NEWSLETTER

Wildlife Institute of India

Vol.2 Nos.1&2

EDITORIAL

This issue combines both the nos.1 and 2 and thus covers January to April, 1987. These four months have been very hectic at the Institute with the 8th Diploma Course in Wildlife Management coming to a close. In the next issue, we will bring out a report on the 8th Diploma Course.

This issue highlights the progress of various on-going research projectes of the Institute. Apart from the regular features, "Special Features" - a new section has been introduced in this issue with the hope to make the Newsletter more interesting and to improve its quality. Readers are requested to contribute for this.

Publication of a faculty member is also introduced. All faculty members are requested to give a copy of their publications to the editors for this purpose.

Another request. Please cooperate and send your valuable write-ups and bi-monthly reports by 30th June, 1987.

K. Berkmuller
R.N. Acharya

FROM THE DIRECTOR'S DESK

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The preceding months have witnessed an exciting phase of activities. The main feature of the faculty orientation programme was an intensive tour of the protected areas in Gujarat. Immobilisation of 4 lions in Gir, an insight into the management problems and achievements of Gir and the visit to the Pirotan Marine National Park were the highlights. Another notable happening was the taking up of the management plan exercise for the VIII Diploma Course at Satpura-Bori-Pachmarhi protected area complex in Madhya Pradesh. This was so because the complex had many a lesson for wildlifers - management of one ecounit formed by a National Park flanked by two Sanctuaries, plantation forestry, an irrigation reservoir, problems of forest villages inside the Sanctuary further aggravated by resettlement within the Sanctuary of submerged villages, a high dynamic ecosystem and the latent excellent opportunities of ecodevelopment.

We embanked on putting a national wildlife database engaging Dr. G.S. Rawat and Mr. V.B. Mathur with the FAO Consultant Dr. John Mackinnon. With all the consultants' reports on the National Biogeography Project in, the hectic phase of collation and analysis leading to drafting of the national report has got underway. There was a good response to our call for better participation by State Wildlife Organisations in our training programmes. Interaction with the Karnataka Wildlife Wing and the Principal Chief Conservator of Forests helped in better understanding of each other's concerns both on the research and training aspects. Similar meetings are planned with other states.

The Governing Body has approved the priority criteria and priority listing of wildlife research activities and this enables visualising research projects in a more objective and utility oriented manner. Mr. B.C. Choudhury has since joined as a regular faculty member as Scientist-B.

A highly significant development has been the agreement between the Government, UNDP and FAO to extend our UNDP Project by one year upto June 1988, and this assures continued flow of UNDP inputs towards faculty development and strengthening of training and research activities. The collaborative proposal under Indo-US sub-commission on Science & Technology now awaits the final clearance of Government through the Department of Science & Technology. We do hope that the inputs under the proposal will start later this year.

Dr. J.H. Desai, Scientist-C in addition to sharing faculty responsibility in zoo management and captive breeding will act as the Senior Administrative Officer.

There has been some progress on the tie-up with Saurashtra University for our forthcoming M.Sc. Wildlife Biology Programme. We had a number of scientists visiting us including Dr. Peter Garson (pheasants), Mr. Ajay Desai (wild elephant). A team of women from WWF Pakistan also visited the Institute on their way to Garhwal for looking at people's movement for conservation of environment.

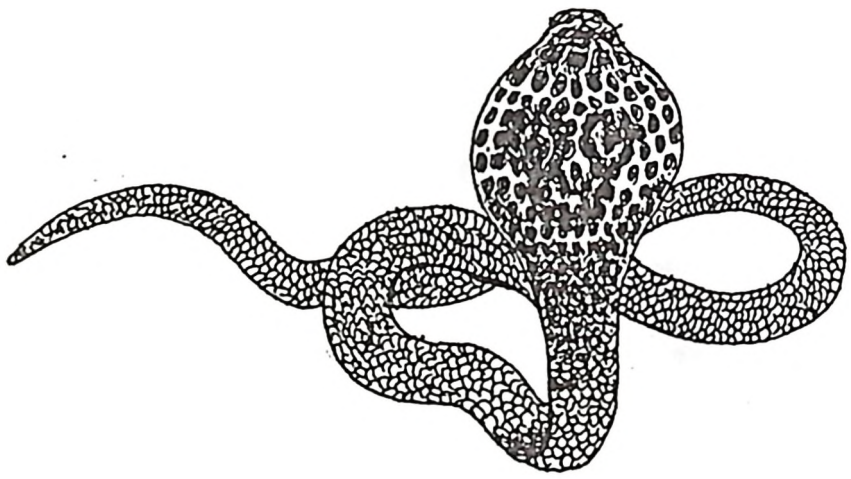
DEVELOPMENTS AT THE INSTITUTE

BLACK COBRA CAPTURED

Mr. V.K. Thakur, Museum Asstt. WII has captured skillfully 1.5 m black cobra from M.F.P. Branch of FRI. The weight of black cobra is 960 gms. The captured cobra has been kept in cage with 4 frogs in the WII laboratory. Since last week the cobra has not eaten any frog which shows the angryness. It is an coincidence that just 2 years back on 24.4.85 at 2.45 p.m. Mr. Thakur had captured a 6 feet common cobra from the Central Soil and Water Conservation office campus and this black cobra has also been captured on 24.4.87 and that too at 2.45 p.m. Last common cobra was restless and angry for 12 days without any diet, thereafter he started taking 2 frogs and one chick daily.

D.K. Sujan

We are looking forward to hearing about the purpose of the capture and the eventual release of the animal.



DATABASE MANAGEMENT REPORT

The Wildlife Database project team led by FAO Consultant Dr. John Mackinnon and accompanied by WII counterparts V.B. Mathur and G.S. Rawat left the serenic and cool setting of the WII computer room to undertake a gruelling field trip to Delhi, Bharatpur, Sariska, Dudhwa and Corbett from 31st March to 15th April '87 merrily facing the heat and dust of the approaching summer. The objective of the visit was to discuss the census and inventory techniques used by the Para staff and to gather data on animal abundance for refining the computer estimates.

Our first halt was at the Indian Institute of Public Administration, Delhi where we spent two days browsing the filled-in questionnaires on the 'All India Survey of National Parks and Sanctuaries' sponsored by the IIPA and WII. We were able to decipher quite a bit of useful basic information on Parks which we hope would satiate the demand of data by our computer to some extent.

We then moved to the Keoladeo National Park, Bharatpur where we witnessed extremely dry weather conditions. We applied the 'Species discovery code' method developed by Dr. Mackinnon to measure the richness of avi-fauna in the Park and collected some interesting data. We had to content ourselves seeing the resident birds as nearly all the winter migrants had left for their homes by that time.

From Bharatpur we moved to Sariksa where also we found animals facing extreme drought conditions. We carried out field surveys to test the effect of time of the day on the distribution of animals along the Sariska - Kalighati road. Although the supreme predator avoided us all through our stay we did see two leopards up on a high ridge.

On 6th of April we undertook a 13 hrs drive to reach Dudhwa from Sariska. We utilized a high proportion of our stay in extimating the abundance of Swamp Deer and Hog Deer in the Dudhwa grasslands. One day was spent watching the feeding behaviour pattern of the reintroduced Rhinos which seem to be pretty well settled in their new home.

From Dudhwa we moved to Corbett along the forest road passing through the Kishanpur Sanctuary and had a sighting of Tiger near the bank of the canal. At Dhikala, we were greeted by a herd of 27 elephants foraging in the grassy plains near the bank of Ramganga river. It was a delight to see the young calves and sub-adult elephants playing football with a huge stone boulder.

We returned to Dehra Dun on 15th of April with a huge amount of raw data which is now being analysed and interpreted. We hope to bring a report of our findings soon.

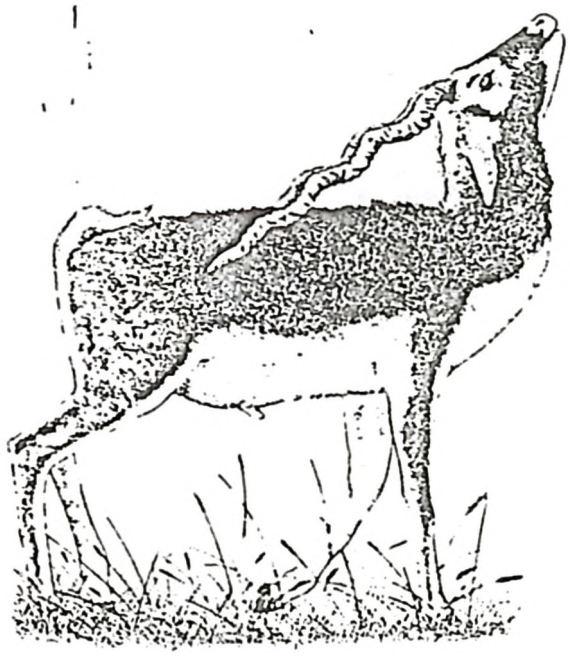
V.B. Mathur

FACULTY ORIENTATION TOUR TO THE PROTECTED AREAS IN GUJARAT

The newly recruited faculty members were taken on an orientation tour to Gujarat from 23 January to 10 February 1987. Dr. John Sale, Chief Technical Adivisor, FAO and Shri H.S. Panwar, Director, joined us at Ahmedabad.

Gujarat is important for wildlife conservation in several respects. It has the only refuge in the world of the endangered Asiatic Lion (Panthera leo persica) and Indian Wild Ass (Equus hemionus khur); main surviving habitats of the Great Indian Bustard (Ardeotis nigriceps) and the known breeding ground of the Lesser Flamingo (Phoeniconaias minor) in Asia; some excellent habitats for the Black buck (Antelope cervicapra) and the first Indian Marine National Park.

We reached Velavador National Park in Bhavnagar District on 25 January. Black buck can be seen very closely in this park. Habitat improvement, development of new waterholes, control on the spreading of Prosopis juliflora and artificial feeding were important topics for the management of black buck population. On 26 January and on the way to Sasan Gir we visited the Hingolgadh Nature Education Sanctuary in Jasdan Taluka. This is a very small sanctuary (area: 7 sq km) dominated by thorny vegetation of Acacia species. Ancient Hingolgadh Fort (about 400 years old - Jasdan Princely State) on the highest hill peak is an important attraction point here.



At the fort, the first Nature Education camp in India were organised by two famous naturalists - Shri Shivraj Kumar Khachar (Former ruler of Jasdan State) and his brother, Shri Lav Kumar. We spent about 2 hours time in Shri Shivraj Kumar's library with an excellent collection of wildlife books. His hospitality and valuable discussion with him are really memorable.

We reached Sasan Gir in the evening on 26 January. The Gir National Park is now the only remaining abode of the endangered species – The Asiatic Lion. The foremost need is to preserve the habitat for this endangered species.

Mr. Ravi Chellam, Research Scholar, WII, working on the Gir Lion Research Project met us on arrival there. Mr. Chellam was very happy to see Mr. Jamal A. Khan (newly joined another research fellow on the Gir Research Project), who accompanied us from the Institute.

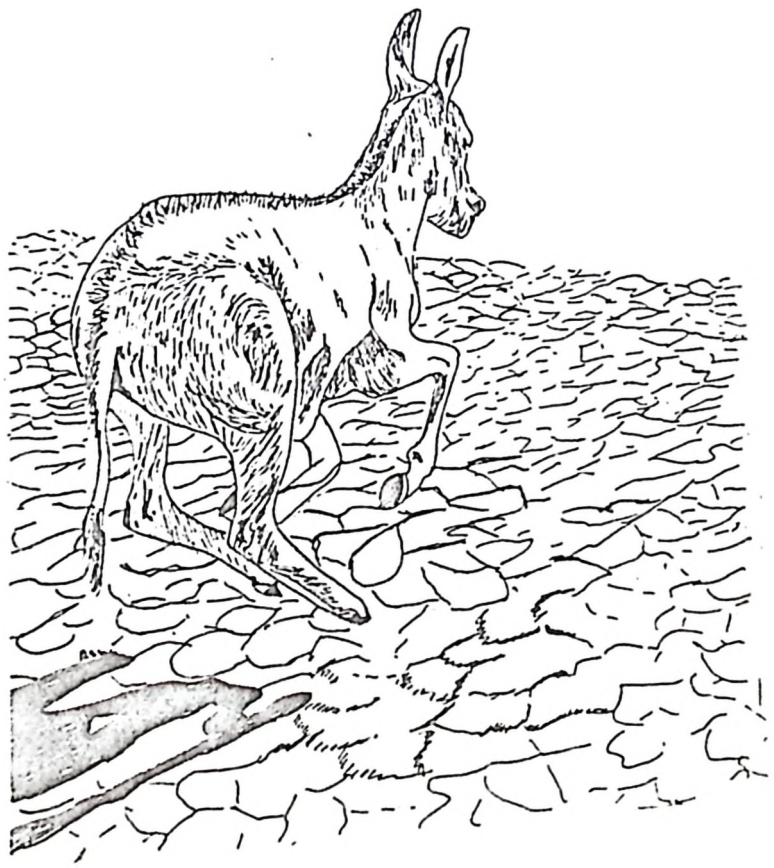
We were able to visit almost entire Gir Forest area. Shri Reddy, CF (wildlife) and Shri Sharma, DCF, both from Junagadh, and Shri Rajpara, DCF; Shri Vohra and Shri Pathak, ACFs, Sasan Gir were very cooperative and they all were with us most of the time during our visit to the Park.

