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EDITORIAL

January-March 1978

With one year and four issues behind us we find ourselves established on a fairly sound footing. But we still are on a hand to mouth or subsistence level as far as material for publication is concerned. The ideal set up would be to have material available and ready for at least two issues at a time; but we often find ourselves scraping the bottom of the barrel. We appeal to our members to send in notes of natural history interest. The term Natural History is open to the widest interpretation.

Our appeal for more members in the July-September 1977 issue has unfortunately belied our expectations. We seem to be unable to hold our members. In 1976, 146 ordinary members joined the Society and the figure for ordinary members should be 865, that is 719 paid up members for 1976 plus the 146 new recruits. However, the actual figure of paid up members for 1977 is 702. The Society has apparently one of the highest drop-out rates for this type of organization. We still continue to hope that when we get them we can hold them.

On cover: *The Asian Elephant*
Photo: T. N. A. Perumal

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EDITED BY

J. C. DANIEL

S. A. HUSSAIN

J. S. SERRAO

FEEDBACK

Catleg Spider

I was very interested in Mr. S. R. Nayak's note about Giant Hairy Spiders in *Hornbill* of January-March, 1977. I practised medicine for 14 years in a tea area of Sib-sagar district in Upper Assam, where these spiders caused considerable trouble. We had two species, a large chestnut brown one and a slightly smaller black one—reputedly much the more dangerous of the two. Both were equally common. I never saw one 'at home' but they were reputed to live in holes in the ground. From time to time an unfortunate tea garden labourer was bitten while working in the tea, nearly always on the back of the hand or the upper surface of the foot. If untreated, a large area of skin and subcutaneous tissue would slough off, necessitating an extensive skin graft. If, however, penicillin was given at an early stage the lesion cleared up, after several days of considerable discomfort, without sloughing.

These spiders have a pair of massive retractile fangs, very similar to the claws of a cat, and strong enough to shred the end of a wooden pencil. It was not clear whether the fangs caused necrosis from infection by carrying germs into the wound, or whether a tissue destroying poison was injected at the same time. The reaction to penicillin is rather suggestive of the former. I promised to take some to England for study at the Liverpool School of Tropical Medicine. My Malaria

Surveyors obtained supplies of both species, which were kept in glass jam jars. Unlike Mr. Nayak I had no trouble in getting the spiders to feed, and I found the easiest diet (from the point of view of collecting it) was grasshoppers—the larger the better.

Transporting them to England was more of a problem, and somewhat hazardous, using sections of the giant bamboo plugged with cotton wool. This was not entirely satisfactory and we had some anxious times when spiders escaped into the cabin—particularly as I react to spiders in the way that many people react to snakes, with a quite unreasonable shuddering fear. Food supplies were not easy and eventually most of the consignment died on the voyage, although I think this was more likely to have been from causes other than shortage of food. Unfortunately the experimental work at Liverpool was inconclusive.

T. NORMAN
Blandford, Dorset, U.K.

Pied Crested Cuckoo in Lakshadweep

It was around 7.30 in the morning on December 18, 1976 at Kavaratty Island, Lakshadweep (Laccadive Islands) I heard the strange cry of a cuckoo amongst the dense growth of coconut palms. Since the only bird found in abundance in the Island is the tiny White-eye, I ran out of the Rest House to have a glimpse of this strange cuckoo.

I still remember how this lonely bird looked at me with a peculiar curved neck, perched on the coconut palm. I noted down the brown back and white below starting from the end of the beak and when it flew, the characteristic white spot in the wings and white tips along the edge of the tail. I was wondering how a cuckoo could land in the Island having an area of 3.63 sq. km in the Arabian Sea. After a month, my work took me to Jairampur in Arunachal Pradesh, where I saw a similar bird. I was in fact waiting for a day to meet Dr. Salim Ali to reveal what I had seen in Lakshadweep Islands.

In January 1978, when I received my copy of *Hornbill* (July-Septem-

ber 1977 issue) I was thrilled to read Mr. J. S. Serrao's article on 'The Mystery of the Pied Crested Cuckoo', where it is mentioned that it is possible that this bird is migrating overland through Baluchistan and Arabia or riding the monsoon drift in the Arabian Sea, which runs east-west in winter and west-east in summer between India and Africa.

My sighting at Kavaratty proves that the Pied Crested Cuckoo is migrating along the monsoon drift over the Arabian Sea.

K. S. SUBIAH, M.Sc. (Agri.)

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PRESIDENT'S LETTER

'MYSTERY' BIRDS OF INDIA—3

Blewitt's Owl or Forest Spotted Owlet

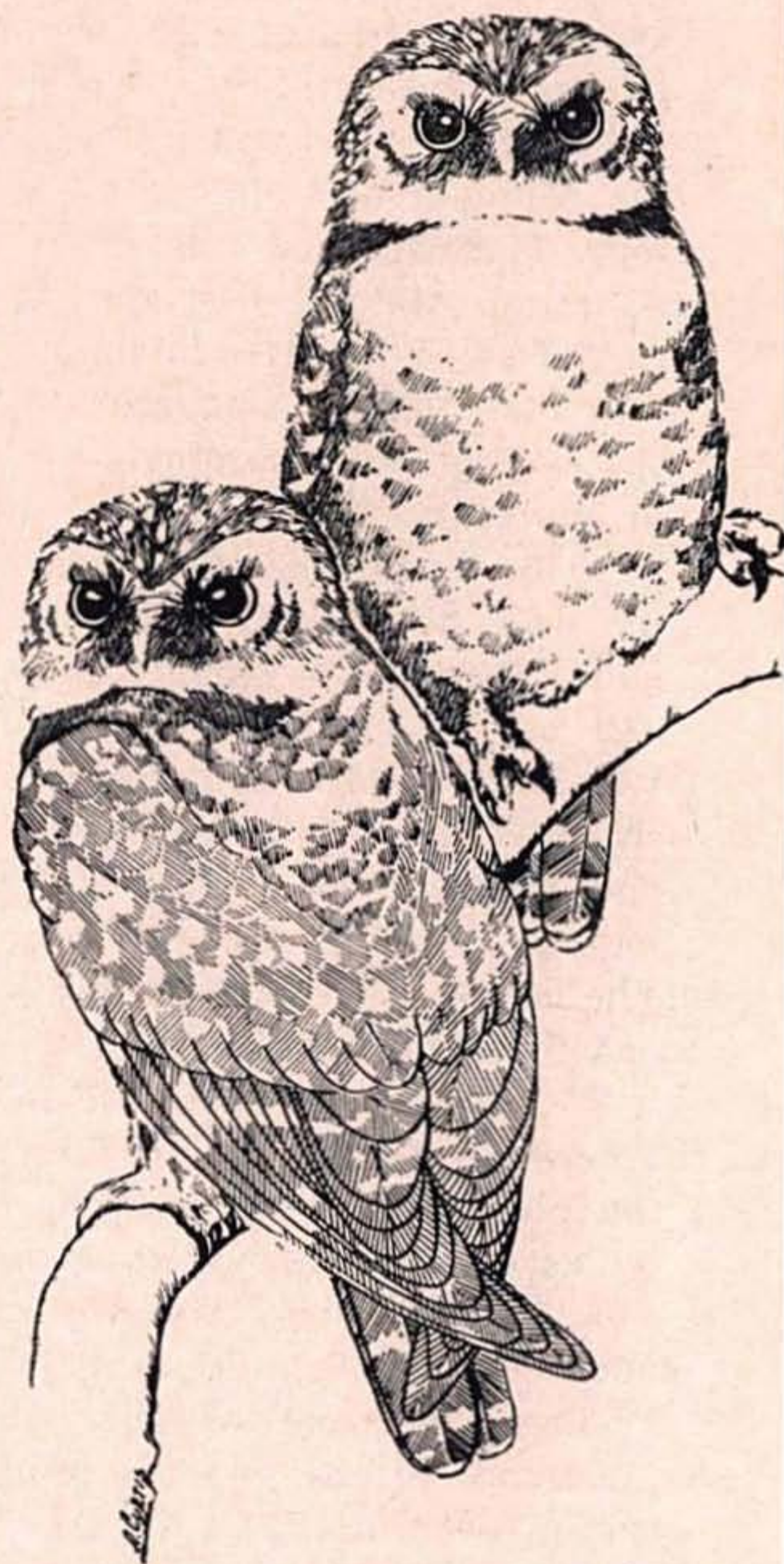
Blewitt's Owl was first described in 1873 by A. O. Hume from a specimen shot by his friend F. R. Blewitt in December 1872 at Busnah in 'Phuljan' State (= Phuljhar, now in Madhya Pradesh c. 21°N., 83°E.). Another example was procured several years later by Valentine Ball, a government geologist, on the banks of the Udet river in Karial, c. 240 km south of the original type locality. Between 1879 and 1881. J. Davidson of the Bombay Civil Service obtained 3 specimens in heavy jungle below the Satpuras in western Khandesh, c. 900 km west of the type locality. He described the bird as 'not uncommon' in such habitats there. The last example of this enigmatic owl to be collected was in October 1914, 64 years ago, by Col. R. Meinertzhagen at Mandvi on the Tapti river in the Surat Dangs area of Gujarat, c. 21°16' N., 73°32' E. at the western extremity of the Satpura mountains. Thus the known distributional range of *Athene blewitti* extends over some 1000 km of the Satpura trend, from the Surat Dangs and Khandesh in the west to E. Madhya Pradesh and the Sambalpur area of Orissa in the east. Little is recorded about the ecology of Blewitt's Owl. Less than a dozen specimens, all told, exist in the museums of the world—in Europe and America. All seem to have been procured in heavy moist-deciduous forest and groves of wild mango lining the banks of streams.

