

# HORNBILL

1981 (1)



BOMBAY NATURAL HISTORY SOCIETY

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## Fairy's Slipper Orchid

*The photograph on the cover is of the Fairy's Slipper Orchid (Paphiopedilum fairieanum) from the collections of the late E. P. Gee. The Fairy's Slipper Orchid is restricted in its habitat and is therefore rather rare. It grows on crumbling calcareous rocks and on ledges of steep banks of rivers overgrown with grass. There is a constant breeze laden with moisture from the river which keeps the atmosphere of the river banks humid and warm. These orchids grow at about 3500 feet elevation in the semitropical regions of the Himalayas, chiefly in Bhutan. This dainty little orchid was first exhibited in London in 1857 and then died out under cultivation and was known as the 'Lost Orchid'. It was not rediscovered in the wild inspite of a £2000/- reward till 1905, when it was found in Bhutan. Since then this graceful orchid has been used extensively for the production of hybrids.*

*Mr. E. P. Gee, had one of the best collections of orchids from Eastern India in the compound of his house at Shillong. The collection is now with the Botanical Survey of India and his excellent colour transparencies of orchids are with the Society.*

EDITORS

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

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

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Members receive during a year three issues of the *Journal of the Bombay Natural History Society* now in its 76th 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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<i>Subscription</i>		
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Life membership	Rs	750.00
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The first annual subscription of members elected in October, November, or December will extend to the 31st December of the year following the election.

Write to :

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EDITED BY

J. C. DANIEL  
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## EDITORIAL

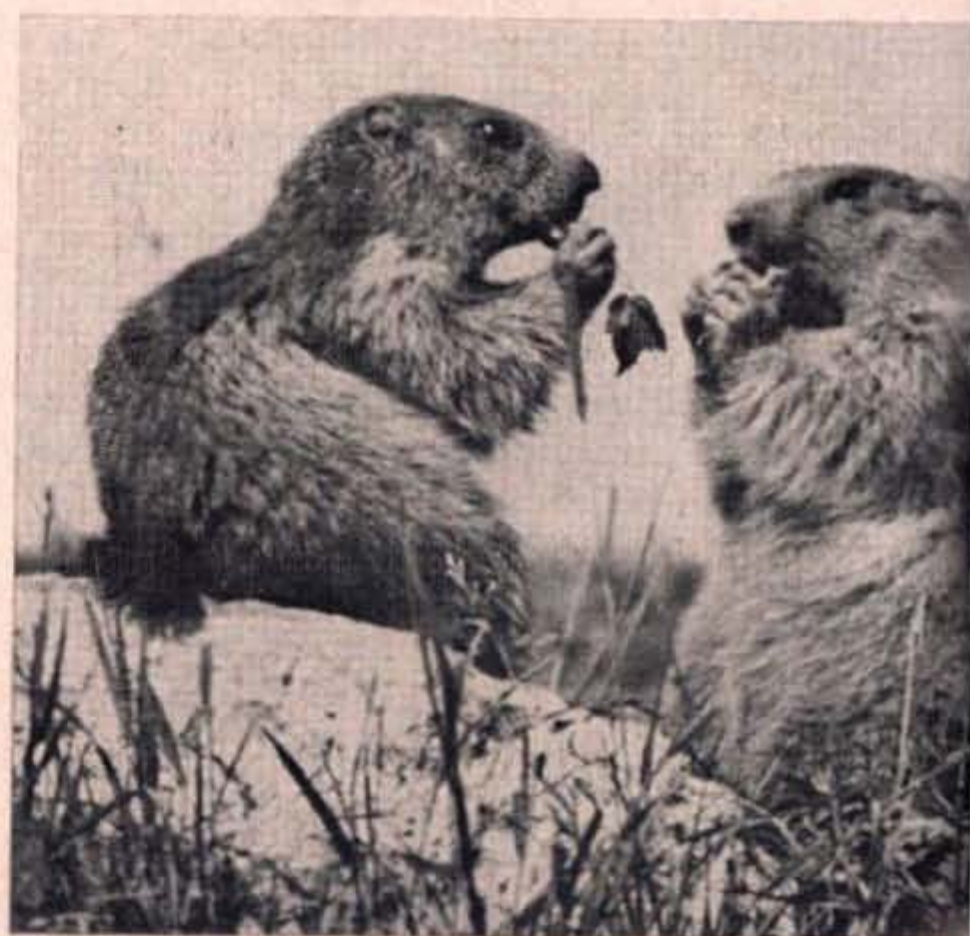
Another year has slipped by, a year of fluctuating fortunes for the Society. 1980 was probably a pivotal year from the long term field projects that were launched at the beginning of the year and which we hope will continue to be sustained at the end of the first five years. 1980 was also a near disaster year from the unforeseen leaks on the roof, which would have, if it had not been for some fast footwork by the staff, completely ruined the library. We cannot thank enough the State and Central Governments which came through with funds for the repairs. While in this retrospective mood we would take the opportunity to thank the many members who responded to our appeal to recruit more members, though it is a fraction of what we require. The membership, all categories, brings in about Rs. 85,000/-. The facilities for members cost the Society over Rs. 1,85,000/-. **We need not less than 4000 ordinary members to break even. We have only 800 of this category.** Student membership has shown a gratifying increase but student members are heavily subsidised. The Society considers them its insurance for the future.

The *Hornbill* is now in its fifth year and is still plagued by the printer's devil and its counterpart in the editorial office, the editors' pixie. In the last issue, for instance, the picture of the tree trunk on p. 28 is upside down. The picture itself is so poor and does not show what it is meant to show, that apparently no one noticed. We are

trying our best to drive the pixie out of our editorial den.

And finally the omissions and our apologies. The picture captioned *A female Blastophaga wasp laying eggs in a guler...* at p. 20 of *Hornbill* 1980(3) is by Mr. B. M. Joisar and *not* by Phillippa Mukherjee as stated in the caption. The centre picture of the solar eclipse at p. 17 of the last issue was taken by Dr. S. R. Amladi at Golapalli. The top and bottom pictures were taken at Yellapur by Miss Meena Haribal. Incidentally the eclipse seems to be the cause of considerable ill-feeling towards the editors of the Society's *Journal*. Every one seems to have gone out and made observations overlooking the fact that behaviour observations on wildlife without substantial pre- and post-eclipse observations are of little value. The eclipse did cause a lot of wishful thinking.

EDITORS



Namaste from us for 1981

## FEEDBACK

### 'Mystery of the Salara Pigeon'

My attention was attracted to the article 'Mystery of the Salara Pigeon' by Shri Man Mohan Singh. The Editors, in the box at the end of the article, mention Shri S. M. Osman's remarks about the Wood Pigeon (*Columba palumbus casio-tis*), indicating that this bird has completely deserted the Doon Valley, except for a stray example in 1971.

I would like to mention that in the third week of March 1978 (16th to the 20th) I saw large numbers of Wood Pigeon at Mussoorie. A party of about 20 birds frequented the pologrounds near the Happy Valley, feeding on the ground and flying into the trees when disturbed. They could be seen there at all times of the day. Small groups of five or six individuals (several such groups) were also present on Benog hill, and I saw nearly 50 birds in flight near Lion's Paw (on the road to Vincent's School).

It would thus appear that the Wood Pigeon has certainly not forsaken the Doon Valley and the neighbourhood completely, though the 'thousands' which Shri Osman mentions probably no longer appear.

I note from the BIRDS OF NEPAL by the Flemings, that *C. palambus* is a scarce visitor as far as the Kathmandu Valley. I wonder whether there has been any change in its status east of Kumaon.

SUDHIR VYAS

53, Newalkishore Road,  
Lucknow 226 001.

### 'Butterflies of Bombay'

I was surprised to see no mention of *Nerium oleander* (Apocynaceae) among the food plants of *Euploea core* in the note under this heading [*Hornbill* 1980(1): 6]. This is certainly the preferred food plant in Calcutta.

D. G. SEVASTOPULO, F.R.E.S.  
Mombasa, 15th July, 1981.

### India's wildlife sanctuaries'

Reference your Editorial in *Hornbill* 1980(4). A point well made. Congratulations! I remember making a rather caustic comment more than a decade back 'Socialism stops at the entrance of our sanctuaries'. There were many raised eyebrows then. In a democracy, wildlife can have no hope if the general populace does not take interest in its preservation. Despite the fact that in many parts of the country there is no killing of wild animals by the local people, there is a steady decline till now we have reached the point of no return mainly because the locals are disinterested and there is a general apathy. Outsiders come and take a toll. The government machinery is certainly not motivated to exert for preservation. It is a known fact that the wildlife wings of the various forest departments are the least popular of assignments.