We watched the chemical immobilisation of 4 lions which were radio-collared for the research study. Most of us were exposed to this important technique for the first time.

We left Sasan Gir on 1 February for Jamnagar. On the way we halted for sometime at Rajkot to meet Prof.(s) Pandey and Naik of the Department of Bio-sciences, Saurashtra University.

We were received at Jamnagar by Mr. Wadi, ACF, Marine National Park, who assisted us in reaching the Pirotan Island. We reached the island before sun-rise by a motor-boat.

Around 9 a.m., when the tide was receeding and the inter-tidal zone was exposed, we started walking towards the lowest tide point to observe the marine life in its natural habitat. We crossed long stretches of sandy, muddy and rocky (coral reefs) substratums. Green, brown and red algae, live corals, sea-anemone, octopus, puffer-fish and star-fish were really fascinating. We returned to the island before the incoming high tides. Problems viz., marine pollution, mangroves – endangered and plantation, mining of coral reefs, protection of vast coastal belt, impact of commercial fishing, disturbance by tourism and nature education camps were discussed at Jamnagar with Shri Parmar, Director, Marine National Park.



The next stop was the Wild Ass Sanctuary near Dhrangadhra. About 80 wild asses were seen during 2 consecutive visits to the sanctuary. Based on observations and discussions during the visit, Dr. Sale and Dr. Goyal, jointly proposed a research project on the ecology of wild ass. Our collegue Mr. Sankar was hospitalised at the civil hospital. I returned to Dehra Dun on 11 February after his recovery from a week long sickness. He proceeded to his native place in the South as he was advised by the Doctor for taking complete bed rest.

As Dr. Johnsingh, put it we were weaned on this trip and ready for a "diet" of independent work and responsibilities.

P.K. Mathur

REPORT ON SOUTH INDIA TOUR

Between 18th April and 14th May I visited several places in South India connected with Wildlife research. First place to visit was Mudumalai – Bandipur – Nagerhole wildlife reserves, the best elephant country in India, where researchers from Bombay Natural History Society, my former collegues, are conducting a long term study on elephants. I worked with them for three days in Mudumalai and Bandipur reserves particularly looking at the impact of fire, cattle grazing and elephants on tree regeneration. It appeared to me that inspite of the high elephant density, one elephant per sq km, regeneration of trees can be good if the area is protected from fire and grazing. I also found time to visit Mr. Ullas Karanth, a research colleague of mine, who has started a study on the large mammolian prey–predators in Nagerhole National Park in colloboration with Dr. Mel Sanquist from Gainsville in Florida. This study is being financed by U.S. Fish and Wildlife Service through Govt. of India. Ullas is estimating ungulate abundance and collecting kills and scats of predators in this study area to understand prey–predator relationships. He is making good progress with his study and on 24th morning I walked a 3.5 km long transect with Ullas and we had 19 sightings of ungulates including three elephants.

I left Mudumalai on 26th and reached Madurai on 27th where I met Mr. J.C. Kala, Conservator of Forests, Madurai. Earlier I had written to him about the need for creating Megamalai Wildlife Sanctuary which would give protection to forests east of Periyar Tiger Reserve on Tamil Nadu side. This sanctuary would cover an area of nearly 600 sq km and protect the critically endangered Grizzled giant squirrels whose only large population of nearly 150 animals occurs in this area, Nilgiri tahr, elephants and tigers. Its abutment with Periyar Tiger Reserve further increases the conservation value of this area. Mr. Kala showed me the map and the proposal about the sanctuary which he had prepared for Tamil Nadu forest department. He suggested that now we have to wait for the Tamil Nadu government to act.

I reached Rajapalaym in the evening of 27th and reached the study area of Justus Joshua which is 25 km away, late in the night, by a car kindly provided by Mr. Ramachandra Raja, the Secretary of Ramnad Wildlife Association. I spent four days with Justus working with him in the field and discussing about his study. Justus has some interesting findings. In Grizzled giant squirrels, which he has been studying, the females are larger than males, females raise the litter without the assistance of males, both sexes have exclusive but overlapping home ranges and in the non-breeding season females keep the males away.

One day both of us found time to climb upto the nearby tahr area (3500') where I had gone 11 years ago. As we could spend only the noon there we could not see tahr. However, we saw three elephants and a Great Indian Hornbill on the way.

When I reached Mundanthurai on 3rd April with Justus we heard the bad news that Wesley Sunderraj, the Nilgiri Langur research fellow, had left Mundanthurai the previous evening to see his father who was seriously ill and admitted in a hospital in Madras. Nevertheless we spent five days in Mundanthurai observing Wesley's study troops and discussing with Mr. P. Kaliappan, the new Wildlife Warden of Mundanthurai, who has done a remarkable job by controlling fire wood cutting and cattle grazing which were rampant in Mundanthurai before his arrival. Mundanthurai typifies the problems of many of our protected areas. Nearly one lakh people live in three towns just on the border of Mundanthurai and atleast 500 people eke out a living by cutting wood. Proposals for more hydroelectricity projects, for a road to Trivandrum across the sanctuary, cane, sandal and wild animal poaching and cattle grazing all threaten the sanctuary.

During my recent visit to South India two stark realities were obvious. The pressures on the forests, consequently on wildlife, by cattle, fire wood cutting and poaching are on the increase. In places where we have committed officers they do their best to control these disturbances. Regretfully in places where the officers are indifferent disturbances threaten wildlife. We have every reason to hope that soon the wildlife reserves all over the country will be managed by officers committed to wildlife.

A.J.T. Johnsingh

NEW JUNIOR RESEARCH FELLOW

Mr. D.K. Pande has joined as a JRF in Jackal Project in October 1986, and he is working on "Biology and Ecology of Jackal in Kanha National Park, Madhya Pradesh". Radio-collaring of few jackals has been decided recently for his study purpose.

K. Sankar

LOGO COMPETITION

Invitations to participate in a Logo Design Competition have been sent out to over 150 addressees, 80 of them individuals and the rest design and art schools all over the country. The deadline for submission is April 30. To date 109 entries have been received.

PUBLICATIONS AND CONSULTANCIES

TELEVISION IN INDIA

R.N. Acharya, Scientist,
Wildlife Institute of India, Manas Publications, Delhi. Rs. 120.

Few countries in the world have undergone the kind of communication revolution like India in the recent years. 'Communication for Development' - the working guidelines has been the major logic for acquiring new technologies in communications in the developing and the developed countries. India is no exception. This has led to indiscriminate imports of communication technologies from advanced countries. This situation has arisen because there is as yet no proper policy framework interlining communication, nation-building and promotion of development as a process - the objectives Television in India is looked upon to achieve.

Communication planning has not got an adequate theoretical backing in India. The expansion of TV network as a result has been haphazard, leaving a wide gap between the hardware and software needs and their co-ordinated use. That television has tremendous potential for development and education is above dispute and it has the potential of becoming a sensitive mass medium that is "People-oriented, problem-oriented and development-oriented". This potential cannot be achieved without a sound television policy based on an integrated communication and information perspective with a futuristic view.

The aim of this study is precisely to formulate such a policy framework, with detailed statistical data and by drawing broad contours of the tasks it is expected to perform through analysis of the historical and ideological prespectives amid which it has grown and developed in India.

TRAINING OF TWO ZAIRIANS ON CAPTURE AND DOMESTICATION OF ELEPHANTS

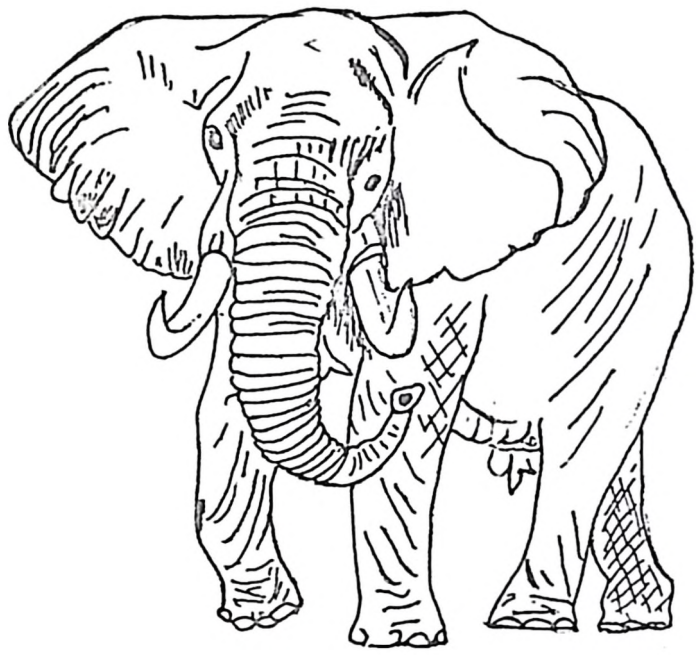
Dr. Bihini Won wa Musiti and Dr. Lulengo K'Kul Vihamba from the Institute of Nature Conservation, Zaire attended Wildlife Institute of India for 6 weeks special training on capture and domestication of Asiatic elephant from 6th March to 18th April '87 under the Indian Technical and Economic Cooperation (ITEC) Programme.

During the first two weeks at Dehra Dun, theory on immobilisation technique consisted of giving a general appreciation of existing capture methods and their applications in India. Advantages and disadvantages of these methods, various equipments, drugs, drug action, their pharmacology, selection of animal and all the emergency care was covered, illustrated by colour slides and field demonstrations. In addition, slide shows were also organised on:

a) Chemical capture of large ungulates, large cats and primates.
b) Chemical capture of elephant as well as their domestication training.
c) Traditional capture methods in India.
d) Immobilisation of African elephant in Tsavo National Park.

The next two weeks tour at Assam and Meghalaya include short stay at Nongkhylam Wildlife Sanctuary in Meghalaya where inspite of our best effort and strenuous search we could not locate and immobilise an elephant and our chances for further attempt detoriated due to severe monsoon rain in the entire north-east India. However, the second part of the programme was successful from Guwahati Zoo where they were explained in details the methodology of training for two African elephants received at the Zoo in 1985.

On completion of this tour they were flown to South India where they were exposed to training and domestication techniques of Asiatic elephants, captive management, including feeding, hygene and veterinary care under the guidance of Dr. V. Krishnamurthy, a senior Wildlife Veterinarian of the country.



At the end of the training, they expressed their sincere thanks and gratitude to the Government of India, including the Ministry of External Affairs, Ministry of Environment, Forests and Wildlife, the Indian Ambassador to Zaire, UNDP and the Director, Wildlife Institute of India for making this South-south cooperation a reality.

K.K. Bhattacharjee

VISITS

VISITS

Senior Lecturer Philip N. Dearden of the Polytechnic Wolverhampton visited the Institute to discuss training opportunities for the new faculty. The Polytechnic offers short in-country workshops on "teaching teachers how to teach" as well as a three month course in England on "teaching methodology for teachers and trainers".

