

HORNBILL

1981 (3)



BOMBAY NATURAL HISTORY SOCIETY

The cover picture of this issue shows a Praying Mantis.

The insect gets its popular name from the Greek word Mantis, meaning a 'prophet', an 'oracle', or a 'soothsayer'. *Praying* refers to the behaviour of the insect—standing on its four hindlegs it joins its forelegs, lending a picture of deep meditation and prayer. Thus poised it awaits an unwary quarry to stumble near enough to pounce upon and devour.

The love life of the Praying Mantis is gruesome and as far as the male is concerned once and final. The female is an inveterate husband killer.

When a male comes across a receptive female, he first freezes, then cautiously approaches her—a mere distance of a couple of inches often taking hours for the male to cover. When within easy distance of the female he hops on her and clutches her. With wary movements he locks his vent with hers. Thus locked the pair remains. While thus locked the female chances to see the male, she extends her jaws towards him and nips his head and starts feeding on him, at the same time continuing to copulate with his beheaded body. What remains of the male falls off when the female has satiated her hunger.

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 78th 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

Entrance Fees	Rs 25.00
<i>Subscription</i>	
Ordinary individual membership	Rs 50.00
Ordinary corporate membership	Rs 100.00
Life membership	Rs 750.00
Compound corporate membership	Rs 1500.00

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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
 S. A. HUSSAIN
 J. S. SERRAO

EDITORIAL

The Society's Mishmash Macaque has every right to feel perturbed. Inflation has caught up with us. Your Executive Committee after debating the matter for a whole morning reluctantly increased marginally the subscription rates to the Society.

An ordinary member will now pay Rs. 60/- per annum instead of Rs. 50/-. That is, if you keep a piggy bank for the Society you put into it Rs. 5 every month instead of Rs. 4.17. A nice round sum; no fractions.

Student members will now pay Rs. 15/- per annum. The *Hornbill* continues to be subsidised for them as the four issues are sold at Rs. 5 each.

Life membership of the Society, if statistics prove anything and we do believe they can, is a guarantee of long, healthy life. Our life members live long, and some, we are glad to note, are almost eternal. At the new rate of Rs. 800/- it is a useful investment in geriatrics.

Corporate membership will now be Rs. 150/- per year, and Corporate Compound membership Rs. 1500/- for 25 years.



Bills, bills; there is no end to them.

Acknowledgement

We are grateful to Seth Purshotamdas Thakurdas & Divaliben Charitable Trust for financial help for the publication of this issue.

FEEDBACK

It is most gratifying to find that more people are taking to bird-watching, but this has created a situation for which a cautionary word is necessary. Of late, there has been far too frequent claims of new records of birds well out of their normal ranges. With greater number of observers in the field this is certainly going to happen and it is here that I would like to give a bit of advice, if I may.

When I was a young college student we had had the pleasure of having Dr. Sálim Ali—my childhood hero—as our guest to tea on our beautiful college lawns. I remember a Brown Rock Chat was hopping around. Sálim Ali asked what bird it might be (!) and I quite rashly said 'Brown Rock Chat'. I still remember his rejoinder 'Might it not be a Blue Rock Thrush?' Similarly, I remember some of us collected outside the famous ornithologist Horace Alexander's residence in Delhi. Some one pointed up at what was obviously a pariah kite. Alexander looks up and says 'Probably a kite'. These episodes are etched in my mind, and were further highlighted when a couple of years back Dr. Sálim Ali asked Shivraj Kumar to corroborate his identification of a warbler at Hingolghadh. His stature as a result did not diminish; it was enhanced.

Like the ire of members against the Editors for not accepting their observations on wildlife behaviour

and the solar eclipse, this advice might be upsetting to some of my young friends. Incidentally I made two interesting observations during the last eclipse. The Bayas in my backyard grew suddenly silent—I thought it was in response to the eclipse, but a shikra had just come in. I luckily saw it. A little later I saw a pair of ring doves mating at the height of the eclipse. Any scientific link ups?

LAVKUMAR KHACHER

Rajkot, July 8th, 1981

Perhaps this is the opportunity to republish the cautionary note to birdwatchers which first appeared in the journal Bird Notes Vol. 24(3), 1950 and was reproduced in the Society's Journal Vol. 49: 557-60; 1950.—Eds.

Field identification of Birds : Notes on the Hoodwink (*Dissimulatrix spuria*)

After conversations with many bird-lovers, glances at my own ornithological notebooks and perusal of articles in ornithological journals, I am impressed by the number of records of birds partially seen or indeterminately heard: and it seems evident that the majority of these records are attributable to a single species—the Hoodwink—which I propose to name *Dissimulatrix spuria*.

The existence of this species has already been recognised by several authors, amongst them James Thurber, who has presented a somewhat imaginative picture of the bird perched upon a spray of Ragamuffin. Gaetke, on Heligoland, shot several specimens of the Hoodwink, but they invariably fell over steep cliffs into the sea and 'were not secured'. Observers in tropical forests are familiar with the Hoodwink, which invariably keeps to the densest vegetation (where it is extremely vociferous), and refuses to be lured into the open by the observer's imitation of a Black Mamba. The Hoodwink has several times been photographed: it is the brown blur that passes rapidly from right to left in all ornithological films. In many records of bird song, also, the Hoodwink can be heard in the background, imitating the barking of dogs, the hooting of automobiles, the pleasant drone of the farm tractor, etc. The Hoodwink was known to the Ancients: unsatisfactory views of the Hoodwink, before the invention of the telescope, led to unreliable early records of the Phoenix, Roc, Harpy, Hippogriff, Barnacle Goose, etc. Nor has the Hoodwink been neglected in literature: it is clear to the experienced observer that both Keats and Shelley wrote Odes to the Hoodwink. The bird has also a definite place in British folklore; in parts of East Anglia it is, to this day, considered lucky to drink a gallon of beer both before and after first hearing the Hoodwink in spring.

A peculiarity of the Hoodwink is that it is more frequently observed by beginners in ornithology than by more practised observers. Yet records by practised observers exist. In a recent number of the *Ibis* a well-known ornithologist, in order to demonstrate the fatuity of 'sight records', related how he had seen a Common Buzzard identified by a German zoologist as a White-tailed Eagle. Now, according to the evidence to hand, there is no presumption that it was a buzzard rather than an eagle. Surely a third hypothesis is possible—that it was a Hoodwink. And readers of ornithological literature in the 1930s will remember the case of the Hoodwink on one of the London reservoirs which imitated now the Great Northern Diver now the Black-throated.

Only one record of a ringed Hoodwink exists: on being ringed, at Tooting Bec, it was entered in the schedule by the Misses Motmot and Tody as 'Little Tom Tit' and was subsequently recorded as 'Blue Tit, imm.' On being retrapped, it was thought by Miss Eleanora Falcon (of Woking), after reference to the HANDBOOK to be a Lanceolated Warbler. It was later found dead, in an advanced state of decomposition, and identified by Mrs. Snow-Bunting also of Tooting, as her Budgeriger *Melopsittacus undulatus*, Percy.

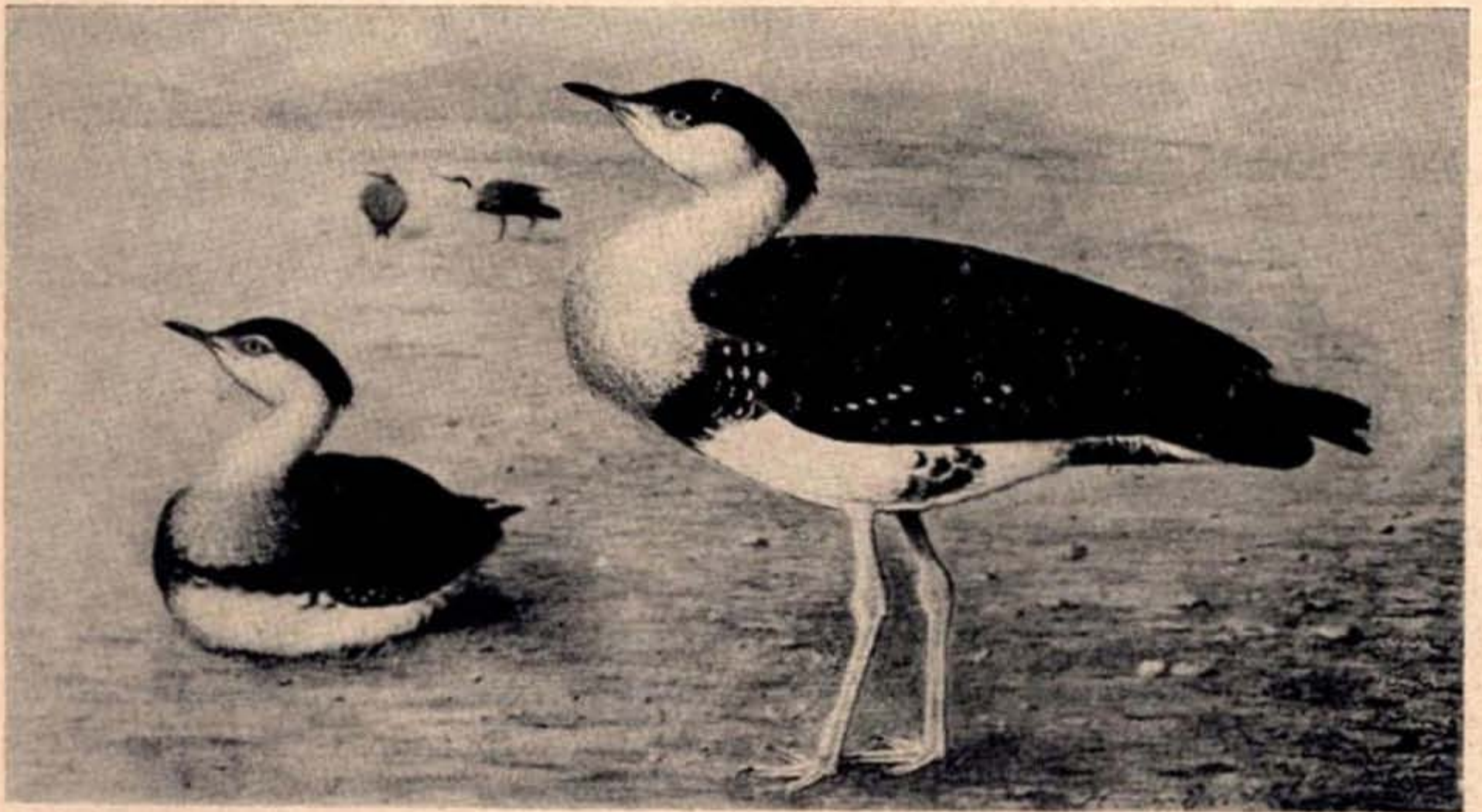
M. F. A. MEIKLEJOHN

15, Ox Lane, Harpenden, Herts,
England

PRESIDENT'S LETTER

In the last issue of *Hornbill* reference was made to two of our vanishing bustards—the Bengal Florican and the Lesser or Leekh. Illustrated here are two more of their similarly endangered close relatives—the Great Indian Bustard and the Houbara. The conservation of the former has become a matter of serious national and international concern because the bird is strictly endemic to the Indian subcontinent and found nowhere else in the world. It was commoner and much more widespread in its range even up to the thirties of the present century, but has been decreasing at an alarming rate particularly since World War II and even more rapidly after our Independence. In spite of having been a protected species under the Game laws and included in