The bird is described as having the habit of sitting singly on exposed tree-tops and sunning itself till late in the morning. Although in size and plumage it is confusingly similar to —almost identical with the Spotted Owlet, as the illustration on page 6 shows, the dense jungle habitat and the predilection for exposed tree-tops seems characteristic and very different from those of the latter which affects opener country around cultivation and villages. Thus, in effect, Blewitt's may be considered the forest counterpart of the Spotted owl.

Since 1914 several attempts have been made to rediscover Blewitt's owl, without success. The latest of these were in February 1975 and March/April 1976 by Dr. Dillon Ripley and myself, aided by some of the Society's field staff and local personnel of the Forest Departments, in northern and western Orissa—at the eastern end of the bird's known range—and in the Melghat Tiger Reserve in Vidarbha (Maharashtra). Ten days each of fairly intensive exploration of likely forest localities with the help of play-back of tape recordings of various owl calls failed to produce results though in the appropriate habitat Spotted owl calls drew prompt response from that species. The several suspected specimens of possible *A. blewitti* we collected all proved to be Spotted owlets and raised some doubts



Athene blewitti
Forest Spotted Owlet



Athene brama
Spotted Owlet

in my mind as to whether Blewitt's was in fact a distinct and recognisable species at all! For the answer Dr. Ripley, on his return to Washington, brought together all the available material of *A. blewitti* for critical reconsideration—3 from the British Museum, London, one from the Museum of Comparative Zoology, Harvard, and one from the American Museum of Natural History, New York. His findings confirm that *blewitti* is indeed a valid species but so exceedingly similar in appearance to the Spotted owl as to be easily confusable with it in the field, and casually even in the hand. Blewitt's is smaller in wing and tail length than the Spotted (*A. brama indica*) but has a consistently larger bill, legs and feet, and there is no overlap in these measurements in the two species. The crown in Blewitt's is unspotted or only faintly, whereas in *A. brama* it is distinctly so. There are minor differences also in the markings in the plumage and in the wing formulae of the two, not however, of a nature to be detectable with confidence in the field. Thus the only leading clue remains the habitat preference of the two co-occurring species—*blewitti* dense jungle, *bra-*

ma open country, cultivation and human habitations.

Observers must keep a sharp lookout for any spotted type of owl in forested country, especially within the known range of Blewitt's, and report to the Society about the exact location of the sighting and other details. Unfortunately forests are vanishing fast everywhere in the Satpuras, as elsewhere in the country, and with them Blewitt's owl may be getting rarer, more and more endangered and restricted to shrinking patches of suitable biotope here and there. However, re-discovering the bird is a standing challenge which must be accepted by birdwatchers and conservationists, especially those living in the relevant areas. Mr. S. A. Hussain of our research staff who visited Mandvi in April 1976 to scan the locality where the last specimen of Blewitt's owl was taken in 1914, found no trace of the heavy forest habitat existing then, but reported that patches of such forest still remained farther east and northeast near the Mahanadi river which would repay exploration.

SALIM ALI

**FIELDGUIDE TO THE BIRDS OF THE EASTERN
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by
SALIM ALI

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The Asian Elephant

The photograph on the cover is of a tusker in the Mudumalai Sanctuary taken by the well-known wildlife photographer of Bangalore, Mr. T. N. A. Perumal — EDS.

The elephant excited the wonder and amazement of the Moghul Emperor Babur and his Tartar hordes as no other animal in India, their new kingdom by conquest. It is possible that neither he nor his followers had ever beheld an animal before of such gigantic proportions, possessing such power behind its push, a faithful ally in battle, and withal so tractable and docile. All of Babur's descendants shared his acceptance and special regard for the animal in peace and in war. They shared with other Indians, the belief in their usefulness in battle which had been disproved long ago by Alexander who had defeated Porus and his elephants on the banks of the Jhelum by drawing them out with his cavalry. Military mind being rigid, the elephant continued to be, often disastrously for its side, in the forefront of battle till the advent of the gun put them in their true place in the rear with the commissariat.

The taming of the elephant is lost in the mists of antiquity. The Assyrians were sending them as tribute to the Pharaohs of Egypt in 1500 B.C. Whether they occurred in the Middle East as has been suggested is open to question. The animal had been tamed in India before recorded history and is therefore likely to have been taken to

areas from where they have been later described. The Rig Veda describes the elephant as *hastin* or 'the beast which has an arm', the root for the Hindi name *hathi*. The only ancient literature available on the elephant is the *Gaja Sastra* (600-500 B.C.), the sayings of the sage Palakapya as written by Dharmika and Kautilya's *Arthashastra* (300 B.C.) which describes how war elephants were trained in rising, bending, crossing fences and pits, charging straight or zig-zagging, and trampling underfoot horses, chariots and infantry. The Sinhalese have fairly extensive literature including one which gives a charm *Om kali murukku amme ane diri*, to check a charging elephant in case you have to face the eventuality!

Retired from the wars the elephant remained a ceremonial animal and a symbol of status. It continues to be the former but few can afford to maintain it as a status symbol. Even its usefulness as a work horse in the forests is being taken over by machines. Today it is an endangered species rapidly losing its habitat either to cultivation or to change in the habitat composition through forestry operations. The once continuous habitat of even historic times is now broken up and five disjointed popu-



A herd in Kaziranga

Photo: E. P. Gee

lations occur in India—two in the south (Kerala-Tamil Nadu and Kerala-Tamil Nadu-Karnataka), one in central India (Bihar-Orissa-West Bengal), North-west India (western Uttar Pradesh) and East India (W. Bengal eastwards). A specialist group of the Survival Ser-

vice Commission of the International Union for Conservation of Nature and Natural Resources is now examining the status of the species. Meanwhile, the interests of man and elephant continue to be in conflict, often an elephant dies and occasionally a man.

Pelican palaver

Photo: Rishad Naoroji



NOTES, NEWS AND COMMENTS

World Environment Day, June 5th 1978

World Environment Day was created in 1972 by over 140 countries during the United Nations Conference on the Human Environment held in Stockholm. It is now sponsored every year under the direction of the United Nations Environment Programme (UNEP).

The Environment Liaison Centre proposes a World Environment Day theme, "Development Within Environmental Constraints". Among the issues raised by this theme are: What are the most environmentally and socially appropriate ways to develop your community, to raise food, to provide energy, to prevent growth of deserts and to improve the condition of the least advantaged? It raises the question of how can we provide for basic human needs with development that won't impair our health, that won't destroy our clean air, fresh water, trees and soil, and that won't deplete natural resources.

Mongoose bites and Rabies

A correspondent has written to state that mongoose bite is frequently reported from Amritsar, Jullundur and Ludhiana districts in the Punjab. He would like to know more about the habits of this animal, and methods of controlling its population and spread. He suggested that these animals may be responsible for cases of rabies.

In the West Indies, various species of mongoose are implicated in the spread of rabies, especially to cattle and pets. In spite of stray

reports of mongoose bites in India no definite evidence on the role of the animal is available. If any reader has information regarding rabies in man or animals caused by mongoose bite, the editors would be glad to have the details, with reports of laboratory studies if any.

Wildlife Week Exhibition

As a part of the Maharashtra State Wildlife Week celebrations for 1977 an exhibition on "Our Wild Life" was arranged under the Nature Education Scheme in the Society's auditorium from 2nd to 8th December for school children above the 6th standard. Specimens of birds, reptiles, amphibians, insects and special exhibits showing animal adaptations for defence, mimicry, etc. were exhibited. A total of 5862 students from 46 schools visited the exhibition. A 16 page exhibit guide giving relevant information on the exhibits was distributed among students at a nominal cost.

Rotary Club's Nature Trail

The Mid-Town Rotary Club of Bombay is to be congratulated on having established a Nature Trail in the Borivli National Park. The first of its kind anywhere in India, as far as we are aware, this Trail is a forerunner of many such trails scheduled for other areas of Maharashtra. The genesis of the Trail is the idea of Rotarian Dr. S. J. Vaidya, a Plastic Surgeon by profession, and Director of Community Welfare of the Club. The work of selecting a trail, surveying it, writing on its aspects and training the



On the trail

Photo: S. J. Vaidya

guides devolved upon local experts largely members and staff of the Society.

The Trail was inaugurated on 5th March 1978 by Begum Ali Yavar Jung, and the guests attending the inauguration were led down the Trail by Dr. Sálim Ali.

Wildlife Society, Pune

Pune (Poona) has now a Wildlife Society. Located at 185, Budhwarpath, Laxmi Road, Pune 411 002, the Society plans to concern itself with conservation through preservation and development of areas of Natural History interest in the Pune environs.

Symposium on the Tiger

An international symposium on the Tiger has been scheduled for December 1978/January 1979. The venue would probably be New Delhi.

Nature camp for underprivileged Bombay school children

A nature camp for the Bombay Municipal school children was conducted under the Nature Education Scheme of the Society on 30th and 31st January 1978. 107 students and 13 teachers from six Marathi, Gujarati and Urdu medium schools participated in the programme. Groups were taken along nature trails and points of natural history were explained to them by the group leaders from the Society. At the conclusion of the camp the participants wrote essays on their impressions. Almost all the students showed keen interest, and made fairly accurate records of observations. Society's members and staff acted as group leaders. A part of the expense was met by Sálim Ali Nature Conservation Fund.

