

HORNBILL

1984 (4)



BOMBAY NATURAL HISTORY SOCIETY

Tiger at Bhandavgarh, Madhya Pradesh

The brooding tiger on the cover was photographed at Bhandavgarh Sanctuary by Mr G. C. Patel, a talented amateur photographer member of the Society. The tigers of Bhandavgarh are more easily seen, we understand, than even the tigers at Kanha. The behaviour of tigers at such well-protected sanctuaries as Bhandavgarh, Kanha and Ranthambore are educative examples of how wild animals respond when they are left alone by man. Though tigers are usually seen by an observer from the safety of the back of an elephant unlike the viewing of lions from the ground, the change in the behaviour of the more elusive tiger is most striking indeed. Such behaviour changes, we believe, would help considerably in the long run in the survival of the species.

There is a certain dignity in the reaction of a tiger to the presence of man. One of us remembers meeting a tiger while seated in a jeep on a road in Kanha. The tiger walked towards us completely ignoring the jeep and its human contents, veered to the verge of the road as it came close to the vehicle without even once looking up at it, and when past the jeep got back to the road and continued on its way. To the tiger the jeep and its human cargo just did not exist — a very humbling experience indeed.—Eds

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

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

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Members receive during a year three issues of the *Journal of the Bombay Natural History Society* now in its 79th volume, and four issues of *Hornbill*, the Society's popular publication.

Journal Editors

J. C. Daniel, P. V. Bole and A. N. D. Nanavati.

Advertisements for publication in *Hornbill* are welcome. Rates: Inside full-page Rs. 500/-; half page Rs. 250/-; back cover Rs. 1000/-.

Annual and other membership subscriptions

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The first annual subscription of members elected in October, November, or December will extend to the 31st December of the year following the election.

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JETASHREE JAVERI



A look at the Society's publications



Lighting the Ceremonial Lamp to usher in the Soccity's Second Century

Photos: G. C. Patel

EDITORIAL

IN MEMORIAM

The dastardly and treacherous assassination of Mrs Indira Gandhi is a grievous loss to the Society and a most distressing loss to the Conservation movement in the country. Mrs Gandhi was indeed a woman for all seasons, so wide and all pervading was her interest in anything that concerned the welfare of the country. She was therefore in the forefront of the Conservation movement, having realised that the protection of our natural resources was essential for the welfare of not only wildlife, but more so, for man.

Very few politicians have the depth of vision she had, and the country has suffered a severe loss in her death. The lead she gave to the conservation of our natural resource

heritage was responsible for the momentum that conservation matters had in India.

To the Society she was a particular friend and a generous patron, even finding time in spite of her multifarious duties to join in the festivities of the Society's Centenary.

At a special meeting of condolence of members and staff of the Society, the following resolution was passed all standing:

The President, Executive Committee, staff and members of the Bombay Natural History Society express their deep sorrow and shock at the despicable assassination of our beloved Prime Minister. Apart from being an



The late Smt. Indira Gandhi at Hornbill House on 15th September 1983

Photo: G. C. Patel



Dr Salim Ali and the late Mrs Indira Gandhi at Hornbill House December 1974

Photo: S. R. Nayak

outstanding leader of this nation and of the non-aligned movement, Mrs Gandhi was also a torch bearer of the Conservation Movement throughout the world. She had a deep understanding of the problems of Conservation in a country like India and of the need to balance development projects with the conservation of natural resources. As the Patron

of the Bombay Natural History Society, her loss will be deeply felt, and as the best homage to her memory the Society rededicates itself to the continuing task of conserving India's natural heritage.

The Bombay Natural History Society extends its heartfelt condolences to all members of her family in the hour of grief.

FEEDBACK

'Parasitic Birds'

This is in reference to Parasitic Birds under Birdwatcher in *Hornbill* 1984 (1). Ramchandran Nambiar's interesting write up can leave lay members with an impression that only "Four species of parasitic cuckoos are found in India" and that Honey-Guides are purely African birds. We have a Honey-Guide in the Himalayas and as for parasitic cuckoos, there are 15 species in 6 genera found within the

political boundaries of the Indian Union. I have tabulated the information for the quick reference of members.

The nomenclature is from the 1st edition of the HANDBOOK. Scientific names of many of the birds have been subsequently changed and these latest changes are to be checked in the 2nd edition of Ripley's SYNOPSIS.

Genus	Species	Parasitic	Non Parasitic
I <i>Clamator</i>	1. <i>coromandus</i>	1	-
	2. <i>jacobinus</i>	2	-
II <i>Cuculus</i>	1. <i>sparverioides</i> +	3	-
	2. <i>varius</i> + *	4	-
	3. <i>fugax</i> +	5	-
	4. <i>micropterus</i> *	6	-
	5. <i>canorus</i> *	7	-
	6. <i>saturatus</i>	8	-
	7. <i>poliocephalus</i>	9	-
III <i>Cacomantis</i>	1. <i>sonneratii</i> *	10	-
	2. <i>merulinus</i> *	11	-
IV <i>Chalcites</i>	1. <i>maculatus</i>	12	-
	2. <i>xanthorhynchus</i>	13	-
V <i>Surniculus</i>	1. <i>lugubris</i>	14	-
VI <i>Eudynamys</i>	1. <i>scolopacea</i>	-	1
VIII <i>Taccacua</i>	1. <i>leshenaultii</i>	-	2
IX <i>Phaenophaeus</i>	1. <i>pyrrhocephalus</i>	-	3
	1. <i>sinensis</i>	-	4
X <i>Centropus</i>	2. <i>andamanensis</i> **	-	5
	3. <i>toulou</i>	-	6
		-	7

Note: * Common or fairly common over much of the subcontinent.
+ Group in a separate genus *Hierococcyx*.

** Though looking very different is also considered a subspecies of *sinensis*.

LAVKUMAR KHACHER

Aggressive Oriole

Hornbill 1981 (1) issue carried a note on the aggressive behaviour of Golden Oriole by Mr Mangesh Kulkarni. He noted that the bird attacked crows, contrary to its usual timidity.

Incidentally while I was in Gharwal in May 1984, I observed a breeding pair of Golden Oriole which had its nest in a medium-sized tree. The oriole's nest was the only one in the tree. The male was quite aggressive and repeatedly attacked a Himalayan Whistling Thrush, a Redbilled Blue Magpie, and a female Maroon Oriole. Other birds breeding in the vicinity were small in size and harmless, Verditer and Paradise Flycatchers. A male Maroon Oriole was seen attacking a Redbilled Blue Magpie, in a different locality. It seems that orioles are not so timid as they are described at least in their breeding season.

NITIN JAMDAR

Head Scratching in Bird

I am collecting information on Head Scratching behaviour in different species of birds. Principally

there are two methods by which birds move the foot upto the head for scratching.

1) *Indirect head scratching*— In this method one wing is drooped or lowered and foot is brought over the the wing to head.

2) *Direct head scratching*— Foot is brought straight upto head without any special movement of wing.

In majority of cases one head scratching method only is characteristic of the species and it's family and it is also of good taxonomical value. It often shows if two species are related, e.g. indirect head scratching shows that oyster catchers, stilts and avocets are more closely related to true plovers than other waders.

I would be grateful if members send their observations with details of time, locality, weather etc. as collective data will lead to interesting results.

NITIN JAMDAR
3, Rocky Hill
Malabar Hill
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A trip to Dachigam and Hygam Sanctuaries in Kashmir

We set off with great expectations on the morning of July 11, 1983 by the Jammu-Tawi superfast express and after a night's halt at Jammu, arrived at Srinagar on the evening of July 13. Before starting on the trip, we had corresponded with Mr Mir Inayat Ullah, the Chief Wildlife Warden of Jammu and Kashmir. We met him the next day to get permission to enter Dachigam, since entry to the park is restricted. Mr Inayat Ullah was very kind and went out of his way to help us.

Our original plan was to visit Dachigam, which is near Srinagar, for six days and then spend five days in the Overa Wildlife Sanctuary, which is near Pahalgam. Mr Inayat Ullah, however, suggested that we visit the Hygam Wetland Reserve instead of Overa. He arranged for a jeep to take us to Dachigam and also made arrangements for our accommodation there. So on the afternoon of July 14 we reached Dachigam.

Dachigam National Park

The Dachigam National Park is situated very near the Harwan Water Reservoir which is about 22 km from Srinagar. There is a regular bus service to Harwan and hence reaching Dachigam is no problem at all.

The park is famous for Hangul or the Kashmir Stag and is also their

last stronghold. The beauty of the park captured our hearts from the moment we saw it. The sanctuary covers an area of 141 sq. km. It is in the form of a long valley bordered on the north and south by towering mountains. The valley is densely wooded with a mixture of coniferous and non-coniferous trees. The Daghwan river begins from the Marsar Lake, deep inside the sanctuary, and flows out at its western end near the gate. The sanctuary is divided into two parts, lower Dachigam and Upper Dachigam. Lower Dachigam covers about a third of the total area of the national park. Marsar lake is in Upper Dachigam as also the grassy Alpine meadows on which the Hangul graze. We did not go to Upper Dachigam as the route was difficult and we were not suitably equipped.

We stayed in the Ranger's Office just outside the gate of the park. The Daghwan river flowed through the backyard of our lodge so we never had any shortage of water be it for drinking or cooking, or just to bathe in its invigorating coolness. We were not sure of the availability of food at our various camps so we took provisions and did our own cooking. This proved to be a wise decision as neither Dachigam nor the Hygam Reserve had any restaurants. Nirkhe acted as our chef, a job he handled very well and

without complaint throughout the trip.