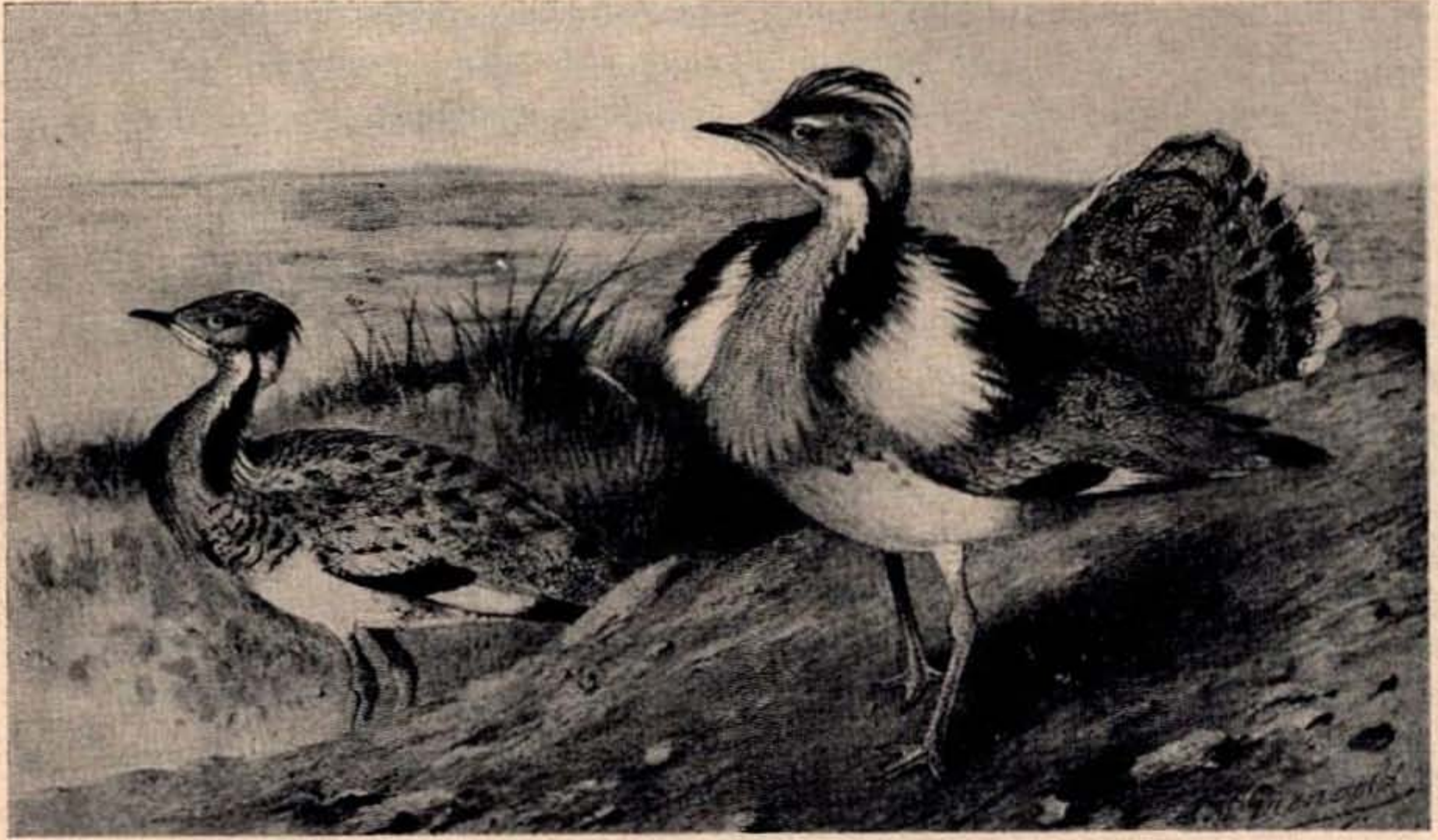
Schedule 1 (Totally Protected) of the Wildlife (Protection) Act of 1972, it has been, and continues to be, killed by unscrupulous pot hunters and poachers from Jeeps, largely as a result of which the bird has vanished altogether from several parts of the country. However, equally important or perhaps an even more serious cause for its decline is the loss everywhere of its grassland habitat due to encroachment by cultivation or overgrazing by the ever-increasing hordes of useless village cattle and the compacting of the soil beneath countless bovine hooves and rendering it unfit for natural regrowth of vegetation. Grazing cattle, moreover, pull out the grasses by the roots contrary to the habitat-sharing wild ungulates like blackbuck, who only nibble the



The Great Indian Bustard

sprouting tips. Further hazards to which breeding bustards are exposed in heavily grazed unprotected grasslands are the trampling of their eggs by stray cattle and the vandalism of the idle village urchins who tend the herds.

it is not too late. In blackbuck sanctuaries it has been observed that where grassland is enclosed within a protecting earthen parapet wall, or wire fence, so as to exclude village cattle and simulate natural regrowth of fodder grasses the area



Houbara or Mcqueen's Bustard

A thorough study of the ecology, breeding biology and population dynamics of the Great Indian Bustard is presently being conducted by the Bombay Natural History Society in different localities of the Peninsula where the bird is still tolerably common. This is part of a major project sponsored by the Central Government and financed from the PL-480 funds available in India. Its object is mainly to identify the specific factors responsible for the steady decline in the bustard's status, and to initiate remedial action to save the bird from extinction while as yet

soon becomes eminently suitable for the antelopes. The bustard is a natural commensal of the blackbuck and commonly shares its habitat, especially in its breeding season, though it may wander far and wide at other times. Thus, in a properly warded blackbuck sanctuary it should be possible at the same time to afford adequate protection to the bustard during the crucial breeding period. We are hoping that other protective measures will also suggest themselves in the course of the intensive investigations.

Our second illustration is of the

Houbara or Mcqueen's Bustard which is a fairly common winter visitor to the semi-desert portions of NW. India. The houbara has figured prominently in the news within recent years thanks to the large scale 'extra territorial' activities of royal falconers from the Gulf emirates and Saudi Arabia in the arid zones of Pakistan and NW. India, especially in Rajasthan. Although only a winter visitor to the subcontinent it is our moral responsibility to give the bird all reasonable protection considering the heavy drain suffered by the migrant population through the execrable operations of Arabian

nobility employing ever more sophisticated devices in their almost fanatical falconry expeditions against the bird. It is for this reason that the Indian Board for Wildlife has consistently and firmly declined to recommend to the Government of India the entertaining of all diplomatic overtures from various Gulf states from time to time for permitting to hunt houbara within Indian territory on howsoever alluring *quid pro quo* (oil vs. wildlife) terms!

Salim Ali

ATTENTION DONORS

The Bombay Natural History Society is approved for section 10(2)(xiii) of the Indian Income Tax Act, 1922. Donations made to the Society for specific purposes are totally exempted from payment of Income Tax under this section.

Mr. M. G. Pratt, one of our members, desires to buy *urgently* a copy of M. A. Wynter-Blyth's BUTTERFLIES OF THE INDIAN REGION. Prospective sellers among our readers are requested to contact him at

No. 10, EDWARD ROAD
BANGALORE 560 052

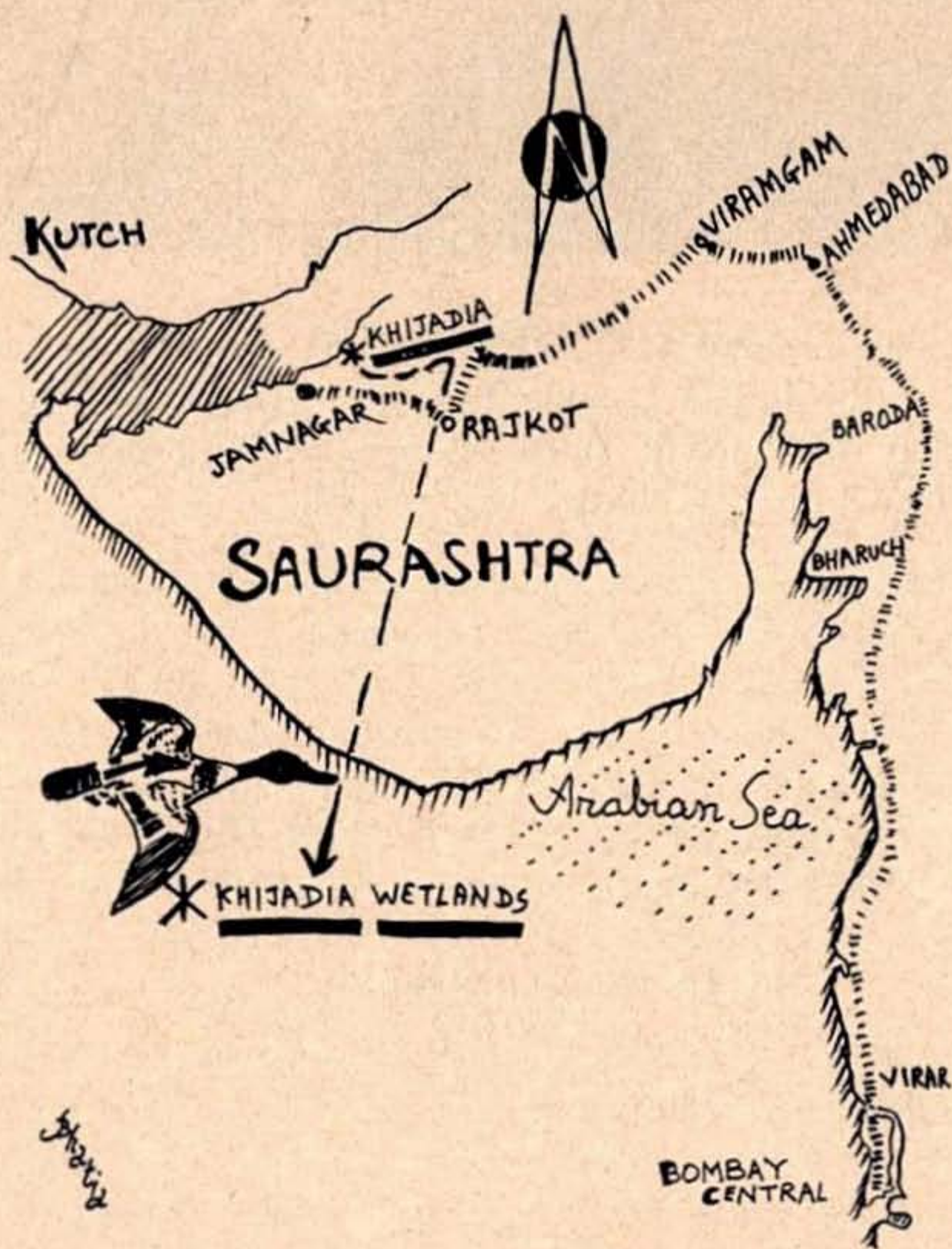
Khijadia wetlands

Khijadia wetlands, 6 km east of Jamnagar, are the result of the presence of a ten-foot high bund which runs for 60 km in a reclamation scheme. An embankment between the sea and the shore prevents the tide from bringing in saline water. On the land side precious rain water collects. Mr. Lavkumar Khachar had explained to us that birds can thus feed in salt water and rummage in the salt pans when the tide is out. Sweet water and further feeding sources are just on the other side of the bund.

The wetlands are divided into two, Khijadia I and II, and at the time of our visit Khijadia II was

dry. All birds had therefore concentrated in one area, which was our good fortune. Some of the slush in which we walked was soft and we were often ankle deep, but this was worth it.

As the eastern sky turned crimson, we walked towards the wetlands for a wonderful birdwatching session. In the light of the morning we saw plenty of waders: redshanks, marsh-, green-, and common sandpipers, curlews, blackwinged stilts, blacktailed godwits, etc. A couple of avocets swept the marshy water with their up-turned bills. In the background we saw five or six hundred lesser flamingos. They to-



Geographical position of the Khijadia Wetlands

wered over fifty or sixty ducks: mallard, shoveller, pintail, common teal, and wigeon. As we walked on the bund, we disturbed about a hundred coots which skimmed along the water moving away from us.

A bittern stood motionless among the reeds with its bill pointing upwards in superb camouflage. Among the reeds also were the purple moorhens, pheasant-tailed jacanas, purple herons, large egrets, reef herons in both colour phases, grey herons and painted storks. A marsh harrier glided above the reeds. An osprey flew overhead with a fish in its talons. Through the binoculars, we observed that the fish was as long

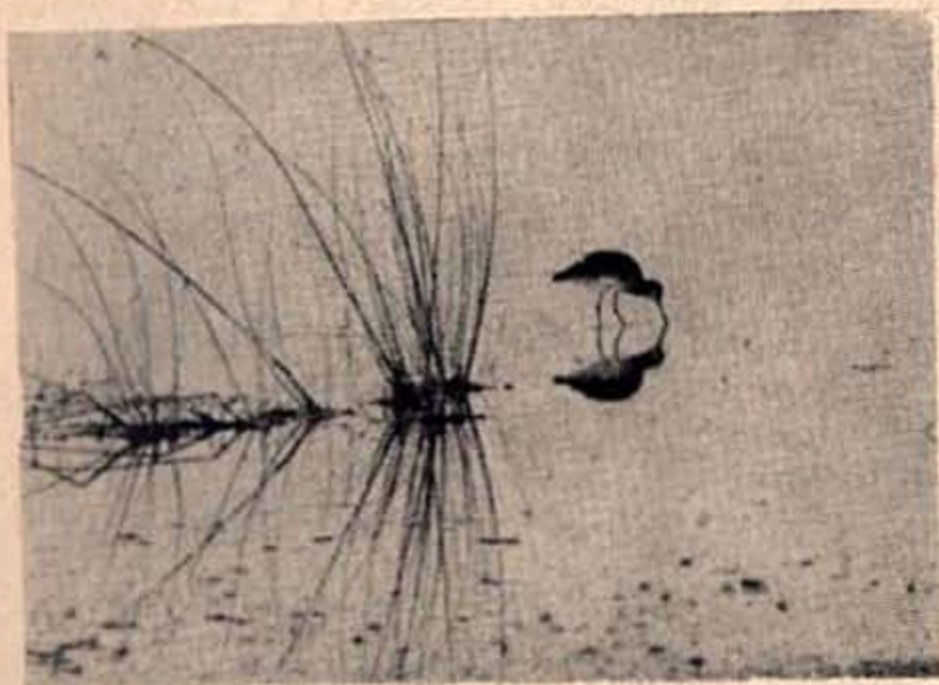
dwarfed an Indian whiskered tern. Black- and brownheaded gulls flew overhead. Two herring gulls were chasing a caspian tern. We also saw some little terns.