Nature Camp 1977

As we alighted from our train at Mysore we smelt some *galata* as the Mysorians term it. Later on it became clear that there was a strike on. This worried us about the future of our camp as we were to go to the Ranganathittu Bird Sanctuary, about 15 km away from Mysore. PBS and I managed to reach the sanctuary getting a drenching from a passing shower in the process. The sanctuary just a kilometre from the Mysore-Bangalore highway is situated right in the middle of the mighty Cauvery river, and the water level was much above the danger level and we were told that boats would not ply unless the level went down by at least two feet. With this disappointing information we returned to strike-hit Mysore and rushed for assistance to the ex-Warden of the Sanctuary, Mr. Neginhal, a member of the Society. He, after consultation, with the new Warden assured us that if the water level went down even one foot, a boat would be arranged for us, so that we could reach the nesting sites.

Our boating was brief the next day as the current was beyond the rowing capacity of the boatmen. But during the short trip we managed to see a number of Open-billed Stork young still on the nests, White Ibis, Darter, Little and Median Egrets and a few Little Cormorants. Unmanaged thickets and bamboo clumps on the river bank turned out to be rewarding as we spotted warblers, bayas, sunbirds, ioras, drongos and the Magpie Robin. Most rewarding was the sighting of a single Verditer Blue Flycatcher flitting amongst the canopy of a rain tree first and then on the neighbouring eucalyptus tree.

Bandipur National Park which was our next halt is the obvious place for the close observation of Spotted Deer (Chital), Common Langur and the peafowl which are found in plenty especially so around the rest house and the forest settlements. Every evening there comes a herd of 300 odd Spotted Deer to rest on the meadow in front of the rest house. I believe it is a regular feature for the place. Other

Mixed heronry at Ranganathittu

Photo: G. C. Patel





Elephants at Bandipur

herds of Spotted Deer were seen within 5 sq. km of the rest house, indicating that the deer probably stay close to the bungalow for better protection from predators. The leaping and bounding troops of the Common Langur always attract the tourists and we were no exception. Bandipur is also frequented by a large number of elephants, in herds or in small family parties. Occasionally lone tuskers are seen and are usually considered risky, and are to be treated with respect.

On our first day at Bandipur while walking along the highway which runs through the Sanctuary, a lorry driver hailed us and advised us not to go further as a lone tusker blocked the highway. The tusker stood majestically on the tarred road and browsed from the neighbouring thickets. We observed him for quite some time while the tusker casually

Photo: Jagdish Agarwal

crossed the road several times and no vehicle dared to overtake him. Luckily there was a diversion road and so there was no traffic jam. We decided not to take our party close to the elephant since it was standing in the open and the wind was not in our favour. Later on we were able to see a few fine tuskers and a herd of 40 elephants with 12 new born calves. We watched them from inside a lorry as close as 10 m from the herd. A pair of tuskers became separated from the main herd and were within 5 m of us, and after they had been profusely photographed by our party, the lorry driver went still closer to the tuskers and they bolted; and as they did so, there ran out from between them a tiny calf. It gave us such a surprise that the photographers were caught napping.

Our third objective was the Nilgiri Tahr. Trekking in search of it



Above: Tusker on the road

Photo: Jagalish Agarwal

Below: A pair of Chital herds





Tahr watching at upper Bhavani

Photo: Jagdish Agarwal

is always fascinating as the animals prefer rugged and precipitous cliff country of the Western Ghats. We started our trek at Upper Bhavani at an elevation of 7592 ft and from there walked about 16 km and were fortunate enough to spot some tahr. We climbed another 500 ft to reach the cliff line covered by rhododendron trees and small, thin *shola* forests interspersed with grasslands. The climb was not difficult but tussocky grass made it tiresome. We saw some good sambar stags along the edges of the *sholas*. The deep booming call of the Nilgiri Langur from the *sholas* a thousand or more feet below us and the diving sound of the Alpine Swifts only broke

the silence that prevailed over the whole range of Upper Bhavani, Bangitappal and Sispara Pass that we saw. Indian Kestrels hovered over the grassland near the peaks in search of lizards and frogs.

The second party of members who visited Ranganathittu later when the water level was normal and boats were plying regularly had better luck. In addition to the birds seen in earlier visits we saw Night and Purple herons, Great Stone Plover, and could reach the tree festooned with a few hundred flying foxes. But we had no luck with crocodiles which we had seen during the first visit.

REZA KHAN

Himalayan flower meadows

The book VALLEY OF FLOWERS by Frank Smythe has kindled a desire in many a reader to visit this paradise of flowers. Among the many who visit it (just 12 miles off the highway to Badrinath, one of the great Himalayan pilgrim centres), the majority are disillusioned because they do not choose the correct season and duration to visit the Valley. A very affluent couple showed us a colour movie of two hours duration on the Valley of Flowers which they had filmed during their stay of just three hours in September. The number of species did not exceed a dozen and the total number of flowers did not exceed a couple of hundred. Some months later, they were stunned to see our colour slides photographed during the end of July on a six-day camp in the Valley which showed hundreds of species and innumerable flowers including the rare blue poppy and Brahmakamal (*Saussurea obvallata*).

In the Himalayas there are a number of alps, plateaux, nearly flat slopes—the correct word would be *Margs* (Kashmiri) or *Bugyals* (Garhwali). Millions of flowers spring up in the local spring season on these plateaux when the snows recede. This begins to happen towards the end of June. From mid July to mid August they are covered with countless flowers in full bloom on plants one to three feet high. Some places like Panwali are very rich in flowers. The *bugyals* (flower meadows) thrive between

8000 to 12,000 feet or higher. Of the total two thousand and odd species of flowers in these meadows, a meadow in a particular area will have anything from five hundred to a thousand species, but it will have a couple of dozen species (may be another couple of dozen more) which no other meadow in any other area will have.

The most unusual aspect of the life span of a species is that the period in which it is in full bloom is hardly 15 days. If you see a species say on 10th June at 10,000 feet in full bloom in its thousands, you will probably not see a single flower in bloom after 25th June at that height. This blooming of thousands of flowers has a great similarity to altitudinal migration of birds. It is possible that you may see this very species in the same area in bloom in hundreds, but at a still higher altitude say, two or three thousand feet. Mountaineers have photographed flowers at 16,000 feet in September. The natural corollary to this is that if one wants to see or study all the species of the region, he will have to stay for three months (June, July and August). For a visitor who loves flowers, the minimum period of stay in an area or region would be about a week when he will see all the three processes, namely those dying out, those in full bloom and those coming into full bloom. The last one is a marvellous phenomenon and never fails to catch your eye by its sudden impact.

The general period of full bloom



A view of the valley of flowers

Photo: S. R. Shah

is between mid July and mid August with a slight variation in the dates according to: *a* altitude, *b* latitude, *c* year of early, late, light or heavy rain- and/or snowfall. There is no agency in India which tells you exactly about these weather conditions and the only remedy lies in extending your stay.

One of the most difficult and vexing things about visiting the Himalayan flower meadows is that: i) the monsoon strikes these areas at the same time; ii) the bus roads are blocked by landslides resulting in unplanned delays. These are unavoidable; iii) Continuous rains, thick fog or mist may not allow one to

stir out, much less photograph. *Generally you do get sunshine for a couple of hours on an average.* There have been instances when one got sunshine of only ten minutes in six days, and it had poured and had been foggy the rest of the time. The only remedy is to extend your stay. There is a world of difference between seeing flowers in sunshine and under cloudy dark skies. To avoid being bored in bad weather you must have congenial company besides some instrument of entertainment like a book or a cassette tape recorder.

The Valley of Flowers was made famous by Frank Smythe. But there

are a number of other areas in Garhwal which have a greater number of flowers, a larger number of species, and a wider extent and display than the Valley of Flowers. Most people are not aware of this, and the intention here is to give some information about these areas. They are **BADRINATH** including **HEMKUND**, **TUNGNATH**, **KEDARNATH**, **PANWALI**, **GANGOTRI** and **HAR--KIDUN**. These are comparatively easy of approach.

Badrinath, 10,300 feet

The most famous place of pilgrimage. The bus from Rishikesh (near Hardwar) takes you right up to the temple. There are excellent dharamshalas and also a good hotel to stay. On this route *do not eat cold cooked food but only eat piping hot food*. Few visit it between mid July and mid August when it is a place with miles and miles of vast undulating slopes covered with flowers. Birdwatching is an added attraction. The greatest advantage is the availability of 'city amenities' in a wilderness area. One can climb a couple of thousand feet more on some of the easy slopes for flower hunting. In case you are bothered by altitude sickness, the facilities for coming down to lower altitude (Joshimath) are many. *Acclimatisation here for a couple of days is considered a must* before you go to Hemkund, 13,600 feet. The area where flowers grow is ten times that of the Valley of Flowers. *End July is highly recommended. But be mentally prepared for delays: a in bus*

journey due to landslides on the bus route, *b* delay due to continuous rains and thick fog. So far as facilities for seeing flowers are concerned, there is no place to beat Badrinath.

Tungnath, 11,500 feet

Besides being a very scenic place of pilgrimage, it has a beautiful Public Works Department Rest House at Dugal Bhita, 3 miles below. Up to Chamoli the route is the same as for Badrinath. From Chamoli there is a bus road to Dugal Bhita, but due to landslides the buses never ply during this part (15th July to 15th August) of the year. You may get a taxi; otherwise walk three marches to Dugal Bhita. Porters, though with difficulty, will be available at Chamoli or at Gopeshwar a few kilometres from Chamoli. The permission to occupy Dugal Bhita rest house is given by the Executive Engineer (Chamoli district at Gopeshwar). Taxies regularly ply between Chamoli and Gopeshwar.

