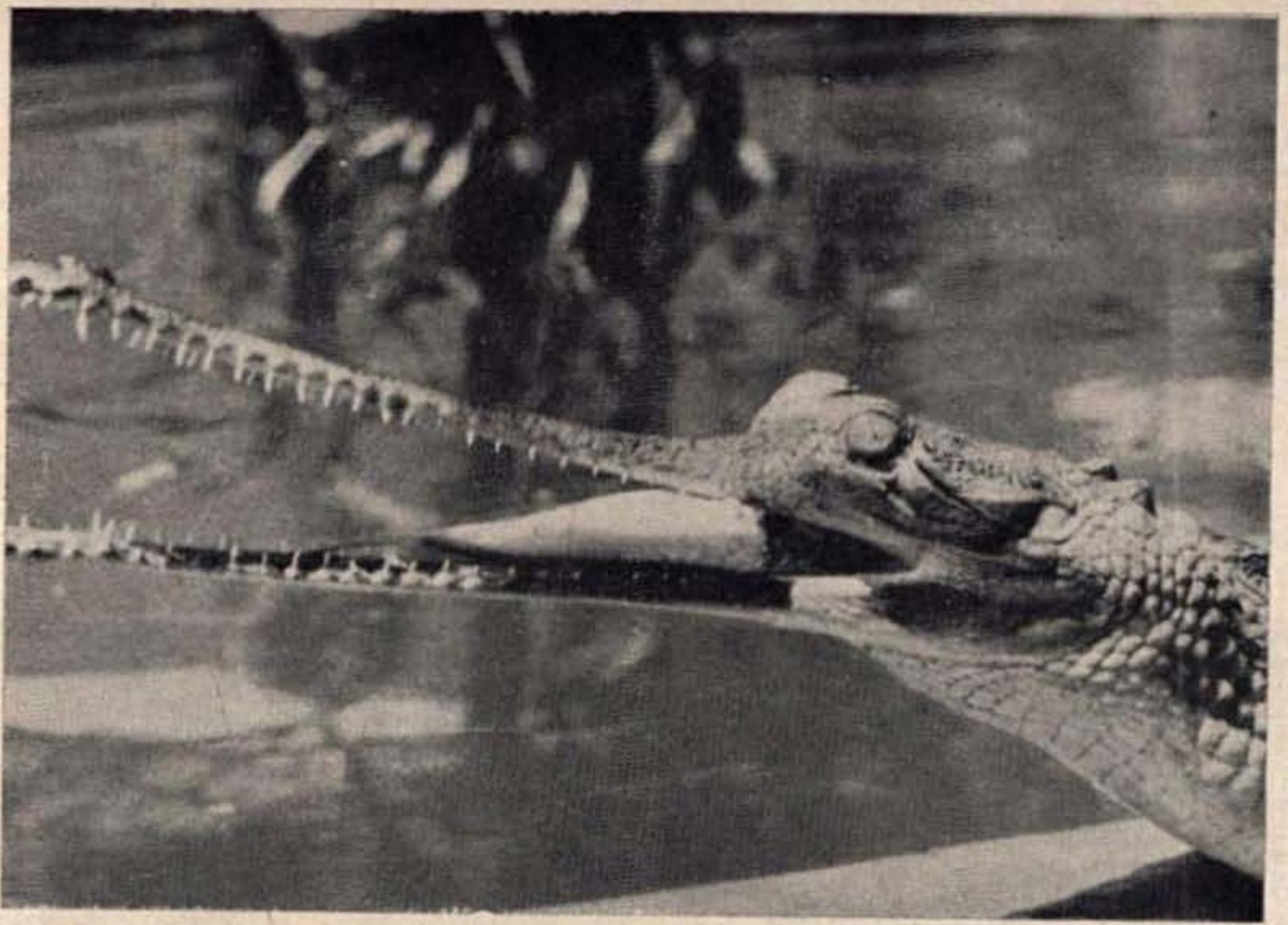


*Preparation*



*Beginning*

*Enroute*



*End*

*Photo:*  
Author

Holding the fish firmly between the jaws, the snout is manoeuvred so skilfully that the fish comes to rest on the lower jaw with its head directed towards the gullet. The opening of the gullet is ordinarily closed by two flaps of skins, one each from the lower and the upper jaw.

The snout is moved in jerks so that the fish is brought near the gullet valve. Now the floor of the mouth cavity is lowered for the passage of the fish.

The jaws are closed and the fish passes through the gullet and thence slowly along the long oesophagus.

LALA A. K. SINGH

# Bharatpur Bird Sanctuary



T. N. A. Perumal

Brahminy Duck



As a showplace for nature-minded tourists and visitors to India, and as a centre for scientific investigations on the biology of water birds, the Bharatpur Bird Sanctuary merits the highest rank.

For the bird lover the real charm of the sanctuary lies in the vast variety of masses upon masses of water birds that frequent the lake, particularly during the breeding season, between July and November. A visit to this gigantic heronry at the appropriate time of year and in a season of normal rainfall is, for an ornithologist, an experience that he is not likely to forget. There is no doubt that for visitors, both pure sightseers and scientific investigators and bird photographers, the place has potentialities of the highest order.