We normally went on an outing in the morning and another one in the evening. We would wake up at around 4.30 a.m. and after a light breakfast would be off by 5.30 a.m. Shirish acted as our alarm clock and woke us daily without fail. In fact, he was better than any alarm clock because he would keep tea ready for us while we tried to shake off our sleep. We were sometimes accompanied on our outings by Craig Johnson and Katherine Broadhead, two British nationals who were studying the ecology of the place. Nazir Ahmed, the assistant in the Wildlife Research Laboratory at Dachigam, had become quite friendly with us and frequently acted as our guide.

We saw about 80 species of birds during our stay. The yellowbilled blue magpie was one of the more flamboyant birds and was quite common though rather localised. One evening, around sunset, we saw a party of them chattering from tree-top to tree-top, their long tails streaming behind them. Some of them had black bills which surprised us a bit. The brilliantly coloured Longtailed minivets stayed high up among the trees and rarely came down where we could observe them closely. The grey tits, the white-eyes, and the whitecheeked bulbuls also showed themselves quite often and occasionally a few Himalayan pied woodpeckers came our way. We spotted a few species of flycatchers but these were not very fre-

quent. The Himalayan cuckoo and the Eurasian cuckoo were sober coloured birds. They were silent most of the time we watched them though, we often heard the call of the Eurasian cuckoo far away.

Most of our outings were along the road to Pahlipura which lay a few kilometres upstream of our camp. Sometimes we crossed over and walked along rails on the other side of the river. On all these outings the Daghwan river was our constant companion. Our route would take us through dense forests with stands of willow, pine and rodhodendrons. We often came across towering poplars whose leaves glistened in the sunlight. The exuberant blossoms of the *Fritillaria imperialis* grew all along the road and cheered us on. The forest was rich with a bountiful supply of fruits. Mulberries were abundant, and so were wild plums, cherries and blackberries. These in fact posed a great temptation to us and hampered our progress so much that we made it a rule to eat them only on the return journey. Nirkhe and Modi, however, could rarely resist the fruit of the mulberry and after gorging themselves for a few minutes their faces would be so smeared with mulberry juice that they looked as black as bears.

Himalayan black bears were the most common mammals that we saw. On our second day itself we made four sightings. The bears we saw were either single adults or mothers with cubs. Once a lone cub crossed our path within a metre



Hangul crossing a stream

Photo: E. P. Gee

from one of us. The cub had obviously been separated from its mother and we wondered what its chances of reuniting with its mother were. The bears just loved plums and mulberries and whenever we surprised them, they would be robbing a tree of its fruit. The concentration of bears in our part of the sanctuary was probably because of the presence of so many fruit trees.

On the evening of our second day at the park, we saw a mother with two cubs perched on top of a tree, all of them busy eating mulberries. The cubs were quite sure-footed and clambered quite easily even among the higher branches. We observed them for almost ten minutes before they took fright and left. The cubs

looked cute and rather clumsy, but we found that they could run quite fast when disturbed. We were wary of them and kept a reasonable distance because their mothers can be rather touchy if they feel that the cubs are threatened.

Once, on the road to Pahlipora, we came across a Yellowthroated Marten moving about among the branches of trees. This animal belongs to the weasel family, and, like the weasel, is quite swift and agile. Among the trees its long bushy tail and its movements gave one the impression of an overgrown squirrel.

After exploring the lower part of the valley we went up the mountain-side behind the sheep farm which



A herd of Hangul in snow

Photo: E. P. Gee

lies to the north of the river. We hoped to see some different species of birds and our guide promised us that we would see bears. According to him, the bears stayed on the hillside throughout the day and descended into the valley at sunset to feed on fruits. On the way we saw a few birds which we had not seen in the valley like the stonechat, the paradise flycatcher, the European bee-eater, and the Eurasian Roller. We also saw a strange variety of pigeon which were dark all over except for a whitish head. We were unable to identify it.

We saw no bears for a long time but we saw something even better. Shirish spotted a Hangul doe and a fawn feeding high up in the moun-

tain. They were quite far away, but no matter, we had seen Hangul at last! We had hardly dared hope for this piece of luck. The Hangul is a creature of the grassy hillsides, and stays high up in the mountains at this time of the year. It is only during winter that the hangul descends into the valley because of the intense cold and lack of fodder, or when an occasional fire burns down the grass on the mountain. We were told that it would be very difficult to see hangul at this time of the year as most of them would be in Upper Dachigam. No wonder we were overjoyed! While coming down we saw a bear going in the same direction as our guide had promised we would.

Two days later, we had a full day outing in the Mahdev mountain which is to the north of the river. The mountains, it must be mentioned, had a very peculiar feature, especially the ones we climbed. The mountains on our side faced south and had ridges on them whose sides faced alternately the east and the west. We found that only those sides of these ridges which faced roughly westwards had many trees on them while those that faced the east had no trees at all. While climbing the mountain, therefore, one was apt to disappear suddenly into dense trees and just as suddenly pop out into sunny grassy meadows.

We climbed a goodish bit before stopping to rest. While we were relaxing, we had the unexpected thrill of seeing a Serow. It was just on the point of entering a patch of tree cover when we spotted it. The Serow is classified under Goat-Antelopes and is not a very common animal. Qasim Wani, the most senior forester at Dachigam claimed that not more than 25 of them exist in the National Park. When it saw us it bounded off at great speed, effortlessly covering the undulating terrain. A few minutes later three adult hangul stags passed by unaware of our presence, very close to where we were sitting. They were large stately animals and had magnificent branching antlers. They too moved about the steep mountainside with perfect ease.

Butterflies were common but not varied. Identification also proved to

be difficult as the only book by Wynter-Blyth was not easy to use.

From our conversations with the guards and the locals, we found that the security situation of the Dachigam National Park has improved dramatically over the past few years. The Hangul were saved from extinction and the sanctuary has regained its eminent position. Yet, there are a few sore points like the grass cutting and the presence of sheep and sheep dogs which should be remedied.

Hygam Wetland Reserve

We left Dachigam on July 21 and went to Hygam. Arrangements were already made for our accommodation at the Forest Rest House. To reach the reserve, one has to take a bus going towards Sopore or Baramulla from the Batmalu KMDA bus stop in Srinagar.

The Hygam Wetland Reserve is a marshland with an area of roughly 10 sq.km. The water is very shallow never being more than five to six feet deep. It is full of a dense growth of reeds. It is virtually impossible to force one's way through these reeds and pathways have been hacked for plying boats.

While we were there, the reserve was full of birds which dwelt among the reeds, namely the Great Indian or Clamorous Reed Warbler, the Little Bittern, and the Indian Moorhen. There were thousands of swallows wheeling about gracefully in the air, hawking insects. There was a large number of Common



Hygam Wetland Reserve

Photo: Sushil Borkar

Kingfishers, but these stayed among the mudbanks rather than in the reeds.

The birdlife at Hygam was not very varied. In winter, however, the reserve is full of duck numbering around seventy to eighty thousand. In fact, in the period between November and March, shooting of ducks is officially permitted. The reeds dry out towards winter and the water level also falls. The remaining reeds are burnt off and the water level raised by bunds to provide a habitat ideally suited for duck.

We moved around in the reserve by means of *kishtis*, the local punt-like boats which had to be poled rather than rowed. Our attempts at navigating these often ended in a splash and provided the locals with an unfailing source of entertainment.

A group from Oxford University was carrying out some research on the birds in the reserve. They did

bird ringing everyday in the morning and evening. They gave us a lot of useful information about the reserve and also taught us how to ring birds. We ringed a large number of swallows and a few common kingfishers and clamorous reed warblers. It was quite an experience to hold these birds in our hands where we could observe them as closely as we wished.

In spite of the abundance of water in the reserve, we had a great shortage of drinking water. There was only one tap in our locality and not a drop of water emerged from it during our stay of three days. We had to filter and boil the water which we took from a nalla before we could drink it. After spending three days in Hygam we returned to Srinagar and arrived at Jammu on July 25.

JAYANT KULKARNI

African Diary

This is the second instalment of the article entitled African Diary, by Rishad Naoroji, and is being continued from p. 6 of Hornbill 1984(3)

—EDS.