In Gujarat, we are fortunate in many respects in having a wider interest in wildlife and the public awareness for the need for conservation is growing every day. I have been asked to assist the Forest De-

partment to lay out self guided nature trails in the Hingolghadh Sanctuary and in the Gir. It is hoped that in a few years time, we shall be able to walk the length of the Gir Forest! Our only fear is that we have to evolve a method of controlling the number of trail walkers. This is a step in the right direction and the Wildlife Wing of the Gujarat State Forest Department has to be congratulated. Your editorial comments have come at a very opportune moment and I would be happy if you would make it a point to reproduce this letter in your Feedback.

Congratulations for the very high standard of the *Hornbill*. It is certainly a very well preened bird!

LAVKUMAR KHACHER

14, Jayant Society  
Rajkot 360 004

### **Pheasant-tailed Jacana and early rains**

A note appeared in *Hornbill* April-

*Monsoon's harbinger*

June 1977 p. 31 stating that Pheasant-tailed Jacana was in its full breeding plumage in the latter half of March, and interpreting it as suggestive of early rains.

I have been observing these birds during 1980 in the full breeding livery at my home town, Umreth (c. 50 km north of Baroda) since mid April. Though a few odd ones were yet to acquire the full colours, most of them were already in it, and their typical monsoon calls, *utooo utooo* and *trrr, trrr* were far too frequent. A photograph of the bird taken on 11th May 1980 is reproduced.

I am delighted to find the rains were round the corner (in fact the first refreshing showers came on the early morning of 3rd June). This supports the Birdwatcher's views, and would be of interest to readers.

B. N. PATEL

*Drugs Laboratory*  
Baroda 390 002, Gujarat

*Photo: B. N. Patel*



# PRESIDENT'S LETTER

## The Society's Centenary

Two years from now, in 1983, the Society will be a hundred years old. Present day members, unfamiliar with its background, may perhaps be interested to know something about how the Society came to be. On 15 September 1883 a group of eight citizens of Bombay—six European and two Indian—interested in natural history met in the Victoria and Albert Museum in the Victoria Gardens to form themselves into a Society for the study of Natural History. They decided to meet monthly to exchange notes and observations, exhibit interesting specimens, and thus to encourage one another. After several successful meetings in the Museum premises, H. M. Phipson a keen naturalist and owner of a flourishing wine business known as Phipson and Co. offered a room in his office premises in the more centrally situated Fort area, where the quickly expanding collection of natural history objects could be exhibited and the monthly meetings held in more congenial surroundings. With the entry of more members and the increase in the number, variety and interest of the notes read out and discussed at the meetings, of shikar observations, it was decided to publish a journal in which the more interesting ones would find permanent record. Thus in 1886 the first slim and reticent issue of the Journal made its appearance. It has continued in an unbroken series through the years and is now in its

78th volume. The Journal has grown steadily in scientific stature and international reputation and is now widely recognized as the premier natural history publication in the East. Indeed so indispensable has this mine of scientific lore become that it is true to say that no biological study in India (if not the Oriental Region) can be satisfactorily undertaken without constant delving into its contents.

To celebrate the centenary of the Society in a befitting manner several measures have been planned by the Executive Committee, some of which are already under way. The most important and enduring of these will, it is hoped, be a one-volume *Encyclopedia of Indian Natural History*. As its prospectus says, this 'will be written by experts for non-experts in unambiguous easy style suitable for translation into the major Indian languages, arranged in a single alphabetical sequence'. It will have 22 separate sections dealing with all aspects of Zoology, Botany, Physiology, Ethology, Nature Conservation, Climate, Geology, Geography, etc. which are aimed to be of interest to the enquiring layman. The 500 or so headworded articles, ranging between 50 and 3000 words each, will be written by competent writers and profusely illustrated as far as possible with line drawings or photographs, both coloured and monochrome, on every page. To every one familiar with his meti-

culous perfectionism the fact that Mr. R. E. Hawkins, a member of our Executive Committee, is the General Editor of the Encyclopaedia is by itself sufficient promise of its excellence. The second major item in the commemoration plans is another publication entitled *A Century of Natural History* which has a more direct relevance to the Bombay Natural History Society as such. It will be a compendium of some of the most memorable articles and notes of general interest that have appeared in the Journal since its inception. Considering the vastness of the material and the variability of individual tastes it has been no easy task to make a representative selection of the articles for inclusion. The editor of this compendium is Mr. J. C. Daniel whose task of making the final choice, for just so many pages and no more, will be distinctly unenviable! But the volume will be highly nostalgic for the old-timers and is sure to enjoy wide popularity among our present day readership also.

A special sub-committee under the dynamic Mrs. Dilnavaz Variava has been convened by the Executive Committee to work out other practical activities in connection with the centenary celebrations which will not only boost the public usefulness and scientific image of the Society but do it in a way that will add to and stabilize its financial resources so that in the second century of its life it will not need to struggle with the same constraints and frus-

trations as have vitiated the achievement of its full potential in the past. For instance it may be useful to arrange an exhibition on Natural History and wildlife conservation and photography in Bombay, and perhaps elsewhere also, and arrange for the preparation of suitable memorabilia. We would welcome practical suggestions from members also towards this end. As yet 1983 may seem a long way off, but actually 2 years is a deceptively short time for all that we aim to do and we cannot afford to take it easy.

Finally the Society should now consider the organization of a Bird Park cum Nature Study Centre in a suitable area in the City's suburbs which, apart from education, could possibly also be a source of permanent income for it. Members must now also give serious thought to a suggestion that has been cropping up from time to time, particularly since our Independence, that the Society which has earned national status by its achievements should now 'upgrade' its name to INDIAN NATURAL HISTORY SOCIETY in order to dispel the mistaken notion that it is a parochial association confined to the city of Bombay. It would improve its chances, the pro-changers maintain, of receiving greater financial and other support from the Central Government and private donors if publicly identified as an all-India institution. However, if after a full-scale debate on the pros and cons if it is finally decided by the general





*Society's rooms at Phipson's*

body of members that the name-change would in fact be beneficial for the Society, it seems to me that the centenary occasion would be a good starting point. Apropos this proposition it has been suggested by an old and well-tried friend of the Society that rather than change an internationally established and well-respected name, and one of deep sentimental attachment for the old-timers, a viable alternative would be for the Society to bifurcate itself, one part continuing as at present and the other to be known as the Indian Institute of Natural History (or words to that effect). The functions of the latter would be to supplement and broaden the activities of the parent institution by outreaching to a wider public through the publication of simple attractive educational booklets and other literature such as for identifying harmful and harmless animals, the preparation

of well-designed radio and TV programmes, movie films and slide shows, and systematic use of newspapers and other public media for disseminating knowledge about the environment and conservation and sustaining a lively awareness of Nature. Then, at a later stage, it could perhaps consider producing an attractive and well-illustrated popular nature magazine for the 'side-lines membership'—virtually an enlarged *Hornbill*. Both institutions to have separate Directors and staff but to function under one and the same elected Executive Committee of the Society; the 'national' branch hopefully to be financed in greater part by the Government of India's Department of Science and Technology and the newly created Department of Environment.

*Salim Ali*

## Encounter at Dalma

The 200 sq. km of compact dry deciduous mixed forest, very near the steel city of Jamshedpur is an oasis amidst a much larger stretch of derelict Sal forest that extends westward into Burdwan and Midnapore districts of West Bengal. In the north of this woody desert, devoid of all forms of wildlife (Dalma-Burdwan tract), there is another large chunk of good forest of Sal (*Shorea robusta*) of the main Dalbhum range of Bihar's Singhbhum district merging into the Similipal forest of Orissa. These are good elephant habitats separated from Dalma population by the Subarnakha river 40 km away.

No one knows for certain the strength of the resident elephant population of Dalma. Local villagers put the figure at a dozen. In the summer months of April to June, however, some forty elephants, male, female and their calves congregate at the Dalma hill top (elevation 1000 metres) attracted by the five water reservoirs, each large enough for them to bathe and drink clean water.

Dalma Wildlife Sanctuary notified as such in 1976 is indeed an 'Elephant Sanctuary'. Nowhere in Bihar can one see a herd of wild elephant so easily in broad daylight if one sits quietly in a corner of any of the reservoirs (not on elephant paths!) between March to June. A physical count in May 1978 revealed that 42 elephants

(15 males, 21 females and 6 calves) had gathered on the plateau. This was a well-organized census and counting covered not only the Reservoirs but smaller waterholes too. Three counts on three successive days left little doubt of their accuracy.