The sanctuary was established at the instance of the National Committee for Bird Preservation by an official notification in 1956 by the Government of Rajasthan. The total area covered is about 7000 acres (2900 ha. or 29 sq. km). Just before the onset of the monsoon the sanctuary presents the appearance of an expansive park-like basin covered with patches of medium-sized trees and shrubs of babul (*Acacia arabica*), Kandi (*Prosopis spicigera*), Peeloo (*Salvadora persica* and *S. oleoides*), wild caper (*Capparis aphylla*) and other species characteristic of a semi-arid biotope. Here and there stand enormous single trees or groves of the spreading, verdant Kadamb (*Anthocephalus cadamba*). The parched ground is scantily covered

*Openbill Storks* — E. P. Gee





*Painted Storks* — E. P. Gee



*Spoonbill* — E. P. Gee

with close-cropped grass which is lush when the water first dries on the advent of the hot weather and provides good grazing for the cattle of Bharatpur city and environs.

Owing to the nature of the soil, the sanctuary begins to dry up rapidly after the monsoon, and were it not for the additional water let into it from the inundations of the rivers Gambira and Banganga which are impounded on arable land above by means of an artificial dam called Ajan Bund, it would become too dry in the winter months to attract wildlife in the quantities it now does.

Under normal conditions the level of the water collected above Ajan Bund is high enough to permit, or in fact necessitate, its being sluiced into the sanctuary by stages after about 15th September. Thus by the middle of October all this water has drained into the sanctuary making the land above the dam available for ploughing and sowing rabi crops such as wheat and gram. This tail water, added to the partial natural inundation by the monsoon, is really what transforms the basin into the expansive shallow lake and makes the sanctuary the wildfowl refuge it is in winter.

No sooner have the first showers of the monsoon filled the ditches and hollows in the bed of the sanctuary than the water birds begin to move in, evidently over considerable distances of the surrounding



*Little Egret — E. P. Gee*

countryside in many instances, and the scene is soon transformed into one of bustling activity. The birds lose no time in staking out their claims for nesting sites, and building operations presently become intense. There is much rivalry and



*Pallas's Fishing Eagle* — Loke Wan Tho

jockeying for coveted situations, and a great deal of squabbling and noise prevails. Besides the species named, there are Paddy Birds (*Ardeola grayii*), Night Herons (*Nycticorax nycticorax*), Grey Herons (*Ardea cinerea*) and Purple Herons (*Ardea purpurea*) settling in the tree-tops, while Purple Moorhens (*Porphyrio poliocephalus*), Gallinules (*Gallinula chloropus*), Whitebreasted Waterhens (*Amaurornis phoenicurus*) and Dabchicks (*Podiceps ruficollis*) are competing

for sites on the weed-covered water below, and in the bushes and reed-beds along the edge. All the time the distant sonorous trumpeting of the Sarus Crane is on the air as pairs stride along sedately on the squelchy grassland or indulge in their spectacular prancing and leaping 'dancing dervish' courtship displays. In years of good monsoon the Sarus nests freely on the edge of the sanctuary or on grassy islets in the midst of shallow water or marshes.

By the end of July or in early August the partially submerged trees in the sanctuary begin to be appropriated by the various species of water birds, and they soon become covered with masses of twig platforms of varying sizes in disorderly but close-packed tiers. The large kadamb trees are chiefly patronized by Painted Storks and Cormorants, while the babul, kandi and others are occupied by Open-billed Storks, Egrets (*Egretta alba*, *E. intermedia*, *E. garzetta* and *Bubulcus ibis*), Cormorants (*Phalacrocorax carbo*, *P. javanicus* and *P. fuscicollis*), Darters (*Anhinga melanogaster*), White Ibises (*Threskiornis melanocephalus*) and Spoonbills (*Platalea leucorodia*). Although in many cases nests of a particular species predominate in a certain tree, there is no hard and fast segregation, and nests of 4 or 5 different species may often be all in the same tree, perhaps several of each cheek by jowl and touching one another.

The tops of some of the lofty kadamb trees scattered solitarily on the edge of the jheel are patronized by the massive stick nests—disused at this season—of Pallas's Eagle (*Haliaeetus leucoryphus*). From here the birds keep a close watch over the surroundings for prey. Coots, which winter in the sanctuary in great abundance, form an important food item of this eagle.