A Grey Heron in the Wetlands

We were eight and each had a different estimate of the number of flamingos: some said the total we saw must be one thousand and some said ten thousand. Other estimates given to us put the figure at forty thousand! We must go soon to check. A happy prospect indeed!

SUNIL ZAVERI
ARUN BHATIA



Blacktailed Godwit Photo: Authors
as the bird! How the osprey could fly with a prey that size was a surprise.

Six lesser blackbacked gulls

Khijadia Bird Sanctuary in Jamnagar district, Gujarat

In exercise of the powers conferred by Section 18 of the Wild Life (Protection) Act, 1972 (53 of 1972), the Government of Gujarat has declared the areas of Khijadia village of Jamnagar taluka of Jamnagar district as a Bird Sanctuary from 27th May 1981. The total area is 182.90 hectares.

NOTES, NEWS AND COMMENTS

A sure cure for scorpion bites

Believe me, it works! This extraordinary method for curing scorpion bites was discovered by the soldiers fighting in the Lybian desert during the last war.

An African Inland Church missionary, Rev. Earl Anderson, told me about it a few years ago in Logologo, Marsabit district, Kenya.

Here is how it works :

1. Open the bonnet of a car or other petrol engine vehicle.
2. Take a lead off a plug.
3. The person bitten by the scorpion holds the lead with one hand, the other hand holding onto the body of the car.
4. The operator then turns the ignition key or presses the starter, just for a second—not long enough to start the engine—but long enough to give a small electric shock to the patient.
5. Repeat this eight to twelve times.
6. Usually by the sixth shock the pain has practically disappeared and the patient himself asks for a few more shocks to achieve a complete cure.
7. If the pain was to recur later, a few more shocks would deal with it.

If the patient is a child and is afraid, an adult can take hold of the lead with one hand and hold the child with the other, the child holding onto the body of the car: the shock is just as effective.

I have not been able to figure

out the mechanism of the cure, but I can assure you that it works and I hope you would not hesitate to try it if you or your friends are victims of this very painful bite.

Note. The ends of plug leads in certain cars are encased in a rubber sheath which has to be removed before the patient takes hold of the lead.

And please note: This is NOT a cure for SNAKE bites.

DR. ANNE SPERRY

P. O. Box 27, Subukia, Kenya
(—From *EANHS Bulletin*, East Africa Natural History Society, Nairobi, Nov./Dec. 1980, p. 98)

Mishmi Takin in Burma

Since 1963 Rangoon Zoo has had a pair of Mishmi takin *Budorcas t. taxicolor*, both captured on the Indo-Burma border, North Burma. In January 1966 the takins mated, but the female aborted after three months of pregnancy. However, the takins mated again in September 1966 and on 1st May 1967 the female gave birth to a male calf after a gestation period of between 200 and 220 days.

The takin died on 27th May 1980 according to records maintained in the office of the Zoological Gardens—life span, 10 years and 26 days.

TUN YIN

Rangoon, Burma

Botanical Survey Data Bank

The Botanical Survey of India is a

premier national institute concerned with botanical research. It is envisaged that it should also serve as a central data bank of botanical research in all aspects of disciplines of Botany in the country apart from the main field of activity of the Survey itself. I would request you to kindly keep this Institution posted with your research projects, progress and publications to enable us compile these data and assist in organizing the Data Bank. This information will be made available to all enquiring institutions and research personnel.

Please send information periodically to

DR. D. N. GUHA BAKSHI
DOCUMENTATION OFFICER
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A. S. RAO
Jt. Director

BOTANICAL SURVEY OF INDIA

Edible bird nests

The Yaykantaung Village Co-operative Society, Mergui West township, Tenasserim Division, collected a total of 26.45 viss of edible bird nests during 1979-80 season, much in excess of the target fixed for the season—15 viss (1 viss = 3.3 lb.).

The Cooperative Society hopes to collect more in the coming season, 1980-81.

Over exploitation by the Co-operative Society is likely to have serious repercussion on the population of these birds. These birds nest in

unoccupied buildings in Mergui town.

TUN YIN

Rangoon, Burma

Fieldwork

It is possible that we may be banding birds in other parts of the country apart from our regular bird project areas, during the coming winter months. During last year we had subsidiary camps at Chilka Lake (Orissa) and Harike Lake (Punjab) and it is likely that these may be repeated.

The banding programme will start probably from mid September and continue up to mid- or end March. The banding programme involves fairly strenuous field work which may include manual labour such as carrying bamboo poles and other equipment, digging pits, walking in mud and such other difficult work. Participants may also have to assist in maintaining banding records.

While in the field the member will work under the direction of the Project Scientist and the staff member to whom he may have delegated authority.

Involvement in the Project will enable members to learn techniques of field study of birds including mist net operations.

If you are interested please send us your bio-data and definite indication of the period during which you will be available.

J. C. DANIEL
Curator

BOMBAY NATURAL HISTORY SOCIETY

Entomology is perhaps the most prolific among the branches of zoology in the number of papers presented for publication. Entomologists should therefore be glad that another journal for the presentation of their papers has commenced publication. *Colemania*, edited and published by Kumar D. Ghorpade of 123, Brigade Road, Bangalore 560 025, Karnataka, has as its objective maintenance of high standards of papers published and prompt publication. For further details write to the Editor.

Tracing a Mahseer

Mr. A. B. Ponnaiya, a keen angler member of the Society wrote to us that while researching for his article 'The Monster Mahseers of Karnataka' (*Wild Life*, January 1978) he overlooked the monster mahseer of 90 lb. from Karnataka, the plaster cast of which is in the possession of the Prince of Wales Museum, Bombay.

In response to a letter to the editor of *Wild Life* for information, Mr. J. D. van Ingen, one of our members in Mysore, wrote as follows:

Continued on p. 20



Monster mahseers angled in the Cauvery—92 pounder (right); 71 pounder (left)
Photo: J. D. van Ingen

About the Indian Wild Ass

The Indian Wild Ass, *Equus hemionus khur*, a little over seven hundred in number (1976 census) occurs in one of the most unusual areas in the world, a flat, salt-impregnated wilderness in which nothing grows—India's only complete desert, the Little Rann of Kachchh (earlier spelt as Cutch or Kutch) in the Saurashtra region of Gujarat. The wild ass is found in the cold desert regions of Ladakh and Tibet too. This, however, is a different race.

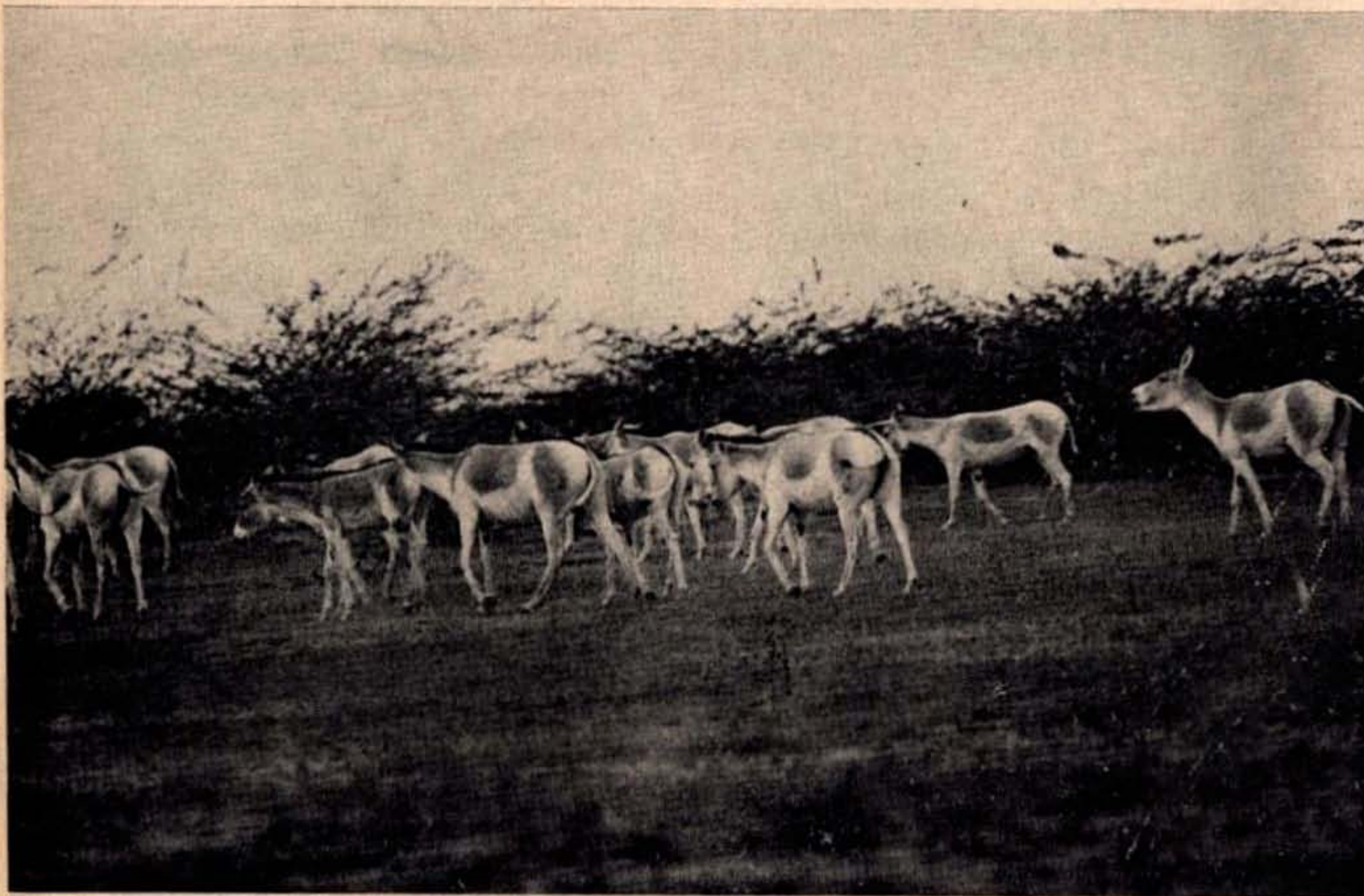
Frequent earthquake shocks as recent as 1864, deposits of silt and clay by the rivers draining into the Rann from Rajasthan and western Saurashtra during the monsoon months from July to September, coupled with the sea water blown up simultaneously from the Gulf of Kachchh by the strong monsoon winds that bring with them enormous quantity of salt have resulted in three surface features, namely (a) Rann, i.e. salt-soaked plain which gives its name to the whole tract, (b) higher grounds or *Bets* consisting of sandy soil free from salt with a cover of grass, occasional stunted trees and bushes, and the third (c) a transition between the first and second with less content of salt and containing scattered vegetation—the *Kala-lana* areas as called locally. The last two surface features (*Bets* and *Kala-lana* areas) seem ecologically vital for the wild ass. Asses congregate on the higher and older portions of the *Bets* in large numbers in the rains. Mating takes place

in August through October. Also, gestation being eleven months, the foaling time too coincides with the monsoon season, i.e. July through September when the Little Rann is under two feet of flood water. Probably *Bets* are used both for mating and foaling. Though there are thirty *Bets* of varying sizes, the three well-known ones are the Pungbet, Vachhdabet (a *sadhu* lives here) and the Jhilandanbet. The *Bets*, however, have yet to be surveyed to know their exact areas and their floral compositions.