May 1979 was, unfortunately, a different story all together. A month earlier Jamshedpur was rocked by one of the worst communal riot in Bihar's history. The entire forest staff was commandeered to assist the civil administration to look after the riot-torn victims. There was none at Dalma to look after its forests even after a month, when I arrived there with the Chief Wildlife Warden from Ranchi for the yearly census from 24th to 27 May 1979.

Not an acre of the Sanctuary's 200 sq. km was affected by fire in May 1978. The catchment forests of the reservoirs had good vegetation from the forest floor right up to the uppermost canopy. To browse the 600 pounds of bark, leaves, roots and branches that make its daily ration elephants moved in small groups (a herd breaks into small groups to feed), calm and serene, unobserved by men, only to emerge each afternoon and head for the water reservoirs to bathe and drink their daily ration of some 50 gallons of water. I had last year photographed such groups from about 20 metres. Clicks of



Photo 1. *'Gabbar Singh' at the Waterhole*

Photo 2. *Alerted*

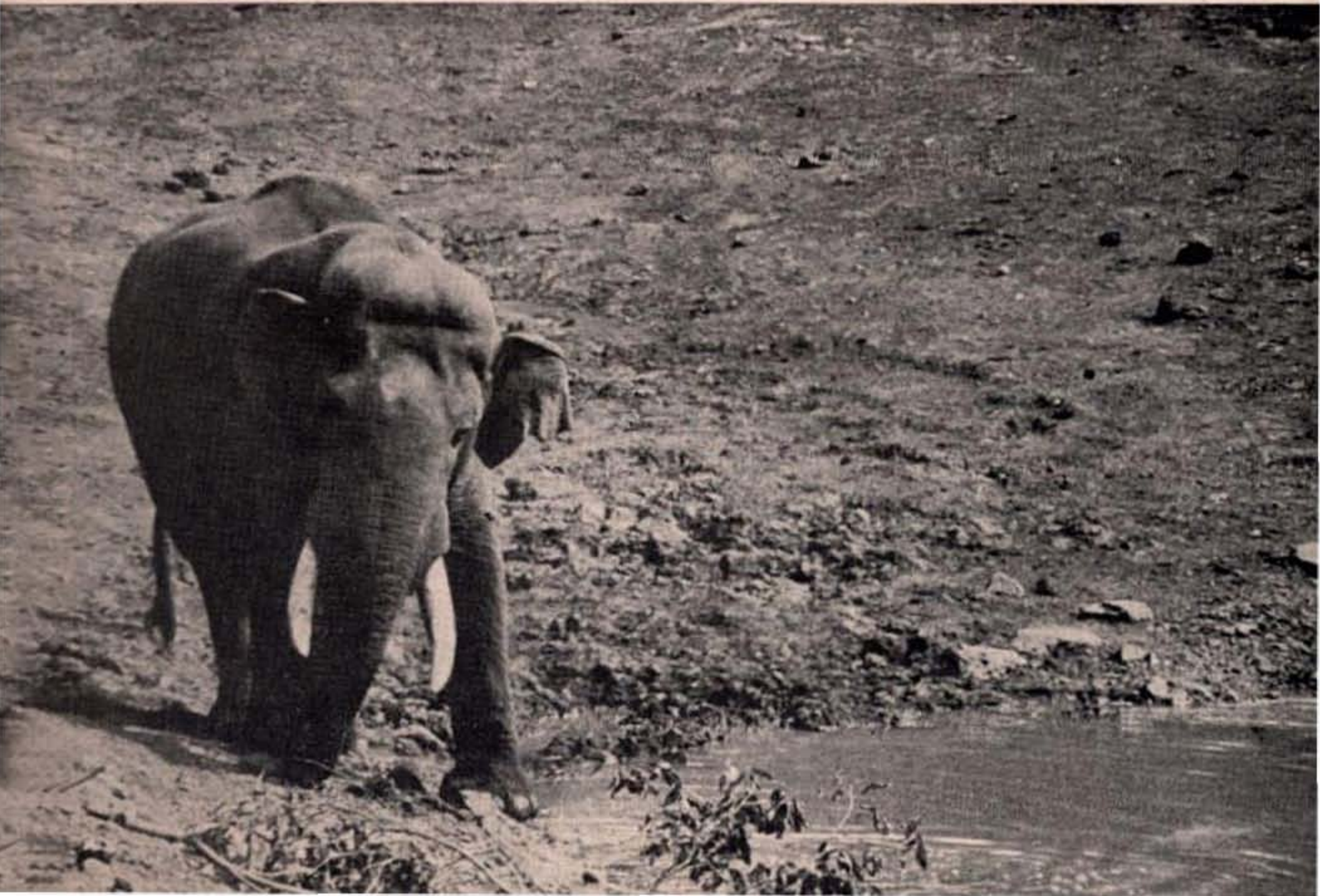




Photo 3. *Charging*

Photo 4. *'Gabbar Singh' at peace*  
Photos 1-3, *author*; photo 4, *D. K. Lahiri Choudhury*



cameras never bothered them. This was the picture in May 1978, twelve months earlier. In May 1979, every inch of the forest floor bore scars of fire, its intensity had been so severe that big sized trees were charred up to breast height. There was nothing like a cover for the big pachyderm. To compound Dalma's misfortune the State Government had clamped prohibition on 1st April 1979, and this turned out to be a bonanza for the bootleggers, and illicit distilleries in inaccessible forests became a very profitable business, more so in Dalma, a forest near Jamshedpur where demand for cottage-brewed alcohol by its industrial labour overnight outstripped supply. Dalma forests not only provided ideal hideouts for this illegal act but also a handy source of firewood, large quantities of which are needed to heat up the molasses-filled drums. High stumps of trees adjacent to distilleries were mute witnesses of forest destruction.

In such a disturbed environment a 3-day elephant census (25th to 27th May) was organised by the Chief Wildlife Warden with the aid of a makeshift transport arrangement. *Barkabandh* (big tank) is the name of one of the reservoirs. My note book of 25th May—the very first day of the census—reads 'Time 15.00 hrs. As I jeep-up to *Barkabandh*, a wildlife guard gets down from the vehicle, walks up to the *bundh* along the elephants' well-known track. He then beckons me. Throwing all caution to the wind (as photographers often do) I walk

up briskly also along the same route. The local warden (Sinha) follows me. I see a lone tusker drinking water (photograph 1). Sinha warns me that this tusker has been chasing people, since some days. He also informs me the wind direction is in the tusker's favour. Nothing registers in me and I sit right on the path at the point elephants go down to use the water. Sinha sits grudgingly behind me, worry writ large on his face. I take a shot with a 200 mm on my Nikon. Distance 30 metres. As the camera clicks, the tusker stops drinking, turns towards me. The ungrateful wind has given my position, and the camera click has confirmed it, I take another shot (photograph 2). He has put his two front legs a little forward, flaps his ears but has not fanned them out viciously, his tail hangs normally. I misread the situation. I think he would not even mock-charge. What he displayed was perhaps a little panic behaviour. He, however, moves towards me with his trunk between the tusks. Sinha asks me to retreat quickly; instead I change the 200 mm to normal 55 mm. Mid-way between me and the reservoir there is a big boulder over which hangs the branch of a tree. I expect the tusker to stop near the boulder (15 m from me) and then go back and provide me with a well-composed picture. How many times have I seen elephants with calves charge my jeep in Palamau forests; come half way and then retreat! He, however, does not stop near the boulder but I still take a shot

(photograph 3, rather fuzzy as by now I had lost nerve). The wildlife warden does the most sensible thing. He picks up every thing including my 200 mm. He lifts me by my arm and I now run for my life. Sinha, loyal as he still is to his ex-chief remains behind. I slip on the downward slope of the elephant path over loose gravel and have a black-out. Sinha says "the elephant had come within 7 feet of me—the distance between me and him could only be his trunk length". Sinha waves his white towel and shouts. The gentle creature decides at last to stop and turn. When I regain consciousness and get up with the camera still hanging round my neck, and look back, the tusker had almost reached back to the *bundh*. Bruised all over, the camera meter damaged, and completely shaken I walk up to the jeep some 50 metres away.'

How does one distinguish a threat display (mock-charge) from a real one? Douglas-Hamilton lived among elephants for 5 years in the small Lake Manyara National Park in Tanzania. 'Day by day he taught himself to recognise the individual elephants. He watched the young bring up the babies and the old rush to the help of the stricken and the dying. The matriarch Boadicea, the four terrifying Torone sisters and the gentle Virgo had distinct personalities. Elephants threatened or ignored him; three times they transixed his Landrover with their tusks and in the end Virgo came to accept him and in-

troduced her calf to him while remaining truly wild'. When Boadicea launched one of her threat charges she swept close past Douglas-Hamilton's Landrover and discharged her aggression on an innocent gardenia bush.