The enormous ancient peepal trees which are dotted here and



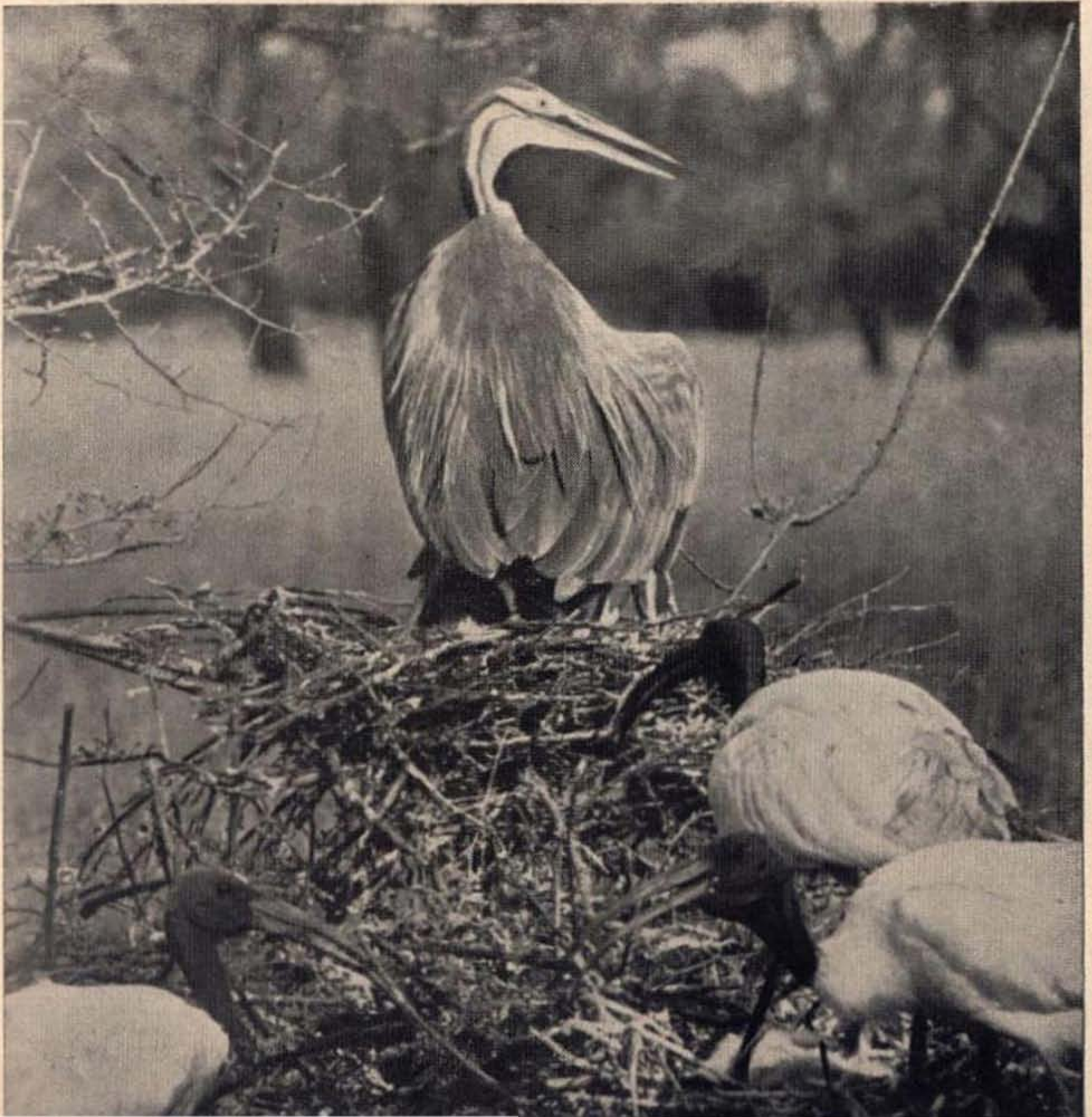
Openbill with young — E. P. Gee

there, particularly in the neighbourhood of Ajan Bund, are favourite sites for the non-colonial nests of the Blacknecked Stork (*Xenorhynchus asiaticus*).

The vast quantities of food—mostly fish, frogs, snails and water beetles—needed to sustain a bird concentration of this magnitude for a period ranging over several

months, in which voracious youngsters have, moreover, to be catered for, is a source of interesting but somewhat bewildering speculation. It has been found impossible to make even a reasonably accurate census of the breeding bird population of the Sanctuary as a whole, since no technique of counting seems applicable to the conditions that obtain.

*Grey Heron with White Ibises in the foreground — E. P. Gee*



In an area of roughly one square mile it was conservatively estimated that 2000 to 3000 pairs of Painted Storks were feeding nest young of varying ages but mostly well grown, in the last week of October.

This breeding colony of Painted Storks alone required 8000 to 12,000 lb of fish per day or  $3\frac{1}{2}$  to  $5\frac{1}{2}$  tons, and that at least for 30 or 40 days. Counting it only as a round 3 tons per day and that only for 90 days in order to simplify our arithmetic, we still arrive at the astounding total of 90 tons of fish needed to sustain a fraction of the total breeding population of a single species in the sanctuary, at the rate of 2 to 3 lb of fish per young for 2000 nests of two each!

The enormous number of migrant duck and waders which winter or pass through (October to March) the Sanctuary had formerly made it the best duck shooting area in India, where over 4000 birds had been shot in a day. The Bombay Natural History Society's bird banding programme at Bharatpur has provided the evidence that the origin of the migrants visiting India is mainly Central Asian and Siberian republics of the USSR. The most impressive among the winter migrants are the Siberian Cranes, an endangered species. Their number rarely exceeds 75, and they arrive about mid December and leave by end of February.