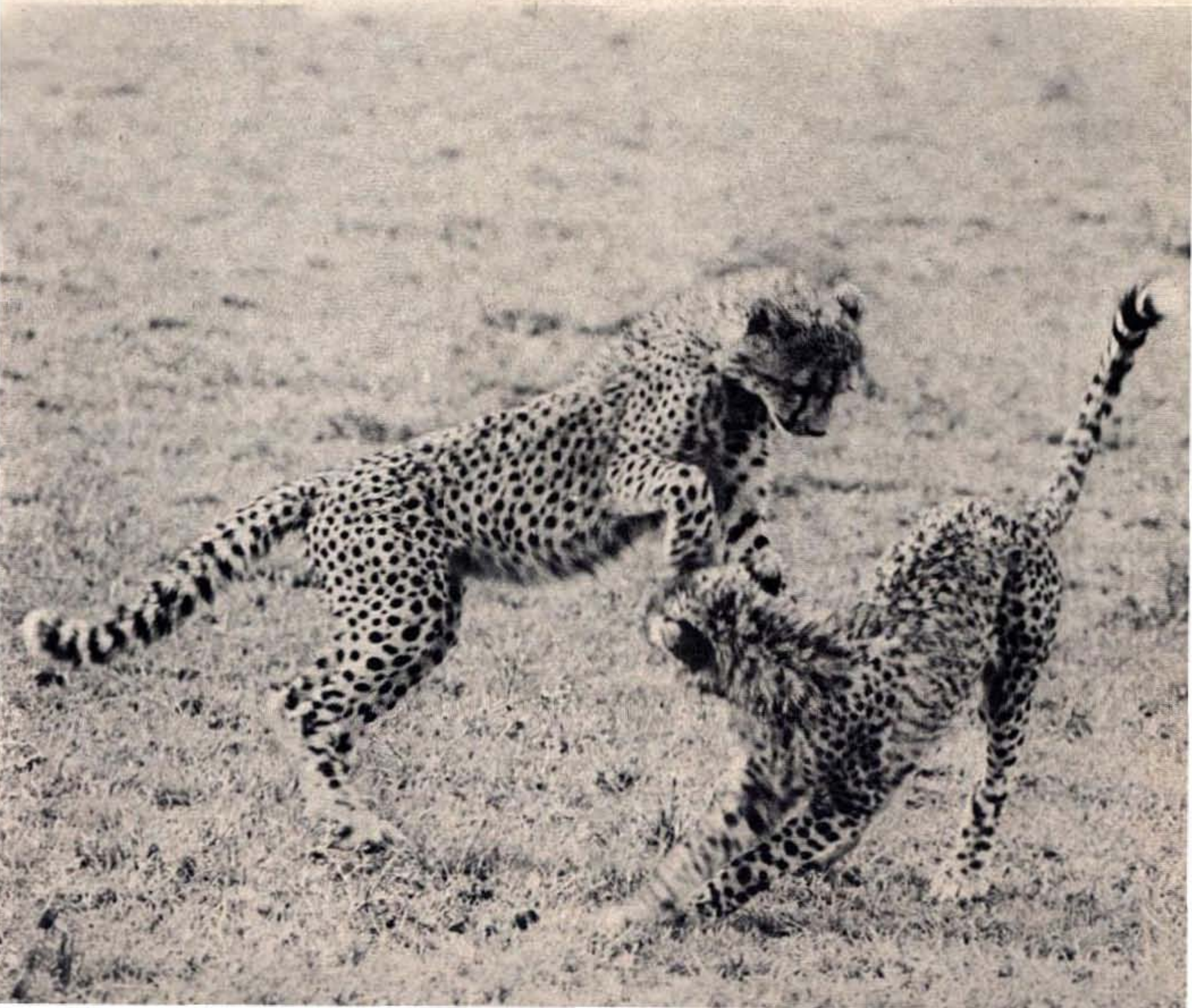
CHEETAHS need no introduction to lovers of wildlife. Their fur, however, is in great demand and during the last decade their numbers have drastically been reduced by poachers even in the National Parks. It would be a pity if this beautiful energetic cat disappears from the face of the earth which could happen in our life time if the ruthless extermination by poachers is not controlled. I for one cannot

visualize a world without the Cheetah which we have already exterminated in India through exploitation of its habitat and relentless hunting. Many so called experts in our country are now talking about releasing Asiatic stock of Cheetahs in India, but are there any viable areas left with an adequate prey population?