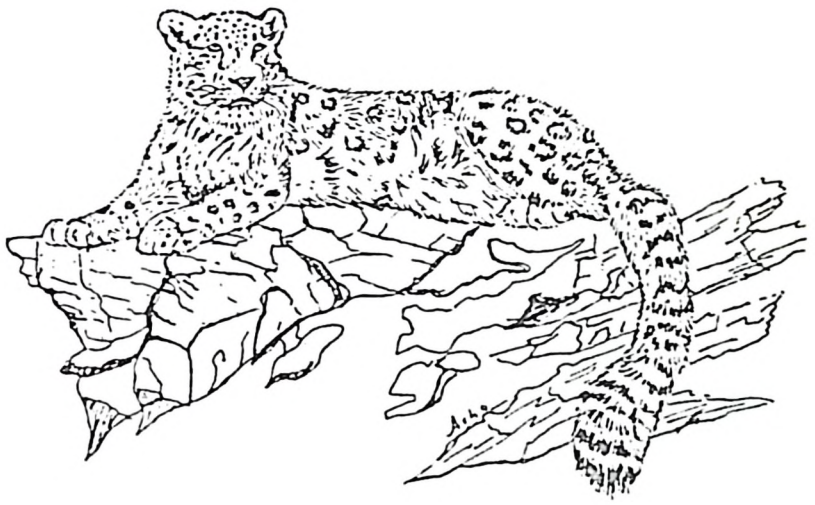
REVIEW OF ONGOING RESEARCH PROJECTS OF THE WILDLIFE INSTITUTE OF INDIA (UPTO FEB. '87)

ECOLOGICAL SURVEY OF SNOW LEOPARD POPULATIONS AND ASSOCIATED PREY SPECIES IN NORTHERN INDIA

Investigators:
Faculty: H.S. Panwar, J.L. Fox of the International Snow Leopard Trust has been associated under the collaborative programme with US Fish and Wildlife Service and accompanied the field team as a Senior scientist.
Research Fellows: S.P. Sinha, P.K. Das and Raghunandan Singh.

The project aims to assess the status of snow leopard population and prey base in selected areas and to develop techniques for assessing habitat qualities related to snow leopard. The study of human dimensions in relation to snow leopard and its habitat on the one hand and local people on the other is also an important object.

A representative biogeographic cross-section of snow leopard habitat in northwestern India was surveyed over a nine month period to determine relative presence of the snow leopard, its prey and to assess the degree and impact of human interaction with these species. The surveys were conducted predominantly at elevations between 3000 m and 4500 m, and included approximately 1100 km along major and minor valley routes, plus another 850 km of side-slope surveys and foot travel to access survey sites. Snow leopard sign was found to be most abundant on the southern side of the Himalaya in Northern Uttar Pradesh and the Pir Panjal Range in Himachal Pradesh. The relative distribution and status of snow leopard as compared with common leopard needs to be more fully investigated in these last two areas. More than 100 km of individual snow leopard tracks were followed in Ladakh, yielding substantial data on movements and habitat use. Snow leopard were found to use habitats closely associated with sharp breaks in terrain such as cliffs and river bluffs. Two observations of snow leopards near villages and numerous interviews with local people have produced some insight into both negative and positive interactions between man and wildlife in the high altitude region of snow leopard habitat.



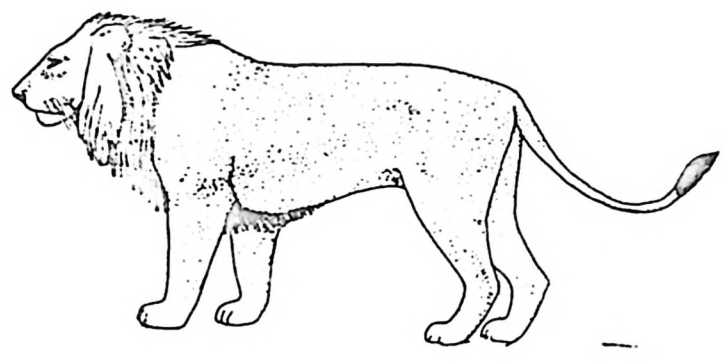
The surveys were conducted in proposed or existing National Parks and Wildlife Sanctuaries, thus making the result applicable in formulating recommendations for conservation location and management in these areas. For example, the consideration given by the Government of Jammu and Kashmir to extending the boundaries of the Hemis High Altitude National Park southward to include the Khurnak catchment as a core area (as recommended in this report) should be instrumental in providing the basis for protection of a good population of leopard. Continuation of high altitude ecological studies stress the comprehensive examination of snow leopard ecology and wildlife - man interrelationships in snow leopard habitat of central Ladakh is recommended for initiation by the Wildlife Institute of India in 1987.

ECOLOGICAL FACTORS PERTINENT TO IMPROVED MANAGEMENT OF THE ASIATIC LION IN INDIA

Investigators:
Faculty: J.B. Sale and A.J.T. Johnsingh
Research Fellows: Ravi Chellam and Jamal Khan

The project objectives are to determine current predation patterns, spatial requirements, abundance and composition of the lion population. Also to assess the effects of management inputs in lion ecology as recommendations.

The project has made good progress under Research Fellow Ravi Chellam since the last report. A number of lions/prides are now identified and their movements in relation to habitat factors are being plotted each time they are located. Distribution is being studied via kill information and the identification of prey in scats - preliminary indications are that domestic stock is still a significant prey item for Gir lions.



In January 1987 four lions were radio-collared to permit intensive study of their movement patterns, predation, and social interaction with other individuals and prides. It is proposed to radio-collar four more lions a little later in the study.

Research on Gir habitat dynamics and utilization by the major herbivores commenced in January as an important adjunct to the lion studies. Research Fellow Jamal Khan is entrusted with this part of the programme, sharing facilities such as transport and accomodation with Shri Chellam. After establishing the characteristics and boundaries of the main habitat types in Gir, annual fluctuations in such factors as the availability of graze, browze, water and cover will be measured. Numbers and distribution of ungulates in relation to these habitat factors will be studied simultaneously, also on a seasonal basis, providing a measure of lion prey availability.

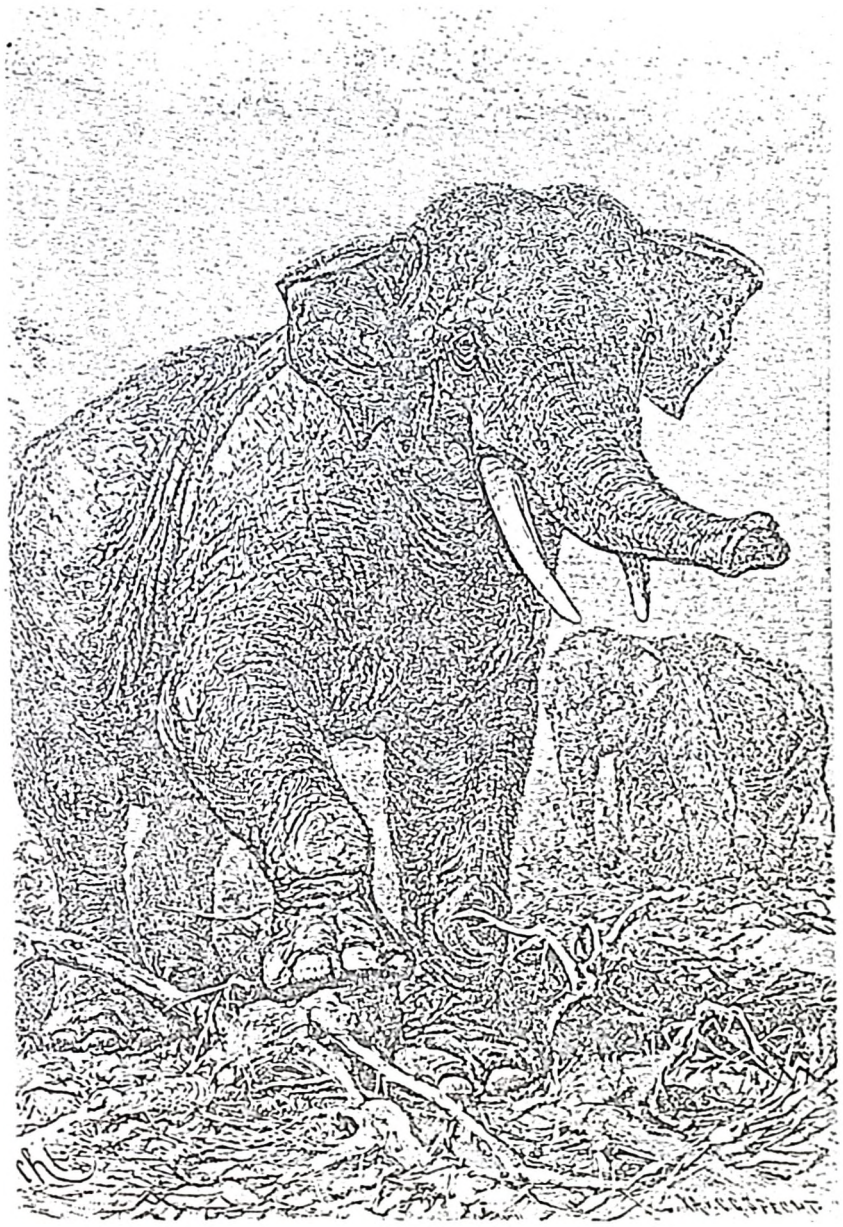
ELEPHANT MOVEMENT IN RAJAJI SANCTUARY (U.P.)

Investigators:
Faculty: J.B. Sale, S. Choudhury (V.K. Verma, Wildlife Warden of Rajaji Sanctuary is also associated).

The project aims to determine the year-round movement patterns of elephants in Chilla, Motichur and Rajaji sanctuaries and contiguous forest areas, to assess the effects of forest management and human activities on elephant population, and to evaluate key habitat factors which influence the pattern of habitat occupance by elephants.

Since the last 6-monthly report a major part of the field work has been confined to the daily tracking of the large bull radio-collared on 13 Jan. 1986. This animal yielded very detailed data on his seasonal movement between a variety of habitat units, diet and social interaction with other males and cow-calf units. For the first time we have continuous detailed observations on the life of wild Indian elephant spanning a whole year. The data covering 325 days of observation are presently being analysed and show some unanticipated movement patterns.

Other aspects of the elephant study, taken up after the joining of the new Research Fellow Shri. A. Khan in Oct., have included progressive individual identification members of the Rajaji/ Motichur population so that records of each of these (15 to date) animals can be built up during the course of the



study extensive monitoring of the movements, habitat use and feeding of non-collared elephants and groups; a survey of the relative use of Rajaji habitat units by means of dung counts and assessment of effects of human activities within the sanctuary on elephant habitat use.

SEROLOGIC AND PARASITOLOGIC SURVEY OF THE GUJAR BUFFALO AND WILDLIFE OF RAJAJI WILDLIFE SANCTUARY

Investigators:
Faculty: K.K. Bhattacharjee

The objective of this project is to determine the presence of infectious diseases and transmission between domestic stock and wildlife in Rajaji Sanctuary.

Collection of faecal samples for parasitological survey amongst Gujar Buffaloes and wildlife at Rajaji is being continued from different forest blocks, so as to cover all the 120 in dual settlements.

In the meantime correspondence with the Indian Veterinary Research Institute and Bombay Veterinary college is underway for necessary assistance in analysing the serum samples for disease antibody tests. Permission from the Chief Wildlife Warden, U.P. is also awaited to carry out immobilisation of 15 wildlife species at Rajaji for serum collection.

ESTABLISHING BASE-LINE PHYSIOLOGIC AND MORPHOMETRIC VALUES FOR CHEETAL

Investigators:
Faculty: K.K. Bhattacharjee

This study will identify sources of variation in physiologic and morphometric values in cheetal and establish baseline physiolographic and morphometric values with those sources of variation.

Since the general health condition of the population did not permit to chemically immobilise the animals for data collection, direct assessment of physical condition on a format was used (modified from Riney 1960) to monitor changes in health conditions.

11 out of 24 faecal samples of this group are positive of liver flukes. The animals were treated and nutritional status improved to proceed with drug immobilisation. In the meantime efforts are being made to acquire and develop the laboratory facilities at the Institute because commercial laboratory are far too expensive. All the hair samples will be analysed at Wadia Institute as and when it is free and made available for our work.

ECOLOGY OF THE ENDANGERED GRIZZLED GIANT SQUIRREL IN SRIVILLIPUTHUR RANGE, TAMIL NADU

Investigators:
Faculty: A.J.T. Johnsingh
Research Fellow: Justus Joshua

The study is being conducted in Alagarkoil valley in Tamil Nadu which holds the major population of (ca. 100) of this endangered squirrel in the country. During March, April and May the entire valley was intensively surveyed to know the vegetation and identify different squirrels in the study area.

The squirrels are largely confined to riverine areas where the canopy continuity is good.

Site fidelity and variations in coat colours have helped identification of squirrels and so far 82 different squirrels have been identified. Five squirrels have been selected to collect information on the daily activities of the squirrels.

During June and July the range of all five squirrels were quadrat mapped (15 x 15 m) with the position of the trees in each quadrat precisely marked. Collection of tamarind fruits by the tribals in July, which led to lot of disturbance frightened squirrels and allowed the research fellow to begin his intensive dawn to dusk behavioural study only in August. During August and September four sets (two each month) of dawn to dusk data were collected on the study animals and thus for each animal 48 hours of data are available.