*Location and Access.* The Sanctuary is situated 2 km from the town of Bharatpur which is 50 km west of Agra and 176 km south of New Delhi. Good motor roads and bus services and railway links (Western Railway) exist. Forest Department transport is available on payment (Rs. 1.25 to 2.25 per km) for movement on the network of roads within the sanctuary.

*Management.* A wildlife warden administers the sanctuary under the supervision of the Divisional Forest Officer, Bharatpur. Enquiries and reservation requests should be addressed to the Warden.

*Facilities.* The forest department's Rest House, Shanti Kutir (phone Bharatpur 2265) has 5 double bedrooms (Rs. 70/- with food, Rs. 30/- without). There is also a 12 bed dormitory (Rs. 25/- per person with food, Rs. 5/- without) and two log cabins (Rs. 40/- with food, Rs. 15/- without). Other lodgings located close to the sanctuary are: Swagat Bhavan (P.W.D. rest house), 1.5 km, phone 2366, nine double bedrooms; Golbagh Palace Hotel, 1 km, phone 2307, 18 double bedrooms; Solider's Board Rest House, 1 km, 2 double bedrooms.

*Charges levied.* Entrance fee, Guide, Boat, Camera.

*Best time to visit.* To see breeding birds, August to October; Migrants, October to mid March.



## BIRDWATCHER

### Satellite, bird lore, and weather

Based on ocean surface temperature data available through an American satellite early rains in 1977 were predicted. Supporting this prediction, a rare phenomenon during the year was referred to, namely that the thermal equator raced ahead of the sun's movement, and that by mid April it was 16 degrees north of the Arabian Sea.

In nature around, clues were aplenty suggestive of early rains. A male Pheasant-tailed Jaçana, in full nuptial dress, was busy 'gardening' in a lily-covered tank—tugging at water vegetation, snapping it, and flicking it over to the spot where its nest was to be based, and thus patiently awaiting advent of a receptive mate. This was as early as 19th March. At no time have we come across in the Bombay area a Pheasant-tail in breeding livery before June, nor can we find a published reference to such an early date.

The Indian Pitta, a monsoon visitant to Bombay was in by 10th May. An individual was brought to the Society by a young nature enthusiast; it was caught while the bird entered his friend's house in Chembur, chased by crows. 'Its arrival in Bombay and Salsette, presumably from South India, synchronizes more or less with the south-west monsoon.... The House-Crows of the city and suburbs are

usually the first to herald the arrival of the birds by their relentless persecution of them. Many a refugee is picked up every year, disabled by these blackguards or caught in a room into which it has blundered to escape its pursuers' (Sálim Ali and Humayun Abdulali, *Birds of Bombay and Salsette*; 1941). All earlier records of this bird in Bombay range between 15th and 24th May.

And that harbinger of rain, the Pied Crested Cuckoo was calling in the greenery its *piu... piu... pee-pee-piu* was heard as early as 21st May. However, the bird was not located. On the 25th came a message on the Society's telephone that one of the members had captured a Pied Crested Cuckoo in her Malabar Hill residence. The captive was trying to escape from its tormentors, the House-Crows. The member was assured that showers were just round the corner, and instances cited of rain within 24 hours of the bird's sighting. But one continues sweating and sweltering more than a week after the bird's arrival. There is but one previous record of a Pied Crested Cuckoo in Bombay on 25th May, this was in 1936, but without reference as to how the elements reacted on the occasion.

One now reads from the newspapers that rains in Kerala have commenced on schedule and Cochin had its showers on 31st May. At

what point have the calculations of man, his machines, and the fowl of the air gone awry as regards the rains? The ways of mother Nature continue to remain unfathomable despite man's progress.

### Folklore and Indian birds

India has a wealth of folklore on animals and plants and we give some examples below.

The difference in plumages of an immature and adult Paradise Flycatcher is explained with the anecdote, that this flycatcher was once one of the most beautiful of birds, all white with 12 long plumes to its tail and a lovely voice. When it met the real bird of paradise it went and complained to God that its own beauty was not sufficiently perfect, whereupon God became angry and as the bird had shown an evil spirit and had blackened its face before him, sentenced that it would become a dingy brown bird with black head, but after a period of humiliation they should be allowed to resume their white garb with, however, only two of their tail plumes, while their faces should always remain black.

The village folk believe that the mud blobs found in the nest of the Baya Weaver Bird, are collected by the bird by squeezing earthworms during the rains, and the mud thus collected being rich in phosphorous illuminates the nest inside on dark nights.

A popular belief in Kutch and Kathiawar, and perhaps in many other places, is that if the eggs of the Redwattled Lapwing are found in the nest with their pointed ends all aligned towards the centre of the nest, a good monsoon is assured.

The Nightjar which is called *Haliya* or ploughman in the northern parts of the sub-continent, is shrouded in a folklore of its own. It is believed that a cruel, hard-hearted zamindar worked his bullocks all the day and even after sunset. As a punishment in his next life he was turned into a bullock, and that God created the nightjar who even at night kept goading on the bullock by its *tchk, tchk* call.