The third surface feature of the Little Rann, that is, the *kala-lana* areas being less saline have been extensively planted with mesquit, *Prosopis juliflora*. This species introduced from Mexico in the twenties has been successfully planted in the saline tracts of the Punjab and it has done well in the less saline areas of the Little Rann. Though the Little Rann is 4840 sq. km in area (the entire area is notified as Wild Ass Sanctuary), it is really the 330 sq. km of low salinity area that seems to be more useful in the life of the wild ass. 2000 acres are annually planted with mesquit and so far over 22,000 acres have already been brought under its cover.

Prosopis pods appear in June-July. These ripen and fall in December. Pods re-appear again in January-February, to ripen and fall in June. Asses relish the pods both while they are green and also when they ripen and fall on the ground.

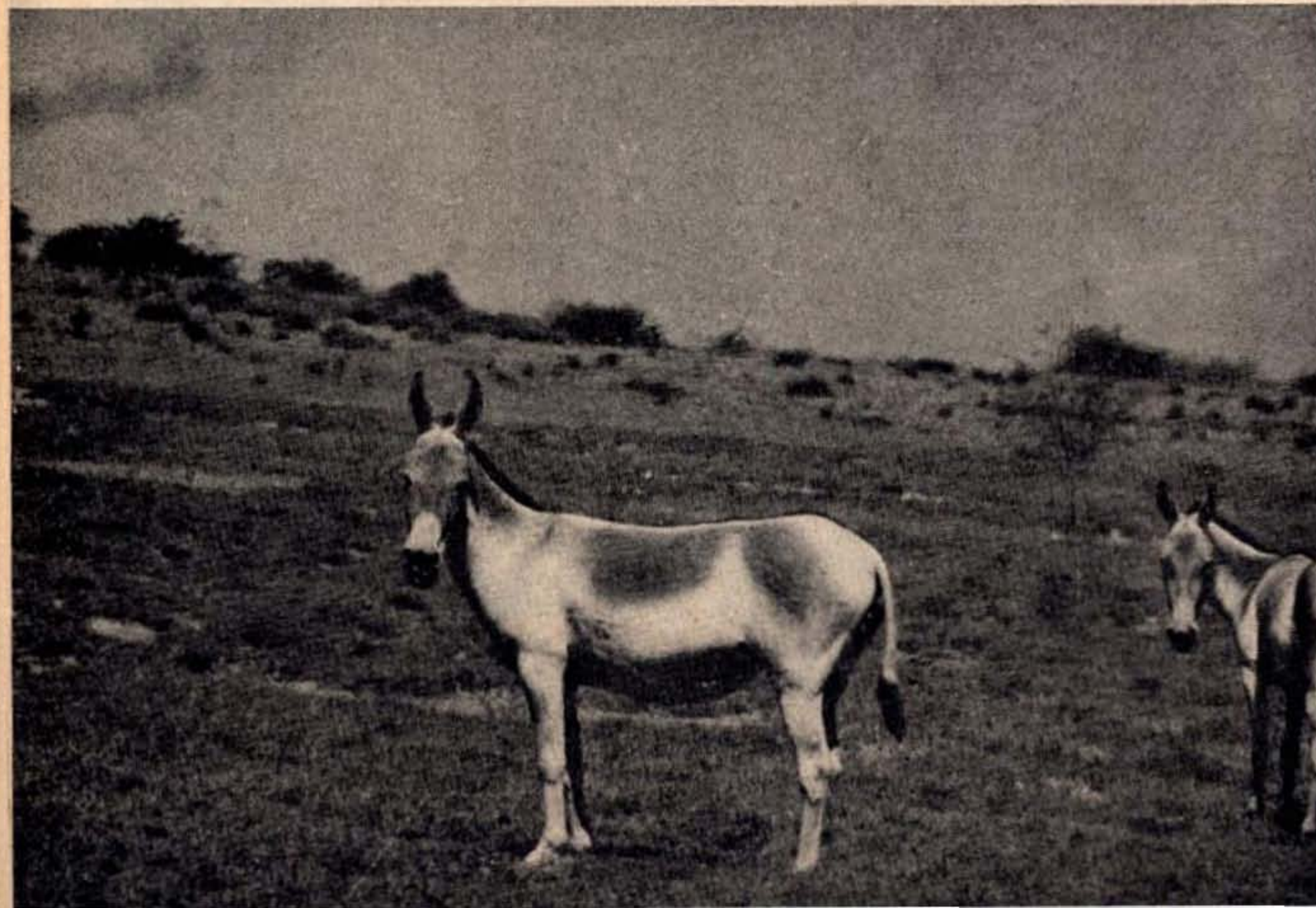
INDIAN WILD ASS IN THE LITTLE RANN



A herd near a Prosopis plantation

A gravid mare in the foreground

Photos: Author



It is just as well, they like the ripe pods too. A *Prosopis* tree is about 20 to 25 feet high and a wild ass's height at shoulder is about four feet. Not all the green pods are within its reach. Pods are thus available to asses all the year round. It does not eat the leaves.

E. P. Gee was in the Little Rann in February 1962. He found the asses "very alert and astute". "I tried to photograph one of these solitary ones by remaining hidden in a thorny thicket while the others of the party tried to drive the animal towards me. Several attempts ended in dismal failure, for the animal each time cleverly made off in another direction. Inevitably I had a feeling that I was the ass and the wild animal I was trying to capture on the film was an alert and astute creature. Only by returning to the jeep and following the herd on to the Rann and photographing them at 32 to 34 m.p.h. at 1/1000 second shutter speed was I able to regain some of my self-respect."—wrote Gee after his 1962 visit. This is not the position now in 1981 (I was in the Little Rann from 15th March to 21st March 1981). I could photograph a pair of mares that kept staring at me and also a herd that almost ignored my presence (see photographs). Each of the five days that I travelled on the smooth baked surface of the Little Rann I invariably came across group of asses always near mesquit plantations. The smallest group I saw was of five, the very first day I went to the Rann I sight-

ed a group of 34 asses on the periphery of a *Prosopis* plantation.

Has wild ass population gone down ever since Dr. Sálím Ali visited the Little Rann in 1946? He had then estimated the ass population between 3000 and 5000. In 1960 on his second visit to the Rann he considered the figure of 2000 animals as "probably not unreasonable". Wild asses have no enemy except two diseases: 'Surra' and 'African Horse sickness'. Natural predators are non-existent. Earlier reports mention that wolves take away young foals. There are 84 villages around the Little Rann and over one lakh sheep and goat are owned by *Maldharis* and *Bharwars* in these villages. I questioned many of them and they all said wolves dare not attack even foals for fear of the fatal kick asses would give them with their hind legs. In 1976 census 61 wolves were counted in the Little Rann but they are no menace to wild ass. Gee records the death of some 150 wild asses in April-May 1960 from 'Surra'. To what extent populations of wild asses have been decimated by epidemics is difficult to ascertain. We, however, do know now for certain that there are only 700 and odd in the Little Rann. No amount of precaution can therefore be too great to keep these animals isolated from the two deadly diseases of 'Surra' and 'African Horse Sickness'. It is good that wild asses neither mix nor interbreed with donkeys, Section 33(d) of the Wildlife (Protection) Act 1972 must be enforced and only such horses and

donkeys allowed to enter the Sanctuary that have been immunised.

While sex-wise population of the 720 asses counted in 1976 could not be obtained, breakup of five centres around Dharangdhra which is the gateway to the Sanctuary show that in a population of 106 asses only six stallions were observed as against 87 mares. Male female ratio works out to 1: 14.5. I do not know how far these figures are reliable but residents in the vicinity of the Little Rann were unanimous in their opinion that mares far outnumber the stallions.

At what stage a mare starts bearing young? What is the extent of foal mortality? It is said that (Dr. Sálím Ali) until the foal is about three months old the sexes live apart in separate herds. Foaling time being July-August-September, the colts would be 3 months old in October-November-December. Will a census in November-December provide foal to mare ratio to investigate whether ass population is stable? What is the interval between two successive foalings? Has extensive mesquit plantations changed the movement pattern of the asses? Out of 440 sq. km of the Sanctuary low salinity area is only 330 sq. km and asses feed on *Prosopis* pods in this smaller area. What is the comparative role of these two types of surface features (low salinity area and the much larger salt impregnated pancake desert on which nothing grows) in the ecology of wild ass? Dr. Sálím Ali had written in 1946 "little is on record concerning the

taxonomy and bionomics of the wild ass that inhabits the Little Rann". The situation remains very much the same today (1981) as it was then in 1946. Only an indepth ecological study of the wild ass and its environs will provide answers to the above questions. Who will do this? Will the University of Vado-dra or the Bombay Natural History Society, sponsor a few zoology students for their post-graduate studies on the ecology of wild ass?

When my friends in Ranchi learnt that I was going all the way to the Little Rann in Saurashtra to study and photograph wild asses, they laughed. "At the age of 64 I was really getting senile"—they remarked. The word 'ass' even with the prefix 'wild' does not mean anything different than donkeys to most. That our donkey is descended from quite a different animal, the wild ass of Egypt and North-East Africa is hardly known. One has to see a herd of asses on the Rann and jeep with them at 40 m.p.h. to realise it has nothing in common with the domestic donkey. While an wild ass is over four feet in height at the shoulder, the donkey is about three. As against a dirty brown colour of a donkey, the wild ass's fawn-coloured shoulders, sides and saddle together with a short mane of chestnut colour and a line of the same colour extending down the back to the root of the tail and a bright white lower part makes it look a magnificent creature. It has all the gait of a zebra minus its stripes.

S. P. SHAHI

A dhaman's diet

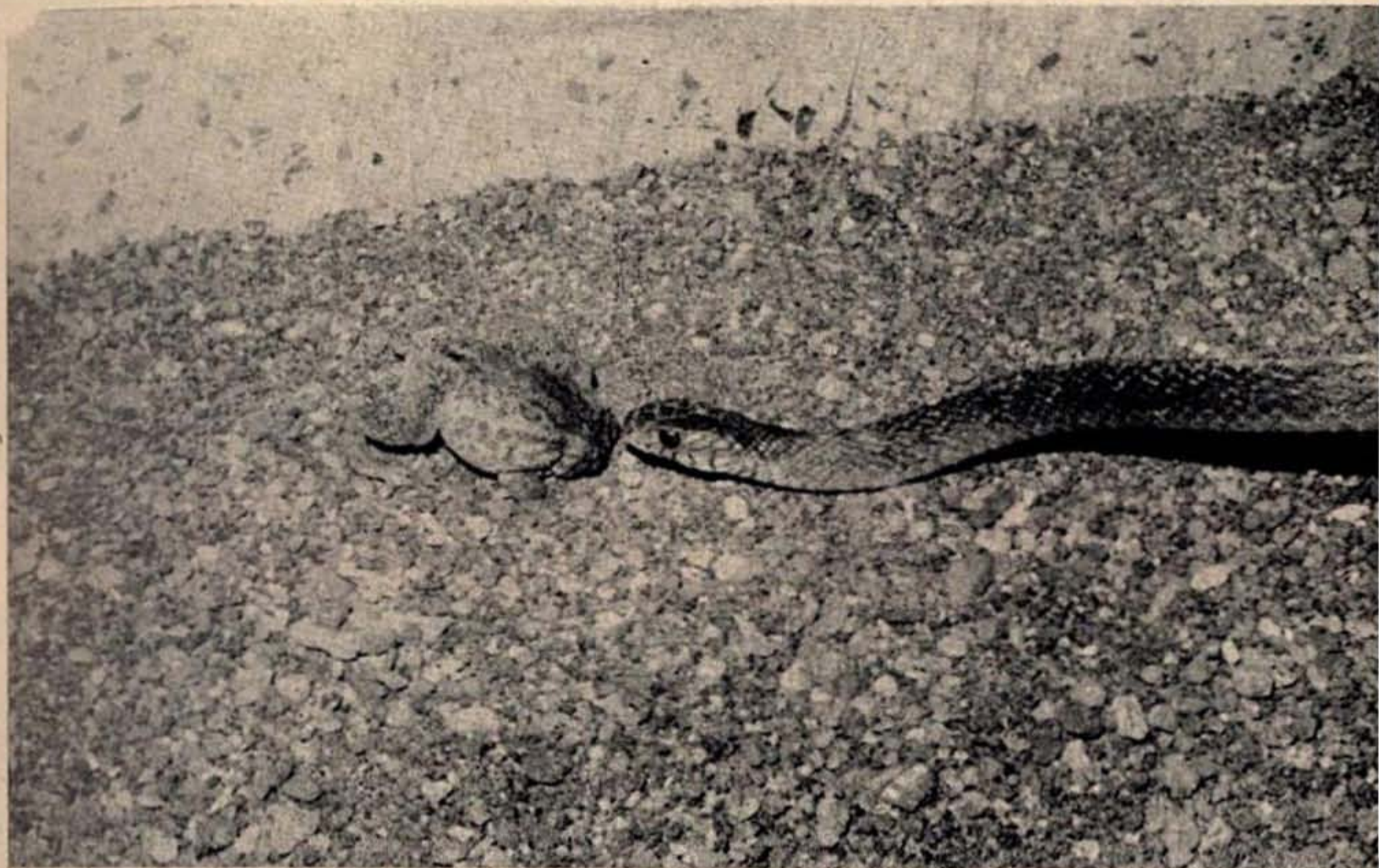
On June 1st 1981 we took a series of photographs of an Indian Rat Snake (*Ptyas mucosus*) feeding on a common toad. The whole sequence took 7.5 minutes from the first attack to the completion of swallowing.