The area where flowers grow is not vast but you find a number of exotic flowers. Another way of approach is *via* Okhinath (two marches) on the Kedarnath bus route. The added advantage is that you may get a lift in one of the trucks that ply to Dugal Bhita for timber etc. The landslides on this side are comparatively much less. Food is available at the Rest House. In short keep your base at **Dugal Bhita** rest house and roam (*vertically*) upwards towards **Tungnath**.



A carpet of flowers

Photo: S. R. Shah

Valley of Flowers, 11,500 feet and
Hemkund, 13,600 feet

Govind Ghat, 5000 feet, the Sikh pilgrimage centre, is a bus stop between Joshimath and Badrinath on the Badrinath pilgrim route. The Sikh shrine is about two furlongs from the highway bus stop. Porters and ponies are available at the shrine. Accommodation is also available at the shrine irrespective of race or community. Almost compulsorily you have to eat the free food or *prasad*. Blankets etc. are also available on hire. Next day after engaging porters and ponies according to your needs (charges are reasonable) you trek 9 miles to Ghangharia. It is an easy climb from 5000

to 10,000 feet. In between there are a couple of tea shops. Tea will supplement the loss due to delay. The tea shop at Bhyander also offers simple food. At Ghangharia there is a Sikh shrine for stay; also a Forest Rest House and a Paryatan Nigam Hotel. For this Forest Rest House you have to write to the Divisional Forest Officer, Joshimath for permit. At the Forest Rest House you must make your own arrangements for food, i.e. you have to have your own provisions, cooking vessels and cook, etc. Next day (with the same porters and ponies) you trek 3 miles to the Valley and camp. Select your own site with a spring near by. Light

tents (one for sleeping and one for kitchen) can be had on hire from one of the trekking associations in Bombay. All through your stay you will have to engage a porter to fetch fuel and water.

It is a boon that there are no leeches in this area. There are plenty of foot paths in the meadows to avoid trampling the flower plants and one can roam miles and miles and, if one decides to do so, can climb another 2000 feet on slopes of easy gradient. Here the variety of species is possibly the maximum with a possible exception of Panwali. While approaching the Valley of Flowers you may possibly have to cross snow bridges which laden ponies cross, i.e. it is not difficult. From the Valley of Flowers one can either directly go to Hemkund $1\frac{1}{4}$ miles or return to Ghangaria and next day climb up $4\frac{1}{2}$ miles (10,000 feet to 13,600 feet) to Hemkund where there is a Sikh shrine as well as a tiny shrine of Laxmanji. There is no accommodation for staying overnight. So you either take your tents or go to Hemkund in the morning and return the same evening. There are two tea shops on the way. All along the track to Hemkund you find a number of many coloured rare flowers. If you have your tent, you will have the added advantage of birdwatching the next morning. A number of birds visit the lake with its floating icefloes. For Himakamal you will still have to climb about 1200 feet above the lake. It is an unbelievably beautiful flower.

For those who have no tents and are prepared to rough it out, there are small caves in the Valley of Flowers where you can stay as well as do the cooking. The other alternative is to stay at Ghangaria and walk three miles up and down daily. The latter course leaves very little energy to roam up and down in the valley. In case of rain the shelter (caves) may be very far from where you are roaming. *Staying in tents is highly recommended* because even if there is a break of half an hour or a couple of hours in between the rains you can see and photograph a number of flowers.

Kedarnath, 10,600 feet

The bus from Rishikesh takes you to Somprayag *via* Rudraprayag. At Somprayag porters and ponies are available to trek ten miles to Kedarnath. On the way there are hotels at Gavrikund and Rambara. *Eat only hot food.* Once you trek these ten miles you have nearly all the facilities of a city life at Kedarnath and much wider scope to loiter amidst beds of flowers in a fantastic wilderness with a back-drop of the massive, mighty, snowclad peaks. In case of rain you can immediately repair to your blazing hearth at dharamshala (Birla's). On a clear day you may go to Chorwad Tal in the morning, and return by noon. The meadow at Chorwad Tal is very rich in flowers. So far as facilities for seeing flowers are concerned, this is a better place to go than the Valley of Flowers. The

best time to visit it is the end of July or the first week of August.

Panwali, 11,500 feet

A vast *bugyal* with gentle ups and downs, this is a gem of a place for seeing flowers. If there are millions of flowers at other places, there are innumerable here. The lay of the land permits a fascinating display. You can from the rest house at 10,500 feet roam up to 11,500 feet or down to 8000 and in all directions.

From Somprayag (previously mentioned, where porters and ponies are available) it is two marches of about 9 miles each. The first halt is Muggu where a mud hut (Chati) is available. You can also stay here because there are a number of *bugyals* in the vicinity. The next march is to Panwali rest house which has no door locks. All

you have to do is open the latch and stay. Panwali is matchless for roaming, with an area of approximately 30 square miles covered with vast carpets of flowers. Even the variety of species is the greatest here. Birdwatching—as many birds have nests and breed at this time of the year—is an added attraction. If you are lucky you may see musk deer, wild boar and other wild animals. At this time of the year (15.vii to 15.viii) you have the added advantage of passing your evenings with the nomadic, but a highly cultured tribe of Gurjars who camp there with their buffalos, goats and sheep for grazing. (In about two years there will be a bus service to Dhuttu in Tehri Garhwal. From Dhuttu, Panwali is only one march.) Quite a number of trekkers do the Panwali trek in May or October;



Anemones

Photo: B. S. Oza

very few in July/August—the season of flowers.

Har-ki-Dun, 11,500 feet

In all seasons except July and August, buses from Dehra Dun ply up to Netwar in the Tons Valley. However, in July and August—our season of flowers—the buses ply only up to Purola due to landslides between Purola and Netwar. There are three bus routes for reaching Purola: i) Dehra Dun to Purola via Kalsi and Yamuna Bridge; ii) Dehra Dun to Purola via Mussoorie (a longer route); iii) Dehra Dun to Tehri, Dharasu, Burkot, Purola—a still longer route but which is less troubled by landslides. At Purola there is a Public Works Department rest house. (Write to the Executive Engineer, P.W.D., Tons Division, Purola for reservation and follow it up with a telegram.) No porters are available at Purola. Only pack ponies to carry your luggage can be had. Your trek begins from Purola, but take all your provisions and utensils from Bombay.

The stages are Jarmola (10 miles), Netwar (10 miles), Taluka (11 miles), Osla (8 miles) and Har-ki-Dun (8 miles). (Write to the Divisional Forest Officer, Tons Division, Purola for Forest Rest Houses at the above 5 places.) The distances mentioned above take into account the short cuts. Purola pack ponies (minimum you can get on hire is not one pack pony but two pack ponies for Rs. 40/- a day) do not go beyond Netwar. At Netwar you hire another set of pack ponies if you learn from the forest ranger or chowkidar of the Forest

Rest House or the local shopkeepers that the notorious Allara Gad river is crossable by ponies. It is difficult to get porters at Netwar. In case you do not get porters engage pack ponies up to Sankali six miles from Netwar. At Sankali you can get porters. *Prefer Nepali porters* even if they demand a couple of rupees extra. The rate is anything from 12 to 15 rupees a day (food theirs). Nepali porters carry 25 to 30 kg whereas locals carry only 20 kg. The bridges on the Allara Gad gets washed away every monsoon. People can cross the 'Gad' with difficulty; ponies cannot. Sometimes the Sankali porters agree to come only up to Taluka. You can get porters at Taluka from the nearby village of Datmir. At Osla plenty of excellent porters are available. Har-ki-Dun has three valleys full of flowers: Maninda (tal) Gad, Hatyara Gad and Yamdwar Gad. The Forest Rest House is beautifully situated. Each day you can sally into the valley and return to the rest house in the afternoon if it is not raining. The general formation of the three valleys with their ridges is very pleasing. The area of flowers will be anything from 20 to 40 sq. miles. The numbers of flowers would possibly exceed the sum total of all the valleys except Panwali, the number of species being slightly less than those in the Valley of Flowers or nearly equal to it. But some of the flowers are exceedingly rare. Here also you meet Gurjars besides a number of local shepherds who graze goats and sheep.

The Har-ki-Dun trek is also highly recommended from end April to mid June and again from mid September to mid November. Beautiful weather is the added advantage. As there will be no landslides, the bus will take you from Dehra Dun to Netwar in a day, and three marches (days) sees you in Har-ki-Dun. The foot path gradient is easy and the lay of the surrounding vales and hills is marvellous. You feel nature has set up a window display for you in every mile of luxuriant forests you walk through. The trees are not only tall and huge, but the number of species overwhelms you, elms, poplars, willows, deodars, banj, birch and all six varieties of pines. Though the village Osla is two furlongs away from the track, you will have to go there to fetch the keys of the Forest Rest House for the *chowkidar* never stays at the Forest Rest House but stays in the village. The visit is worth the trouble. You will see the architecturally unique houses, and the temple of Duryodhan. For those who are interested, this is the only place in India where Duryodhan who wanted to kill Lord Krishna as soon as he was born is worshipped.

Gangotri, 10,000 feet to 10,319 feet
Another place like Badrinath but much smaller in area. The atmosphere is slightly different. The Gaurmukh, the mouth of the Gangotri glacier is 14 miles away. The flowers grow between rocks and peb-

bles and boulders. A place where you can roam in the vast wilderness and yet have city amenities to stay. The best time to visit is the first week of July to the last week of August. The same difficulties of road blocks on the bus route (the route is *via* Uttarkashi) due to landslides apply here. Possibly the landslides between Uttarkashi and Gangotri (the bus goes right up to Gangotri) are most frequent than on any other route. The traffic being more, the landslides are cleared much sooner.