### The Beneficiaries

A correspondent writes from Karachi, Pakistan: 'Due to political disturbances in Karachi the carrying of all firearms has been banned for the past 2½ months, and it is amazing how quickly the waders around Karachi's neighbouring creeks and mudflats have responded to this freedom from persecution. We seem to be encountering greater numbers and the birds are tamer. In the past two weeks there have been nearly 200 Broadbilled Sandpipers close to a new housing development. This was a species which I have always considered rather shy and unlikely to be encountered near Karachi.'

## The African connection

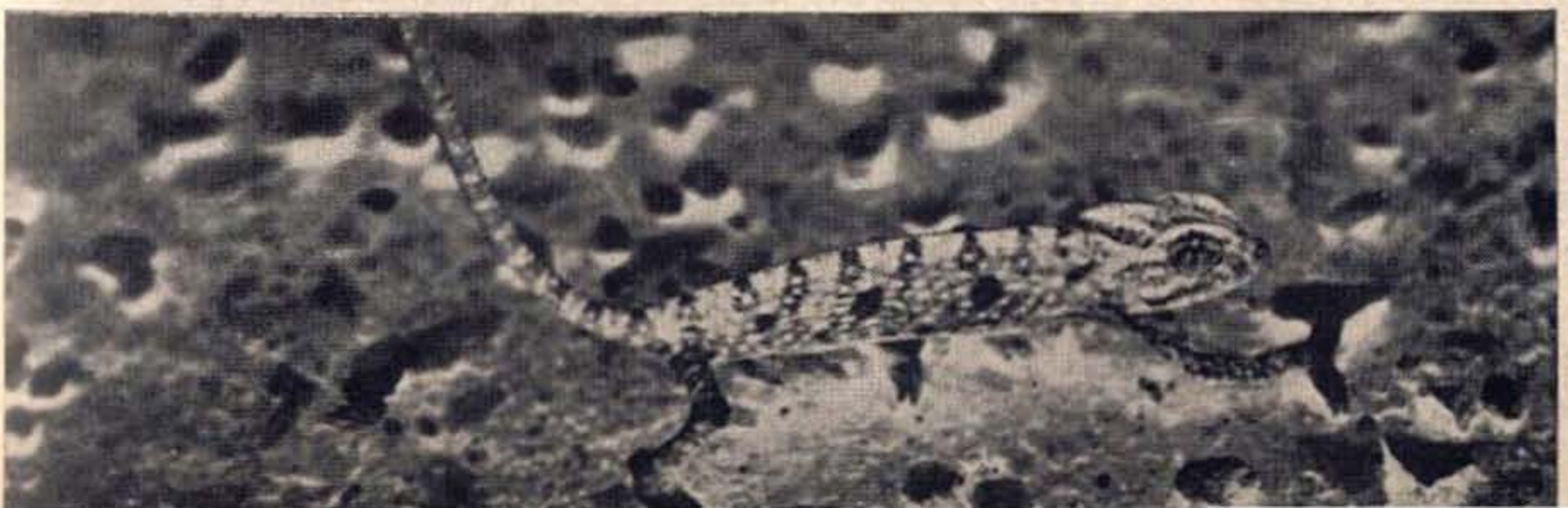
The City of Bombay is unique in one respect. It has a national park abutting on its Municipal limits. A rugged 150 sq. km area of low hills, of precipitous rock faces, and narrow valleys clothed in deciduous forest, the Borivli National Park offers for viewing to the interested naturalist, who knows where to search, even leopards. But even the keenest eye can miss the Chameleon and most people become aware of it only when like an old fashioned Chinese lady with bound feet it totters across a park road and is crushed by a passing vehicle. In the chameleon's organisation a wide open swathe through its habitat with fast traffic was not allowed for. Speed is a disadvantage in the world of the chameleon, only sedateness brings success. Survival depends on blending with the background and very few animals can match the chameleon's perfection in the art of camouflage. Specialisation has reached such a pitch that removed from its environment, the animal becomes grotesquely visible. There is a scintillating description of its feeding habits by EHA in *THE TRIBES ON MY FRONTIER* (1909), which reads: 'Philosopher as he is, the chameleon requires food, and

since he is too slow to go after it, he brings it to him. As his ball-and-socket eyes roll this way and that way, one of them marks a large white butterfly walking up the bars of his cage, and he forms a purpose to eat it. He unwinds his tail, then relaxes the grasp of his broad palms one at a time (for he is extremely nervous about falling and breaking his bones), and so he advances slowly along the twigs until he is within six inches of his prey. Then he stops, and there is a working in his swollen throat; he is gumming his tongue. At last he leans forward, and opens his preposterous mouth, and that member protrudes like a goose-quill steeped in white birdlime. For a moment he takes aim, and then, too quick for eye to follow it, the horrid instrument has darted forth, and returned like elastic to its place, and the gay butterfly is being crunched and swallowed as fast as anything can be swallowed when tongue, jaws, and throat are smeared with viscid slime.'