Redirected aggression is usually elicited by an object that simultaneously evokes fear. Swinging of one of the front legs to and fro, and rocking from side to side are common 'displacement activities' seen when an elephant appears to be deciding between an attack and retreat. My elephant did nothing, and I was so certain he wont even chase me.

Gabbar Singh (after the villain of the Hindi film *Sholay*) as the tusker has been named after his encounter with me had not exhibited any 'redirected aggression' nor indulged in any 'displacement activity'. Paradoxically most impressive 'threat displays' emanate from the most frightened animals which are unlikely to make a serious attack. Forest fire, illicit fellings, an abrupt change in his habitat in the summer of 1979 had frightened Gabbar Singh. He had chased and had been chased by villagers. He had charged me justifiably. I had no business to use his walking route and disturb him while he was drinking. Gabbar Singh has killed no one so far. Changes too abrupt in forest conditions and my own unpardonable actions made him to come as close as 7 feet but it was, I continue to believe, a threat display.



*A conversation not for children! Cow elephants and a calf at Dalma  
Photo: D. K. Lahiri Chaudhury*

He withdrew from a mere 7 feet distance. What better proof can one give of a mock-charge?

fine and differentiate between a mock-charge and a business one, I will not be able to answer.

But if some one asks me to de-

S. P. SHAHI

NATURE CAMP 1981

*The Society's Nature Camp for this year will be held at Pachmarhi, M.P. in October. Please register early.*

# NOTES, NEWS AND COMMENTS

## Happenings in 1980

From time to time during the year we have in these columns drawn attention to the major activities in operation at the Society largely originated by the Society. We describe below some of the studies undertaken by members on their own initiative and supported by the Society.

### DISTRIBUTION OF THE RHESUS AND BONNET MACAQUES

The traditional boundary of distribution between the two species was considered to be the Godavary river. Dr. Jack Fooden of the Field Museum of Natural History, Chicago, Ill., U.S.A., assisted by the Society's staff, members and officers of the Zoological Survey of India travelled extensively along the zone of separation to test his thesis that a river cannot be a boundary for species which swim well. The Godavary is apparently not the boundary as both species occur on both banks in some areas. We still do not know the environmental factors which keep the species separate.

### PHEASANT SURVEY

A. J. Gaston of the Edward Grey Institute, Oxford, U.K. assisted by Vivek Matthai from Bom-

bay, both members of the Society, did a census of pheasants in the Himachal Pradesh. The survey session also helped to train forest officers and others in census methods.

### WILD BUFFALO IN BASTAR, MADHYA PRADESH

A critically endangered population, the only one of this species in peninsular India, has been the object of continued attention by Mr. H. K. Divekar, a member of the Executive Committee of the Society. The buffalo appears to have a slender chance of survival if domestic stock diseases do not destroy them.

### FRESHWATER TURTLE

A group of reptiles ancient in origin and of immense biological interest and particularly useful in zoogeographic studies. Very little is known of the Indian forms though many of them are very heavily exploited commercially. Mr. P. Kannan, Assitant Director, Wildlife, Government of India, and a member of the Society has now started a project to collect data on distribution, and biology of the Indian river turtles and terrapins.





*Male Painted Sandgrouse on nest*  
*Photo: Rishad Naoroji*

#### **Data Centre for Natural Resources**

World Wildlife Fund—India has opened a Data Centre for Natural Resources, at Bangalore. The centre will collect material about wildlife and their habitats, and suitably index them for reference and use by interested persons, with a view to promote conservation, and prevent destruction of habitat through control of environmental pollution.

The functions of the Centre will thus be twofold; to collect, and disseminate information. The Centre will also collect unusual photographs, both black-and-white and colour, relating to the above topics.

Those interested should contact  
THE ADMINISTRATOR  
C/O DYNACRAFT MACHINE Co.  
LTD.  
36, 7TH CROSS (FIRST FLOOR)  
VASANTHANAGAR  
BANGALORE 560 052.

#### **An appeal**

I am photographing birds and as the nesting season is on (winter for owls and raptors and others from March to July) I would be grateful if you could inform me of any accessible nests. Nests in areas like Borivli National Park will not be feasible to work on as there is a lot of disturbance in the area. Nests on private properties of members or their friends or other areas would be preferred. I would be available at the following address, where the information could be made available to me

RISHAD NAOROJI  
BELHA COURT  
RAMCHANDANI MARG  
BOMBAY 400 001, PHONE 241490.

## The Pomegranate

*This is a condensed version of the popular article written by Fr. J. F. Caius, S.J. of St. Xavier's College 41 years ago and published in volume 42(1) of the Society's Journal for the year 1940. Fr. Caius, a man of many parts, was Professor of Chemistry at St. Xavier's, in-charge of the Pharmacology Section of the Haffkine Institute, Honorary Secretary of this Society and editor of the Society's Journal, and an authority on indigenous medicine.*

The origin and distribution of the pomegranate (*Punica granatum* Linn., the sole genus with only two species within the family Punicaeae) has never been satisfactorily settled, because the pomegranate has been so long under cultivation that it is impossible to say with any degree of certainty whether the plant is really native in any particular region.

The antiquity of the tree as a cultivated plant is evidenced by the references to the fruit in the Old Testament of the Bible and in the Odyssey where it is spoken of as cultivated in the gardens of the Kings of Phaeacia and Phrygia. In the villa garden at Tell-el-Amarna of King Amenhotpou IV, of the Eighteenth Dynasty, may be seen painted on the wall of a tomb ten pomegranate trees easily recognizable from the shape of the fruits and the leaves. The fruit is, indeed, frequently represented in ancient Assyrian and Egyptian sculptures, and it figures prominently among the offerings made to the gods by Ramses IV, a Pharaoh of the

Twentieth Dynasty. As a design it has been used in architecture and needlework from the earliest times. It formed part of the decoration of the pillars of King Solomon's Temple.

The pomegranate-tree was introduced into India from Persia or Afghanistan, presumably in the first centuries of our era. The tree is not mentioned in Vedic, Pali, or early Sanskrit literature; and the word *dalima* or *dadima* is traceable to the Iranian *dulim*.

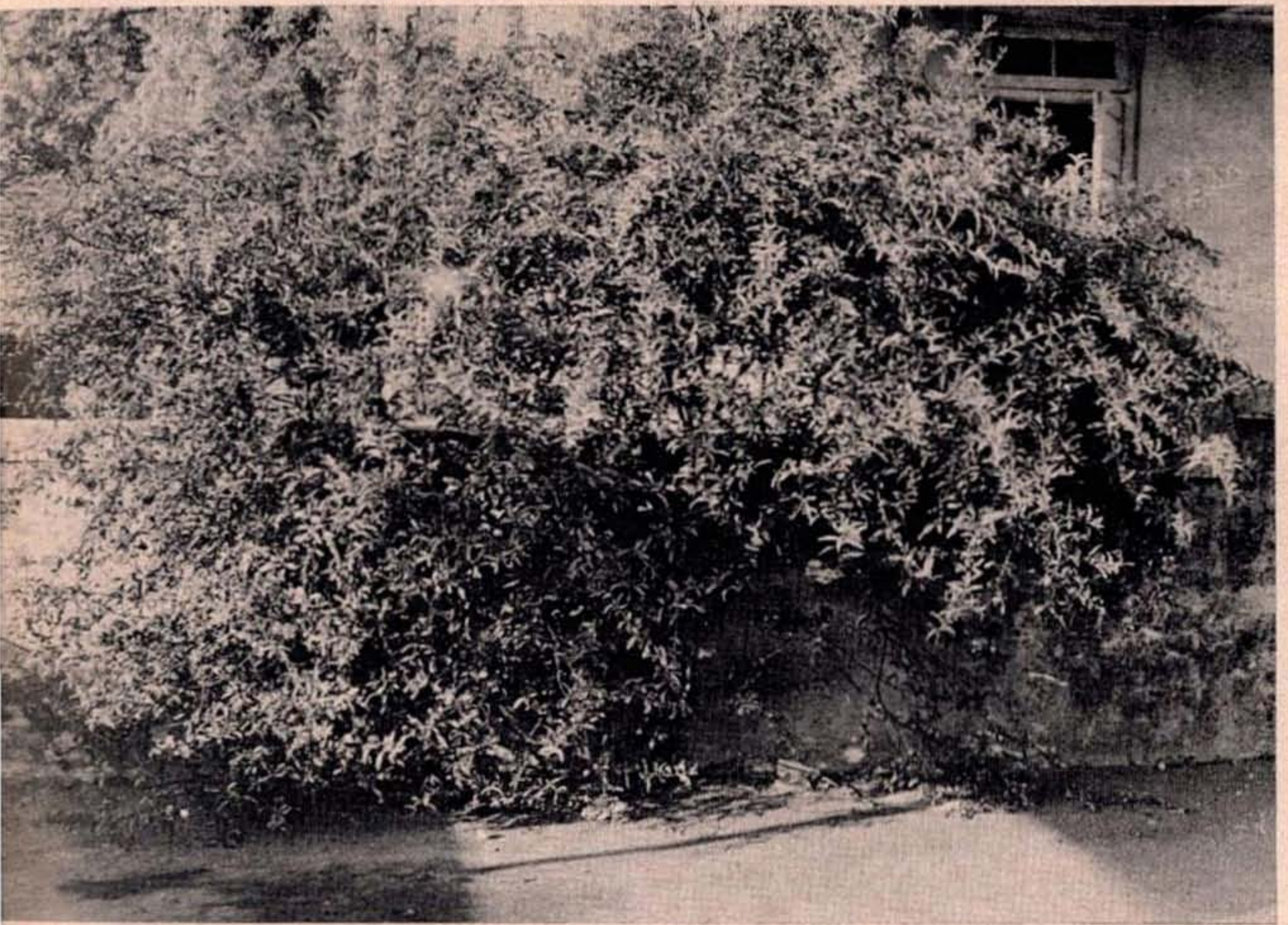
The pomegranate is a large deciduous shrub or small tree. As a tree it rises to a height of fifteen to twenty feet; it is covered with a desquamating greyish or pale brownish bark, and is divided into many slender, twiggy, nearly cylindrical branches, which are armed with spines. The buds and young shoots are red.