Data on nests, vegetation, phenology of climber shrub and tree species are also being collected.

ECOLOGY OF THE INDIAN FLYING FOX

Investigators:
Faculty: J.B. Sale and S.P. Goyal

A large colony of the flying fox or the large fruit bat is located at Mathawala in Dehra Dun. Marked seasonal variation in the diet of these bats is of particular interest. The objectives of this project are to study qualitative and quantative aspects of diet, diurnal movement patterns, seasonal variations in body weight and breeding biology.

Monthly counts at the roost were carried out during the reporting period and both the seasonal maximum (September/October) and minimum (January/February) were significantly different from the year 1985/86, suggesting a possible relationship between bat and some fluctuating habitat factor such as food supply. From October 1986 a few animals were collected each month and examined in the laboratory for reproduction status. All adult females were found to be in a similar stage of pregnancy from November onwards. However, no adult females could be obtained during the February collection, when total numbers in the colony also showed a dramatic decline over the previous month indicating a mass migration of adult females from the Dehra Dun locality. Reasons for this sudden shift of adult female members of the population (suspected but not confirmed in 1986) remain obscure but may be concerned with a poor quality of food available in Dehra Dun to meet the increasing demands of pregnancy.

Data was also collected on diurnal activity patterns of the bats (time of departure and return from the roost), as well as indentification of foraging sites.

A second but much smaller colony of Pteropus gigante has recently been located at Herbertpur, 40 km west of Dehra Dun and a preliminary count and sample collection made for comparative purposes.

DEPENDENCE OF LOCAL PEOPLE ON THE LIVING RESOURCES OF THE PROPOSED RAJAJI NATIONAL PARK.

Investigators:
Faculty: Mr. K. Bermuller
Research Assistants: Bitapi Das and Sameer Bhatnagar.

The objectives of this project are to determine type, quantity and the value of the resources obtained by the local people from the forests included in the proposed Rajaji National Park and to estimate as to how the communities depend on living and non-living resources of Rajaji National Park and to devise the alternatives outside the park for these communities.

Permission temporarily withdrawn by U.P. State Government. Report about the work carried out is under preparation.

RAJAJI PEOPLE PROJECT

A draft report on the project will be out in the first week of June. Readers of the Newsletter will remember that the project had been cut short. Although the findings are now based on six weeks worth of field investigations you might find compilations of data which are useful if you happen to conduct research in Rajaji, for instance:

- A summary of locations and size of plantation
- A detailed area statement by range, block and compartment
- Incidences of crop predation
- Areas affected by grazing and firewood collecting

In respect to park management, we have classified seven sections of the Rajaji portion of the park into low, medium, and high priority for action. The classification was based on an assessment of various parameters which indicated pressure and dependency on park resources by the local people.

As regards the general usefulness of the project for protected area management we have the beginnings of a methodology for analyzing park-people relationships in a systematic way. Follow-up projects to test indicators against known baseline values are now being prepared.

illegal felling of timber and poaching threaten wildlife. It should also be noted that Nilgiri langur are severely poached wherever protection is not rigid for the alleged medicinal properties of its flesh.

FOOD HABITS AND RANGING BEHAVIOUR OF THREATENED NILGIRI LANGUR IN MUNDANTHURAI, TAMIL NADU.

Investigators:
Faculty: A.J.T Johnsingh
Research Fellow: Wesley Sunderraj

Objectives of this project are:
(a) to monitor Nilgiri langur troops on the Plateau for the two years to get information on sex and age structure of the population;
(b) to understand the ecological problems to Nilgiri langur living in the disturbed foothill forests; and
(c) to compare the food habits and ranging behaviour of a troop with restricted habitat with another troop with much bigger habitat.

The study is being conducted on Mundanthurai Plateau, Tamil Nadu and is the first long term study on a population of Nilgiri langur living in foothills (200 m above MSL) where disturbances such as firewood cutting,

The Research Fellow had already collected one year's data on the feeding and ranging behaviour of one troop of Nilgiri langur (Tambiraparani troop) even before January 1986 when he was selected for this project. Since selection he has been habituating another troop (Servalar troop) for a comparative study. During March to September period the following have been done:

1. Second year population survey (total count) of Nilgiri langur on the Plateau has been completed.
2. Trails were cut to divide the habitat available to the Servalar group into 105 quadrats, each 25 x 25 m.
3. This study area has been mapped at 1.25 cm = 25 m scale.
4. Enumeration of tree species in 45 quadrats has been completed.

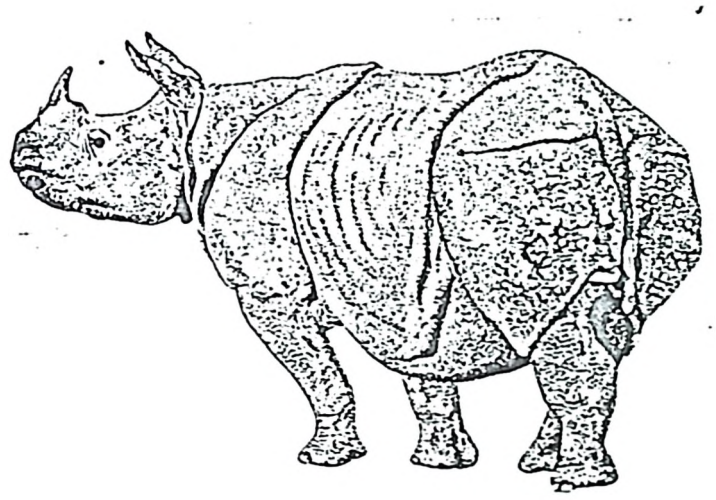
5. Totally 350 trees have been tagged for phenology study in both study areas.
6. Twenty-five quadrats 25 m x 10 m have been marked along the riverine forest to assess the rate of habitat destruction.
7. Has spent 15 days with each troop collecting dawn to dusk data on feeding and ranging behaviour.

The major findings based on 15 days study are:

- Servalar group fed on 80 food items from 55 plant species and Tambiraparani group on 40 food items from 26 plant species.
- The home range of Tambiraparani group for this period was 2.76 hectares and for Servalar group 4.81 hectares.
- The day range length of Mundanthurai troop varied between 610 and 850 m and Sevalar troop between 725 and 1,254 m.

It appears that Servalar troop utilizes more food plants, uses a bigger home range and a longer day range length. We will be able to understand the reasons for this disparity as the study progresses.

The field programme commenced in December 1986, with the establishment of the newly appointed Research Fellow Shri Tariz Aziz at Dudhwa, where he is receiving every assistance from the Park Director including the use of two ridding elephants and a jeep designated for the rhino reintroduction project. Building on the already valuable monitoring work of the U.P. Forest Department, Aziz is expanding systematic data collection on all aspects of habitat utilization by the 7 reintroduced rhinos, as well as behavioural aspects such as social organisation and reaction to other wildlife species. Distribution of the rhinos forms an important aspect of data being collected. Health of the rhinos is also being monitored on a regular basis.



MONITORING OF RHINOCEROS REINTRODUCED IN DUDHWA NATIONAL PARK

Investigators:
Faculty: J.B. Sale and V.B. Sawarkar

The objectives of this project are to set up and maintain at Dudhwa a study of the ecology, behaviour and health of the introduced rhinos in order to monitor these aspects of their adjustments to their new surroundings of such experiments in large mammal reintroduction.

THE INVESTIGATIONS OF THE HABITAT TYPES OF RAJAJI SANCTUARY (U.P.) AND THEIR OCCUPANCE BY LARGE MAMMALS

Investigators:
Faculty: W.A. Rodgers and V.B. Sawarkar

This project seeks to map and describe habitats of Rajaji Sanctuary in terms of their physical characteristics and their value for wildlife. The

appraisal of cover and forage quantity and quality throughout the year is another important component of the project. The project will thus provide baseline data for the long term monitoring of habitat change and habitat utilisation by large mammals.

From Sept. to Nov. 1986 period reconnaissance collection trips were made to Assarori, Mohand, Dholkhand, Bariwada and Kans Rao. More than 200 angiosperm specimens were collected and identified as far as possible and preserved for future references in the WII herbarium. Necessary field notes were also made for different habitats visited. Literature, reference and earlier collection reports on the floristic of this region were studied.

During the Dec. 1986, Jan. & Feb. 1987 period extensive survey were made in Assarori block to collect data on the physical, cover and density value related to habitat type for wildlife in Rajaji Sanctuary. Field trip and survey is going on for same. Data were collected in a computer compatible format and are being analysed to determine floristic community etc.

The Uttar Pradesh study is being started and a list of endangered plants of it is compiled. For further understanding of this region and to consult renowned Botanists working on this region, a study visit to Nainital, Almora, Ranikhet and their nearby forest areas like Kilbey, Vinayak Binsar etc. was undertaken.

Mr. V.B. Sawarkar underwent specialized training for two months at Indian Institute of Remote Sensing (IIRS), Dehra Dun, on 'Short course in Remote Sensing' during November and December. This training will prove very useful in finding existing forest patches and contrasting of proposed conservation sites with its geology and soil.

The bar chart prepared in the previous progress report is not being followed as now the investigators feel that it would be better to concentrate only on two areas viz. Meghalaya and UP hills and do there indepth study (earlier western ghats was also proposed).

The Ph.D. registration formalities have been already done with Garhwal University on the problem 'Patterns of Rarity and Endemism in Flowering Plants in selected Biogeographical Regions of India and their relevance for conservation planning'.

The project was initially approved for two years, but extension has been sought for more year, i.e. from 1 Oct. 1987 to 31 Sept. 1988.

The project is proceeding well, but more slowly than was originally contemplated. This is due to the richness of the endangered flora in the two study areas so far taken up, and the time required to track down synonyms, distribution localities etc.

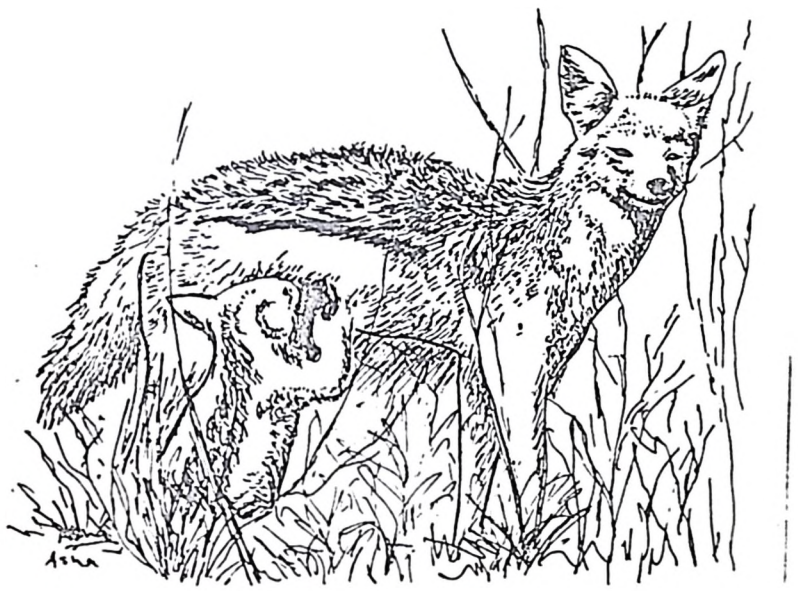
Furthermore, it is recommended that the project concentrate on two areas (Meghalaya and UP Himalayas) and not attempt an even more complex region (Western Ghats) as a third study site. The two areas should be assessed in depth. The suitability of the methods and applicability of general conclusions could then be discussed for other areas rather than additional in depth study.

SPECIAL FEATURES

ECOLOGY AND BIOLOGY OF JACKAL (CANIS AUREUS LINNAEUS) IN KANHA NATIONAL PARK.

Investigators:
Faculty: Dr. P.C. Kotwal, Research Officer (Project Tiger), Kanha National Park.
Associating faculty: Mr. H.S. Panwar, Director, WII.

The objectives of this project are to reveal the causes and to work out possible ways of reducing the incidence of infant predation by Jackals upon



black buck population and to study the biology and ecology of jackal to add to the meagre information available about this less understood species.

NETWORK ENVIRONMENT INFORMATION

Over the last few years, there has been growing emphasis on research in environmental science. But for most part, research in the area is unknown to others. Information on the environment is constantly needed in research and development.

It was in recognition of this that the Department of Environment, Forests and Wildlife, set up the Environment Information Service (ENVIS) in 1982. ENVIS serves the information needs of policy planners, decision makers, researchers, administrators and the public. ENVIS promotes research, development and innovation in the environment field.