The family is African in origin. A single species is found in continental and peninsular India and Sri Lanka.

*Chameleon on the move*

*Photo: S. R. Nayak*



## Conservation Action

### Kouprey in Thailand

A relative of the Gaur and Banteng, Kouprey, the Cambodian Wild Ox, is an inhabitant of the savanna and forest glades of the Indochinese peninsula. Until recently they were reported to occur at two 'Kouprey spots', about 350 km apart in Cambodia, perhaps the remnants of an original and much wider distributed population. Though it has been contended that the Kouprey may be a feral hybrid, its numbers in the wild have been alarmingly decreasing in spite of it being protected at least on paper wherever it occurs. Reporting to the Survival Service Commission of the International Union for Conservation of Nature and Natural Resources on the Wildlife Division/FAO joint expedition, Dr. Boonsong Lekagul confirms the recent reports of its occurrence in the Dangrek Range of south central Thailand. The expedition led by Mr. Adoon Pooyatorn of the Wildlife Conservation Division, however, found the situation unsatisfactory. The evergreen character of the original forest has been seriously eroded due to heavy exploitation. Frequent poaching of large mammals was evident and the expedition came across hunters actively engaged in shooting whatever animals that remained. Dr. Lekagul has urged the Thai Government to reconsider its decision to allocate the entire Dangrek area for

timber leases. Unless this is done, not only the last stronghold of the Kouprey but also the only watershed area of the southern portion of NE. Thailand will be wiped out. The IUCN has urged that the entire Dangrek Range be declared as a National Reserve.

### Wapiti in the USSR

The conservation efforts to save the Bactrian Deer, carried out at the Tigrovya Balka Reserve by the Tadzhik Academy of Sciences of Tadzhikistan in the USSR, has shown considerable progress. Formerly widely distributed in areas around Amu-Darya in Turkmen SSR, along the rivers Vaksha and Piyanj in Tadzhik SSR, often crossing into northern Afghanistan, the Bactrian Deer or Wapiti, as it is also known, prefers narrow strips of dense vegetation of the rivers avoiding hilly tracts.

Prof. A. G. Bannikov, reporting to the Survival Service Commission of the IUCN states that a recent survey in the Tigrovya Balka Reserve has revealed a remarkable increase in the number of deer, from 240 in 1971 to about 300-350 in 1976. After successfully establishing itself in this reserve, the Wapiti has spread out to other nearby suitable areas, bringing the total number of Bactrian Deer in Tadzhikistan to about 750—an estimated increase of 200 animals in five years. Breeding success has also been reported from other isolated

areas in the region. According to Prof. Bannikov, the present total estimated population of the Bactrian Deer in the USSR is about 900 animals.

### A case for Rothschild's Parakeet

One of the birds which has recently caught the attention of the international bird dealers is Rothschild's Parakeet (*Psittacula intermedia*), a species described in 1895 from a series of preserved skins obtained in the bird market, and possibly caught in north India. The validity of the species has been questioned by some authors who believe that it may be a hybrid between two common Indian species of parakeets. However, a bird was recently offered for sale in *Cage and Aviary Birds*, a magazine of an avicultural association, claiming it to be '... the only known specimen in captivity in the world'. Mr. S. R. Sane, a member of our Society and an expert aviculturist, reports of a Rothschild's Parakeet which he has in his aviary in Bombay. The specimen was obtained in the local bird market without any reference to its provenance. It is now felt that an enquiry into the status of this parakeet is essential, and if necessary, the species be included in Appendix I of the Washington Convention on International Animal Trade and Red Data Book of the IUCN. In the meantime trading in Rothschild's Parakeet should be banned.

### Turtle nesting beaches

The International Union for Conservation of Nature Bulletin for December 1976 carries details of the World Wildlife Fund's Marine Programme related to its 1977-78 campaign *The Seas must live*. The target is 10 million dollars. One of the programmes will be the conservation of critical habitats and there is an allocation of 20,000 dollars for the survey of turtle nesting beaches in India, particularly the east coast. One of the Society's survey parties had drawn attention in 1973 to a nesting beach at Palmyra Point on the Orissa coast. The party reported:

"... We turned into a narrow nullah, the Gaurimata nullah which flowed parallel to the sea and separated from it by a stretch of sand dunes and thick forests. The sand dunes on the seaward side are steep 3 to 5 m above sea level at the top of the dune for over 1 km and to a width of 10 to 15 metres the sand on the top was covered with turtle egg shell fragments. It was not quite clear whether the shell fragments were those of hatched turtle eggs exposed by the action of the strong scouring wind or the result of human vandalism. The latter seems unlikely as one would expect human nest robbers to remove the eggs whole for later disposal. In fact we were told that boatloads of eggs are removed during the season. One Turtle skull collected from the area was identi-

fied as that of a Ridley Turtle *Lepidochelys olivacea*. The breeding season according to the Raja of Kanika commences in November and apparently continued up to January as was evident from the fact that we saw six pairs of turtles mating in the shallow sea off shore. An unusual sight and one we were unlikely to see so easily again. It would be worth making an effort to tag the turtles nesting in the area. The exploitation of the eggs should be controlled."