The flowers are large, raised on a short stalk, of a rich scarlet colour, solitary, or in twos or threes or fives at the extremities of the young branches.

The fruit is as big as a common orange, and not unfrequently much larger. It is globular, somewhat compressed, obscurely six-sided, and indehiscent. It contains numerous oblong or obconical, many-sided exalbuminous seeds, each enveloped in a distinct very juicy rose-coloured pulp enclosed in a thin skin, so that the inside of the pomegranate appears to be made up of

edible fruits. It is not particular as to soil, though it enjoys a deep calcareous ground and prefers a dry situation to one that is surcharged with wet. Gardeners in India recommend that the soil be mixed with a large proportion of bricks broken fine, together with old, decayed cowdung.

Although of such ancient origin



*A pomegranate tree*

*Photo: S. R. Nayak*

a large number of reddish berries packed tightly together.

The pomegranate is a favourite in the East, and is grown both for its beautiful flowers and for its

and cultivation, there are but few varieties of fruit-bearing trees, and the various kinds of pomegranate may be reduced to three; one very sour, the other two moderately sweet or very sweet.

The Emperor Jahangir mentions in his MEMOIRS the sweet pomegranates of Yazd and the subacid ones of Farrah, and says of the former that they are celebrated all over the world.

The seedless pomegranates so highly prized by Emperor Akbar's household came from Kabul; and the sweet, pure, and full-flavoured pomegranates with white and very transparent seeds were from Baluchistan. In course of time the seeds of these high class fruits found their way from Afghanistan to Bengal, where there is made mention of several fine varieties of local growth; very sweet, deliciously perfumed.

In India the Pomegranate is cultivated in various places; North Kanara, Bijapur, Sholapur, Satara, Poona, Ahmednagar, Ahmedabad, Muzaffargarh, Delhi and Jodhpur.

The pomegranate plants begin to flower when they are three years old; but this first flowering brings very little fruit, and it is not until the fourth year that the garden is earnestly taken in hand. During those first four years the plants are manured once a year with farmyard manure and whenever possible, with fish manure also. The ringed area is dug out once in three months to give a better circulation of air. No weeds are allowed to grow. In the fourth year the rings are widened up to eight feet in diameter.

Pomegranate plants flower thrice a year: in February or March, *am-*

*bebahar*; in June, *mrig-bahar*; and in September, *hatti-bahar*. Five or six months after the flowering the fruit is ready for marketing.

Each plant bears about forty fruits in the first year, and each year the number increases even up to four hundred when the tree is fully grown up. If good care is taken of them the trees bear fruit up to from twelve to fifteen years. When a plant does not bear a sufficient number of fruits it is pruned leaving the stem only from six to twelve inches above the ground. The cut surface is plastered with cowdung, and the plant is heavily manured and watered. New shoots come out and grow into trees which bear fruit for another ten years.

The different varieties of pomegranate have been found to suffer from attacks of birds and insects, and from fungus infections.

Parakeets are the only birds attacking pomegranates. They visit the plantation especially in the morning and in the evening and should be regularly watched.

The fruit-boring insect is *Vira-chola isocrates* Fabr. (known as *sursa* in the Deccan), the most important economically of the butterflies, perhaps the only one that is constantly and regularly injurious, and sometimes a serious pest of pomegranate.

The larva feeds inside the fruit of the pomegranate and, some time before becoming a pupa, eats its

way through the tough rind and fastens the fruit with silk to its stalk, thus preventing it falling off in case it should wither before the butterfly escapes, as it generally does.

In the East the pomegranate is universally eaten and much esteemed as dessert. The fruit is cut open, seeded, strewn with sugar, and sometimes, as it is particularly the case in Syria, sprinkled with rose water. The Portuguese prefer wine to rose water. The seeds are also much used in syrups and conserves.

In India pomegranate *sherbet* is highly esteemed, and justly appreciated by all who have tasted it.

It is but one step, one very short step, from the sweet juice to the 'Pleasant liquor that distils from the pomgranet fine' (Drayton), and man was not slow in taking that step. Pomegranate-wine was known throughout the Near East at an early date.

Ye-lu Ch'u-ts'ai, in the account of his journey to Persia (1219-1224), speaking of the pomegranates of Khojand, which are as large as two fists and of a sour-sweet taste, says that the juice of three or five fruits is pressed out into a vessel and makes an excellent beverage.

A jet-black smooth writing ink is made of the bark of the root. This is much used by Algerian scribes, and in particular by the 'sopherim' when copying the text of the sacred

Mosaic books. The barks of both the root and the fruit enter into the composition of popular preparations used by Annamites to lacquer their teeth, or by Moroccans to dye their hair.

The astringent rind of the fruit is a valuable tan, and is also employed as an auxiliary to colouring agents, generally turmeric or indigo, in dyeing. Alone, it imparts to cloth the greenish colour known in the North-West Provinces of India (now Pakistan) as *kakrezi*.

Their nourishing and digestant properties have been proverbially nut-shelled by the Arabs: 'If hungry, eat pomegranate; if sated, eat pomegranate'. And they had to be eaten at the conclusion of royal banquets in order to facilitate the digestion of fatty viands.

Ayurvedic physicians prescribe the juice of the ripe fruit combined with saffron as a cooling drink in dyspepsia and in fevers. The seeds are considered to be stomachic, the pulp cardiac and stomachic; by some it is said to be diuretic and antibilious.

The rind and the flowers in decoction with opium and an aromatic, such as cloves, cinnamon, coriander, or pepper, are used as an astringent in bowel affections unaccompanied with ineffectual and painful straining at stool.

In some parts of India the expressed juice of the leaves and the

young fruit is used in dysentery. In other parts the juice expressed from the leaves and flowers is sniffed to stop bleeding from the nose.

The efficacy of the bark of the root of the pomegranate tree, as a remedy for the tapeworm, has long been established in India. It is given in decoction prepared with two ounces of the fresh bark, boiled in a pint and a half of water, till but three quarters of a pint remain; of this, when cold, a wine glassful may be drunk every half-hour till the whole is taken. This quantity occasionally sickens the stomach a little, but seldom fails to destroy the worm, which is soon after passed.

Among popular beliefs, in various parts of India the flower and the fruit of the pomegranate are given to women to eat, so that they may conceive sons. Among the Arabs, the bride, when dismounting before the tent of the bridegroom, receives a pomegranate, which she smashes on the threshold, and then flings the seeds into the interior of the tent. The Arabs would have a man like the pomegranate; 'bitter-sweet, mild and affectionate with his friends in security, but tempered with a just anger if the time calls him to be a defender in his own or in his neighbour's cause.'

Mythology has it that pomegranate was one of the attributes of Aphrodite or Venus, the goddess of love and beauty; of Demeter or Ceres, the goddess of agriculture and vegetation; and of Dionysus or Bacchus, the youthful, beautiful, but effeminate god of wine.