Dodital, 10,000 feet;

Barwa Peak Plateau, 12,000 feet
Dodital is a tiny lake at 10,000 feet. Agoda Forest Rest House is 11 miles from Uttarkashi and Dodital Forest House is 9 miles from Agoda. Barwa Peak Plateau is 3 miles from Dodital. For reservation of both forest rest houses write to the Divisional Forest Officer, Uttarkashi. The slopes have such a fine gradient that my skiing friend considered them far superior to any he had seen in Europe or Kashmir. It is on these slopes that you find a number of unusual flowers. Birds are at the lake. Monal, Kaleej, and Koklas pheasants are in great numbers.

If you do not particularly care for flowers the *best time* to visit any of the above places is from the last week of September to the first week of November.

SUMANT R. SHAH

BIRDWATCHER

Dabchicks in a village jheel

A couple of years ago I had been to Maniadih, a village near Dhanbad in Bihar. There is a reserve forest by the side of the village. The Forest Department of the Government of Bihar maintains a pleasant little Inspection Bungalow at Maniadih. There is a jheel within half a mile of the bungalow, where I passed a few delightful hours observing nature.

off and on into the water. After each dive she came up with something in her bill. This she fed to the chicks. The moment the mother bird disappeared from sight in her dives, the chicks grew silent and watched keenly to see where their mother would emerge. The moment she surfaced, all the chicks swam towards her vociferously and mobbed her for the tit-bits she brought up. In their quest for food, the



Dabchick family

Photo: A. S. Bhaduri

The first to attract my attention was a party of little grebe chicks swimming behind their mother. The little chicks, four in number, were cheeping all the time. The mother, not much larger herself, was diving

little grebe mother and her four chicks crossed and recrossed the jheel slowly from end to end several times.

A. S. BHADURI



Awaiting a chance

Crows robbing nests

I visited the Ranganathittu Bird Sanctuary near Mysore in June 1977.

Egrets were breeding and practically all the varieties were seen. Cattle Egrets were in brilliant orange-yellow breeding plumage. Early one morning I spotted a crow flying away with an egg from an egret's nest, and land with it on a rocky outcrop near by. Before it could break it open, our boat was close to it and the crow flew off

Photo: Vivek Kunte

leaving the egg which was of the size of a hen's egg and beautiful pale bluish green in colour. I photographed the egg and it clearly showed the beak punctures. As the day progressed, this phenomenon became more and more frequent and the crows also became bolder and sat waiting on trees on the outer verge of the small islands on which the egret nests were. But there was no defensive action from other birds in the nests near by.

VIVEK KUNTE

NATURE CAMP 1978

Valley of Flowers

22 July to 10 August 1978

The Society's next *Nature Camp* for members will be at the Valley of Flowers situated at an altitude of 11,500 ft in Garhwal. Members will spend five days in tents in the Valley. Hemkund (13,600 ft) will also be visited. Members will gather at Govind Ghat on the Joshimath—Badrinath Bus route. The camp will cost Rs. 500/- per person. Children below 15 years of age will not be eligible. For further details contact to the Honorary Secretary.

Kanha National Park



Tiger at Kanha

Photo: T. N. A. Perumal

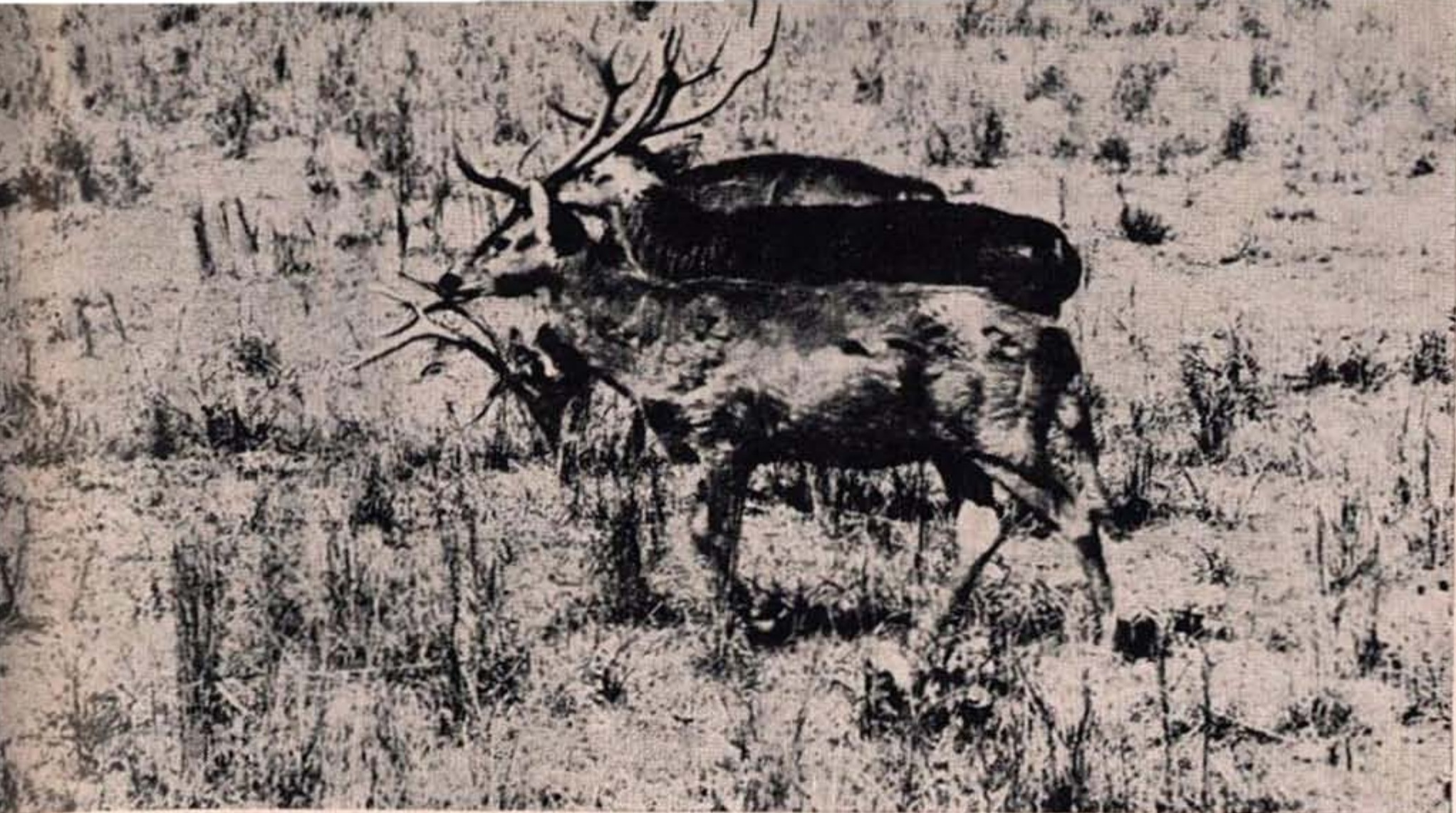
"You have a date with the tiger" says a large hoarding as one turns off the main Mandla-Bilaspur road to a dusty forest track on the last leg of the journey to Kanha National Park in Madhya Pradesh. The road from Jabalpur, the nearest rail-head, upto this point passes through a rather flat, uninteresting, countryside except for stretches of stunted teak forests, with an occasional evergreen Mahuwa tree and stands of Flame of the Forest trees in full bloom. The road now undulates through a succession of causeways moist with the winter rains and langurs go crashing through the tall erect sal, the dominant trees of the magnificent central Indian forests, the home of the tiger. Kanha National Park expresses best the forest and wildlife of India's heartlands, the highlands of central India, situated in the Maikal hill an outlier of the Satpura Range. The area, particularly the Banjar Valley which forms the heart of the Sanctuary became famous as a place to hunt because of the abundance and variety of its wildlife. It was not until 1935 that 99 square miles of the area were established as a sanctuary, which was then known as the Banjar Valley Reserve.

On June 1, 1955 the area was declared a national park by the government, which has sole jurisdiction over it. In 1964 the sanctuary was

enlarged to 123 square miles. Grass meadows varying in size from a few acres to several hundred acres lie scattered throughout the area on ridge tops, in valleys, and along stream beds. The typical of these is the Kanha meadow about three square miles in size, the largest in the Park. Several stream beds transect the gently undulating terrain, and numerous small ravines, often bordered with a variety of trees and shrubs, radiate from them. Copses of trees, particularly of sal and *Lagerstroemia parviflora*, interrupt the expanse of the meadow, as do rocky hillocks covered with clumps of bamboo (*Dendrocalamus strictus*). Solitary trees, from the lofty *Bombax malabaricum* to the brushy *Bauhinea racemosa* and spreading *Ficus*, dot the meadow here and there. Its whole aspect is most pleasing and resembles a tended parkland more than a wilderness in central India.

The year at Kanha is divided into three major seasons. The cool season from November to February, has a temperate climate, with the nights crisp and daytime temperatures rarely above 85°F.

By mid January some of the deciduous trees shed their leaves, which crackle underfoot and are blown across the ground by the wind. But in February it is sudden-



A stag phalanx

Photo: S. A. Hussain

ly spring time with the nights growing somewhat warmer, the *Bombax* trees open their large scarlet flowers and many birds begin to breed.

From March to mid June, the sun burns down from a hazy sky and temperatures reach 110°F in the shade.