The first photograph shows defence posture of the toad when at-

tacked by a snake. The toad appears as if it is doing obeisance to the snake but what it is really doing, is to present as large a front as it can to the snake to make it difficult or impossible for the snake to swallow it.

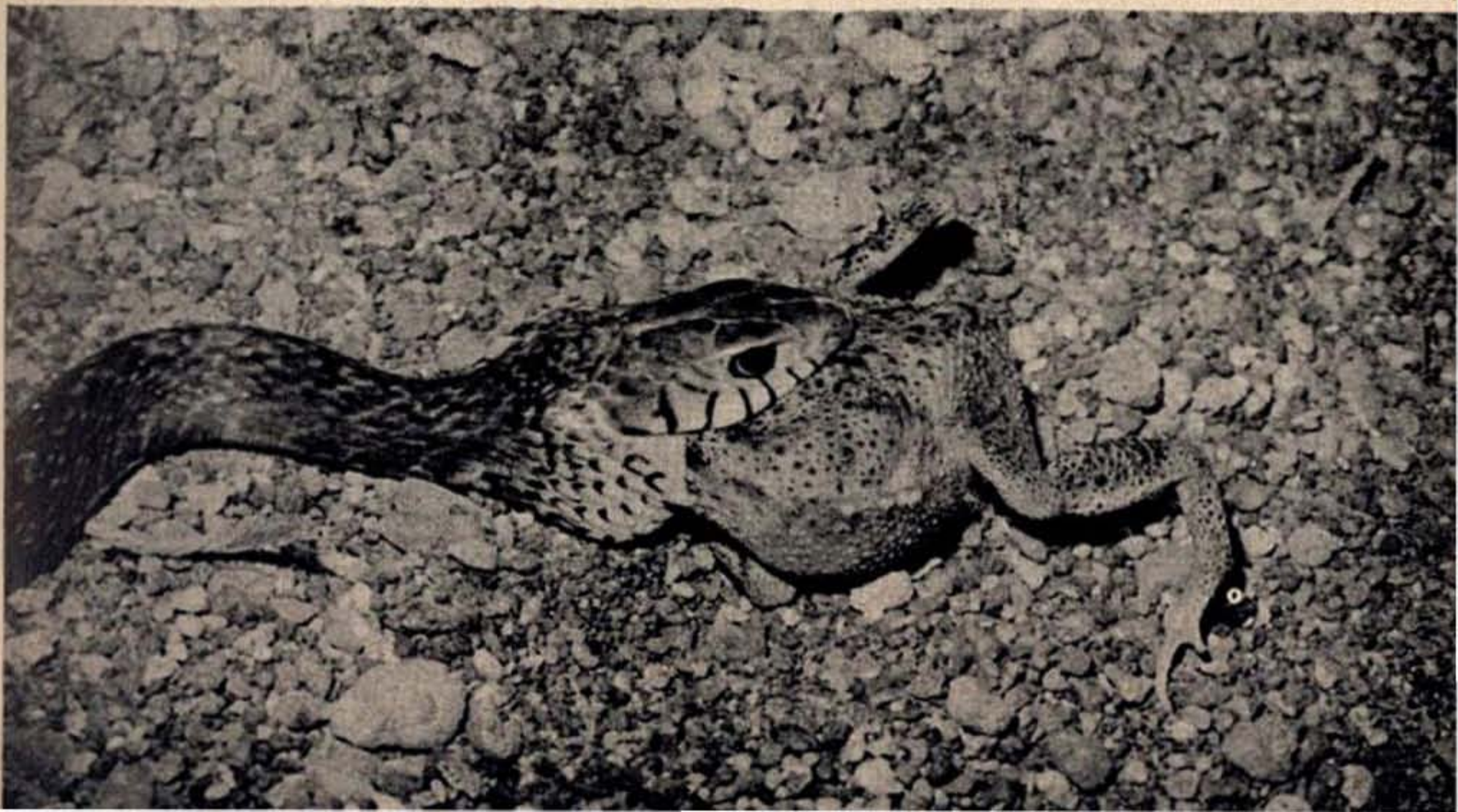
NEELIMKUMAR KHAIRE

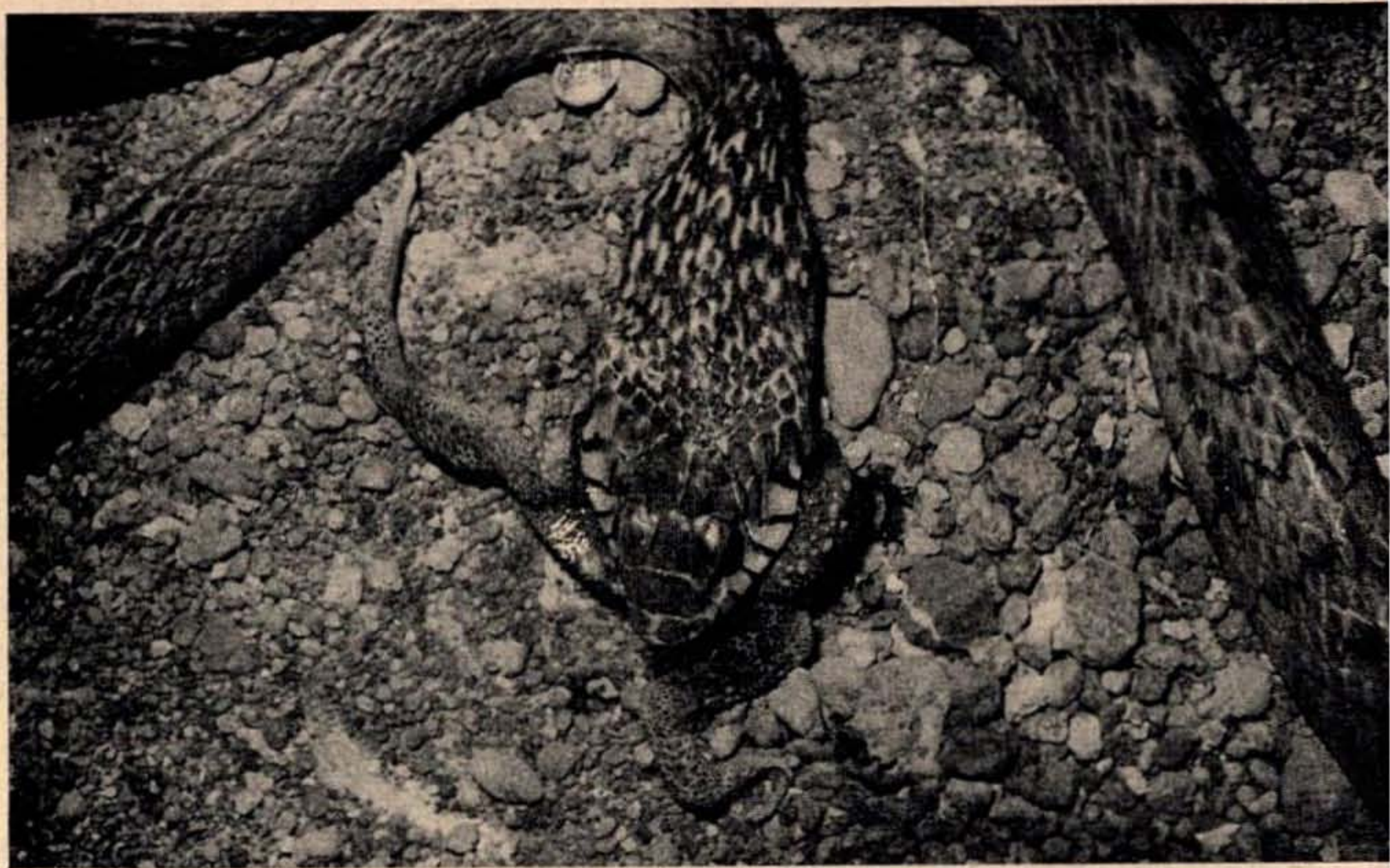
ANIL KHAIRE



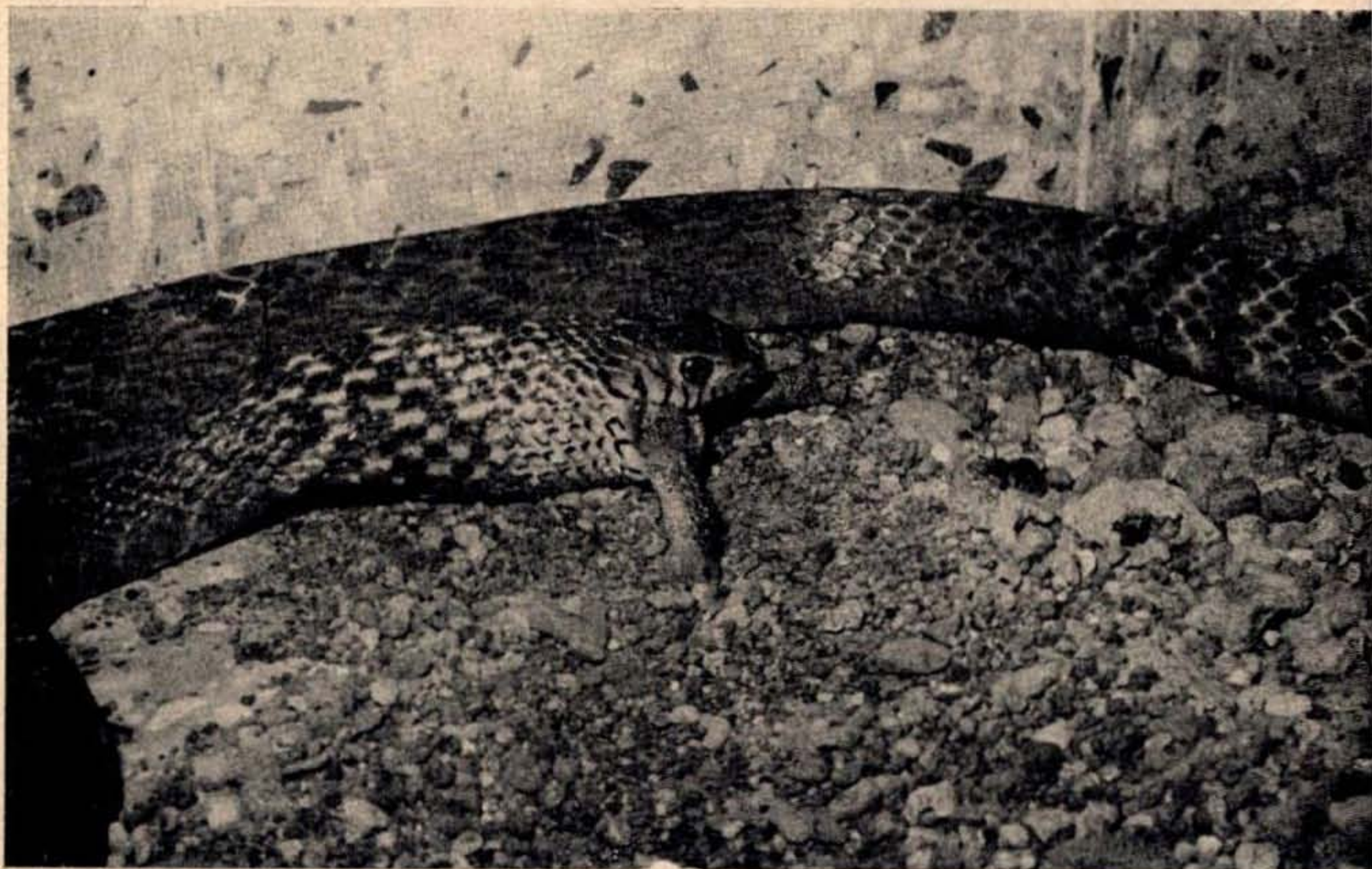
The toad presenting as large a front as it can (above)

en route (below)