The pomegranate is one of the fruits offered to the deity by a Hindu woman taking the *saubhagya vrat*, that cruel death may not snatch away from her the husband she loves. It is also one of the nine plants that make up the *nava patrika*, worshipped on the occasion of the Durgapuja, as carried in some districts of Bengal.

And finally Proverbs, *Omni malo punico inest granum putre*, says the Latin: 'Every pomegranate has its rotten pip.'

*Ek anar, sau bimār*: one pomegranate to a hundred sick. A Hindustani proverb used when there are many candidates for the same post; 'one post to a hundred applicants.'

*Kauve ki dum men anar ki kali*: pomegranate blossom on a crow's tail. A Hindustani proverb used to describe a finely dressed black ugly person.

J. F. CAIUS, S.J., F.L.S.

## Blackbuck at Porbandar, Gujarat

In the second week of January I visited Porbandar and was told that one can see plenty of Blackbuck about 25 km from Porbandar on the Porbandar-Ahmedabad Highway, when I enquired about wildlife possibilities.

Next day I reached the small village of Kandorna Rana and was informed that the villagers actively discouraged anyone attempting to shoot these animals and had occasionally beaten up hunters. Because of this attitude the Blackbuck are totally protected around the village.

I spotted a herd of forty having three adult males, 3 subadult males

and rest females. The herd was resting in a ploughed field. I slowly approached them. However, when I was at a distance of 300 yards, the three males became restive, stood up and looked at me. When I advanced further they slowly started moving away from me. At this point, I halted and the animals too stopped and stood facing me, alertly watching.

It was a beautiful sight. I was told that the animals stay around the village in the fields during the night and go out grazing in the morning to the hills near by returning again in the evening.

A. M. MOHILE



*A young Blackbuck male*

*Photo: E. P. Gee*

# Birdwatcher

## Robbery among Raptors

It was the fourth week of March 1978. We were sitting on the balcony of Arimura Rest House, 12 miles inside the Kaziranga National Park. It was the driest part of the year. Everything was parched. The air was hot. Everything shimmered in heat waves. We were gulping lukewarm beer and lazily watching an endless procession of feral buffaloes moving from east to west along the north bank of a water-hole 100 yards away. There was no other sign of life.

At about 2 p.m. I saw a pair of brown crakes leave a thorn bush at the edge of water and push their way around in search of food. Some time later, I found that they had strayed dangerously away from their only shelter, the thorn bush which at the time was 30 yards from them. These birds have practically no power of flight and never stray far from shelter to which they quickly fly-walk at the slightest hint of danger.

The Marsh Harrier came low, unseen, using the thorn bush as approach cover. When they saw the harrier, the crakes dived instantly. The harrier turned round and followed the birds' subaquatic progress to their destination, which as the predator's flight indicated, was the thorn bush. Perhaps there was too much underwater vegetation or perhaps the poor birds had no time

to fill their air sacs. After making about 15 yards, one of the crakes began to surface. At 6 ft the harrier stopped and hovered, waiting for the victim to break surface. Just before that it gently settled on the water surface with folded wings as if it were so much hard ground. Unthinkable! Actually, the predator was using its victim's buoyancy to keep itself afloat and drowning it at the same time. After about 2 minutes, the harrier took off, carrying its lunch. That was as far as it went. Out of the blue down came a big bird in a power dive. Laden with a bird half its own size, the harrier had little chance to manoeuvre. To avoid contact, it dropped its so skillfully earned lunch and flew away. The bigger bird had not changed its line of dive and seemed to have disappeared among the tall grass. We decided not have lunch until we found out what bird it was. So we waited. After 25 minutes, it came out. It was my old enemy of hunting days—Pallas's Fishing Eagle, the game thief.

We were enjoying the traditional 18 mile boat ride from the rest house to Kahitema down the Manas river in the Manas Wildlife Sanctuary in late November 1978. At 10.30 a.m. my angler friends stopped the boat for casting. As I could not afford a rod, I decided to pass time looking for game. Of course sitting in the boat. We had



already seen about 40 truly wild buffaloes. I had no intention to meet them on the same bank without the safety of the boat and swift flowing water. I then saw the raptors, one big and one small, light coloured, almost white, at a height of about 500 ft. With the bigger bird hot on its tail, the smaller one was desperately trying to gain height, zigzagging. Both were beating their powerful wings frantically. At about 800 ft, the smaller one de-

cidied to break the dogfight when it let go of its hard earned breakfast—a foot long silvery white fish glinting in the bright morning light. The fish fell free for about 300 ft when the bigger predator expertly swooped on it as if it did it for fun every day. For a fraction of a second both the bird and fish froze in mid-air. Then the robber made for the nearest tree.

MOSADDIQUE UMAR



*Pallas's Fishing Eagle*

*Photo: E. P. Gee*

# CONSERVATION ACTION

## Indian Board for Wildlife

The Indian Board for Wildlife, the premier policy making body on wildlife of the Government of India held its 14th meeting on February 9th under the Chairmanship of the Prime Minister, Mrs. Indira Gandhi.

In her brief opening remarks, the Prime Minister stressed the need for proper and effective implementation of the policies and programmes already initiated by Government and called for a 'multi-dimensional approach' in dealing with matters concerning environmental protection, including conservation of wildlife and its habitat. The Prime Minister also referred to the need to involve persons living in villages in or near wildlife areas as well as persons like trappers and hunters, in the process of conservation and protection in order to see that their knowledge of environment is preserved and they feel that their development is bound with the development of wildlife.

One of the main decisions was the nomination of a Standing Committee with the following functions:

i. To watch the implementation of the recommendations of the Board and to aid and advise the Central and State Governments on any matter arising therefrom.

ii. To carry out all such functions of the Board as the Board may, from time to time, delegate to it, as well as to take action on behalf of the Board while it is not in session.

iii. To constitute specialised Committees, sub-Committees and Study Groups as may be necessary, from time to time, for proper discharge of the functions of the Board.

The Standing Committee consists of

1. Chairman, IBWL
2. Vice-Chairman, IBWL
3. Shri Digvijay Singh, M.P.
4. Chairman, NCEPC
5. Secretary (A&C)
6. Inspector General of Forests
7. to 10. Regional Representatives of Northern, Eastern, Southern and Western Regions
11. Dr Sálím Ali, President, BNHS
12. Lt. Col. Fatesingh Rao P. Gaekwad, President, WWF-India
13. Director, Zoological Survey of India
14. Director, Botanical Survey of India
15. Member-Secretary, IBWL.

The Board also approved the following names as Regional representatives of the IBWL.