Multi-disciplinary subject

"Since environment is a broad umbrella bringing under it a number of multi-disciplinary subjects, ENVIS has evolved a network of institutions and organisations in the country which are engaged in work in different subject areas of the environment", said Mr. Harjeet Singh, Director of Enviromental Education at the Department of Environment, Forests and Wildlife, who is in-charge of the ENVIS programme.

Information collected by ENVIS is used to respond to queries made by the service user. ENVIS also publishes a quarterly abstracting journal Paryavaran Abstracts and a number of other publications on current awareness services.

ENVIS ties into the network of INFOTERRA (An International Referral System for Sources of Information) network of the United Nations Environment Programme (UNEP).

INFOTERRA provides referral sources on the environment from a global computerized file of 10,000 sources in response to specific queries from national and international users.

ENVIS centres act as nodes in this network establishing a data bank on some selected parameters. Apart from this, these centres supply referral and substantive information to both the national and international users of the network. The centres also help in the creation of computerized bibliographic databases for information storage, retrieval and restrospective searching of refernces. Databases on 'Indian Birds', 'Land Use Patterns' in various states are among the few that have been created. Others are a bibliographic database on environmental literature; one on the Flora of India and another on Environmental Health.

ENVIS centres currently established cover work in areas of water and air pollution control: toxic chemicals; coastal and offshore ecology, remote sensing, environmental mapping and Eastern ghats; Environmentally Sound and Appropriate Technologies; Eco-Toxicology Bio-degradation of Wastes, Environmental Systems Analysis; Renewable Energy and Environmental; NGOs, Media and Parliament as related to the Biological Diversity; Environmental Management etc. related to Madhya Pradesh and, Occupational Health.

Abridged version of a
special CEE bulletin

LEOPARDESS WITH CUBS : CAPTURED IN SUGARCANE FIELD - RELEASED IN GIR SANCTUARY

Late on a cold winter night someone came knocking on my door to deliver a small wooden box with three leopard cubs in it. Apparently labourers harvesting a sugarcane field outside Gir lion sanctuary had chanced upon three, 6 week old leopard cubs - and their mother - who bounded away. The cubs were all females and they had just opened their eyes. How to get mother and cubs together again in a safe place was my first thought.

The day after we, that is ACF Vohra, shikaris and myself went to the field to investigate and devise a plan to capture the mother. That evening we placed a cage trap with a goat bait inside in the harvested sugar field. The leopardess came at night, and mauled the bait from outside the cage.

In the evening of the next day we brought a second cage, left the cubs inside it and pushed the first cage with the bait up against it. We all fervently hoped that the maternal instincts of the leopardess would overcome her fear and suspicion. The discomfort of sitting out in the open in the cold of the Saurashtra winter was rewarded when sometime after 10 p.m. the leopardess came for the cubs and killed the bait. Unfortunately the trap door trigger failed to work and the leopardess entered and left the cage several times. The subsequent capture attempt took longer. Just before dawn we heard the door crash down. The leopardess was trapped.

The DCF instructed us to the release the cat in the central region of the park in a riverine tract. It was late afternoon. The cage was unloaded at Buatheerath, the chosen spot, and positioned under a large tree. A long rope was thrown over a branch of the tree and attached to the trap door so it could be opened from a safe distance.

Then we released the cubs. Initially the leopard mother treated these with in-difference but after a while accepted all three who hungrily sucked. The leopardess took her time to move out but eventually disappeared into the adjoining bush. Till well into the

night she did not reappear, perhaps deterred by the presence of people. We finally decided to leave the cubs in the wooden box locked inside the cage for the night. It was New Year's Eve.

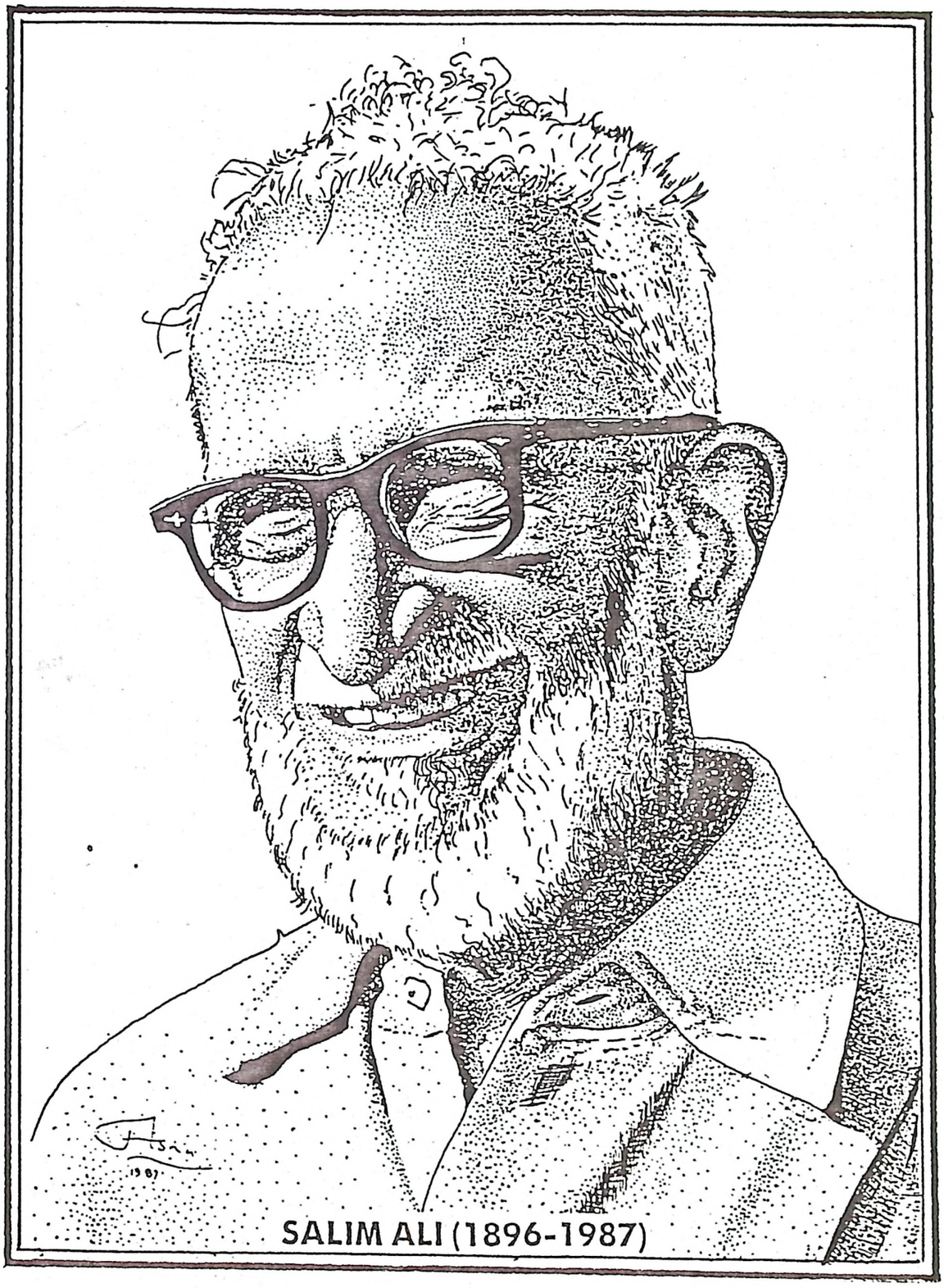
Early next morning, before sunrise we were surprised to see the leopardess sitting next to the cage. She had not even bothered to eat from the dead goat which was laid outside. Immediately we chased her away and freed the three cubs from the box. By sunrise we were over-enjoyed to note that she had taken one cub and two were left behind. As the day became hot we took the two cubs into shade, and fed them with diluted cow milk. The plan was to release the cubs again just before dusk.

Langur alarm calls woke us from a much needed nap just before 4 p.m. A leopard on the prowl? Immediately we released the cubs and settled down to observe. Fifteen minutes later a leopard crossed the river and I recognized her as the released female from her facial injuries (sustained during capture). By 8 p.m., she had not yet picked up the remaining two cubs and we were getting worried. By sheer coincidence I switched on my spot light half an hour later and I saw the leopardess picking up a cub.

We kept checking every half an hour and by 10.30 p.m. the remaining cub and the dead goat had been taken. Maternal instinct had triumphed over odds. It had taken five days of hard work and four sleepless nights (including New Year's Eve) in the freezing cold for the happy end to come to pass. Yet, none of us, I am sure, would have exchanged the comfort of a warm bed for this thrilling and ultimately satisfying experience.

I do not have a clue about the welfare of the leopardess with her cubs; Will she settle down in the release area? Will she meet with resistance from other leopards? Will she, perhaps, return to where she came from? On future occasions fitting the animal with a radio-collar would enable us to answer these questions.

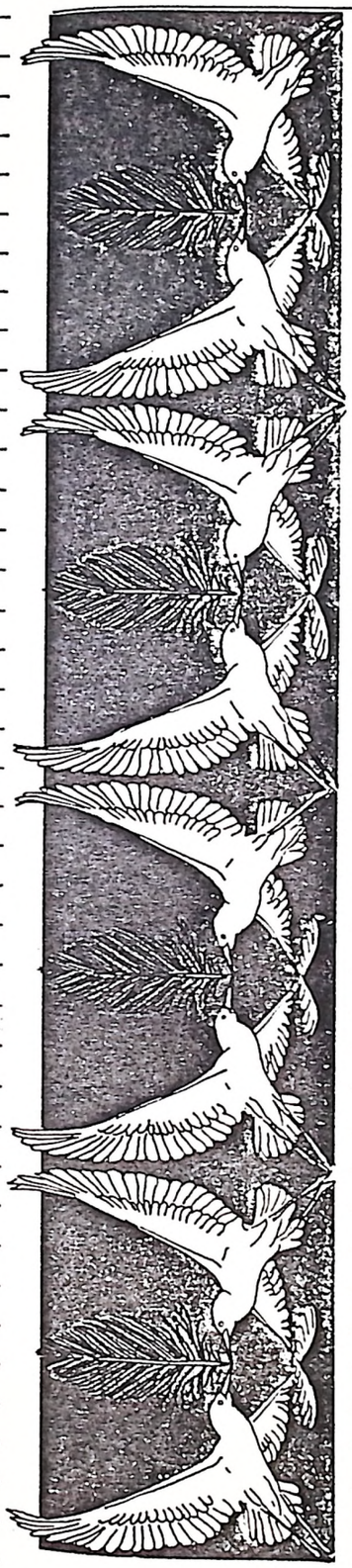
NEWSLETTER



SALIM ALI (1896-1987)

Wildlife Institute of India

Vol. 2 Nos. 3&4
May – Aug 1987



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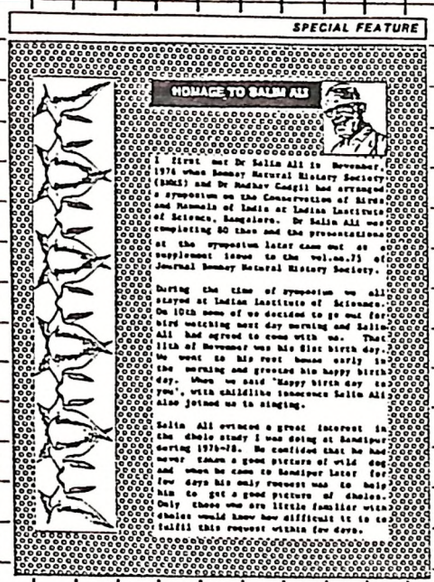

SPECIAL FEATURE

HOMAGE TO SALIM ALI

SALIM ALI (1896-1987)

An era ended on 20th June 1987. An era of untiring activity in the world of ornithology came to an end with the death of Dr. Salim Ali - perhaps the greatest ornithologist and conservationist India has ever produced. It was because of his "first love" –the birds- that he came to the Bombay Natural History Society (BNHS) and during his 69 years of association with BNHS, his name became synonymous with the institution and all that it did.

Because of his timely intervention the Bharatpur Bird Sanctuary (presenthy Keoladeo National Park) and the Silent Valley National Park were saved. For his contributions, Dr. Salim Ali was awarded the Asiatic Society's gold medal for research in zoology, Padma Bhusan and Padma Vibhusan by the Government of India, D. Sc. from the Universities of Delhi, Andhra and Aligarh, the Union Gold Medal of the British Ornithologists Union and many others including the Paul Getty International Prize for Wildlife Conservation.

His contributions in the shaping of the Wildlife Institute of India has been noteworthy. As a tribute to this great soul, we bring out this exclusive special issue in his loving memory.