The sal trees bloom in early March and at the same time shed their leaves. Almost simultaneously they grow new ones, so that when the deciduous trees in the hills are bare and the ground is exposed to the full force of the sun, the sal forest is shaded by leaves of the freshest green. The forest floor everywhere is carpeted with dead leaves so brittle that even a tiger finds it difficult to walk silently.

Kanha Park is one of the few legally protected areas in India that harbours a fair number of both tigers and wild hoofed animals. The

Park is large and ecologically varied enough to support a considerable wildlife population on a permanent basis, especially since the forests surrounding it provide a buffer zone between the Park and the heavily cultivated parts of the district. As a potential tourist attraction the tiger has few equals among animals. And the Park as a whole can provide future generations with a view of how their country once looked before the forests were over exploited for timber and over grazed by livestock and before much of the wildlife fell to the poacher's gun.

Kanha National Park has long been considered the last stronghold of the Barasingha in central India, but its numbers were less than 100 in 1964. A census in 1938 gave a figure of 3023 of these animals. The 1912 Mandla District Gazetteer, in-

indicated the widespread occurrence of the animal in the park area. 'In the cold weather the Barasingha lie up in most of the maidans if they have not been disturbed, particularly in the great maidan east of the Kanha and the neighbourhood of Sharwan-talao. The best spots perhaps are Kopedabri and Sonph where Sambar, Barasingha and Cheetal stay out till comparatively late in the day.' The species decreased steadily, however, from 577 in 1958 to 173 in 1962.

The meadows of Kanha Park offer the best of wildlife viewing both by motor vehicle and from elephant back. The animals can be seen right from the rest house overlooking a portion of the meadow across a rivulet where among the flat, bare salt lick patches the blackbucks can be observed "high chinning" their harem and Barasingha columns meander across the maidan in search of a shady tree. Chital herds of 15 to 25 animals each are a common sight. Motorable roads skirt the meadow from which several branches criss-cross the meadow while some others lead to the surrounding forests. One can see most of the ungulates from elephant back or during a short drive around the meadow in the early hours of the day. Barasingha, Blackbuck, and Chital are common here while one comes across an occasional pack of wild dogs, jackal or wild boar scuttling across the meadow keenly watched by the deer. All the animals here except the fresh arrivals from the nearby forest are used to man and provide an excellent opportunity

for viewing and photography. To see the other large animals one has to drive long distances through the forest roads. The Gaur, shy and retiring, keeps to the bamboo clad slopes of the rocky hillsides and remain in the cool shade of the deep ravines during the heat of the day. They start moving down towards the water holes in the late evening. During late summer months when there is a shortage of water everywhere, Gaur are frequently encountered at the water holes situated on either sides of the Kanha-Kisli road. They can also be seen with a degree of certainty, if one can manage to trek with the help of a guide, from Kisli to Sonph meadow north of Kanha. The path climbs over a steep hill and after proceeding over the crest of the hill, dips down along a series of lower hills and ravines thick with small bamboo where its pleasant bovine smell gives away the presence of the Gaur. If one is upwind and is careful not to make any noise, one can see the herds resting under the shade. There is no danger from these animals so long as you keep uphill and silent. Gaur have poor eyesight. On being alarmed the tendency is to stampede along the ravines. However there will be very little chance of photography since the light will be poor as well as the vision will be obstructed by intervening bamboos. The same path carries on to Sonph, a less disturbed and expansive meadow, the monsoon home of the Barasingha. Along this path one can see an occasional Sambar, Sloth bear, Barking Deer and Wild Boar.



School of Barasingha stags with a jackal in foreground

Photo: S. A. Hussain



A Gaur bull

Photo: Zafar Futehally

The main attraction of the park, the tiger show, used to be arranged frequently until recently. However since the formation of Project Tiger the practice is being discouraged. Opinions differ regarding the desirability of such shows. There are some arguments against 'conditioning' the tigers to artificial baits in the Project areas since the preservation of this endangered species, according to some conservationists, is paramount and therefore conditions for them should be strictly natural. On the other hand protagonists of Tiger show point out that, such shows help to create interest in conservation apart from earning funds for conservation needs. The incidents of 'conditioning' tigers to artificial baits seems to be minimum as is evident from a recent visit to the Park. A tigress was baited for a week, and though she was used to

take baits, she ignored it and killed and ate chital within half a kilometre of tethered buffalo. Incidentally most of the baited animals are tigresses with cubs on the lookout for supplementary food. Apparently the cubs when they grow up go their own way without being 'conditioned' to baits.

The tiger population of the park appears to maintain a steady optimum level for the area earmarked under the project. The Project Tiger census estimated a population of about 55-60 tigers in the park area. There have been reports of young tigers being driven off the park limits by territory holders. These animals occasionally return to the park to forage or in search of mates during the breeding season. Reports are also available about casualty among old and battle scarred individuals which are killed either by



Seeking a shade. Note how the stripes merge with the dry sticks in front
Photo: Zafar Futehally

their own kind or by the villagers on the periphery of the park where, for obvious reasons they become cattle lifters.

Leopard is apparently rare in the park, or at least not seen frequently. Presence of territory holding tigers may restrict their operation within the park where there is enough food for all. Whether the leopards occur around the peripheral villages is not clear. Langur and domestic cattle, their chief food is plenty on the periphery. Incidentally the problem of grazing cattle within the park seems to have been contained of late, at least around the main tourist complex. This is in contrast with the situation about two years ago. This may be partly due to relocation of several villages that existed within the park so far. How effective is the control on the other inaccessible areas of the park is not clear.

The chital population of the park, of late seems to have attained an all time record. This is in spite of maximum predation by tiger, the natural check. An estimate made during a study in 1972 showed that as much as 78% of the tiger's prey consisted of chital. There is then an obvious danger of over population of the chital. In the relative absence of the leopard, the only other predator that could effect some degree of check on chital population could be the wild dog. The park authorities have reported frequent predatory forays of the wild dogs in the park. Packs consisting

of about 12-20 animals range within the park area. But the wild dogs also cause destruction among other less abundant species like the Barasingha and the Blackbuck, especially the yearlings. On a trip to Kanha two years ago I came across a disembowled pregnant blackbuck doe freshly killed by the wild dogs and abandoned temporarily. It is essential that some study should be carried out to evaluate the existing predator-prey cycle in the park before the situation gets out of hand. There is a small population of Nilgai which keep to the northeastern corner of the park. These are seen occasionally on the approach road to the Kanha air strip situated on top of a large plateau. This air strip, incidentally, provides a panoramic view of the park and is popular with the tourists, especially at sunset time.

There is a variety of bird life in the park. The best time for bird-watching would be early morning. For this one has to exclusively set aside a morning. There is no specific area as such but a trip to Shrawantal on the edge of Kanha meadow could be rewarding. Another good place is a small pond around an artificial bund on the left side of Kisli-Kanha road.

I had an opportunity to visit and spend some time in Kanha during February-March in 1976 and again in 1978 and compare the situation there. It is truly remarkable that, this park, which perhaps receives the largest number of tourists among the national parks of India, con-

tinues to provide the best of wildlife viewing. This is in spite of the tourist vehicles that ply within the prescribed limit of the forest earmarked for such purposes. Since the advent of Project Tiger, a considerable area has been brought under the strict control of the project authorities and a large portion of the park is relatively left undisturbed. This is obviously the right thing to do since the interests of conservation and wildlife tourism are often at loggerheads. In Kanha the problem seems somehow to have been overcome, for which the credit should go to the management.

Recently there was a plan to shift the main tourist complex from Kanha to Kisli. Some construction

of building had started in early 1976. It was explained that the bulk of the tourists would be housed in Kisli and taken to Kanha for wildlife viewing only. The success and advisability of such an idea appeared to be doubtful to me at that time. However the idea of shifting the complex seems to have been abandoned temporarily. Recent reports indicate of tourists being housed at Mukhi, a relatively unfrequented part of the park. This may be due to overcrowding and non-availability of rooms in Kanha during peak season. One feels that such dispersal of the tourists should be controlled by the park authorities and should not be left to the travel agencies.