Dr L. M. Nath—Northern Region

Prof. Madhav Gadgil—Southern Region

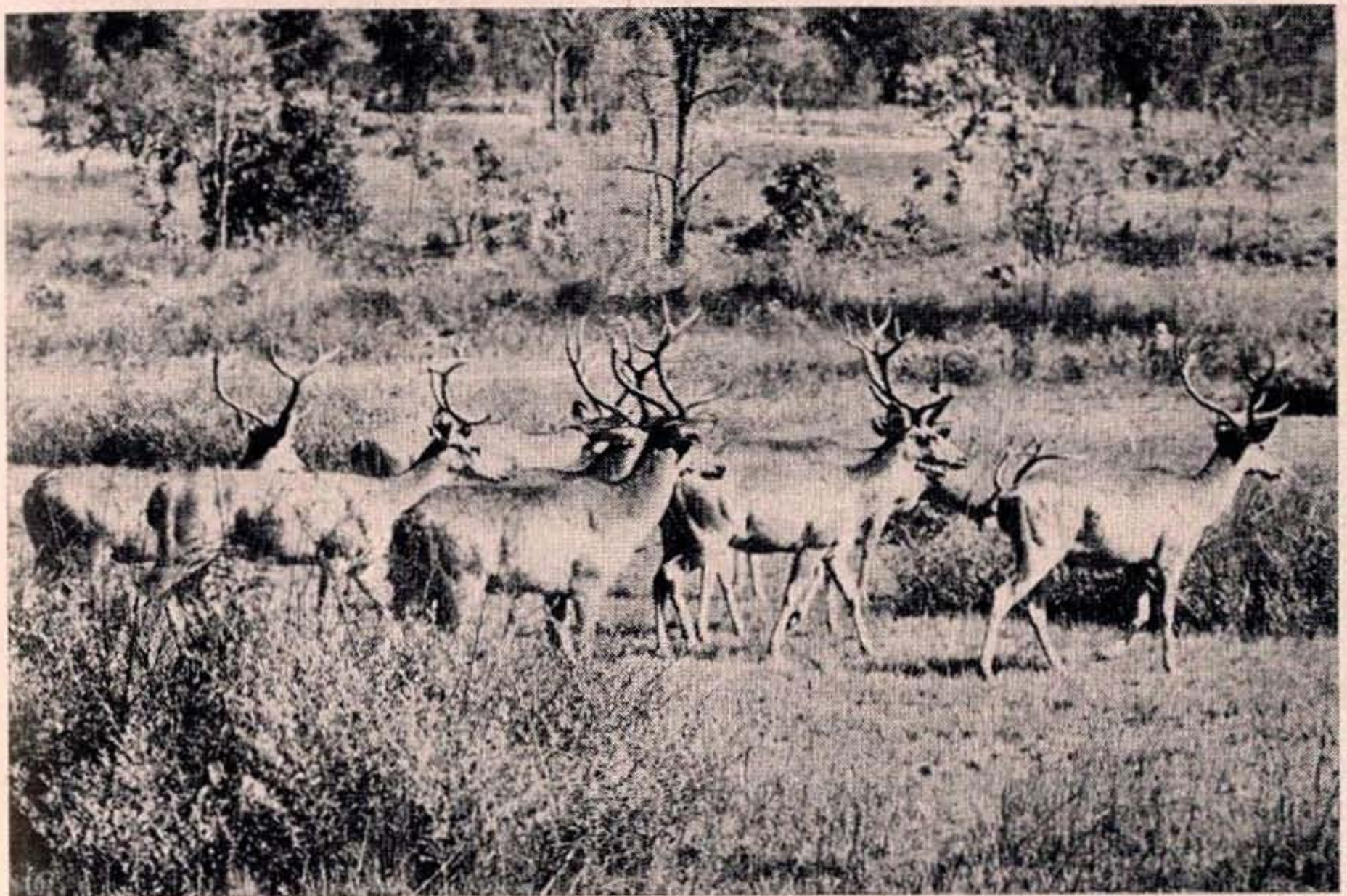
Shri S. P. Shahi—Eastern Region

Shri J. C. Daniel—Western Region.

The Regional representative of the Board is expected to report on both constructive and destructive

effects of official decisions and policies on wildlife and also the effects of developmental and other activities on Wildlife and its habitats.

The Society's representative seeks your assistance in obtaining an overall view of the conservation of Wildlife in Western India and the specific problems, if any, which may require the attention of the Board.



*A school of stags of the endangered Swamp Deer at Kanha  
The Indian Board for Wildlife strives to preserve a place in the sun for  
India's Wildlife*

*Photo: E. P. Gee*

## The endangered Grizzled Giant Squirrel

*Ratufa macroura* the Grizzled Giant squirrel, so named from its greyish fur, is a near extinct species in India, though still found in large numbers in Sri Lanka (Hoffmann *pers. com.*). Though this squirrel has been described in Sangam Literature many centuries ago and was called *velil*, meaning bleached, it is now found only in the Alagarkoil valley and Ayyanarkoil area on the arid slopes of the Western Ghats, comprising of dry deciduous forest of Srivilliputhur Reserved Forests of Ramanathapuram district of Tamilnadu.

I first noticed the species in 1974 while doing field work for the Forest Resources Survey of Ramanathapuram district near Shenbagatoppu temple forests near the Srivilliputhur Reserved Forest boundary and this was included in my report. It is now not found in Shenbagatoppu. Between 1974 and 1980 I have done over 1000 squirrel hours.

The habitat is single storeyed with a canopy density of about 30 per cent and is comprised of *Terminalia arjuna*, *T. bellerica*, *Syzygium* spp., *Albizia lebeck*, *Ficus* spp., *Mangifera indica*, *Emblica officinalis*, and *Anogeissus latifolia*. One striking characteristic of the habitat is the colour of the natural and lichen covered barks of trees, which are shades of grey, whitish grey or light grey. It appears that the bark colour serves as an effective camouflage. Though their arboreal pathways are contiguous, they

usually follow the lower branch line. There is a preference for positioning the dreys at low heights and for using branches equivalent to their body size, i.e. around 30 cm. There appears to be no problem as to the availability of and accessibility to food, throughout the year; there is little competition for food or space from other animals, such as Palm Squirrel and Common Langur. Elephants occasionally pulled down lower branches containing nests. The wild boar and porcupine exposed tubers of some plants enabling the squirrel to use this food. Potential predators are the Crested Serpent Eagle, Crested Hawk-Eagle, Black Eagle and the Yellowthroated Marten. Urine markings were noticed on the forks and exposed branch ends. Contact calls and alarm calls are heard mostly on the outer fringes of the habitat.

MANGALARAJ JOHNSON



*Grizzled Giant Squirrel*



*Habitat of the Grizzled Giant Squirrel*  
*Photo: Author*

## Butterflies of Bombay—5

This instalment deals with nine butterflies of the family NYMPHALIDAE, continuing the series from p. 30 of *Hornbill* 1980(4).

### Family NYMPHALIDAE

Butterflies of this family occupy a variety of habitats, such as plains, jungles and altitudes. However, all of them are sun-loving.

32. PAINTED LADY *Vanessa cardui* (Linnaeus). Very common from July to October and can be seen flying in open places, gardens and fields. At rest the forewings are drawn back into the hindwings and owing to the protective coloration of the hindwings it is difficult to spot these butterflies. Larvae feed on *Artemisia*, *Blumea* and *Zornia* spp.

33. COMMON LEOPARD *Phalanta phalantha* (Drury). Common from February to May and again in November. Seen feeding on lantana. Larval food plants are *Smilax*, *Saxifraga* and *Flacourtia* spp.

34. COMMON CASTOR *Ergolis merione* (Cramer). Common. On the wing from August to October. Larvae feed on *Ricinus communis* and other euphorbiaceous plants.

PANSIES. Six species of Pansies occur in India, and all six are present in Bombay. Butterflies of the Pansy group have ocelli or eye-like markings on the outer area of the wings. The insects exhibit seasonal variation, dry season forms being pale and indistinctly marked on the underside. Preferring open places, they fly close to the ground.

35. YELLOW PANSY *Precis hierta*

(Fabricius). Common on wing from July to November, and again in March. Larval food plants *Asteracantha* and *Barleria* spp. Adults fly close to the ground and settle on roads and stony ground. They love sunshine.

36. BLUE PANSY *Precis orithyia* (Linnaeus). Common in July-August. Habits similar to those of the Yellow Pansy. Larval food plants, *Justicia* and *Hygrophila* spp.

37. LEMON PANSY *Precis lemonias* (Linnaeus). Commonly seen from June to October. These butterflies prefer to stay inside the forest and keep to shrubbery and thickly covered water patches. Larval food plants are *Asteracantha* and *Barleria* spp., *Sida acuta* and *S. rhombifolia*.

38. PEACOCK PANSY *Precis alma-na* (Linnaeus). Very common from June to November. Fond of margins of streams, nullahs and can often be seen sipping nectar in compounds and gardens. Larval food plants are *Asteracantha* and *Barleria* spp.

39. CHOCOLATE PANSY *Precis iphita* (Cramer). Common in the monsoon. These butterflies prefer shady places and are fond of settling on damp patches. Larvae feed on various Strobilanths and *Asteracantha* sp.

40. GREY PANSY *Precis atlites* (Johanssen). Uncommon. Seen in August and September. Larval food plants are *Asteracantha* and *Barleria* spp.