1. Two cubs from the same family play together.

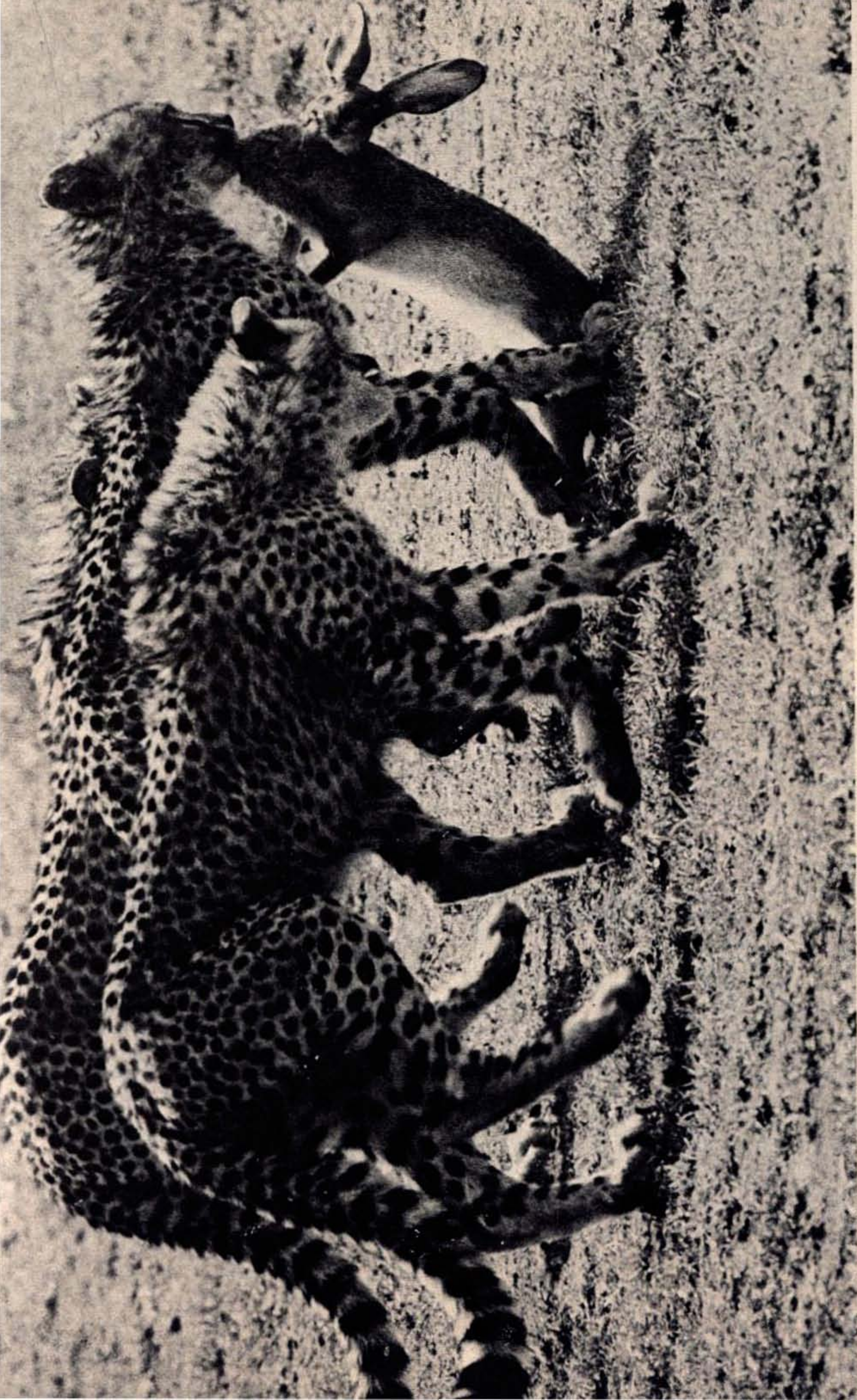
Two cubs from the same family at play

Photo: Rishad Naoroji



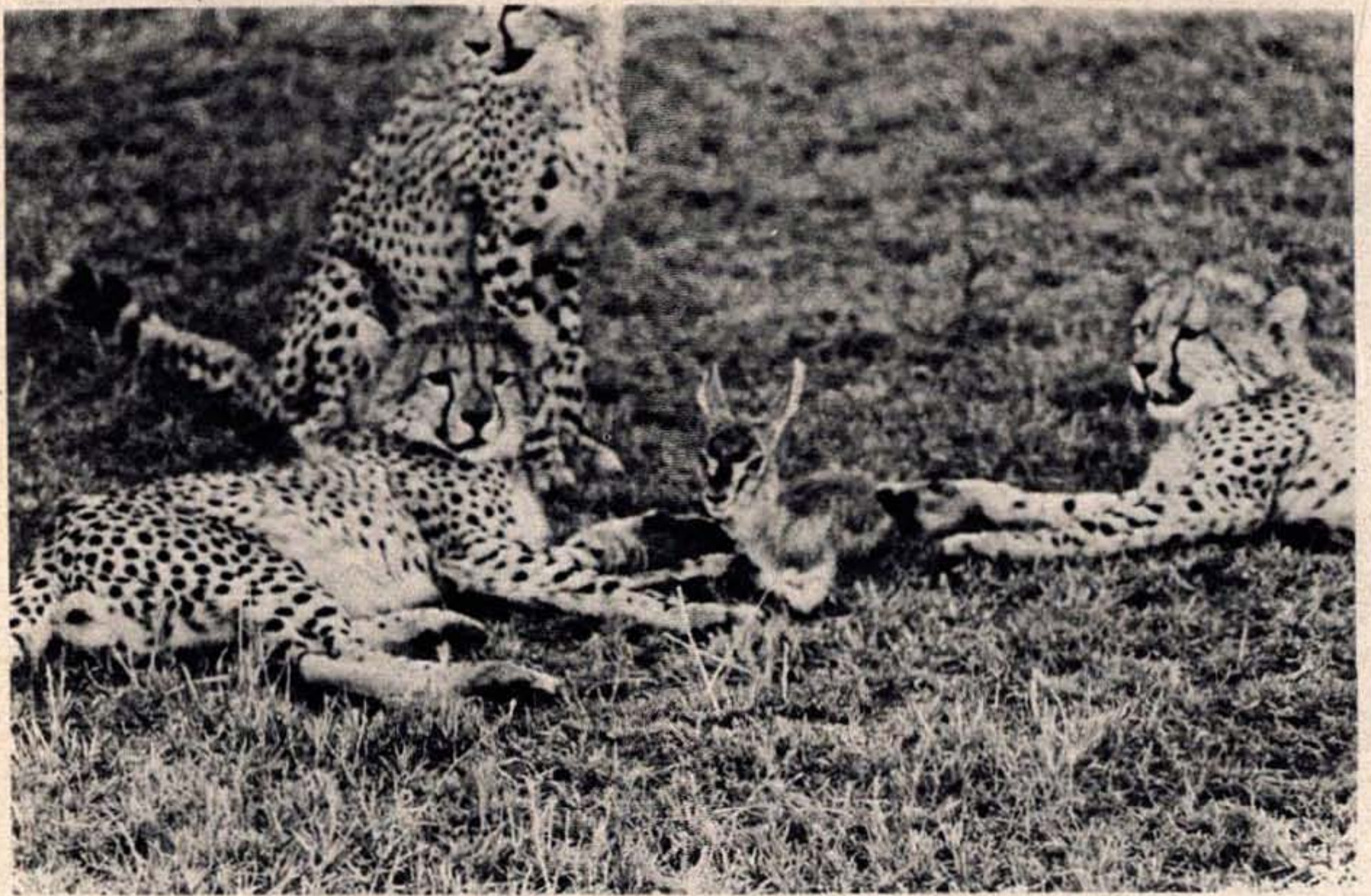


...poised in almost a mirror image position
Photo: Rishad Naoroji



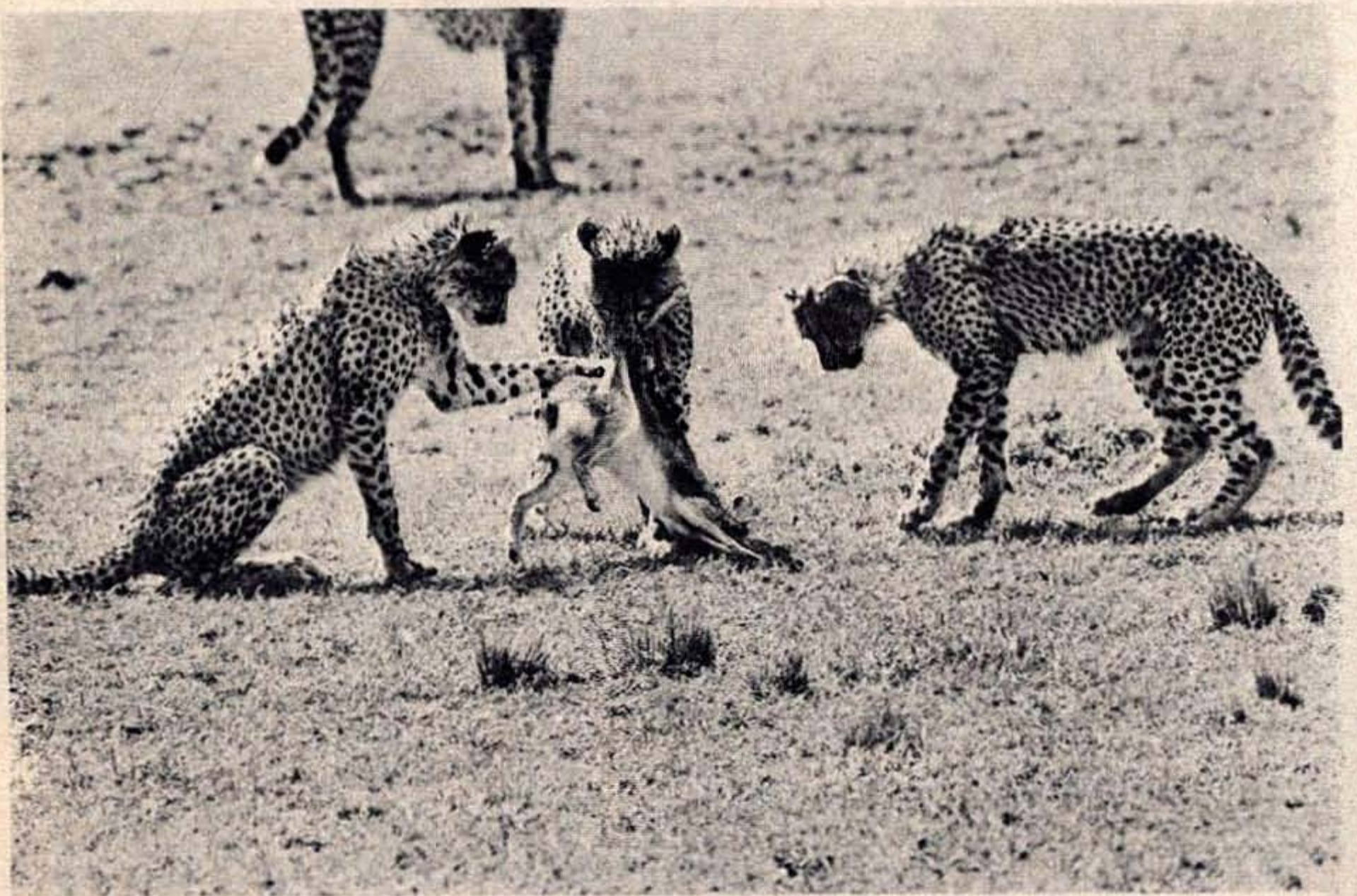
Cheetahs with a hare

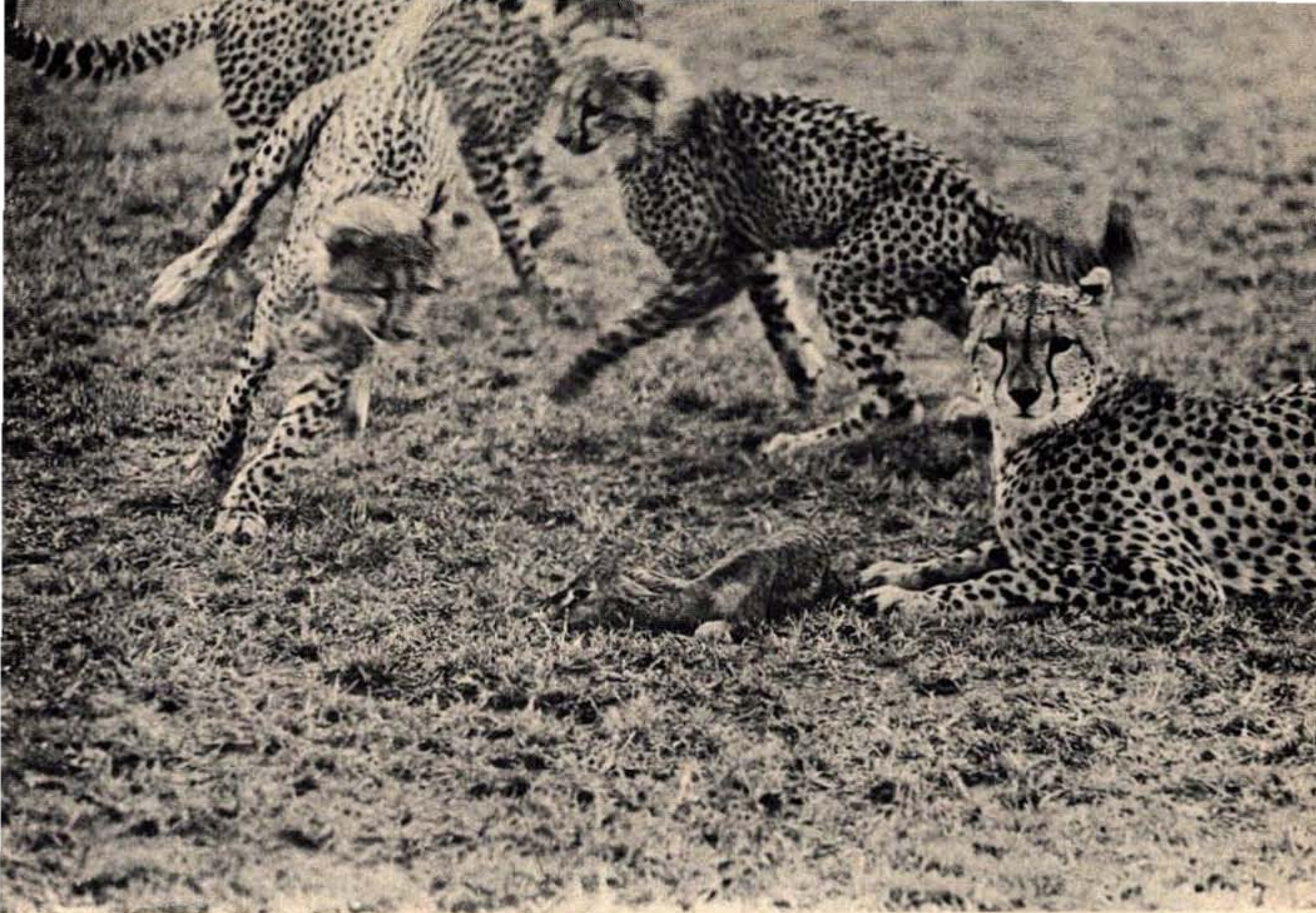
Photo: Rishad Naoroji



Cubs playing with a live Thompson's Gazelle caught by the mother

Photos: Rishad Naoroji





Still playing cat and mouse

Photo: Rishad Naoroji

2. At Musiara in the Mara I followed a Cheetah family (mother and 3 cubs) for a week. The two cubs on their hind feet were photographed seconds before they locked together in playful combat. They are poised in identical positions almost like a mirror image. Taken on Tri-X with a 135 mm lens.
3. One afternoon I watched the female chase a hare over a zig-zag course for about 150 metres before she caught it and raised a cloud of dust in the process. She brings it back for the cubs who stayed put till the chase was over.
- 4&5. The three cubs play with a baby tommy that their mother caught but did not kill. She let them play with it and killed it later at dusk when on seeing blood the cubs voraciously ate it alive (for details *Hornbill* 1979 (1): 18, 19, 21).
6. Each time the baby gazelle made a getaway from the cubs, the mother would retrieve it and wait for the cubs to catch up.

RISHAD NAOROJI

(To be continued)

NEWS, NOTES AND COMMENTS

International Conservationist

The 1982 International Conservationist of the year award of the National Wildlife Federation of U.S.A. was presented to Dr Salim Ali by Mr Edward J McCrea, Vice-President, International Affairs Division of the US Fish and Wildlife Service, at a function organised at Hornbill House. The first non-American to receive this award, Dr Salim Ali, was presented with it for his meritorious contribution to the use and management of the world's natural resources. The trophy portrays a Whooping Crane taking off.