Well in to the jaws

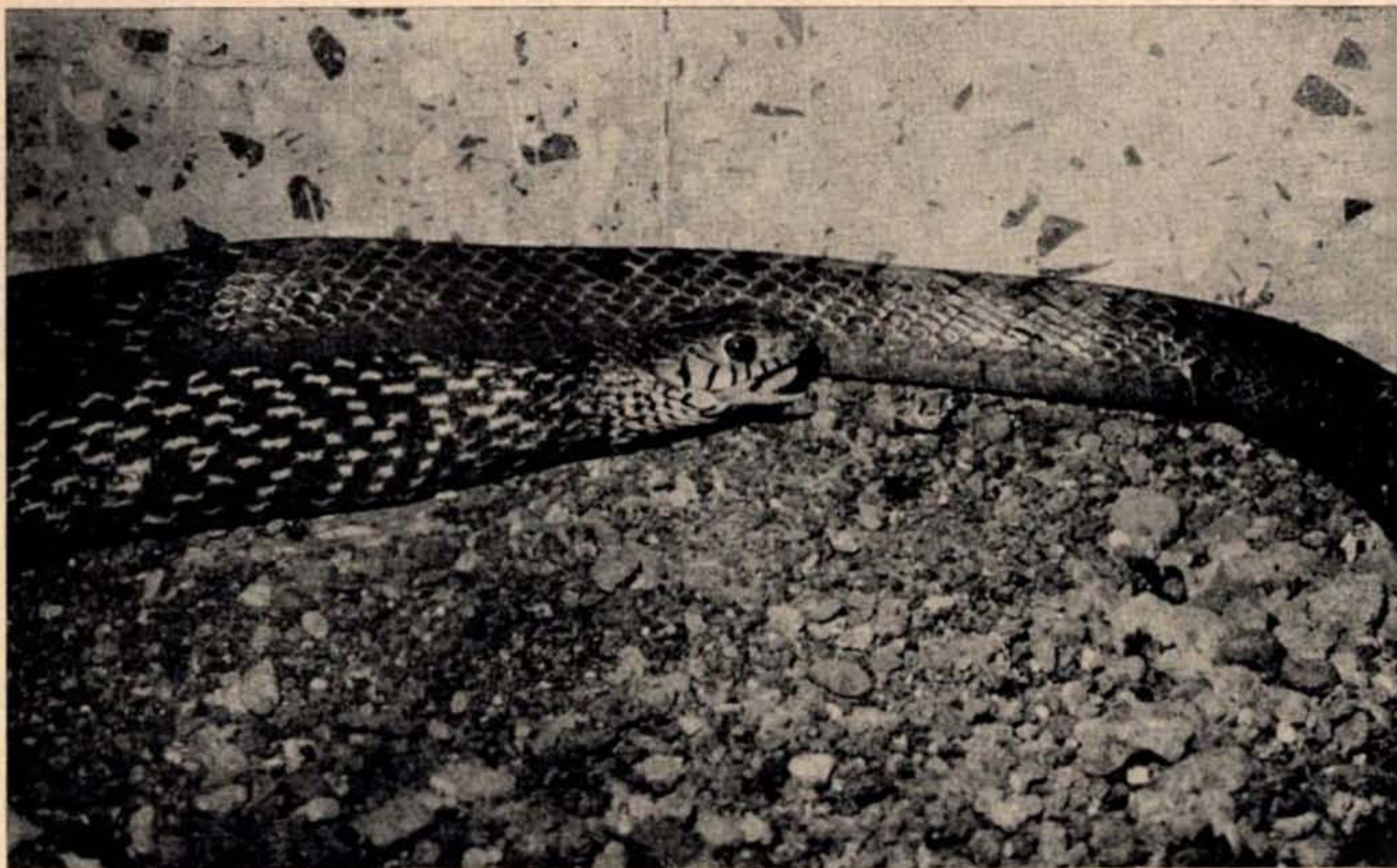


...in but for the legs



...the final push





...that was one large mouthful
Photos: Neelimkumar Khaire

Continued from p. 12

“Early in February 1933 the Bombay History Society wrote to me in connection with obtaining plaster casts of the indigenous fish of the rivers in Mysore. Accordingly I arranged for their man to come to Mysore with his material and to accompany me when I went out to camp on a fishing holiday. I procured for him six species of the local fish for his work.

“For a *Barbus tor* by luck I caught a 92 lb. mahseer. The man

told me that it was too big for him to deal with, and it was with much persuasion and bringing him and the fish to Mysore in my car and buying all the plaster available in the town that the cast was made. The Society sent me photographs of all these fish when the work had been completed including one of the 92 pounder caught on 6.ii.1933. The photograph of the 92 pounder and another 71 pounder caught on the same day is from my album. All the fish were caught in the Cauvery river some 20 miles above the Krishnaraja Sagar Dam, Mysore.”

The mad elephant of Mandla

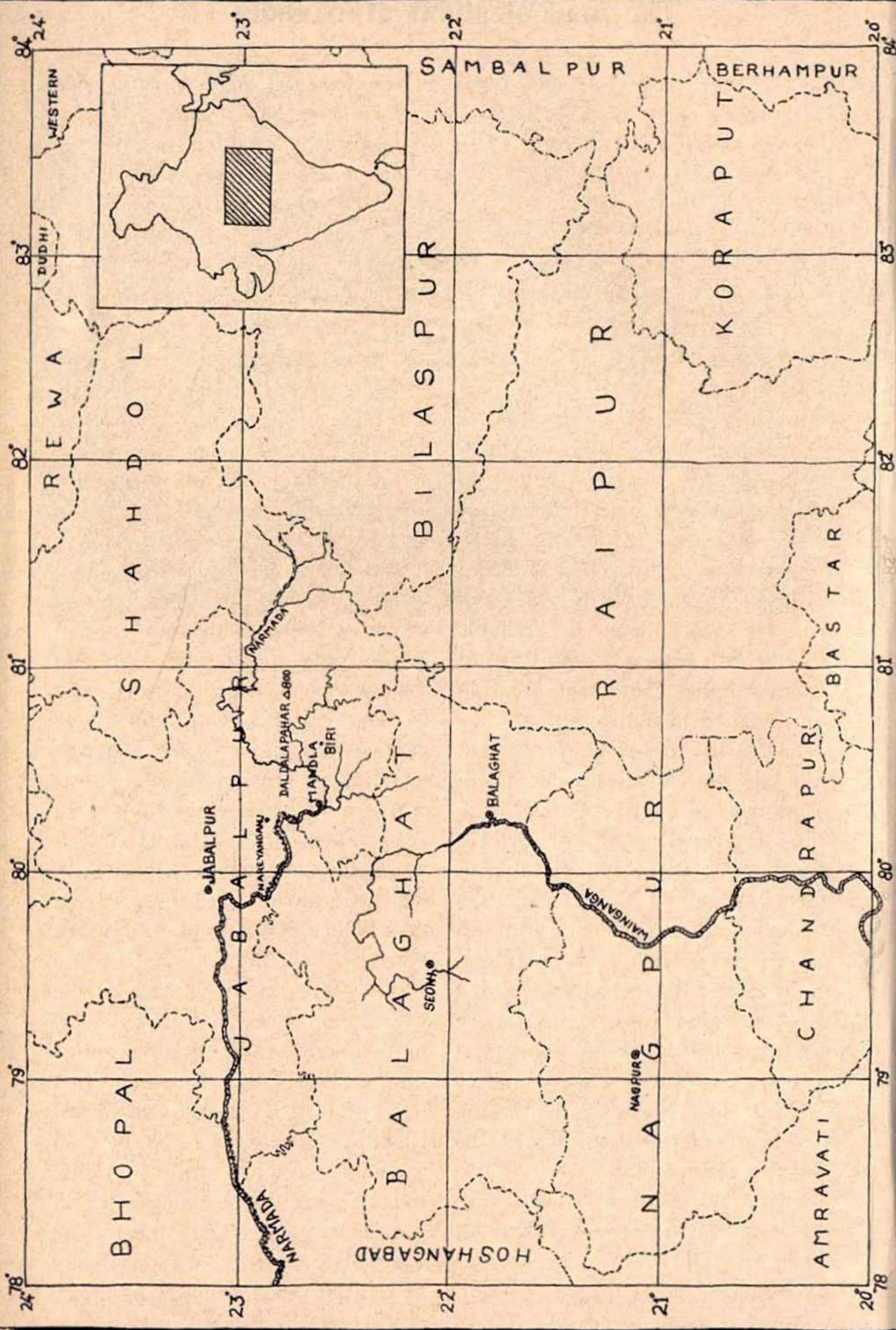
Thirty years ago Col. R. W. Burton obtained and passed on to the Society a manuscript copy of Col. A. Bloomfield's 1871 pamphlet on the shooting of the rogue elephant of Madhya Pradesh, celebrated by Rudyard Kipling as the mad elephant of Mandla in the SECOND JUNGLE BOOK. We are serializing a condensed version.—EDS.

In one of the many disturbances that took place during the troublous times that prevailed in Berar between 1830 and 1840, a male Elephant escaped from his master at Ellichpur and made off in a northerly direction into the jungle and forests that clothe the range of hills that extend thence across the Central Provinces to the Eastern Ghats overlooking the Bay of Bengal. He was there, a veritable "needle in a haystack" and it is not wonderful that those who went in search failed to find him.

Thence he roamed the forest-clad hills into the Chindwara district, in the dominions of the Rajah of Nagpur. The Rajah sent off detachments of Infantry and Cavalry to effect his capture. The pursuit was continued for months, every known device, being tried to secure him, until at last, the elephant leaving the Chindwara hills, passed south not far from Nagpur city and thence turning to the North-East, found his way into the Balaghat hills forming the North-Eastern boundry of the Nagpur plain country. These hills are from 1700 to 2800 feet above the level of the sea, and for about 20 to 30 miles from the scarp are covered with dense forests of Bam-

boos and various kinds of trees; and quite uninhabited except by a very few widely scattered villages of the aboriginal tribes of Gonds and Baigas. Here, too, his pursuers followed and tried by pitfalls (still to be seen), and other devices to capture him, but without avail.

Here in these beautiful hills and forests he remained and roamed about wherever he liked. Everywhere he found abundance of food in the fruits, foliage and roots. He was seldom disturbed or even seen by any human being and never damaged or even visited the few scattered patches of rough cultivation within his reach. When, in 1868 I joined the Balaghat district as Deputy Commissioner, he was in the pathless forests further North in the Bhaisanghat range and on the borders of the Mandla district. He was on rare occasions seen by the wild forest tribes, but it was only in the rainy season that he sometimes visited the semi-cultivated tracts in the neighbourhood of Bhimlat, where he was said sometimes to have amused himself by playing with the ploughs left in the fields and carrying them from one village to another. Apparently he did not much damage the crops,



Localities over which the Mad Elephant ravaged

for no complaints were made about him.

There are in the Central Provinces no wild elephant anywhere except the Matin and Uprora Zamindaries of the Bilaspur district, some 250 miles from these jungles. This elephant therefore, hard pressed for companions, was said to pass most of his time with 2 wild buffaloes, which sometimes, so the rumours were, he used to chastise in his displeasure.

On several occasions, when passing through the forests, I used to come upon his huge foot prints, several months old, made during the preceding wet season. I used to enquire about him, but my time was too much occupied with my official duties to admit of my entertaining any idea of following him up.

Moreover I was not satisfied that it would be right to kill a harmless animal, which if by any chance captured would prove both useful and valuable. It would have been quite a wild-goose chase to have followed him without obtaining certain information and fresh tracks.

It was not until the cold weather of 1870-71 this elephant brought himself conspicuously to the notice of the public by entering the Mandla district and killing several people.

Having no personal knowledge of his exploits in that district, I cannot perhaps do better than copy some official papers that were published at the time in the Local Official Gazette.

The Elephant is reported to have killed 21 persons (6 men, 8 women

and 7 children) between 27 January and 17 February.

According to the reports made by the Police, the Elephant first made his appearance on the night of the 27th January in the Sailwara circle (in the East of the district) at the village of Tarraj, about 9 miles south of the station house. The villagers first took refuge on the roofs of the houses, but a woman and child attempted to escape by running away and thus attracted the brute's attention. He pursued and killed them close to the village.