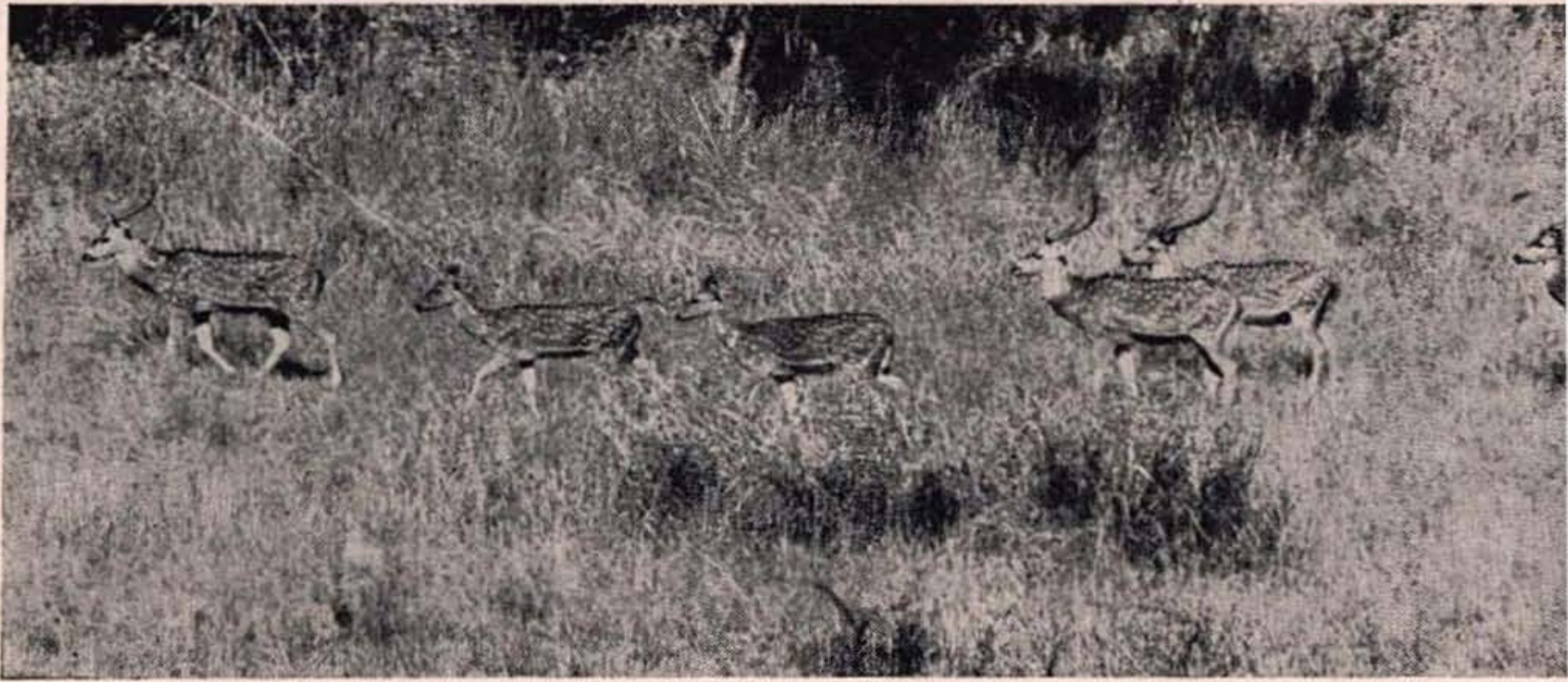
Tiger at rest
Photo: Zafar Futehally



A Gaur herd
Photo: E. P. Gee



Blackbuck in a hurry
Photo: Zafar Futehally



Chital on the move
Photo: E. P. Gee

Park facilities

The nearest convenient railhead is Jabalpur. There is a direct bus at 7 a.m. which reaches Kanha at about 1 p.m. and leaves Kanha at 2 p.m. and reaches Jabalpur at about 7.30 p.m. If for any reason one misses the bus one can either stay at the railway retiring rooms or proceed to Mandla and stay there either in the Forest rest house or the P.W.D. rest house. There are frequent buses plying between Jabalpur and Mandla. From Mandla one can either catch the Jabalpur-Kanha bus or a shuttle service that operates through Kanha.

The nearest airport is Nagpur. Recently Indian Airlines has introduced services to Jabalpur on certain days of the week (subject to change). The road journey from Nagpur takes about 6 hours. There is however no direct bus service. Rest

houses with canteen facilities are available at Kanha. Vegetarian and non-vegetarian, western and Indian style food is available. There are also facilities for dormitory accommodation and camping ground. Independent individual bungalows are also available. Rest houses at Kisli with cooks are cheaper than at Kanha.

Best visiting time for wildlife viewing is from November to March. For photography the best time is soon after the first few showers of monsoon (early June) when fresh grass sprouts and there is greenery everywhere. Animals especially, spotted deer converge on the meadow in large numbers at this time. For reservation of Rooms:

Contact the Field Director,
Project Director, Kanha National
Park, MANDLA, M.P.

S.A.H.

CONSERVATION ACTION

Indian Board for Wildlife

The Indian Board for Wildlife met at New Delhi on February 4, 1978 under its new Chairman, Mr. H. M. Patel, Minister for Finance, Government of India. The Board completed 25 years of conservation activity and policy making in 1977. It has been largely responsible for the increasing awareness and need for conservation amongst the officials of the Central and State Gov-

ernments and for the direction of wildlife protection in the country.

National Park Award

The Kaziranga National Park, Assam won the Chairman, Indian Board for Wildlife's award for the best managed National Park for 1976. The Chief Conservator of Forests, Assam was presented the trophy at the meeting of the IBWL in February this year. But the award for 1977 is awaited.



Co-existence: Rhinoceros and Wild Buffalo
Photo: E. P. Gee

Crocodile Specialist Group Meeting

The Crocodile Specialist Group of the International Union for the Conservation of Nature and Natural Resources (IUCN), Survival Service Commission, met from 6-10 February at the Madras Crocodile Bank in Tamil Nadu, India. The international group of ecologists and wildlife officers reviewed the conservation status of the world's wild crocodilians and discussed programmes for their protection, restoration and utilization.

The endangered plight of the majority of the world's crocodile species continued to cause concern. Particular attention was called to the critically endangered status of the estuarine crocodile (*Crocodylus porosus*) in Australia, Bangladesh and India. Recent surveys suggest that only the wild populations of this species in Papua New Guinea may be free from the threat of extinction. As a consequence, the Group recommended placement of the estuarine crocodile on Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The American Crocodile (*Crocodylus acutus*) and the Argentine and Paraguay populations of Yacare Caiman (*Caiman crocodilus yacare*) were also recommended for transfer to Appendix 1.

The significant steps the Government of India has taken to save from extinction the critically endangered Gharial was noted with satisfaction. The hatching, rearing and release programme developed in

collaboration with the United Nations Development Programme and Food and Agriculture Organisation should assure the survival of the gharial and restore its populations. The Government of India's commitment to saving its other two species of crocodiles, the mugger (*Crocodylus palustris*) and estuarine crocodile (*C. porosus*), and the establishment of five sanctuaries in India for the protection of crocodiles, including the proposed gharial sanctuary on the Chambal river were considered as most encouraging.

The Group noted the successful efforts the United States of America has made to restore the American alligator (*Alligator mississippiensis*) to former abundance. In recognition of the success of these efforts the Group recommended transfer of the American alligator from Appendix 1 to Appendix II of the CITES.

During its meeting, the Crocodile Specialist Group also discussed and demonstrated the latest techniques of surveying crocodile populations; capture and handling crocodiles; the movements, growth, and other aspects of crocodile ecology, behaviour and hide marketing. Considerable time was spent reviewing the success of crocodile farms and propagation programmes in India, Papua New Guinea, the United States of America, El Salvador, Thailand, and in zoos.

Finally, detailed strategy for the conservation of all the world's crocodilians was elaborated and will be



A crocodile smiles
Mugger at Crocodile Bank, Madras
Photo: R. Whitaker

incorporated into the World Strategy for Conservation being developed by IUCN, World Wildlife Fund, and the United Nations Environment Programme.

Participants included Federico Achaval (Uruguay), Patrick Aia (Papau New Guinea), Robert Chabreck (U.S.A.), J. C. Daniel (Bombay Natural History Society, India), Karlhiens Fuchs (West Germany), Ted Joanen (U.S.A.), Wayne King (U.S.A.), Miro Laufa (Papua New Guinea), John Lever (FAO/Papua New Guinea), Federico Medem (Colombia), Harry Messel (Australia) and Romulus Whitaker

(Madras Crocodile Bank, India).

It was unfortunate that none of the Government officials concerned with the conservation of the crocodile in India, who were invited, attended.

National Parks and Sanctuaries

The Secretary, Indian Board for Wildlife reports that currently the country has 15 National Parks and 174 sanctuaries. The 189 wildlife reserves constitute 4.28 per cent of the total geographical area of the country and 18.6% of the total forest area.

A 'Morcha' for trees

In the concrete jungle that Bombay has become one occasionally comes across avenues of old, spreading, rain trees planted many years ago, relicts of a once gracious city. Many such avenues have fallen under the axe of mindless expansion without a voice being raised in protest. It is therefore a gratifying development that destruction of another avenue of rain trees in the suburbs of Bombay resulted in active protest from the local residents many of them members of the Society. They organised a protest march or Morcha to the Municipal Commissioner's Office and were successful in stopping further felling in the area and also in drawing up guidelines for Municipal Ward Officers.