Environment Newsletter

On the World Environment Day, the Department of Environment, Government of India, launched the

first issue of its quarterly newsletter *Paryavaran*. It aims at collating and disseminating information about policies of the Government and describing the projects and plans for environmental improvement and also to bring out the negative aspects of ill-planned developmental programmes.

Paryavaran is issued in English and Hindi.

For details write to:

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International Conservation Award for 1982 being presented to Dr Salim Ali

Photo: G. C. Patel



Tree planting on the Society's land at Goregaon

Photo: S. R. Nayak

Vanmahostava

The picture shows Dr Salim Ali planting a *Banyan* (wad) sapling on the campus of the Society's proposed Centre for Field Research at Goregaon, Bombay, on Sunday, the 15th July 1984. The occasion for the planting was the celebration of *Vanmahostava*, the festival of planting

trees. As it always should be on such an occasion, the three dozen saplings planted were all indigenous. These saplings are being carefully looked after and tended, so that when they grow to maturity they could attract birds for the nectar of their flowers and the berries they put forth.



Lion-tailed Macaque

Photo: E. Hanumantha Rao

The Lion-tailed Macaque in Karnataka

The assessment of the Lion-tailed Macaque population at the International Symposium on the species at Baltimore, U.S.A. in 1982 was about 2000 primarily in the states of Kerala and Tamil Nadu.

Ulhas Karanth on the strength of a field survey covering over 5000 km² in 28 forest ranges of evergreen and semi-evergreen forests in Karnataka estimates the population at over 3000 in Karnataka.

On the basis of the survey he has suggested seven priority areas for conservation, three as National Parks, and four as sanctuaries. Copies of the report 'Conservation Plan for the Lion-tailed Macaque and its rain forest habitats in Kar-

nataka', by Ulhas Karanth can be had from the Department of Ecology and Environment, Govt of Karnataka, Bangalore 560 001.

The Nilgiri Tahr of the Eravikulam National Park

Those among us who had seen Cliff Rice's fantastic photographs of the Nilgiri Tahr he studied at Eravikulam would be happy to know that his dissertation on the species submitted for the Ph.D. degree of the Texas A & M University is now available. The thesis covers the behaviour and ecology of the approximately 400 tahr that live at Eravikulam and particularly the 60 animals he marked with self attaching collars for intensive studies. A remarkable effort in wildlife field studies.



Clifford G. Rice and the Nilgiri Tahr at Eravikulam

Photos: Clifford G. Rice



Plea for information on Butterfly Migration in India

While on a tour of duty in India from 1984 to 1986 it is my intention to review butterfly migration in the subcontinent. Migration plays a very important role in the abundance and population dynamics of many Indian butterflies, but much too little is known about it. The latest summary article would be that of the late Dr C.B. Williams reprinted in the Society's Centenary book 'A Century of Natural History'. Any information, however fragmentary, will be welcome. I shall answer all letters, and all informants will be gratefully acknowledged in the eventual paper.

Much of my own childhood was spent in India (1951-1958) while my father was a United Nations official, and it was at school in the Nilgiri Mountains of Tamil Nadu that I first witnessed massive butterfly migrations. At the insistence of Dr. C. B. Williams I published a paper on migration in the Nilgiris in the Society's *Journal* in 1978, though it was based mainly on the recollections and notes of a fourteen year old boy. Since then I have seen major migrations in Nigeria, Ghana, Kenya, Arabia and Lebanon. The largest migration that a brave soul has dared to estimate contained more than 3,000,000,000 specimens. A marked specimen of the American Monarch is known to have travelled from Canada to Mexico and *back*. Yet virtually nothing is known as to the why, how, when and whereof such an exciting phenomenon.

Readers of *Hornbill* are therefore asked to help by sending in data of

Indian butterfly migrations, including as much information as possible, i.e.

- a) date and place of observation
- b) species involved (specimens would be welcome, even just a wing)
- c) direction of migration
- d) Some indication of how many were involved
- e) weather conditions
- f) wind direction
- g) as much descriptive information as possible

Many members of the Society must have field notes on such events. Not important enough, they think, for separate publication, but important enough to write down. Now is the time to come forward!

Finally a special plea. On August 12, 1983 large numbers of three migrant Indian butterflies were dumped on Oman and the United Arab Emirates by a freak cyclonic system. They seem — as far as meteorological data are concerned — to have originated from somewhere in the Indo-Gangetic plain, though they could have been from further to the south. The species involved were the Striped Tiger *Danaus genutia* (= *plexippus*), the Blue Tiger (*Tirumala* (*Danaus*) *limniace*), and the Large Eggfly *Hypolimnas bolina*. Did anyone, anywhere, see migrations of these in India during the first two weeks of August 1983?

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Megamalai Wildlife Sanctuary

The fresh tracks of the wildboar along the rain-drenched, abandoned bridle path showed that it had gone a few seconds ahead of us. When we caught up with the boar, it was crossing an ephemeral stream 30 metres from us, watched by an adult grey jungle cock in beautiful plumage. Soon after crossing the stream, the boar somehow felt our presence and abruptly turned back. It was a full-grown animal weighing nearly 70 kg with well-developed curved tusks. For a moment it stood still looking formidable with erect mane and then it snorted and ran off into the jungle grunting all along the way.

This incident happened on the evening of 30th October 1983 when I was returning with my research associates to Alagarkoil temple in Srivilliputhur forest range in the proposed Megamalai Wildlife Sanctuary in Tamil Nadu after a brief visit to the endangered grizzled giant squirrel's habitat. As the area had received some heavy showers from the Northeast monsoon the jungle was at its best. Hundreds of variously coloured caterpillars were either looping across the path or hanging from the trees at the end of their silken threads. Insects were flitting and humming everywhere. All these had attracted numerous birds including whitebellied drongos, blackheaded-and golden orioles, paradise flycatchers and the brainfever bird. Crowing of grey

jungle cocks and red spurfowls from many places showed that the area had a high density of these birds. On the wet ground there were tracks of barking deer, wild pig, gaur and elephants. Wild pig diggings were common everywhere. On the nearby hill slope a sambar belled and common langur raised their alarm calls which showed a predator was active. Later when darkness started shrouding the valley a leopard call, like the sawing of timber, was heard in the ravine close to Alagar temple.

The proposed Megamalai Wildlife Sanctuary would include the forest ranges of Kandamanoor, Saptur and High Wavys from Madurai district, Srivilliputhur and part of Rajapalayam from Ramnad district. It will be well over 500 square kilometres and continuous to the Periyar Tiger Reserve on the Kerala side. Creating another sanctuary would mean further loss of revenue to Tamil Nadu Government which has only 12 percent of its land under forests. Nevertheless it confirms the conviction of the Government in wildlife conservation.

Besides the habitat and plant life the four mammals among animal life which would immediately benefit from the creation of this sanctuary are the grizzled giant squirrel, Nilgiri tahr, elephant and the tiger.

The grizzled giant squirrel *Ratufa macroura* is one of the three species

belonging to the genus *Ratufa* occurring in India. It is as big as a common mongoose and has the dorsal surface and tail grey or brownish grey more or less grizzled with white. Different colour phases of the squirrels are also seen.

Once this squirrel had a much a wider distribution occurring in many hill ranges in South India and Sri Lanka. Now in South India it is reported only from four areas, all from this proposed sanctuary. The population estimate of this squirrel by Tamil Nadu Forest Department and Ramnad Wildlife Association is around 200 and half of this occurs in the Alagarkoil valley where the squirrels were mostly observed on trees adjacent to the streams.

Our brief survey showed that the habitat of the squirrel is unique in having two tree species (*Pongamia glabra* and *Terminalia arjuna*) as the numerically abundant species and in the absence of the Indian giant squirrel which is very common in other parts of Western Ghats. Besides we did not see either the bonnet monkey or the common langur, the most common primates in the foothills of Western Ghats.

A rare species is likely to be either highly localized or highly specialized. Grizzled giant squirrel is now highly localized where the dangers from habitat destruction, poaching or disease can easily lead to its extinction.

One long-time objective of this proposed sanctuary should be to

restore the habitat continuity between the four squirrel populations so that inbreeding will not eventually wipe off the localized populations. Before this, capturing and releasing of individuals from one population to another to increase the genetic viability should also be attempted. This attempt, however, should be coupled with radio-telemetry studies otherwise it would be impossible to know what happened to the squirrels introduced from one habitat to the other.

Presently the squirrels in the Alagarkoil valley enjoy good protection against poaching and habitat disturbance. Forest department is vigilant against poachers, and people who come to the temple are persuaded not to disturb the area by carrying transistors or bursting crackers.

The Nilgiri tahr, the only wild goat in South India, is an endangered mammal endemic to the Western Ghats of Tamil Nadu and Kerala although it was formerly found in the hills of Karnataka too. In the proposed Wildlife Sanctuary the major tahr area is around Peimalaimottai (5575 ft) where at least 100 tahr live although the area can very well support 300 animals.

Tahr is adapted to a specialized habitat—grassland on hill peaks and slopes which unfortunately attract hundreds of domestic cattle from the plains where during the dry months forage and water become scarce. Tahr is hunted for meat also.