On the night of the 30th January he killed a woman at Barbaspur, 9 miles west of Kukramat outpost, in the Ramgarh circle tearing her limb from limb; and on the night of the first February he killed a man and a woman at Kamria, a village near Barbaspur; on his next approaching Dongria the villagers tried to escape by flight, but he overtook and killed 2 old women tearing them to pieces. The villagers declared, he actually devoured these women. One woman at this place had a narrow escape with her life, the elephant having placed his foot on her chest.

From here he appears to have gone to Manori, 12 miles south of Ramgarh at night, and killed a woman and two children whose bodies were not recovered. The report of this did not reach the Station house till some 20 days after the occurrence. It was made by the Kotwar (village watchman) who stated he was an eye witness of the tragedy.

Passing on, he came on the morning of the 5th February to Karbeli, 9 miles south of Ramgarh and twice entered and left the village, killing a baby which he snatched from its mother's arms; and the same evening he killed a man at Katholi Dadar an adjacent village. This victim he is said to have devoured. Thence at 8 p.m. that night, going to Nighari in the same neighbourhood, he killed and is said to have devoured a woman; and again at Baini, an adjacent village, he killed and is said to have devoured an old woman 80 years of age.

On the night of the 7th February, he came past the Ramgarh Tahsil and station house into the adjacent village of Umrerpur—the Police turned out to the number of 12 or 14 and fired at him. He retreated towards Bijori, a mile to the east and killed a man and a boy on the banks of the nala.

The next night he surprised on some hills three or four miles west of Ramgarh, some people of Nanda, who had, through fear, deserted their village and taken refuge in the jungle, he took a baby out of its mother's arms and destroyed it.

From Ramgarh the elephant turned off towards Shahpura to the north and surprising some travellers of Shahpura, killed one of them.

He killed, seemingly on the succeeding night, a man at Beljara, some 6 miles east of Belgaon. Thence he seems to have gone off to Salaya, a village near the Mheswani outpost without doing further mischief on the way. Salaya I should

say must be 25 to 30 miles from Belgara. At Salaya, which he reached on the 14th February, the villagers all escaped in time, save one boy, who was rolled about and apparently played with by the elephant, which left him without killing him, and then went into the village and pulled down several houses.

The next report states that on the 15th February the elephant wounded a man and a woman at Matiari, 12 miles west of Mheswani outpost, rolling them about on the ground and inflicting various injuries but not killing them. He also destroyed a house in the village.

The next report is from the Narainganj station house dated 19th February stating that the elephant had, on the night of the 17th killed one man and wounded another at Bistaria 21 miles north of the station house, and that on the 21st the Chief Constable started with a party in pursuit.

Soon after the first reports were received, the Deputy Commissioner in my absence from the station, directed a re-inforcement of 6 police to be sent to Ramgurh station house. These men took up the pursuit of the elephant and followed him across the Narbada river near Niheswani into the Narainganj circle where they were joined by the Chief Constable of that station house. The elephant re-crossed the Narbada near Shringarpur in the Mandla circle towards the end of February. I arrived at Shringarpur the day after he had come there. From the

traces found, there seems no doubt that he took refuge in a large hill called Daldalli pahar, which is covered with thick jungle. I think that there is little doubt that the Constable's pursuit of the brute, rendered him timid and disinclined to attack human beings as recklessly as before. He appears also to have been wounded.

He is a fine large animal with tusks said to be three or four feet in length. He no doubt commenced this series of attacks being in a state of "must"! and the cessation of his bloodthirstiness may be also imputed partly to the cessation of his "must". I am not sufficiently acquainted with elephants to say how long they remain in that state.

In 1868 and also in the following year, a wild elephant possibly this one, appeared in the district but did no mischief to life and little to property.

This is the plain official report of the Superintendent of Police of the Mandla district of the performances of the elephant in that district in the early part of 1871. During the 7 months of hot weather and rainy season, nothing was either heard or seen of the animal, but with the approach of the cold weather again he became "must" and distinguished himself as shown in the following narrative.

On the afternoon of the 2nd of November 1871, I had just completed the trial of a heavy criminal case and was sitting in the small court room in the wonderful building that in those days accommodated

everybody and everything representing the Government in the district, when I walked F. A. Naylor, the officer-in-charge (i.e. District Superintendent) of Police and said—"That man-eating elephant that killed so many people in the Mandla district in the beginning of the year, has appeared in this district and killed and partly devoured a man near Behir," the headquarters of the tahsildar (sub-divisional officer) of that part of the district. I said—"alright, we must stop his fun and will start as soon as possible."

That evening when our work was done we prepared our batteries and ammunition. It may interest some to know of what they consisted. Mine were 2 twelve-bore breach loaders recently made to order through Mr. G. W. Bales, of Ipswich. The rifle weighed 12 lbs with 28 inch barrels, grooved after Forsyth's (high-initial-velocity) principle and carrying spherical-faced solid lead conical bullets weighing $6\frac{1}{2}$ to the pound (about 1077 grains) each. Ordinarily with these I used $4\frac{1}{2}$ to 5 drams of gun-powder, but for this special business I loaded with nearer 6 than 5 drams—my second weapon was a rather heavy smooth-bore with 4 drams of powder and spherical bullets. Naylor had a rather heavy No. 12 single barrelled rifle and a No. 12 smooth-bore.

This being the time of the year when Civil Officers are expected to be often out in the district under canvas, all our equipage with buffaloes for carriage was ready.

Without loss of time we started.

Naylor had to go due north considerably out of his way to attend to a police case at Mau in the upper Wainganga Valley, promising to join me with the least possible delay at Behir, and thence take up the trail together. I went by the direct route via the Warri (windy) pass up the hills 700 feet high towards Behir. Fortunately during the three years I had held charge of the district, I had caused the Baigas, the wildest of the wild aboriginal tribes of the Central Provinces, to become my great friends. When I first knew them in 1868 they left their villages and disappeared in the jungles whenever any Government Official or stranger approached, but by this time they had become very friendly, and not only joined my camp whenever I marched anywhere near their villages, but also occasionally paid me flying visits in the plains below. They are a chip of the block of aboriginies who from time to time had been severed and pushed back by the various tribes that have invaded India. They, and those like them, are now to be found in only a few remote places. They live in as wildly natural and primitive a state as any people in the world. The whole worldly possessions of one of their families consists vessels worth altogether about one shilling. Their houses are made of sticks, bamboos, grass and leaves, without even a thought of nail, saw or hammer, or any other tool save their ordinary axe.

The clothing of the men consists of a strip of cloth a few inches wide

round the loins and a smaller and more ragged piece round the head. The women generally possess a piece sufficient to cover them from their arm pits to their knees.

As I passed under the frowning forest clad cliffs of the Khandaparh hill I did not forget a very snug little village of Narotia Baigas that was safely hidden from view in a secluded nook far up near the summit. Anticipating that some tracking would have to be done I sent word to the Baigas to join my camp.

That afternoon (3rd November 1871) I reached Jatta, a small village about 8 miles south of Behir. There I found encamped, Mr. Hankin, District Superintendent of the Mandla Police. He told me that he had pursued the elephant from the Mandla district but could not get near it. He said the more he pressed it and the harder he worked to get near it the further it seemed to get away from him.

He was a keen sportsman and I was much disappointed when he told me he could not possibly stay and help me, but must return the next morning to his own district.

On enquiry I found that on the 27th October, the elephant had invaded Singhbagh-Tola (*Tola*—clusters of houses detached from the main part of the village) a small hamlet of Behir about 15 miles from the Mandla border. At this time of the year, when the crops sown in June, the beginning of the rainy season, are well advanced towards harvest, the cultivators whose lands

are within reach of wild animals, erect machans (platforms on poles 10-12 feet high and covered over with an arch of bamboo matting) in their fields, from which to watch their crops and drive away wild animals such as deer of all kinds and wild pigs.

Where these abound tigers, panthers, and bears are occasional visitors and therefore it is necessary to have the platforms a considerable height from the ground.

Though sometimes, as in the case of the celebrated maneating panther of Asola of the Wardha district panthers that have acquired a taste for human blood, mount the machans and drag down the occupants. Hence in jungly places the practice is for two persons to occupy one machan, one sleeps while the other watches. A fire is frequently kept burning near the foot of the machan.

That night at Singhbagh-tola, an old Gond and his son were thus watching their crops. In the middle of the night when the cold in these uplands keep all the thinly-clad natives in as warm places as they find, the son heard approaching the heavy footsteps of some animal that never before had visited his fields. No tiger, no panther or other small animal could make noises such as now fell upon his ears with ever increasing distinctness. At last when it had come quite near, he realised that it was an elephant, and as there were no elephants, tame or wild within at least 50 miles, he knew it must be the dread animal

that a few months before had destroyed so many human beings in the Mandla district. He immediately awoke his father and hurrying down from the machan and calling for his father to run for his life, he ran off to the village as far as his legs could carry him. His father endeavoured to follow him but was too late; the huge brute was upon him and quickly smashed him up into the shapeless mass he was found by his family when the next day they came to search for him.

Whither the elephant went on the 28th October no one knows, but on Sunday night the 29th he appeared in the fields north of the village of Jatta. There he entered the rice fields of a Gond, who with his wife was in a machan keeping watch. The wife, a mere child, was on the alert, for she had heard of the doings of the elephant two nights before.

As soon as she became aware of his approach she roused her husband and remembering that two boys were in a machan in the next field, rushed down and calling the boys, fled with them to the village. Here as in other places all the houses belonging to a village are clustered close together. Her husband, apparently did not believe her when she first gave the alarm and was not so quick in his movements as he might have been. The elephant pursued and killed him. The next day his scattered remains were found, the head nearly severed from the body, the lower part of the body with the right leg attached was

some distance away and the left leg had been torn off and thrown several yards further.

Not being able to find any more victims in the fields on the north of the village, the elephant wandered round to the south. The watchers scattered about the fields became aware of his approach and fled to the village. But one poor old Gond, who certainly was not capable of much running, told me that as the others fled he necessarily fell behind. He ran for dear life as fast as possibly could but behind him the heavy crashing of the elephant through the standing rice came nearer and nearer. At last in his frantic efforts to get away he turned completely over and fell on his back and before he could get up the elephant was upon him and thrust his two huge tusks deep into the ground on either side of his body. "I thought", the old man told me, "that I should be immediately killed, so I placed my hands one on each of the tusks and called to our God Ganesji and immediately the elephant left me and went away." This was certainly a most extraordinary escape and I questioned the old man with a view to ascertain how much he had drawn upon his imagination, but he consistently maintained his story, and was quite sure he had his hands on the elephant's tusks.

The elephant next went to a small hamlet Telitola to the southwest of the village of Bhanderi. There he amused himself by pushing in and pulling down the

walls and roofs of 6 houses and helping himself to the grain he found stored therein.

The houses of the Gonds are but flimsy structures quite unable to resist anything approaching such a ponderous attack. The walls are merely coarse bamboo mats plastered within and without with mud. The roofs are made with rafters about the size of one's arm, laid and tied on with strips of bark without anything approaching a nail. Much of the inside of the houses of the poorer classes is occupied by large square dolhas (receptacles) of bamboo matting, made air-tight by being plastered with mud inside and outside. At the gathering in of the harvest these are filled with grain for the use of the household. The elephant went from house to house lifting up the thatch, knocking in the gable ends and inserting his huge trunk pulled down the grain dolhas and broke the earthen vessels and devoured and scattered everything he could reach. Had he eaten what he wanted and left the remainder alone he would have done comparatively little damage, but he seemed to delight in scattering about and destroying everything he could touch.

As the inmates of each house he attacked fled, he pursued them but when they escaped from him, he returned to their houses and completed his work of destruction. Many of the people thus frightened, collected in the house of the local pujari, the person who performs all religious ceremonies, and pretends

to cast out devils, decide boundaries, shut tigers' mouths and so forth. But the elephant had no regard for all these things and came to the pujari's house. This was a fine opportunity for the pujari to display his priestly powers. This he attempted to do, for, when the elephant began to pull his house, to pieces he took up a position inside the doorway and said—"Oh Ganesh Maharaj, spare me this time, I have many children in the house, and I am a poor man!" The elephant then shook his head being evidently deaf to all his prayers and turning round went out off the enclosure to commence to tear down the back of the house. This was too much for the terror-stricken people huddled together inside; they all, headed by the pujari, fled to the village of Bhanderi and remained there two days.