Flamingo of the Rann of Kutch

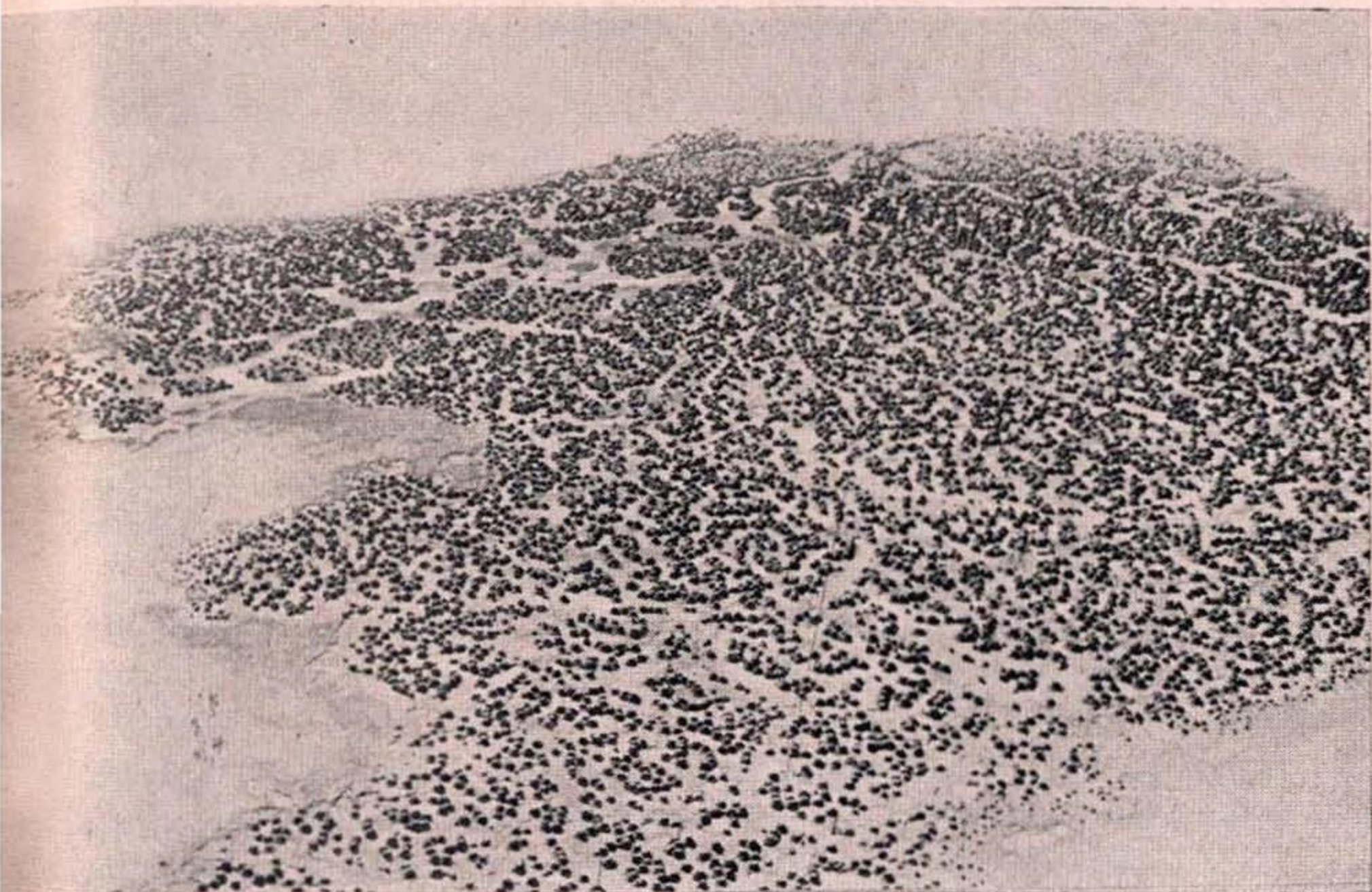
The Rann of Kutch on the extreme western border of India has been a traditional breeding ground of the Flamingo. During the breeding season flamingo converge around an area known as the 'Flamingo City' in the Rann to build nests, lay eggs and rear young. Once the young are ready to fly the Flamingo leave the area and disperse. In the non-breeding season the birds scatter along the entire seaboard of India in small or large groups. There is also some evidence of migratory movements from birds ringed by the Iranian government at the breeding grounds near the Caspian sea and recovered within our limits.



Tribute to Vandalism

Photo: B. Das Gupta

Recently Dr. Sálím Ali accompanied by Mr. M. A. Rashid of the Gujarat Forest Department and Mr. Lavkumar Khacher of the World Wildlife Fund—India participated in an aerial survey of the Rann to find out whether there were any other breeding colonies scattered in the Rann, as has long been suspected from various indications. The survey was carried out in collaboration with the World Wildlife Fund—India assisted by the Indian Air Force. The survey from a helicopter lasted for about three hours covering an area of about 20 to 30 sq. km around the Flamingo City. The birds had finished breeding and



Aerial view of the Flamingo City
Photo: Lavkumar Khacher, (Courtesy: WWF)

had spread out in comparatively small flocks along with their partially grown young. The party also found a large and closely packed concentration of over 200 Rosy Pelicans which appeared to be breeding. It has been recommended that the area should be declared as a sanctuary or a National Park and a strict watch and ward maintained for the protection of the nesting birds. As a corollary of the survey, it is proposed to carry out a detailed study of the movements of these birds by trapping and banding young birds at the conclusion of the breeding season.

FLAMINGO RECOVERIES IN INDIA

Flamingoes ringed as chicks at Lake Rezaiyeh, Azerbaijan, Iran during the period 1971-1974 have been recovered from the following places in India: Sambhar lake and Jhalawan, Rajasthan; Sangareddy, and Kapileshwar, east Godavary, Andhra; Patiala and Amritsar, Punjab; Jamnagar, Gujarat; Chilka lake, Orissa; Kotla lake, near Delhi; and Versova, Bombay.

Trade in munias

The munias in general constitute about 70 per cent of the total birds involved in the live bird trade. The ones traded consist mainly of the following: Red Munia, Green Munia, Blackheaded Munia, Silverbills, Spotted Munia and Striated Munia.

Red Munia. These are also known as Red Avadavats or Tiger Finches and constitute over 40 per cent of the trade when only munias are concerned. They are collected throughout India, especially in and

Punjab	5 centres
Uttar Pradesh	7 centres
Maharashtra	4 centres
Andhra Pradesh	7 centres
Karnataka	7 centres
Tamil Nadu	6 centres
Orissa	6 centres
Bihar	3 centres
Madhya Pradesh	4 centres
West Bengal	10 centres
Jammu and Kashmir	1 centre

Pilbhit, Bhikarpur/
Nepal

Total

around sugar cane plantations and the estimated figures are as above.

Blackheaded Munia. There are two races of distinct coloration involved.

1. Northern Blackheaded Munia also known as Two-coloured Munia, Two-coloured Nun or Two-coloured Mannikin. These are collected from the plains of Assam, West Bengal and Bihar. About 50,000

birds of this race are collected during a year.

2. Southern Blackheaded Munias are known as Tri-coloured Munias, Tri-coloured Nun or Mannikins. Practically 80 per cent of about 3,00,000 birds collected annually are from Tamil Nadu. The remaining 20 per cent are collected from Andhra Pradesh, Karnataka and Maharashtra.

Spotted Munias, Spicebirds, Silverbills or Whitethroated Munias. In the livestock trade the price for

40,000	from December to March
90,000	from March to July
80,000	from April to August
60,000	from April to August
50,000	from May to September
30,000	from May to September
1,25,000	from April to September
40,000	from May to September
40,000	from March to August
40,000	from May to September
15,000	from October to February
25,000	from November to March

6,15,000

Spotted Munia, Silverbills and juvenile Blackheaded Munias is the same. About 5,00,000 of these are collected every year throughout the Indian plains especially in Uttar Pradesh.

The reason of these being grouped together is that the juvenile and drab coloured Silverbills are used in the export trade as 'Printed Finches'. These birds are dyed in dif-

ferent colours as per the request of the consignee and there is no cheating involved on the part of the dealers in India.

Striated Munia. These are also known as Whitebacked Munias, Striated Mannikins or Indian Mannikins. About 25,000 birds are collected mainly from Assam, West Bengal and Bihar, while small quantities are obtained from western and southern India along with Tricoloured Munias.

Green Munias. Also called as Green Tiger Finch and Green Avadavat is an attractively marked munia. It commands the highest price in the trade. At the same time it is the most difficult of the munias to keep in captivity. Around 20,000 birds are collected from Orissa, Gujarat and Andhra Pradesh mainly from forested river banks.

The remaining species and subspecies of munias do not play a significant part in the trade as they are not attractively coloured. So the total number of the different munias collected for the livestock trade amount to about 1,510,000.

The Royal Society for Protection of Birds, United Kingdom, has published two reports regarding the importation of Wild birds in the United Kingdom, namely 'All Heaven in Rage' and 'Air Borne Birds'. The following points are of great importance.

a. It is estimated that a minimum of 5.5 million birds are involved in the annual world trade.

b. In 1967, 1,796,000 and 1968,

4,391,882 birds were exported from India and the percentage to each country constituted as in 1968 is as follows: United Kingdom 2.4%, Belgium 2.3%, France 6.8%, Italy 7.5%, Japan 13.3%, Netherlands 2.2%, U.S.A. 3.8% and others 59.3%.

c. The statistics collected by them nearly confirms the figure of the government from April 1971 to March 1972, total of 72,468 birds exported to the United Kingdom.

d. It gives an average of seed eating passerines which constitute mainly munias ranging from 80.3% maximum to 73.7% minimum in different years from 1970 to 1974 June, which means an average of 77%.

e. It also states: "The importance of the Red Avadavat in the Indian export totals is evident and it seems likely that at least one million birds of the species are exported each year."

From the above statistics given by the Royal Society for Protection of Birds, it may be considered that 1968 was an exceptional year for the number of birds exported from India, while 1967 more or less an average year. So considering approximately 2,000,000 birds are involved in the export trade from India and considering that 90 per cent of the average 77 per cent of seed eating passerines are munias, it certainly appears that between 13.5 to 14 lakhs of munias are involved in the export trade.

S. R. SANE

Mr S. R. Sane who trades in livestock feels that a total ban on the export of munias is unreasonable, for he argues: (i) that "each munia requires about 10 g of seed/food per day in captivity which means a minimum about 30 kg of seeds per bird per year. So if these 1,50,000 munias are not removed from nature the effect it will have on our food production in the coming years will be destructive, as a pair of munias is expected to rear 4 to 6 young each year in nature. They mainly eat millets and paddy. (ii) that "the country gets about 2 million rupees by the

sale of munias plus practically an equal amount by way of air freight in terms of foreign exchange. Even if the Government is not interested in the foreign exchange part, it has to give due consideration to the amount involved in payments made to the collectors who are mainly tribal people and the effect on the financial status of the poor."

"The best solution under the circumstances will be to have a quota system and to export under a floor price. This will have the required effect." — EDS.

O'er the moon

Photo: Rishad Naoroji





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