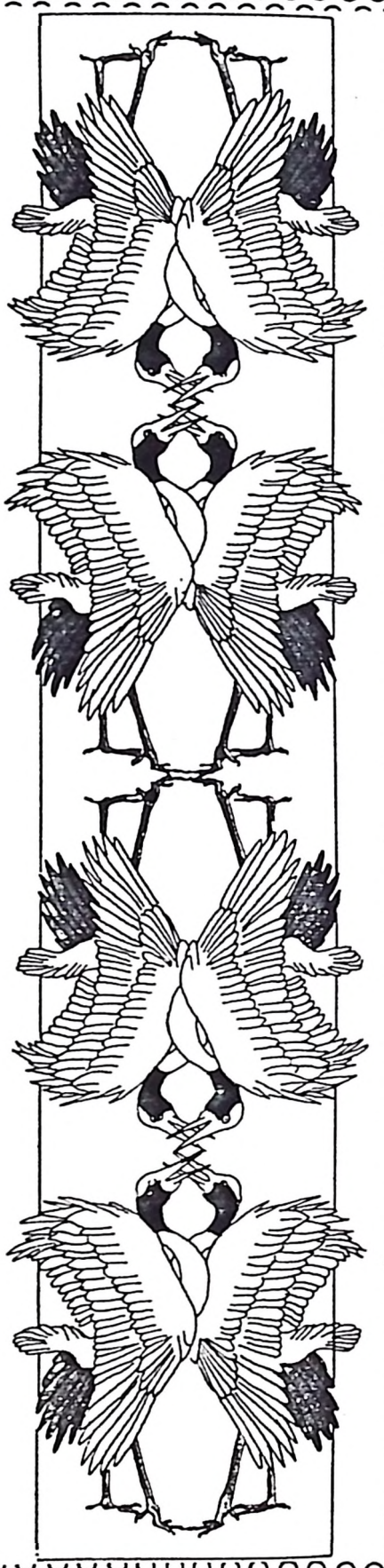
Rahi N Acharya

HOMAGE TO SALIM ALI

I first met Dr Salim Ali in November, 1976 when Bombay Natural History Society (BNHS) and Dr Madhav Gadgil had arranged a symposium on the Conservation of Birds and Mammals of India at Indian Institute of Science, Bangalore. Dr Salim Ali was completing 80 then and the presentations at the symposium later came out as a supplement issue to the vol.no.75 of Journal Bombay Natural History Society.

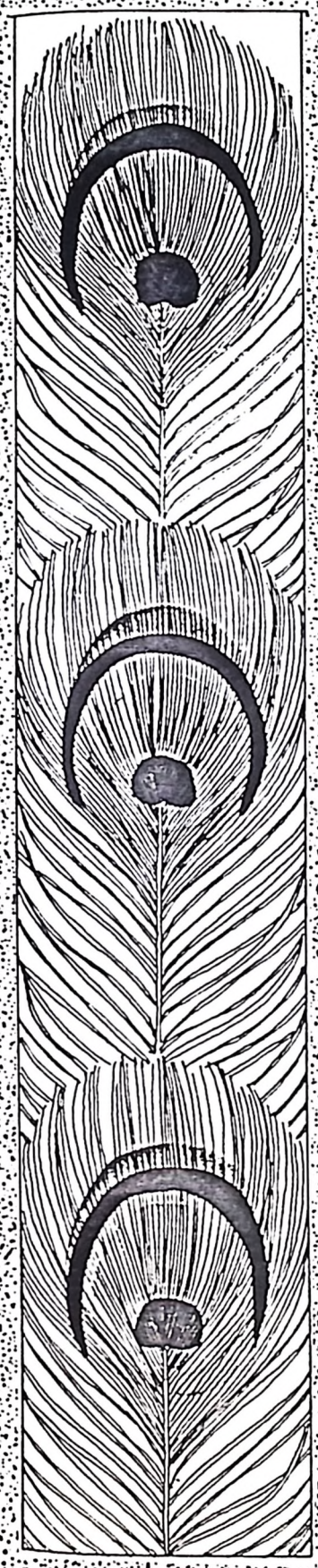
During the time of symposium we all stayed at Indian Institute of Sciennce. On 10th some of us decided to go out for bird watching next day morning and Salim Ali had agreed to come with us. That 11th of November was his 81st birth day. We went to his rest house early in the morning and greeted him happy birth day. When we said `Happy birth day to you', with childlike innocence Salim Ali also joined us in singing.

Salim Ali evinced a great interest in the dhole study I was doing at Bandipur during 1976-78. He confided that he had never taken a good picture of wild dog and when he came to Bandipur later for few days his only request was to help him to get a good picture of dholes. Only those who are little familiar with dholes would know how difficult it is to fulfil this request within few days.



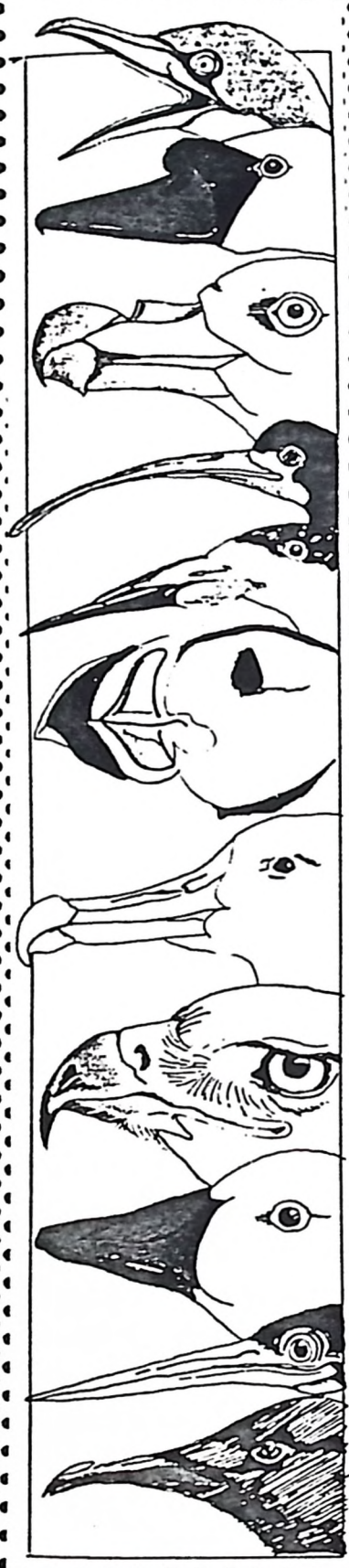
December,1977 was a very bad month for me. Mr N.R. Nair who was the Director of the then Wildlife Institute was killed by a tusker in Bandipur when both of us were out in the field in one morning. My dhole research ran into problems. Some accused me that I was responsible for his death. Salim Ali was one of those few persons who came to my rescue and saw that my research continued unhampered.

One of the publications brought out by BNHS for its centenary function in 1983 was the `Encyclopaedia of Indian Natural History'. As I have done a small work on Pied Crested Cuckoo I was asked to write a piece on Brood Parasitism. Salim Ali, who is noted for his painstaking efforts to perfect his writing was the editor of the piece. In his only letter ever written to me he wrote that my writting is very poor and the task of editing had given him a lot of headache. This, however, did not dampen my spirit because through his students I have heard that it is Salim Ali's way of guiding his students to perfection.



After my Ph.D. and my brief stint with the Smithsonian Institution at USA I joined BNHS Endangered Species Project in 1982 and during the three years I worked for BNHS I had several opportunities to come closer to Salim Ali. I was working for BNHS Elephant Project and from my past episodes in Bandipur Salim Ali knew that it was a bit risky profession. I was living in south and whenever I met him in Bombay he used to remark that he is glad to see me alive!

In March,1985 I joined Wildlife Institute of India. It was a painful decision for me to leave BNHS which had helped me through several crucial times in my life. Before leaving Bombay I had a brief talk with Salim Ali and he was unhappy about his inability to prevent me from leaving BNHS and soothed me saying that BNHS will be happy to take me back any time.



In May,1985 Salim Ali had come to Dehradun and one day I took him to Kansrau area in Motichur where WII was attempting to radio collar an elephant. While going in the vehicle I asked him how can I become very good in identifying warblers - a small group of birds difficult to be identified in the field, Salim Ali replied that it is very difficult to become very good at identification of warblers. Even with his life long experience with birds he had the modesty to say that some birds are difficult to be identified. While identifying difficult birds such as birds of prey(which have lot a of plunge variation between sexes and among different age classes) and warblers, I have never heard him saying that `it is such such a species'. Instead he would always say, I think it is such such a species. He never assumed himself as the ultimate authority on birds!

Salim Ali stayed with us the whole day in Kansrau participating in the tracking and an unsuccessful darting of an elephant. Atleast twice he told that he

is growing too old, any time he may die and hence wanted to take part in this programme fully. I still remember him riding the elephant warding off the tall lantana bushes with his walking stick. When he left Kansrau for Dehradun it was 9 p.m.

I met Salim Ali for the last time this Aprila when BNHS had organised a seminar on its research programmes in New Delhi. After his usual friendly greeting his first question was whether the trainees trained at WII get their postings in wildlife. I replied that most of them get posted to wildlife. He quietly said that it was the purpose for which WII was established.

What endeared Salim Ali to thousands was his friendliness, sense of humour, ability to get excited even by small new information and above all his commitment to conservation. He was a practical conservationist. His motto of wildlife conservation was if parakeets a pest become a problem in an area as many as possible should be culled and made into parakeet which he said was very good. In a nutsheel he was for utilization of those species of wildlife which become abundant and cause problems. He very strongly believed, talked and wrote that India's environmental problems can be solved only by massive aforestation and intensive family planning programme.

Mankind rarely sees persons like Salim Ali. People who had the opportunity to come under his influence should consider themselves fortunate and should rededicate themselves with much more vigour for the cause of conservation for which he tirelessly worked.

A.J.T.Johnsingh

Citation of the J. Paul Getty Wildlife Conservation Prize, 1976.

THE INTERNATIONAL JURY FOR

The J. Paul Getty Wildlife Conservation Prize of the World Wildlife Fund

HAS SELECTED FOR 1975

SÁLIM A. ALI

Creator of an environment for conservation in India, your work over fifty years in acquainting Indians with the natural riches of the subcontinent has been instrumental in the promotion of protection, the setting up of parks and reserves, and indeed the awakening of conscience in all circles from government to the simplest village Panchayat. Since the writing of your own book, the Book of Indian Birds *which in its way was the seminal natural history volume for everyone in India, your name has been the single one known throughout the length and breadth of your own country, Pakistan and Bangladesh as the father of conservation and the fount of knowledge on birds. Your message has gone high and low across the land and we are sure that weaver birds weave your initials in their nests, and swifts perform parabolas in the sky in your honor. For your lifelong dedication to the preservation of bird life in the Indian subcontinent and your identification with the Bombay Natural History Society as a force for education, the World Wildlife Fund takes delight in presenting you with the second J. Paul Getty Wildlife Conservation Prize. • February 19, 1976.*

J. Paul Getty
J. Paul Getty

His Royal Highness
The Prince of The Netherlands

1. Facsimile of a letter from Hugh Whistler to Dr. Salim Ali deted 31 March 1936.

Caldbec Hall.
Battle.
31.3.36.

My dear Salim Ali

Herewith a few more notes a the Travancore birds which now brings them up practically to as far as I have got in the S. Ghats Survey. Some more will be ready as soon as the fearful moving of the Bird Room at the B.M. will allow one to work in peace again. They are now shifting the cabinets where I need to work. I have been struggling with the Terns — which so far as the marine species are concerned are very difficult as many races have been named and so few specimens from breeding colonies are available.

Did I tell you that on examing critically my Tiberaba Terns from higher Kashmir one of them proved to be the Arctic Tern — new to the Indian list. It is in full breeding plumage (July) with slightly enlarged organs, but it must have been a lost vagrant — All the same an interesting record.

Your account of the Satara part sounds interesting and it will be excellent if the Survey can only come off. Please forgive a hasty letter. With kindest regards

Yours very Sincerely
Hugh Whistler.

2. Facsimile of a letter from Erwin Stresemann to Dr. Salim Ali dated 14 April 1956.

Berlin 14.IV.56

23/4/56

My dear Salim,

The plates of Robert Scholz have been dispatched yesterday to Bombay (Oxf. Univ. Press) in a roll by air mail. This I decided to do after long consideration. It seemed to me safer and hardly more expensive than sending them by surface mail, which would have demanded a far heavier envelope. You will now receive the pictures very soon, and I feel sure that you will like them. The postage has been DM (West) 7.60. Will you please order the Oxford Univ. Press to send the amount to me by cheque or otherwise.