We understand that a study of this area is now being undertaken by Dr Robert Bustard's research team according to *Oryx* Vol. 13 (4): 325.

#### Asian Elephant Specialist Group

The Group met in the Indian Institute of Science, Bangalore, to review position and prepare an

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(contd from page 6)

cultivator. In other words, unless we can make the villager understand, and convince him of the logic in expecting him to preserve the tiger or leopard that has deprived him of maybe his sole worldly possession—the cow which moreover provided the meagre sustenance for himself and his family—how can we induct his willing cooperation? Similarly, how can we expect him to see any sense in being asked not to destroy the deer or pig that have ravaged the crops which he toiled for months to raise, and on which all his hopes are banked? Admittedly this is going

to be a very difficult task, but I believe it is not impossible if we could but find the right approach. We have really never tried enough. Devising a realistic strategy is now a challenge to all conservationists, individuals as well as bodies like BNHS, IBWL, WWF-India and the rest.

Without slackening the tempo of the continuing educative programmes at the upper levels we must make an earnest all-out effort to tackle the problem at the 'grass-roots'—at the level of the illiterate ryot or adivasi, to convince him of the reasonableness of our appeal. This is now a matter of the utmost urgency.

SALIM ALI

## Colour varieties of the Roseringed Parakeet

During the past few years I have seen many thousands of specimens of the Roseringed Parakeet captured in the wild. Among these, several interesting colour forms have been obtained. I thought it may be worthwhile to describe some of these variants which are now well known to aviculturists.

**LUTINO.** This is a gorgeous bright yellow bird with no trace of green colour at all. The eyes are pink as in all albinos; beak coral red, feet flesh coloured, nails horn colour. The males have the red collar at the back, while the front black portion of the collar is replaced by pale yellow to almost white.

Almost all the birds collected in the wild are females.

**YELLOW WITH BLACK EYES.** These are similar to lutino, except that the eyes are black like the normal coloured birds. I have not seen any cock birds, but think that it should

be of the same colour as the male lutino, but with black eyes.

### Pieds

**YELLOW/GREEN.** These have patches of yellow over the normal green colour. The size of these patches differ from specimen to specimen, from a very few yellow feathers to almost a yellow bird with few green feathers. The adult males seen so far had normal ring pattern.

**BLUE/GREEN.** I have seen only one adult male so far. It was practically 50 per cent blue and 50 per cent green in patches. The red portions of the ring were white, but the black areas remained unchanged.

**CINNAMON.** At a distance they appear to be yellow-washed normal coloured birds. When seen at a very close range, the head looks almost yellow with a brownish tinge and the whole body sap-green with light brownish flecks. The eyes look like those of normal coloured birds. The feet are flesh coloured. The beak is red, but the depth of the red colour is in-between that of a lutino and a normal bird. I have seen adult females and juvenile birds.

**KHAKI OR GREY/GREEN.** This has a peculiar mixture of colours which one can neither call 100 per cent khaki nor 100 per cent grey-green. The flight feathers are blackish grey, rather than a shade of brown as in the cinnamon. The feet and eyes are normal coloured. I have seen only juvenile or immature bird.



*Lutino and normal nestlings of Roseringed Parakeet*

Photo: Author

LIGHT GREEN OR DILUTE. I have so far seen only one immature, in all probability a male. The colour was light green distinctly lighter than the normal coloured bird. The feet neither as dark as in the normal coloured bird nor flesh coloured. Lower mandible not dark enough to be called black.

BLUE/GREEN. The bird appears as if a green bird has been painted blue, thus giving a distinctive and peculiar colour. The beak is dull red but not as dull as in the blue. Feet and eyes are normal.

BLUE. These are beautiful powder grey-blue coloured birds. Those obtained in the wild are usually males. The red portions of the ring are pure white while the black portions are retained. The feet and eyes are

normal. Upper mandible dull red. WHITE. It may not be out of place for me to mention here that up till now at least four pure white birds have been bred in captivity in Europe and U.S.A. They are said to be pure white with pink eyes—albinos. All are believed to be females bred either from lutino male and blue female, or normal coloured males, with both lutino and blue genes.

It may be worthwhile starting a captive breeding programme to study the inheritance pattern of the different colour mutations in the Roseringed Parakeet. I have not seen so many colour variants in any other Indian bird.