NARESH CHATURVEDI  
S. M. SATHEESAN



32



33



34



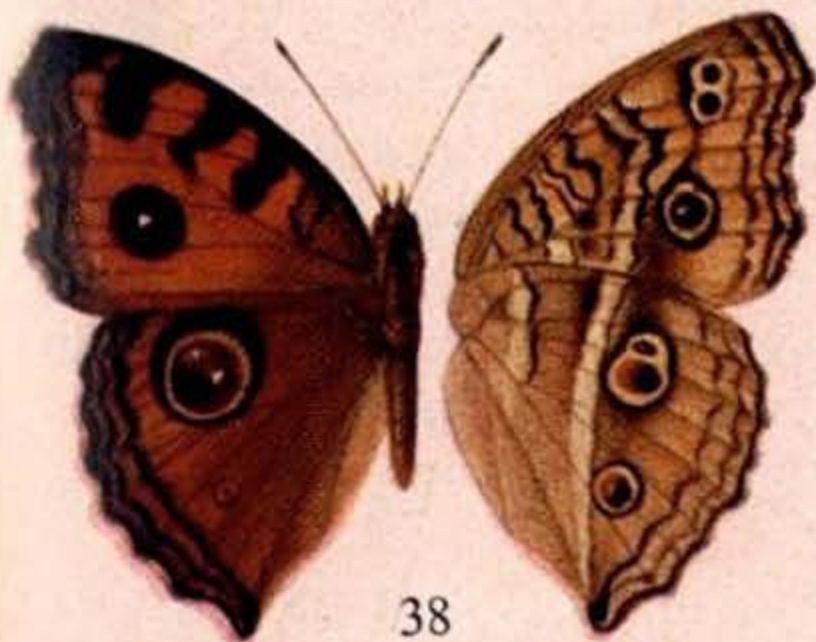
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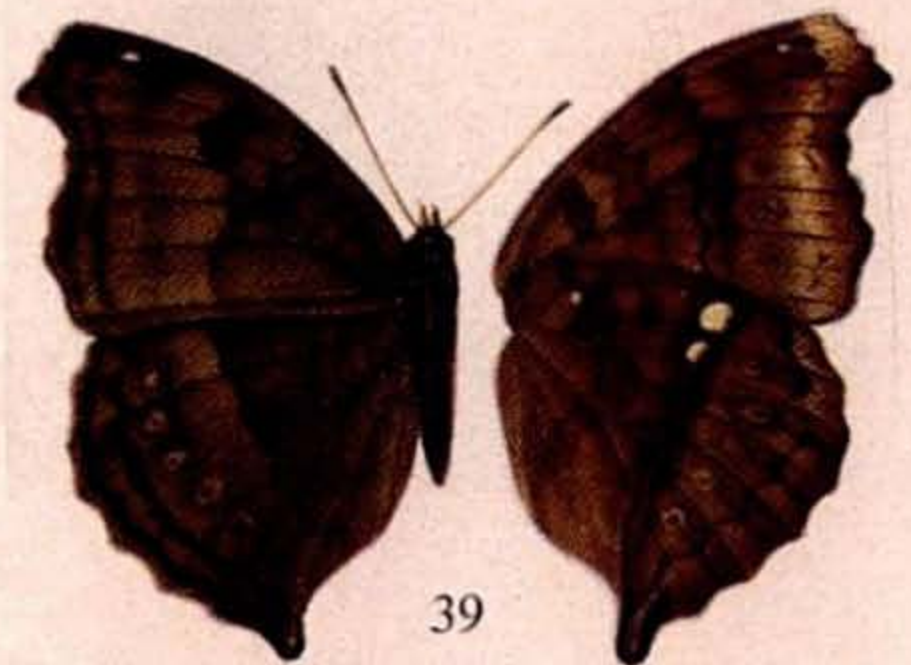
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39

NATURAL SIZE

## A curious cluster of mangoes

At the instance of the authorities of the Ammunition Factory, Kirkee, Pune, we visited the place on 1.iv.1980 to see a mango tree (*Mangifera indica*) growing in the fac-

tory compound, which had a few branches pollarded off near their base in October 1979. These leafless branch bases were completely covered with 2-5 cm diameter mangoes like bunches of grapes—an abnormal bearing and a curiosity.



*The mango clusters*

*Photo: Authors*

Irregular mango bearing is a well-known phenomenon. Flowering is intimately connected with its vegetative growth. Environmental conditions like climate, soil, moisture, cultivation and pests and diseases may accentuate or diminish the amplitude of flowering and fruiting. Girdling round the branch bases and chopping off some of the lower branches are known to force blossoms/fruiting where the vegetative growth is more. Further, a high carbohydrate ratio is conducive to flower bud differentiation, while greater ratio of nitrogen produces vegetative buds.

What has actually happened in the present case is that the time of cutting of the branches and the time for flower bud differentiation have so well coincided that there was enormous concentration of the carbohydrate deposited near the branch bases, which induced profuse flowering on the remaining portion of cut branches resulting in numerous leafless panicles and consequently such profuse fruit setting.

B. D. SHARMA  
N. P. SINGH



# Tiger, tiger

## THE TIGER AND THE TRAIN

About a month ago a curious incident occurred on the G.I.P. main line where it runs through the Satpurus near Asirgarh.

Some surface men walking along the permanent-way came on the end of a tiger's tail lying beside the rail. It had obviously been quite recently cut off by a passing train. An inspection of the grass on the adjacent bank showed that some animal had made off with difficulty and a few steps were sufficient to bring part of the tiger into view. The surfacemen considered a closer inspection would be imprudent, although on their way to the nearest village they stoutly maintained to themselves that the tiger was dead, and they were thus able to impress on the local Shikhari the simplicity of firing a bullet into its carcase and claiming the reward which Government pays for the destruction of tigers. The Shikari and the surfacemen promptly returned to the spot and the former (no doubt with a reduced charge for economy's sake) fired at the tiger, which at once got up and mauled him. While this was taking place a keyman on the G.I.P., who was also present, ran in and split the tiger's skull with an axe. The unfortunate Shikari died subsequently of his wounds. The tiger was found to have been struck by a passing train in the hind quarters and badly damaged. As such an occurrence must

be very unusual it may be of some interest to the readers of the Journal. It is difficult to conceive how such a cautious and active animal as a tiger could get caught by a train; it might be accounted for by the passing of two trains simultaneously, or again the tiger at the last moment may have thought the other side of the track afforded more cover and security. I have heard of several instances of leopards being killed by trains, but these animals are much less timid of man and all his works than tigers are.

A. A. DUNBAR BRANDER, IFS

*Khandwa, Central Provinces*  
November 1918.

From the *Journal of the Bombay Natural History Society* Vol. 26: 658; 1919.

TIGRESS (*Felis tigris*) ATTACKING A SLOTH BEAR (*Melursus ursinus*)

On the night of the 10th of this month a tigress and cubs killed one of my kills in a nullah, and I sat up with a friend. It was a bright moonlight night. About 7.30 we suddenly heard an appalling noise about 150 yards away on our right and behind us. It sounded like two tigers fighting. Then we saw a bear coming hurrying and stumbling along the nullah from our right. It

was gasping for breath, and when it got just in front of up on the opposite bank of the nullah, it suddenly uttered a roar and jumped round, as bears do when they think something is attacking them. I thought the tigress must be following, so I advised my friend not to shoot. The bear now went on a few yards, and sat down to get breath, gasping and occasionally moaning. Then it went off towards our left, still muttering and complaining, and unfortunately for itself crossed the nullah into the jungle behind us. Suddenly the uproar commenced again, and it was obvious that the tigress had gone for the poor old bear again. The howls of the bear, and the roars of the tigress went off through the forest, and gradually faded away in the distance. After they had died away I heard the plaintive calls of what I thought at the time were bear cubs, but which might have been tiger cubs, going off in the same direction. The tigress never came back to the kill. I have heard of tigers killing bears, but I suppose I shall never be so near seeing the performance as I was on the night of which I write.

J. A. DUKE, DSP  
*Nimar, 4th March 1919.*

—From the *Journal of the Bombay Natural History Society* Vol. 26: 659; 1919.

#### TIGER (*Felis tigris*) CLIMBING TREE

The following unusual though not unprecedented occurrence might interest Shikari members. A wound-

ed tiger (I suspect tigress, they are generally more active) took a boy out of a tree from over 20 feet from the ground. It managed to grab him by the ankle and the combined weight of the tiger and boy broke the branch on which the boy was sitting and brought him to the ground. The ankle was broken, a compound fracture and the leg had to be amputated, but the boy, a Bhil, is doing all right. The lowest claw mark on the tree is 3 feet from the ground, and the highest 21 feet. This means that the tiger not only jumped, but also actually climbed—though the climbing was only a couple of jerks upward a few feet at most, just enough to reach the boy's ankle.

This happened a few days after the beginning of the month. There was only one gun—my assistant who did everything possible to get the tiger but it got away. The rifle was a .450 *express* (not H. V.) with Eley's hollow bullets—an inadequate weapon for tigers and such like animals as previous experience has shown. The tiger had gone through the stops and thought itself clear. The boy (he is about 16 or 17 I think) was sitting outside the line of stops—his own idea—and nobody knew he was there. He thought he would be clever and stooped down to 'shoo' the tiger back which was too much for the latter's nerves. I give the account as it was given to me by letter, and afterwards by word of mouth.

Instances of the kind are sufficiently uncommon to make each

one that occur perhaps worth recording. Many years ago a stop was taken out of a tree by a wounded tigress in Kanara. I think General Peyton mentions it in the Gazetteer and I know myself of one case in which a tigress got into a tree—also in Kanara to get out of the way of dogs. But this was a tree with big branches low down—a *Fiscus*, as far as I remember, and the heaviest

tiger could have jumped into it easily enough and in fact have slept in it if he wanted to.

G. MONTEATH, B.A., I.C.S.

*Jalgaon, East Khandesh*

*24th April 1919.*

—From the *Journal of the Bombay Natural History Society* Vol. 26: 837; 1919.

## **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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