I am interested in the moult of Oxyura leucocephala. Very little is known about the time the drake sheds its wings and the tail feathers, and I have never seen a drake in eclipse plumage and wonder when and where it moults from eclipse to nuptial plumage. There seems to be a body moult (including the tail feathers?) in early spring (March, April). The Russian ornithologists cannot answer these questions, owing to lack of winter skins. Do you know of any drakes having been shot in the vicinity of India? And what about the stage of moult? The trachea of Oxyura too is still unknown.

The Rensch's sent me a post card from Luxor. How wise they were to evade this cold spring of Germany in such enjoyable manner!

Vesta joins me in my cordial greetings

Yours ever

Erwin Stresemann

Facsimile of Dr. Silm Alis field notes on Antbus rufulus.

Anthus rufulus (contd.)

Cochin State (contd.) Mr. Hall's shooting-box (above Travellers' Bungalow); Trichur, 22-23.xii.'33 On lawns at Palace ground!, Karupaddanna (S.L.) 24.12.'33! 25.xii.33 Sf. No. 1004 ♂ (t. 7x5) Pairs on wet grassland by backwater paddy fields!

Dehra Dun (2500') 15.VII.'34 Pairs occasionally in stubble & short grass abt. cultivation. Not abundant!; 24.VII.34 One viciously chasing a fr. of Hirundo smithii on bank of stream at 'Dhobi ghat' Nesting!; 25 Aug.'34 One on grassland by Rasfanna. Apparently resident in small numbers!; 25.5.35 Pairs on scraggy grassland by Rispanna!; 29.7.35 Apparently the adj. field now present. Pairs or 3 or 4 together occasional on grass & stunted patches in Rasfanna bed! Resident species; 17.3.'36 One tugging at & pulling out blades of dry grass from path in compound & gathering a wisp-mouthful before flying off! Early morning. Nesting has commenced!; 10 Apr.'36 On ploughed fallow land & tracks. Rispanna, a single half-fledged chick, fluttering but unable to fly. Stub tail; long tufts of down above & somewhat behind each eye. Iris brown, mouth bright orange, gape yellowish cream-colour! Concern of parents expressed by flying about with feeble chip-chip-chip &c.! fluttering in air ca 15-20 ft. up, sailing down to ground at some distance (wings held low & tail raised thus ), rising again & repeating!

Bhopal State, C.I. Jaitkari (ca. 1300') 2.2.'38 Sf. 249 ♀ (waitei!) in grass field!; Bhopal Lake 4.2.'38!; Chanderi (ca. 1450') 9.4.'38 Sf. 635 ♂ (5x4 mm.) waitei!;

Indore State, C.I. Mandleshwar 5.9.38 Choli Tank, Sff 789 ♀, 790 ♀ (waitei!) - No more!

Gwalior - Sardarpur (ca. 1650') 16.9.'38 Sf. 863 ♀ (waitei!); 17.9.'38!;

Bihar: Raxaul (ca. 1000') 11.3.37! (subsp.?)

(Contd. over)

⑤

Anthus rufulus (contd.)

Mysore State: Bandipur (ca. 3500') 23.11.39 Sff. 151 ♂, 152 ♂ (rufulus) Several solos & loose pairs on wet, grassy margin of Kargala tank!; Antarsante (ca. 2500') 28.11.39 Sf. 190 ♂ (rufulus); 30.11.39 Sf. 203 ♂ (rufulus); 1.12.39 Sf. 230 ♀ (rufulus)

Thermophilus: On sharse scrub fallow nr. Bigur; Karapur (ca. 2500') 4.12.39 Sff. 258 ♀*, 259 ♂ Dodballapur (ca. 2900') 26.12.39 Sff. 453 ♀, 454 ♀ (A.t. trivialis); 27.12.39 Sf. 470 ♀ (A.t. trivialis); 28.12.39 Sf. 483 ♂ (5x3mm. - rufulus); Sakleshpur (ca. 3000' - Hassan Dist.) 16.1.40 Sff. 650 ♂ 5x3mm., 651 ♂ 8x6 mm. (rufulus); Bababudan Hills (Kemmangundi, ca. 4500') 23.1.40 Sf. 722 ♂ (rufulus); Kolar Gold Fields, 21.2.40!; Biligirirangan Hills (ca. 5000') 5.3.40!;

Bombay Presy: Trombay Hill (Salsette) 14.2.43 Solo on bare patch at ca 1000 ft.!; Khandala (ca.1800') 21.3.43!

K u t c h: Godsar (Bhuj environs) 12.8.43 Sp. 51 ♂ (waited) undev., W 85, B 16.5, Tar. 28, T 58 Hind-claw 13. In heavy general moult, wings, tail, body. The first and only in Kutch during a whole week!; Chaduva (Bhuj Dist) 19.8.43 2 pairs by Pragsar Tank! White outer restrices at once diagnostic from larks; Ratnal (Bhuj Dist) Sp. 194 ♂? imm., skull soft, W 84, B 15, Tars. 24, T 63 (waited); Khuri-Rohar - Anjar, 13.9.43 2s and 3s occasional!; A n j a r, 14.9.43 About Shinai Reservoir and towards Tuna: Apparently becoming commoner!; 15.9.43 In open country about Bhadreswar village and along Mundra road: Com!; K a p a r, 20.9.43 Nilpar Reservoir environs: Sp. 249 ♂? juv., skull soft, W 85, B 17, Tars.25, T 68.5 (waited); 21.9.43 F. com. & general!; 23.9.43 In open sandy semi desert towards Gedi & Desalpur, much fewer than campestris!;

Kathiawar: D w a r k a, 12.10.43 F.abundant on flat stony ground near D.B.!; 13.10.43 Mithapur!; A m r e l i, 17.10.43 F.common!;

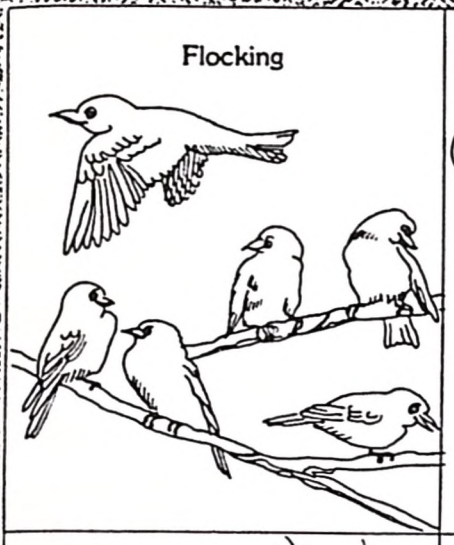
K u t c h: B h u j, 5.3.1944 Sp.332 ♀ undev., W 85, B 17, Tars.25, T 65 (waited) Solos, occasional. Not common; M a n d v i, 11.3.44 Solos or pairs occasional. Not common or abundant; J a k h a u, 14.3.44 Occasional solos or pairs!; C h o b a r i (Bhachau Dist., Wagad) 23.3.44 Occasional solos!;

Gujarat: B o d e l i (ca 250' - Baroda Dist.) 9.11.45 Sp. CS 195 ♂ W 84, B 16.5, Tar. 26.5, T 60 (); CS 196 ♀ W 86, B 17.5, Tar. 25.5, T 68 (); P a t a n (Mehsana Dist.) 24.12.45 Sp. CS206 ♂ W , B , Tar. , T ; D e e s a (ca 500' - Palanpur State) 9.1.1946!;

Kathiawar: K o d i n a r, 12.3.1946 Common!; D a l k h a n i a, 14.3.46!;

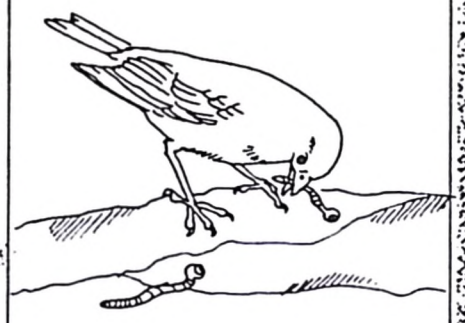
A s s a m: Sadiya (ca 400') 1.12.1946 Several on Golf Links!;

From Salim Ali's autobiography "The Fall of a Sparrow".



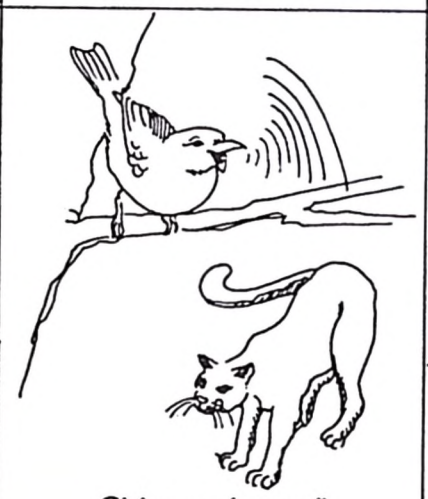
Flocking

Bathing
(in water or dust)