S. R. SANE

Phone : 371464

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70 FORJETT STREET

621 GIRGAUM ROAD.

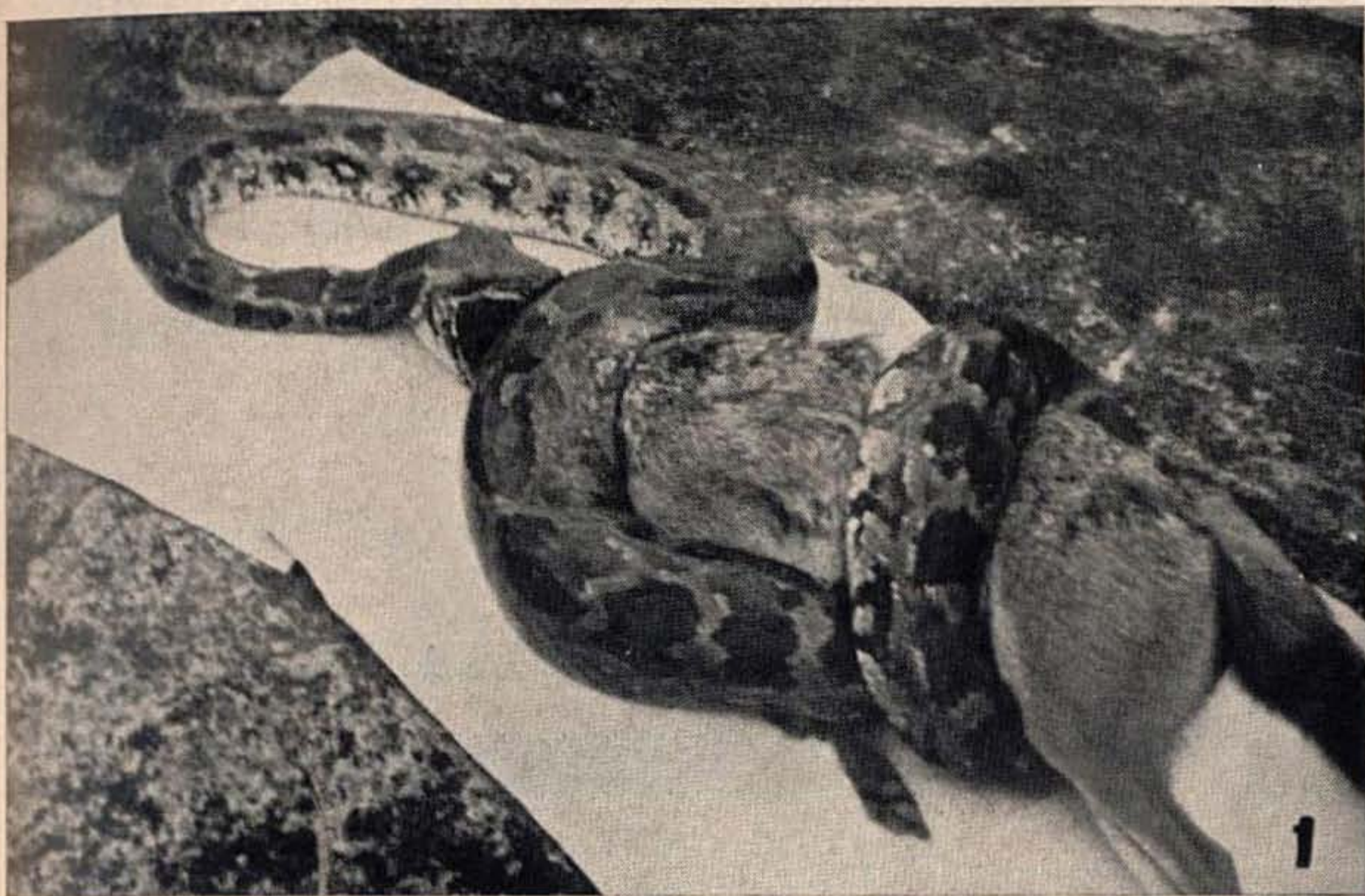
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## Are wildlife (Protection) Acts really protecting endangered species ?



*Python and its jackal kill*

*Photo: S. N. Patnaik*

The Python (*Python molurus molurus*) is on Schedule I of the Wildlife (Protection) Act 1972 and its killing is a cognisable offence. In this report attention is drawn to the fact that in India such Acts are not functional, as most people including investigators in zoology, are not aware of these laws and go on killing 'protected' species.

On November 8, 1975, information reached us that a python had died while swallowing a jackal (*Canis aureus*). It was verified to be correct and the abandoned python and its prey locally known as *ajagara* and *bilua* respectively, were brought to the Zoology Department of the Utkal University, Bhubanewar, Orissa, in a rickshaw.

The head of the jackal which was inside the mouth of the snake got dislodged during the rough ride to the Department.

Apparently the python had been sighted several times in a herb garden nearby, about two kilometres from the University. Although construction and urbanization are gradually replacing the natural habitat, the adjoining areas of Bhubaneswar still remain dryland with brush forest. The python seemingly lived in the adjoining forest and has been coming to the garden in search of food. On November 8th morning, some people spotted the python swallowing the jackal, and being absolutely ignorant of the

Wildlife Act, killed the python by beating it with sticks. The python had swallowed the head of the jackal and had wrapped itself around the victim when it was killed.

The weight of the snake was 15.1 kg; length from snout to the tip of tail 328.5 cm or nearly 11.4 feet. The girth at the widest part of the body, i.e. near the middle of the snake, was 31 cm. The weight of the jackal was 9.5 kg.

P. MOHANTY-HEJMADI  
D. R. NAIK  
B. P. JENA  
S. SAHU  
B. K. BEHURA

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**A. N. D. Nanavati, M.D.**  
*Honorary Secretary*

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