A female tahr near Peimalaimottai

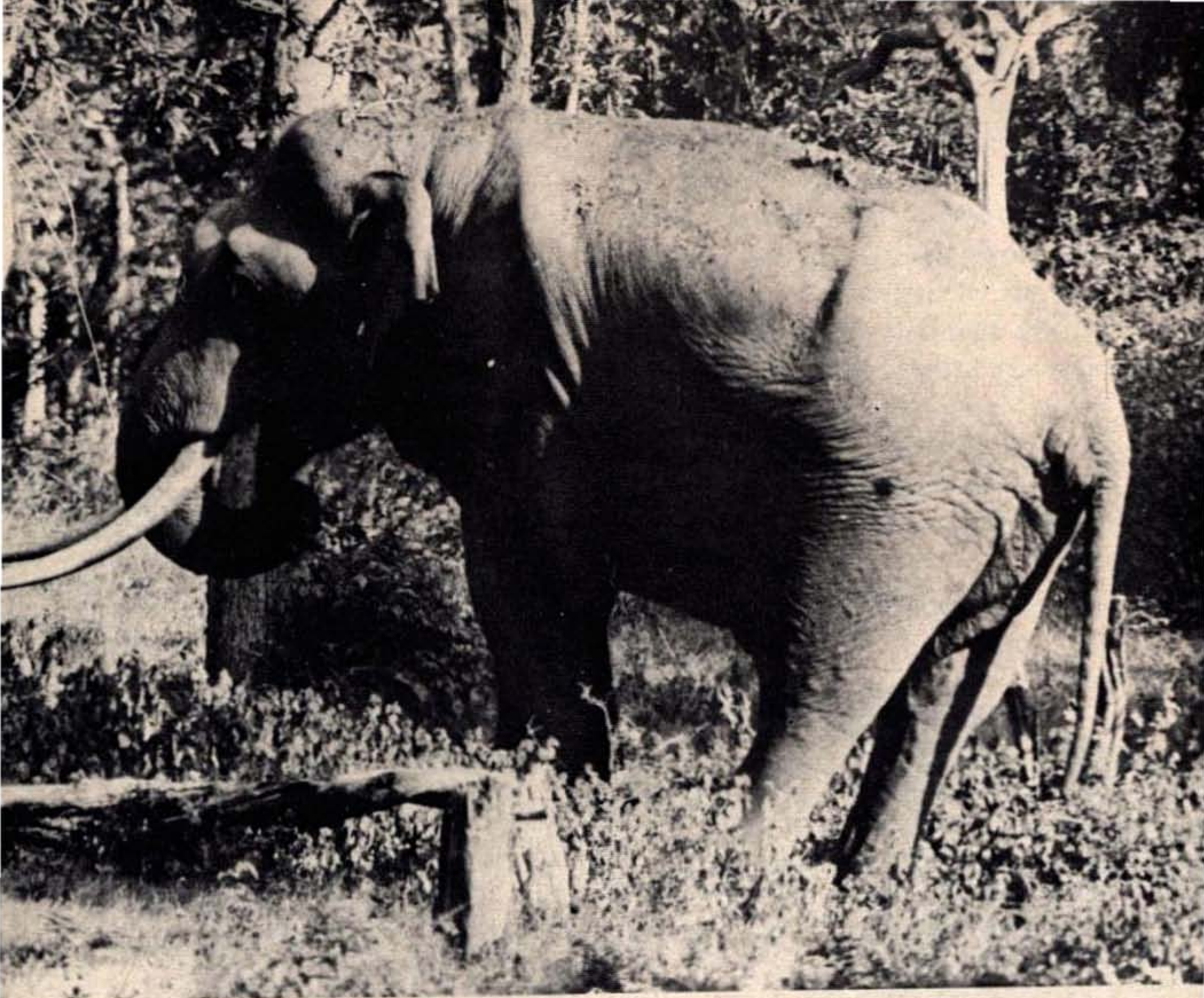
Photo: A.J.T. Johnsingh

During May 1976 when I surveyed tahr around Peimalaimottai I encountered a poaching party with five guns and counted hundreds of cattle which grazed in ideal tahr grazing grounds forcing the tahr to feed on the scanty grass growth on the crags and slopes. Unless the conservation minded politicians of this area lend their full support to the forest department it would be impossible to control cattle grazing in these hills.

Other problems associated with the presence of the cattle are the cattle *pattis* giving shelter to the

poachers and cattlemen serving as excellent informants to the poachers about the movement of tahr. In 1976 I saw the remains of a young tahr eaten by the poachers in a cattle shed. As tahr live in difficult terrain controlling tahr poaching is a challenge. This situation, however, could be improved by making sporadic surprise raids to the tahr country and by keeping a watch on the activities of the tahr poachers in the plains who are indeed very few.

Major dangers threatening the survival of elephant all over its range are habitat destruction and



Good wild Tuskers have a bleak future

Photo: A.J.T. Johnsingh

poaching for ivory. In Megamalai area the presence of numerous cardamon plantations has already fragmented the elephant habitat and it may not be possible for the Government to restore elephants their former habitat in the near future. The problem, which needs urgent attention is poaching for ivory. Elephant experts are of the opinion that biologically ideal sex ratio for elephant population is one male to four or five females. But a elephant census report published in 1980 shows that in Megamalai area the male to female elephant ratio was 1:6. Sincere and sustained pro-

TECTIVE measures, however, can allow the subadult and juvenile tuskers grow and alter the unhealthy sex ratio.

Ironically one major factor which clandestinely encourages elephant poaching for ivory is the policy of the Government which allows importing of African ivory, which in no way can be differentiated from Indian. Many ivory traders can and probably do continue their trade with a stock of imported ivory but actually do their business with a regular supply of poached Indian ivory. Until and unless Government regulates ivory trade it will be im-

possible to control elephant poaching for ivory.

When Project Tiger was inaugurated in 1973 one of its major objectives was to enable the tiger populations in the Tiger Reserves to grow so that the emigrants would gradually restock the adjoining forested areas. If the tiger population builds up in Periyar Tiger Reserve there is every possibility for some of the unestablished tigers from Periyar to settle in Megamalai area. Unfortunately as long as cattle graze in these hills one cannot be optimistic about tigers re-establishing in the proposed sanctuary area. It is ironical that in these hills cattle and tigers do not coexist as the graziers still systematically eliminate the predators by poisoning the cattle kills.

In 1973 one cattle grazier near Peimalaimottai offered me the teeth and claws of a poisoned leopard for sale and in 1979, when I saw two tiger pugmarks — one in Kandamanoor range and the other in Rajapalayam range another grazier

narrated how a tiger narrowly escaped his attempt to kill it by poisoning a cow killed by the same tiger. When asked whether he was aware of the consequences of killing a tiger he said 'yes' and continued that had he been successful in killing the tiger no one would have known about it in such a remote area.

Nature is astonishingly resilient. In Mudumalai Wildlife Sanctuary a fort built by Tippu Sultan is now overgrown with jungle where gaur and elephants feed placidly. In Megamalai area we have an opportunity to aid wildlife and its habitat to come back to their former glory. The best way to allow this happen as early as possible is to help nature by proper habitat management such as building more water holes, by having controlled fires in grasslands and by planting native fruit bearing trees wherever possible. Intensive afforestation outside the forest all along the forest boundary to meet the firewood and timber needs of the local people should also be begun earnestly.

A. J. T. JOHNSINGH

Field Activities in 1983

MEMBERS' ACTIVITIES

Bird count

The monthly roadside count of birds at the Borivli National Park on the third Sunday of each month was continued. The main purpose of the bird counts is to get members interested in bird study and the accurate recording of data. The information collected gave an indication of local movements of birds. Attempts are now being made to teach members the collection of phenology and other environmental data for correlation.

Nature walks

Nature walks were held in various areas of natural history interest around Bombay for birdwatching, vegetation, butterflies study etc. The programme helped in recruiting new members and fostering interest in natural history among members.

RESEARCH AND OTHER ACTIVITIES FUNDED FROM FIELD WORK FUNDS

The field work funds available at the Society supported the following activities.

SALIM ALI NATURE CONSERVATION FUND

- (1) **Blacknecked Crane in Ladakh.** Mr S. A. Hussain, Project Scientist, BNHS, Mr Prakash Gole of the WWF-India, and Vice Admiral M P Awati, IN (Retd), a keen member of the Society visited Ladakh and



Members on a Bird count Photo: G. C. Patel

other areas for a status survey of the Blacknecked Crane.

The Blacknecked Crane is perhaps the only crane in the world having an exclusive distributional breeding range between the altitudes of 3500 m to 5500 m in the tablelands of central Asia, and also an equally unique migratory pattern. Breeding and passage area seem to overlap along a crescentic tangent from Ladakh up to lower hills of northeastern India, skirting the northern faces of Himalayas along the southern approaches of the Tibetan Plateau. The present



Members on a Nature walk

Photo: P. B. Shekar

status of the cranes is based on a series of exploratory forays into Ladakh initiated by the joint BNHS-WWF expedition to Ladakh in 1976 and followed by two more, and a third to their wintering quarters in Bhutan.

The aims and objectives of the present survey were:

- (a) To determine how many pairs of Blacknecked Cranes actually breed in Ladakh
- (b) The breeding success
- (c) Whether it is feasible/advisable to collect eggs for captive breeding, and
- (d) To gather information on the breeding biology and behaviour of the

Blacknecked Cranes in Ladakh.

The evidence so far gathered suggests that the population of Blacknecked Crane in Ladakh has been constant for the past 50 years. One pair each nests in Chushul, Hanle and Tsokar while unmated singletons also visit these areas. There are possibilities of cranes occurring on the southern edge of Tso Morari but definite evidence is not available. It is now obvious that Ladakh is a peripheral breeding ground for the Blacknecked Cranes and larger and more suitable areas exist in the Tibetan plateau.

(2) **Blacknecked Crane Posters.** As a part of the Conservation Action of the species posters of Blacknecked Crane were prepared with an appeal to save these rare birds and were distributed among the armed forces operating in Ladakh. It is proposed to prepare more copies of the posters for distribution among persons living or temporarily located in the habitat of the species.