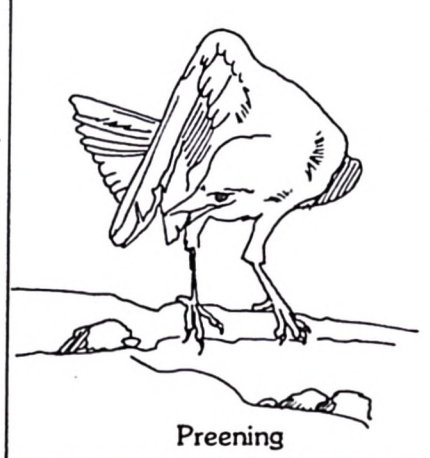


Feeding

Hiding



Giving an alarm call



Preening

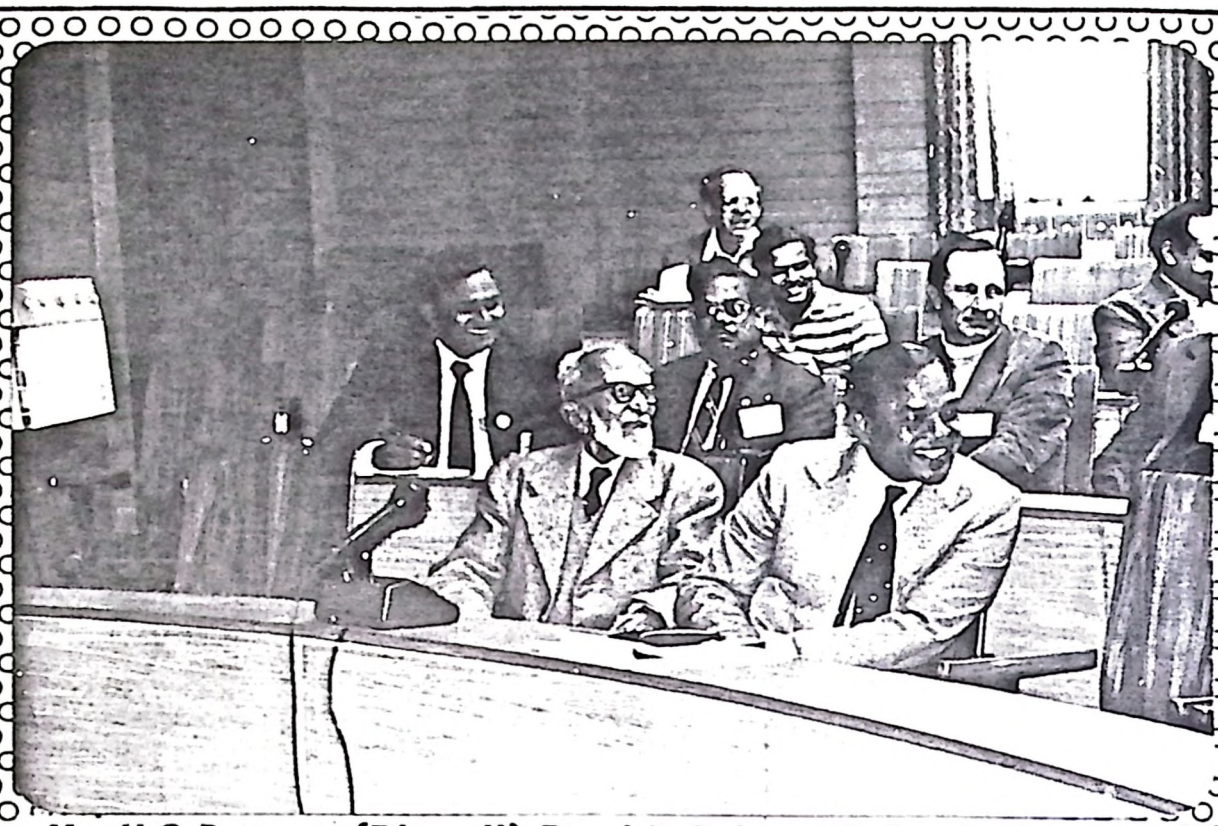
Freezing

Singing

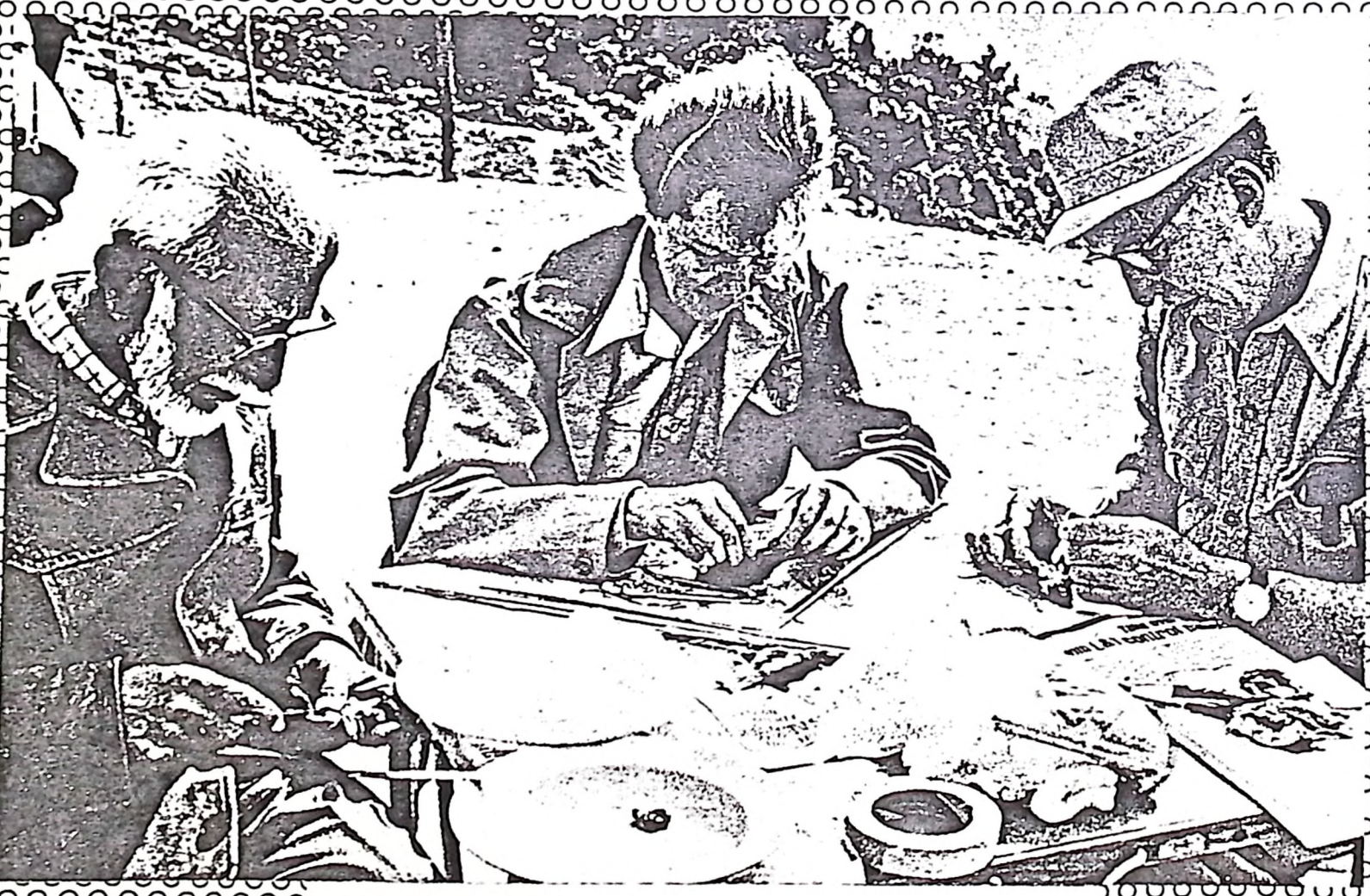
Flying

With Mrs Indira Gandhi after investiture of the Padma Vibhushan. *(Photo by Anant S. Desai, press photographer)*

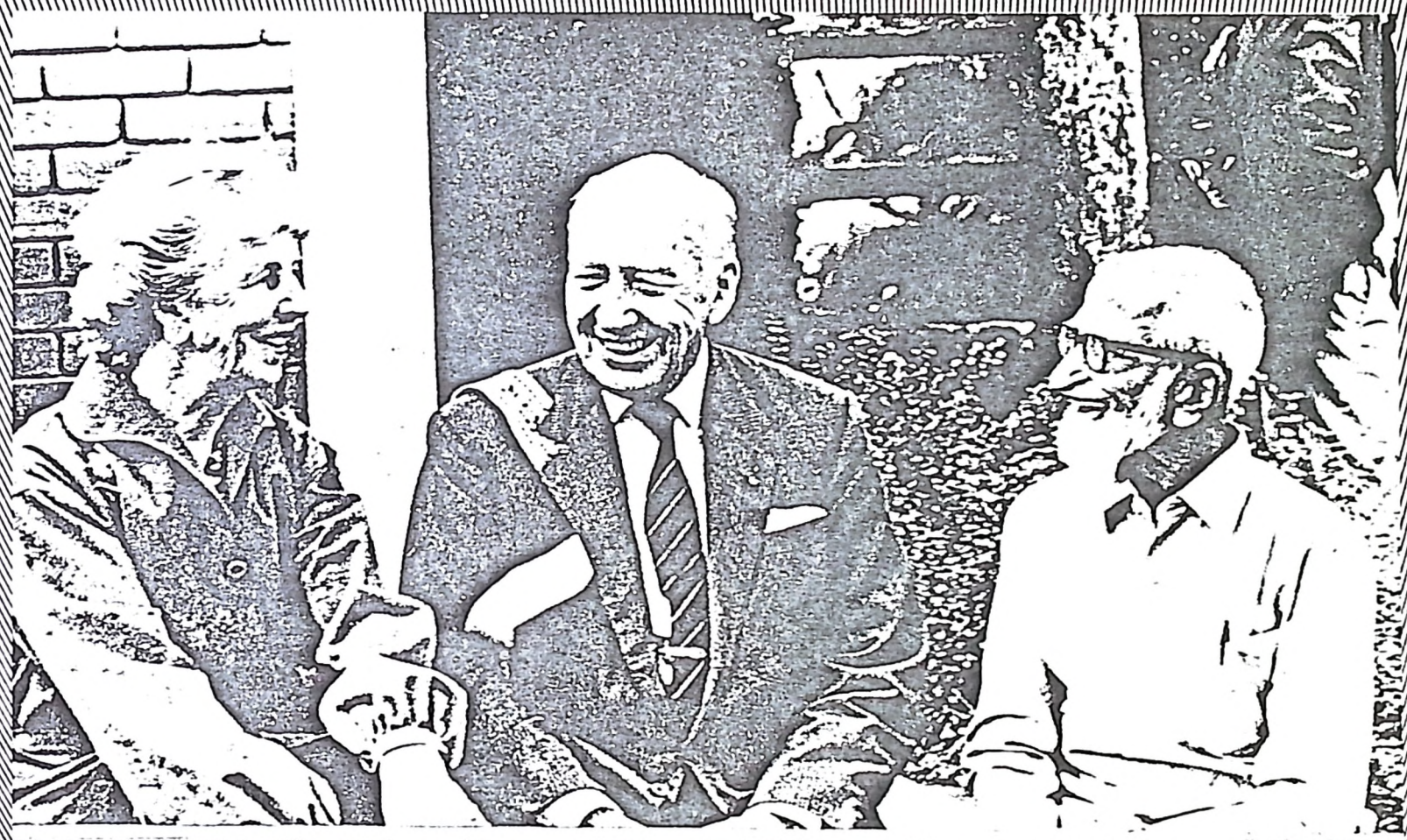
Conversing with Mrs Gandhi after the release of *Handbook*, Vol. 10.



Mr. H.S.Panwar (Dir. wII), Dr. J.B.Sale with Dr. Salim Ali in AMU Symposium (1986) *Photo : Saeed Ahmed*



Alfresco taxidermy. Shamgong, Bhutan, 1967. With Mary and Dillon Ripley. *(Photo by Peter Jackson)*



With Dillon Ripley and Mary at I.I.T. Powai—BNHS centennial symposium. December 1983. *(Photo by T.N.A. Perumal)*

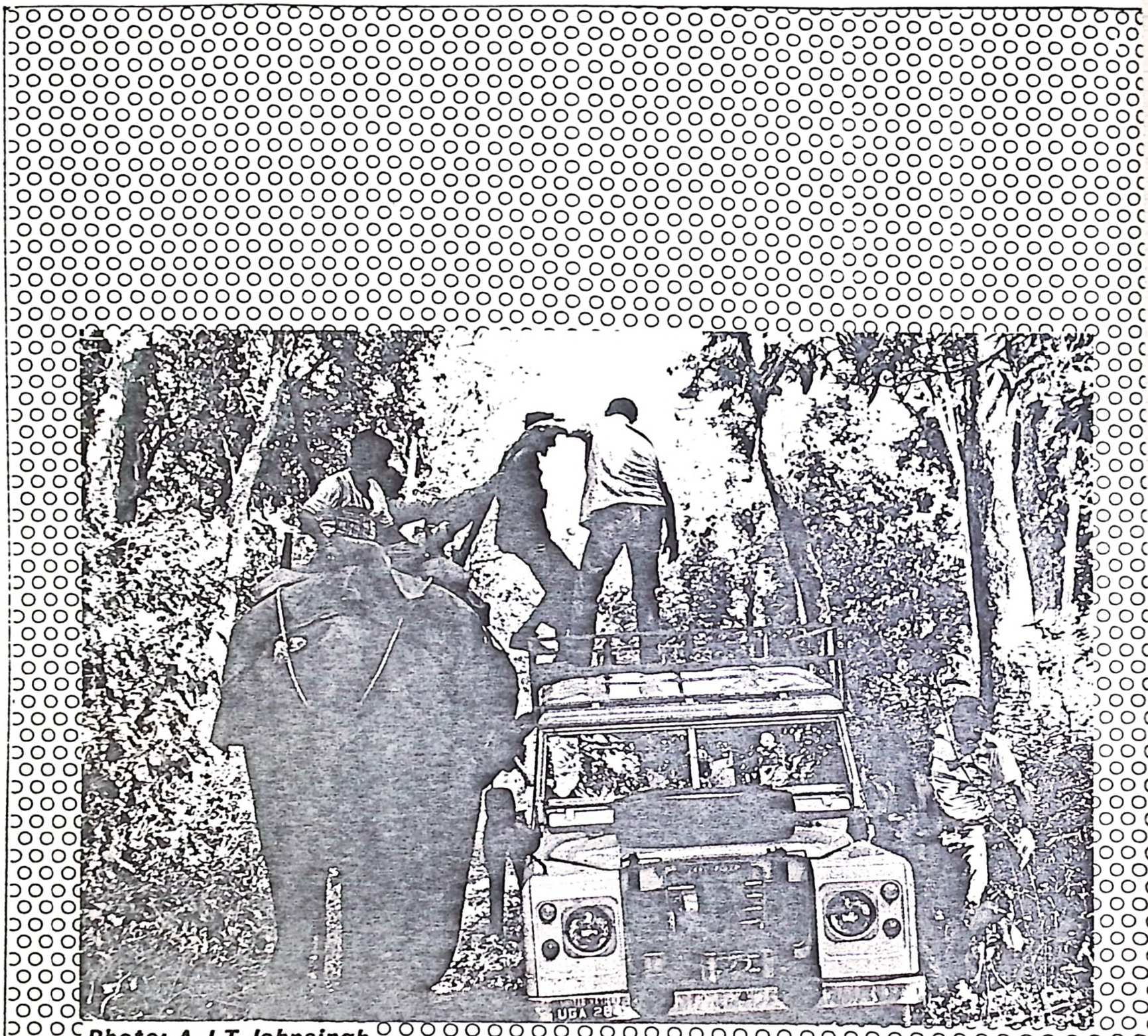


Photo: A.J.T.Johnsingh

Salim Ali alighting from elephant. Kansrou-Motichur (15 May, 1985)

Salim Ali in Bandipur (1977). Photo: A.J.T.. Johnsingh