(3) **Study of Birds in Plantations.** Introduction of commercially useful exotic trees and plantations of these trees in pure stands is a cause for concern as a possible source of environmental degradation particularly for wildlife. Mrs Tara Gandhi has undertaken a study of the numbers and diversity of the avifauna of plantations of cashew nut trees and eucalyptus in the environs of Madras in comparison with a plot of natural vegetation. Her studies indicate that whereas the natural vegetation which is a scrub jungle has an almost constant population, the number of birds in cashew plantation fluctuated being maximum during the flowering season, the eucalyptus plantation is sparsely used by a limited number of birds both in species and numbers. The study continues.

(4) **Wild Buffalo Survey.** Mr H. K. Divekar was given assistance for a survey of the status of the wild

buffalo in Bastar.

One of the most endangered fauna of India is the Peninsular India population of the Wild Buffalo presently restricted to Bastar and nearby areas of Madhya Pradesh and Orissa. The survey by Mr Divekar was negative in results and draws attention to the precarious situation of the species.

SALIM ALI LOKE WAN THO ORNITHOLOGICAL RESEARCH FUND

(1) Mrs K. R. Lalitha submitted her thesis on the comparative biology of drongos (Family Dicruridae, Class Aves) with special reference to ecological isolation, the result of a three year study at Periyar Sanctuary on four species of drongos: the Racket-tailed, the Bronze, the Grey and the Whitebellied.

The study established that coexisting species of drongos have evolved different methods for reducing competition, such as difference in prey size, preferred feeding strata, feeding activity rhythm, speed and distance of feeding flight, breeding habitat, breeding territory and also by winter or local migration. The findings support the principle of ecological isolation of closely allied species.

(2) Mr Shahid Ali continued the study of the Ecology of the

Grey Partridge at Point Calimere in Tamil Nadu.

The grey partridge or francolin (*Francolinus pondicerianus*) one of the five Asian francolins is most widely distributed in the Indian subcontinent. It extends eastwards from eastern Arabia, adapting to several very diversified habitats through Afghanistan, Iran, Pakistan and the Indian peninsula in scrub, cultivation, and edges of light forest. It superficially resembles a medium-sized domestic

chicken, its drab brown plumage barred dorsally with chestnut and wavyly pencilled in black ventrally, not conspicuous till it flies, the robust body, rounded, cambered wings and swift flight, together with its chestnut tail is then diagnostic. A very social species, it forms coveys when not nesting; its various high-pitched ringing calls are typical of the Indian countryside.

- (3) Mr Anwarul Islam from Bangladesh completed his observations on the Ecology of the Laughing Thrushes in the Himalayas and the Western Ghats.

About 30 species of Laughing Thrushes occur in the Indian subcontinent mainly in the Himalayas. However, two species *Garrulax cachinnans* and *Garrulax jerdoni* are endemic to the south Indian hills. An intensive study was made of the ecology of the two endemic laughing thrushes in the Nilgiris (*G. cachinnans*) and Palni Hills (*G. jerdoni*) from May 1982 to mid March 1983 and July 1983 to June 1984. For obtaining comparative data on habitat preference, food and feeding habits and breeding ecology, four months (March-June 1983) were spent around Nainital in the western Himalayas. Four species of Laughing Thrushes, viz. *Garrulax lineatus*, *G. albogularis*,

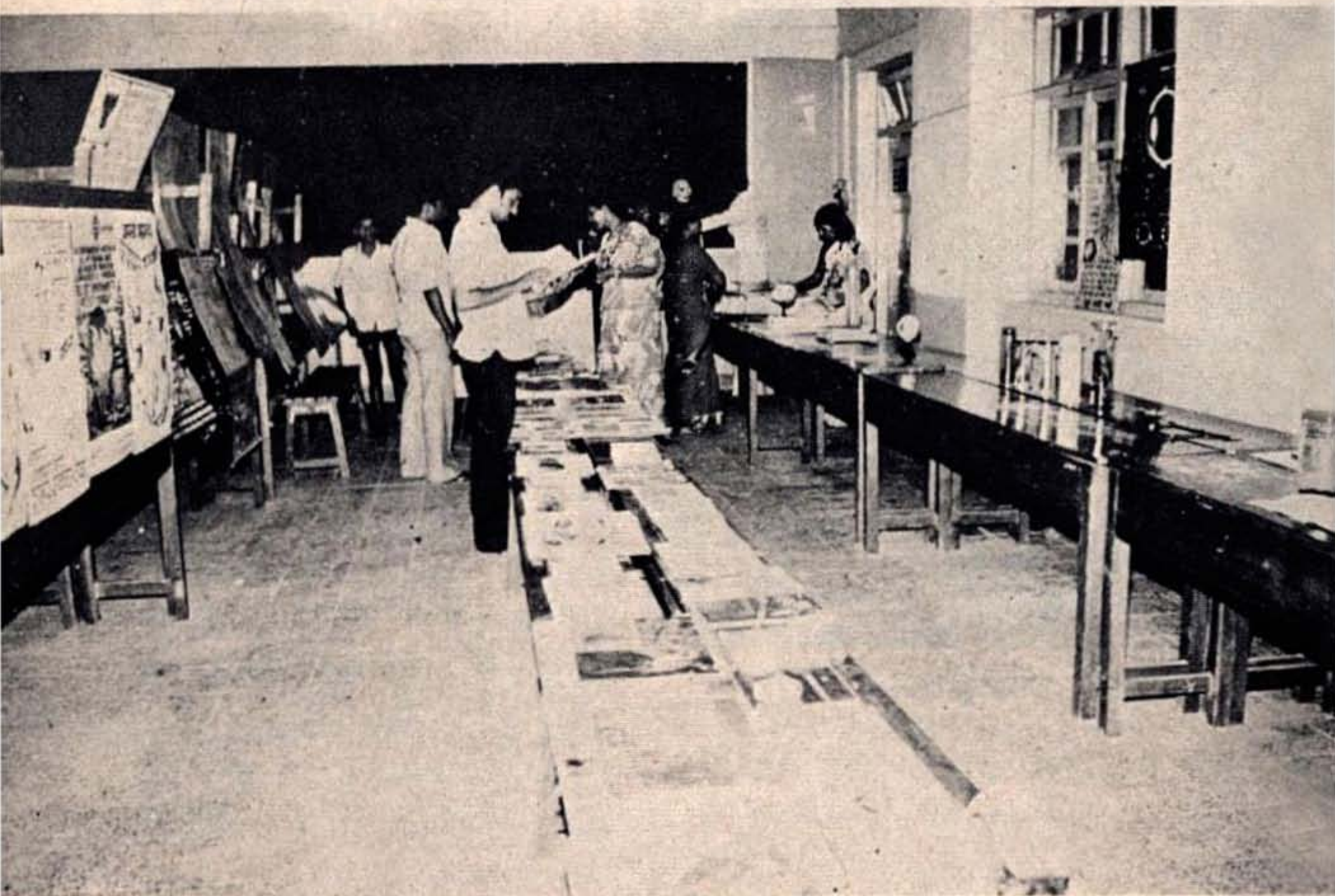


Nilgiri Laughing Thrush
Photo: Anwarul Islam



Racket-tailed Drongo, the subject of a three-year study

Photo: Loke Wan Tho



Exhibition during Nisarg Sikshan Yatra

Photo: Ulhas Rane

G. striatus and *G. leucolophus* were studied in the Himalayas. The study continues.

PIROJSHA GODREJ FUND

Financial assistance was provided to:

(1) Nisarg Shikshan Yatra

The Nisarg Shikshan Yatra or Nature Education Trek was arranged from the 29th October to 7th November 1983 in Raigad, Ratnagiri and Sindhudurg districts of Konkan region of Maharashtra as a part of the Nature Education Scheme for rural areas during the Centenary of the BNHS. Twenty seven volunteers participated in the Yatra (21 members, 4 Lok Vidnyan Sanghatana volunteers, 2 State Bank staff).

Prior to the Yatra, letters were written to schools and social organisations in the region and there was good response from most of them and accordingly arrangements were made.

The volunteers were divided into three groups. One group stayed at the base to arrange the exhibition, demonstrations, sale of books, nature games, slide shows and film shows, while the other two groups surveyed the ecological situation of the region particularly on the hill side and the sea shore area. This included discussions with the local people, forest department staff, timber and coal contractors etc.

The programme at base received very good response



A talk on snakes at Chita camp during Mumbai Vigyan Yatra

Photo: Ulhas Rane

from the villagers. Exhibition and film shows were well attended. Solar cooker demonstrations attracted a large number of people and created a certain amount of enthusiasm.

In addition, an audio visual by Marathi Vidnyan Parishad (specially prepared for women) and a loknatya (drama) by Lok Vidnyan Sanghatana were performed at two places.

(2) **Mumbai Vigyan Yatra**

This educational programme was mainly aimed at teaching nature appreciation to underprivileged children who normally do not have access nor the facilities to learn and appreciate nature. Localities like Chembur, Govandi, Trombay and Parel were chosen where volunteers deputed from various organisations like ours assisted the Mumbai Vidnyan Yatra in this venture.

To make the programme enjoyable while they learnt, information was given often in the form of drama skits, films, slide shows and games. For the first time the children saw the rings of Saturn and also the constituents of human blood. Games like the 'Web of Life' were played to illustrate the interdependence between man and nature. Slides were shown along with demonstration on live snakes. The response received was overwhelmingly en-

couraging.

RESEARCH FUNDED BY GOVERNMENT & GOVERNMENTAL AGENCIES

Studies on the movement and population structure of Indian avifauna

The project carried out bird ringing and related studies throughout the year in its two major field research stations at Point Calimere Sanctuary in Tamil Nadu and Keoladeo National Park in Bharatpur, Rajasthan. Apart from these seasonal ringing stations were conducted in Harike Lake, Punjab, Chilka Lake, Orissa and Kodaikanal Hills in Tamil Nadu.

At Point Calimere a multidisciplinary team of biologists also monitors the carrying capacity of the estuarine ecosystem. This includes weather data, plant phenology, insect population trend and the estuarine/marine organisms, which have a bearing on bird populations visiting the area. The field station has collected, preserved and listed the plant, insect and other biological specimens. This will be the basis for a comprehensive baseline data for the area. So far over 205 species of birds, over 300 species of plants, over 500 species of insects belonging to 16 orders and over 100 species of marine/estuarine organisms have been recovered/collected from Point Calimere.

Over 52,000 birds belonging to over 150 species were ringed and released in the year 1982-83. The



Pt. Calimere-Bird ringing

Photos: S. A. Hussain



Spoonbilled Sandpiper a very rare species from Siberia, was the most exciting visitor to Point Calimere. Five of these birds were ringed during the season and an almost equal number was seen in the area. Another exciting bird was a Curlew Sandpiper which was recaptured at Point Calimere on 29-8-1980 6300 km from where it was ringed at Weribee, Australia on 20-11-1976.

At the Bharatpur ringing station a total of 39,436 birds of about 200 species were ringed and released. Ducks and Coots comprised the largest number. Quite a number of Ducks ringed in Bharatpur were recovered in the USSR. The most exciting recovery was that of a juvenile Reeve which was ringed in Bharatpur on 27.9.1983 and recovered in East Cape Province, South Africa on 2.1.1984, a distance of 8600 km travelled in three months not to speak of the additional 5000 km already travelled from its natal ground to Bharatpur.

We are also having some interesting results from the ringing data obtained at Harike and Chilka. The data will be processed and presented as soon as the analysis is completed.

An Ecological Study of Bird Hazards at Indian Aerodromes

The Bombay Natural History Society entered into the fourth year of its association with aviation through its ecological study of bird hazards at Indian aerodromes. The study is funded by the Aeronautics Research

& Development Board of the Ministry of Defence, Government of India.

The year 1983 has been a year of much activity and our small research team did considerable work in the field and in the laboratory.

Apart from Bombay, Delhi and Hindan, the research team covered four more aerodromes, namely Gwalior (1st stage May-August), Jodhpur (1st stage August-September), Trivandrum (1st stage October) and Bangalore (1st stage, 19th October to 20th November).

We have had very good response from the air force and we have been able to identify almost all the remnants sent to us so far. We still do not receive bird remnants from the civil aviation but we hope this problem can be solved once we get the pilots and others in aviation effectively interested. The guide booklet on identification of problem birds, when published, is expected to help in this direction.

We have been urging Government to take action on recommendations in reports already submitted. It is essential that these be implemented speedily if the hazard from birds is to be eliminated.

ECOLOGY OF CERTAIN ENDANGERED SPECIES OF WILDLIFE AND THEIR HABITATS

Great Indian Bustard. Throughout the year, intensive studies were done at Karera in Madhya Pradesh and Nanaj, Maharashtra on the Great



A flock of Aircraft hazard

Photo: Gautam Narayan



Two male Great Indian Bustards

Photo: A. R. Rahmani



Dr Salim Ali and Dr C.V. Kulkarni discussing fish collection techniques—Hydrobiology Project

Photos: J. C. Daniel



Indian Bustard. Data on the food and feeding habits, movement, display, nesting behaviour, moult etc. was taken and the first annual report of the project based on the work done at Karera and on various surveys was published in September. The birds at Karera start breeding from March, and after this discovery and at our suggestion the Forest Department gave more protection during the breeding season as a result of which six out of nine eggs hatched. Previously, it was thought that the bustards at Karera bred at the onset of monsoon so protection was not available to the hens in summer and consequently most of the eggs were destroyed by cattle.

1983 was a very good year for the breeding of bustards at Nanaj, where their breeding is highly dependent on rainfall. We got some very interesting nesting behaviour data. Nine chicks were added to the Nanaj population of the bustard. Detailed observation of the courtship behaviour was done and some very remarkable photographs of the displaying male were obtained. Copulation was also observed.

A new population of bustards was found in Andhra Pradesh in two places, i.e. Rollapadu and Baganpalli in Kurnool district. After studying the habitat preference of the bustard at Nanaj and Karera (and also in other places), remedial measures were suggested to the Ghatigaon Bustard Sanctuary in Gwalior where due to complete pro-

tection, vegetation had overgrown. Kota in Rajasthan was surveyed and 8 bustard were seen. Nearly twenty places in Maharashtra were surveyed during the monsoon, and we saw bustards in three areas and obtained evidence of their presence from another five places.

Elephant. The Asian Elephant survives in five disjointed populations in India. Though a fairly comprehensive picture of the status and conservation problems of the elephant in India is available, many more studies on the ecology of the elephant in different biomes are necessary to get an overview of the needs of the Indian elephant. The BNHS project is geared to this objective. Work commenced late in 1983 and was primarily confined to training the field researchers in observation techniques, vegetation studies, literature survey, and preparation of project proposals for field studies in different elephant habitats.

The project scientist undertook as a part of the staff training programme a survey of the Mundanthurai-Kalakkad Hills with particular reference to food plants and range of the species and conservation problems. 22 species of food plants were identified and recommendations prepared on elephant requirements.

HYDROBIOLOGICAL (ECOLOGICAL)
RESEARCH STATION AT KEOLADEO
GHANA NATIONAL PARK, BHARAT-
PUR



Grey Heron at Bharatpur

Photo: E. P. Gee

The Keoladeo National Park, at Bharatpur more familiarly known as the Ghana Bird Sanctuary is perhaps, one of the best wetland waterfowl habitats in the world. The project was designed to obtain data on the hydrobiology of the park particularly in relation to the ecology of the waterfowl and the factors influencing the ecosystem. Data was collected on meteorology, hydrology, physico-chemical features of water, primary productivity, planktonology, entomology

(aquatic and terrestrial), ichthyology, ornithology (census of aquatic birds, comparative ecology of residential ducks, ecology of the Sarus Crane, comparative ecology of egrets, heronry, breeding population of the purple and the Indian moorhen, the pheasant-tailed and the bronze winged jacana and the white-breasted water hen; census of land birds), botany (aquatic vegetation, terrestrial vegetation), mammals, etc.

THE SOCIETY'S PUBLICATIONS

The Book of Indian Birds, by Salim Ali, 11th edition 74 coloured and many monochrome plates	Rs. 75.00 (Price to members Rs. 60.00)
A Pictorial Guide to the Birds of the Indian Subcontinent, by Salim Ali & S. Dillon Ripley	(Price to members Rs. 90.00)
A Synopsis of the Birds of India and Pakistan, by S. D. Ripley, 2nd edition	Rs. 100.00 (Price to members Rs. 80.00)
Checklist of the Birds of Maharashtra, by H. Abdulali	Rs. 4.00
Checklist of the Birds of Delhi, Agra and Bharatpur, by Humayun Abdulali & J. D. Panday	Rs. 3.00
The Book of Indian Animals, by S. H. Prater, 4th (revised) edition	Rs. 60.00 (Price to members Rs. 55.00)
The Book of Indian Reptiles, by J. C. Daniel	Rs. 75.00 (Price to members Rs. 60.00)
Identification of Poisonous Snakes, Wall chart in Gujarati and Marathi	Rs. 5.00
Glimpses of Nature in India, in English	Rs. 7.50 (Price to members Rs. 5.00)
Some Beautiful Indian Trees, by Blatter & Millard, third edition	Rs. 40.00 (Price to members Rs. 35.00)
Some Beautiful Indian Climbers & Shrubs, by Bor & Raizada, 2nd edition	Rs. 100.00 (Price members Rs. 75.00)
Grasses of Western India, by Toby & Patricia Hodd	Rs. 50.00 (Price to members Rs. 37.50)
A Century of Natural History, Edited by J. C. Daniel	Rs. 125.00 (Price to members Rs. 95.00)
Glimpses of Nature Series Booklets :	
1. Our Birds, 1 (with 8 coloured plates) in Kannada	Re. 0.65
2. Our Beautiful Trees, 3 (with 8 coloured plates) in Hindi	Re. 0.65
3. Our Monsoon Plants, 4 (with 8 coloured plates) in Hindi and Marathi	Re. 0.80
4. Our Animals, 5 (with 8 coloured plates) in Gujarati and Hindi	Rs. 1.25

Back numbers of the Society's Journal. Rates on application.

N.B. : For outstation orders, packing and posting charges extra at cost.

BOMBAY NATURAL HISTORY SOCIETY

The Bombay Natural History Society is one of the oldest scientific societies in India and has been publishing a journal since 1886, which is recognised throughout the world as an authoritative source of information on the fauna and flora of this subcontinent.

Our members enjoy :

1. A four-monthly natural history journal acknowledged to be the finest of its kind in Asia.
2. A forum for discussing and pursuing all aspects of Nature Conservation and the Environment.
3. A library with many rare books on shikar and natural history unavailable elsewhere, which may also be borrowed by outstation members.
4. One of the finest research collections in India on Mammals, Birds, Reptiles, Butterflies and other forms of animal life. These are available to members for study on the Society's premises.
5. Up-to-date information and advice on birdwatching, wildlife photography and fishing; natural history field trips and information on possible areas for field trips.

In short, the Society offers a range of activities and interests for the scientist, the amateur naturalist, the sportsman, and the lover of nature. Even if you are none of these the Society deserves your support because it is struggling to preserve our natural heritage and to safeguard it for our children.

Please write for a membership form and also introduce your friends to:

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BOMBAY 400 023 (INDIA)