This was the state of affairs when I arrived with my camp at Jatta on the morning of the 3rd November (1871). The elephant had disappeared and no one could give me any clue as to the direction he had taken. The small piece of partially cleared country in which Behir and Jatta are situated is surrounded on all sides by hills as much as 1000 feet above, covered and embedded in thick pathless tree and bamboo jungles, and shoots of the vast forest tracts that stretch in the north through the Mandla district to Rewa; on the east to the hills bordering the west and north of the Chhatisgarh plain round to Amarkantak; south to the wilds of Bustar;

and west to the range overhanging the Wanganga valley. Mr. Hankin had sent out scouts but they had not returned and nothing could be learnt about the monster further than, that he had been seen going south, after pulling down the houses in Telitola, and was probably hidden in the jungles hard by. In short the elephant would have proved a veritable needle in the haystack of the surrounding forests, had not my good friends the Baigas from Khandaparh been at hand ready to assist.

I advanced them a few rupees to supply themselves with food and sent them off to the south to extend east and west as they went, and to send back at once and report as soon as they struck any certain or likely trail.

(To be continued)

Postal stamps of Indian Butterflies

The set of four stamps of Butterflies, scheduled during September 1981, were released on Tuesday, the 20th October 1981. The set depicts the following butterflies:

1. Northern Jungle Queen
Sticopthalma camadeva— 25p
2. Red Lacewing *Cethosia biblis* — 50p
3. Map Butterfly *Cyrestis achates* —100p
4. Kaiser-e-Hind
Teinopalpus imperialis—200p

BIRDWATCHER

Recent reports in the Society's *Journal* and elsewhere made one wonder whether Andhra Pradesh was still the traditional home of the pelicans. The answer is happily, yes. Though the Kolleru pelicanry was abandoned more than a decade ago, it is reassuring that one more pelicanry exists on the east coast at the extreme south of Andhra Pradesh close to Pulicat lake.

This is the Nelapattu pelicanry, located at 13°50'N., 79°59'E., 1 km east of the Madras-Calcutta National Highway and close to the Doravarisatram railway station.

Nelapattu is a small village in Nellore district, A.P., and it has an irrigation tank spread over 200 acre in the Kalluru reserve forest. The tank bed has about 120 *Barringtonia acutangula* trees, which are well insulated by the water when the tank is filled by rain water. Thus this tank attracts quite a good number of water birds every year. The following bird species regularly visit in their hundreds for breeding: Grey Pelicans (*Pelecanus philippensis*), Openbilled Storks (*Anastomus oscitans*), White Ibises (*Threskiornis meanocephala*), Little Cormorants (*Phalacrocorax niger*) and Night Herons (*Nycticorax nycticorax*). In addition, spoonbills, flamingos, painted storks and a variety of duck including spotbills, pintails, tufted pochards, mallards, gadwall, bluewinged teal, shovellers, etc. use this lake as their feeding grounds.

Thanks to the Andhra Pradesh State Forest Department's alertness

in recognizing this place and declaring it as a Bird Sanctuary in 1976, the pelicanry survives. According to local villagers this pelicanry has existed from a very long time and has been protected by the villagers who employ a watchman during the months of October to April every year. Even the oldest resident in the village cannot recall when the birds selected this haunt, but generation after generation of local residents have opted for voluntary protection to the birds as they discovered the mutualism—that the bird's excreta organically enriches the water of the irrigation tank.

Compared to Koonda Kulam of Tamil Nadu, Bellur and Bennalli of Karnataka, it is probably the largest pelicanry in South India. At the last count between October 1980 and May 1981, the population was estimated at 300 to 350 adults initially and 600 at the time of departure.

The pelicans fish in the Pulicat lake which is very close to the pelicanry.

The Department of Zoology of the Osmania University, Hyderabad, A.P., has taken up a research project on the 'Breeding and Feeding biology of the Pelicans' as a doctoral programme. We have completed one year of field study and require one more year's data for publication of a more detailed nature.

V. NAGULU
J. V. RAMA RAO



Spottedbilled Pelicans nesting in Andhra—chick on the right
Photo: E. P. Gee

THE REDNECKED PHALAROPE



Photos: M. Janardhanan



The Rednecked Phalarope at Sultanpur jheel, Haryana

On 6th December 1980, at about 2.30 p.m., Mrs. Joan Karmali from Nairobi and I were watching birds on one of the jheels (ponds) near Sultanpur village near Gurgaon, Haryana. The jheel was at the end of a track, just past a small temple, which runs off to the right off the main tarred road that skirts Sultanpur village, about one mile past the Haryana State resthouse by Sultanpur lake.

We were watching ducks, mainly shovellers on the jheel when we noticed a small grey-and-white bird, like a small wader, swimming buoyantly in the middle of the jheel. It was noticeably smaller than a dabchick swimming close by. It was about 40 yards away, but clearly visible in strong sunlight through binoculars. It looked basically white, with a grey back, a black eye stripe and a black stripe down the back of its neck. From time to time it stretched out its neck and put its beak on or just under the water as if picking up insects or plant life.

After about five minutes it swam to the edge of the jheel and stood on the mud preening itself, close to, but not associated with, a pair of little stints, in comparison to which it looked a little larger but slimmer. After five minutes of preening it entered the water again and swam back to the middle of the jheel. At one point it took off and flew about 10 yards and before landing in the

water again a white wing-stripe was clearly visible. After a further 10 minutes it was still swimming and we left.

While watching it we consulted Heinzel *et al.*'s THE BIRDS OF BRITAIN AND EUROPE WITH NORTH AFRICA AND THE MIDDLE EAST, from which we concluded that the bird was a phalarope. Given its size, colouring, shape in the water, and behaviour there seemed no other possibility. From the clearly visible wing-stripe when flying, we concluded that it was either *Phalaropus fulicarius* the Grey Phalarope, or *Phalaropus lobatus* the Rednecked Phalarope, in winter plumage. We found it impossible to tell for certain which of the two it was, but on the basis of the drawings of the two birds in flight in Heinzel, decided that it was marginally more likely to be *Phalaropus fulicarius*, as it seemed to have greyish rather than blackish wings and back. However, we were uncertain on the point and after consulting Sálim Ali HANDBOOK vol. 2, and Usha Ganguli's A GUIDE TO THE BIRDS OF THE DELHI AREA which both record only *Phalaropus lobatus* from the Delhi area, we concluded that it must have been the Rednecked.

It is interesting, however, that it should have been seen on 6th December outside its autumn or spring migration dates.

M. H. JAY

Butterflies of Bombay-7

We describe in this section seven more butterflies of the family Nymphalidae and one each of the family Acraeidae and Erycinidae in our series on the butterflies of Bombay.

48. GAUDY BARON *Euthalia lubentina* (Cramer). Not common. Seen in August and October. Deep green above with white and black markings on forewing and red and black spots on hindwing. Larvae feed on parasitic plants of *Dendrophthoe* species.

49. BARON *Euthalia garuda* (Moore). Very common. Seen from August to January, again in March. It is dark brown above. Larval food plants are cashewnut (*Anacardium* sp.), mango (*Mangifera indica*) and the sandpaper tree (*Streblus asper*).

50. COMMANDER *Limenitis procris* (Cramer). Not common. Seen in July-August. Reddish brown above with prominent white bands on both wings. Larvae feed on *Mussaenda frondosa*, *Mitragyna parviflora*, *Sarcocephalus missionis* and *Wendlandia* spp.

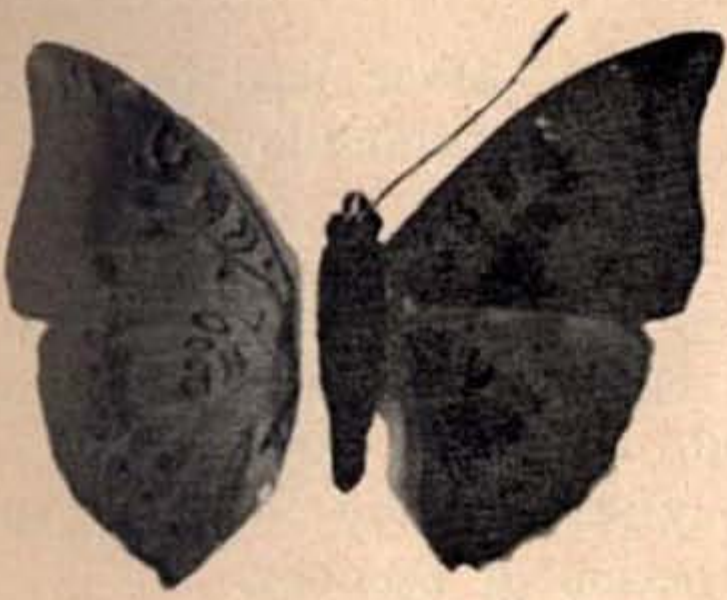
51. COMMON SARGENT *Pantoporia perius* (Linnaeus). So far we have not seen this butterfly in this area but it has been recorded by earlier workers. Dark brown above; yellow below with white markings. Larvae feed on *Glochidion* spp.

SAILERS. The butterflies of the genus *Neptis* are commonly known as Sailers. They are black or dark brown above with white or tawny bands. They can be easily recognized by their characteristic flight: sailing with wings held horizontal and flight being sustained by intermittent flicks of the wings.

52. SHORT BANDED SAILER *Neptis columella* Moore. Common. Seen from August to December. Can be differentiated from other Sailers by a characteristic discal band of separated white spots on the upperside of the hindwings. Larvae feed on *Dalbergia* spp.

53. CHESTNUT-STREAKED SAILER *Neptis jumbah* Fruh. Common; on wing from July to September; again in December and January. White discal band on the upperside of the hindwing which is present in *N. columella* is absent or reduced to a continuous line of narrow white spots. Larval food plants: *Xylia*, *Derris glabra*, *Dalbergia* spp., *Salmalia*, *Thespesia*, *Hibiscus* and *Zizyphus*.

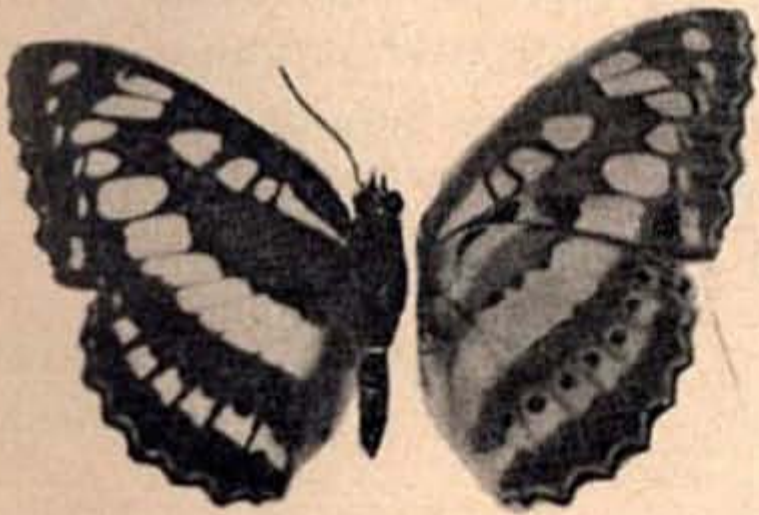
54. COMMON SAILER *Neptis hylas* Moore. Very common. From June to October and in December. Larval food plants are *Cylista*, *Xylia vigna*, *Grewia*, *Salmalia* spp. and *Helicteres isora*.



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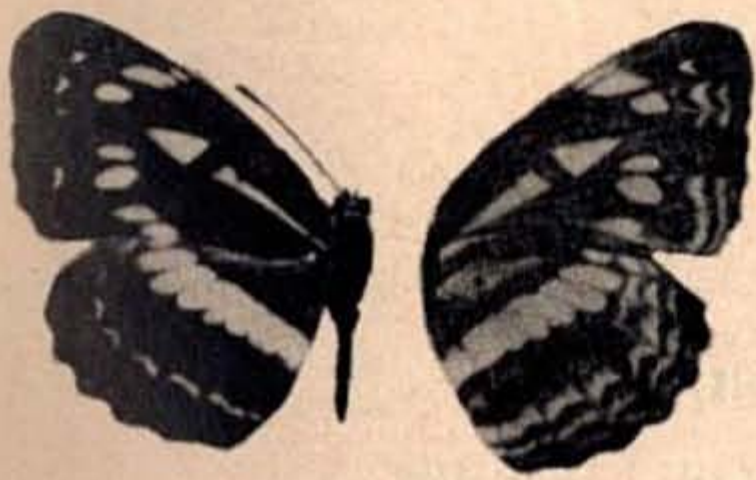
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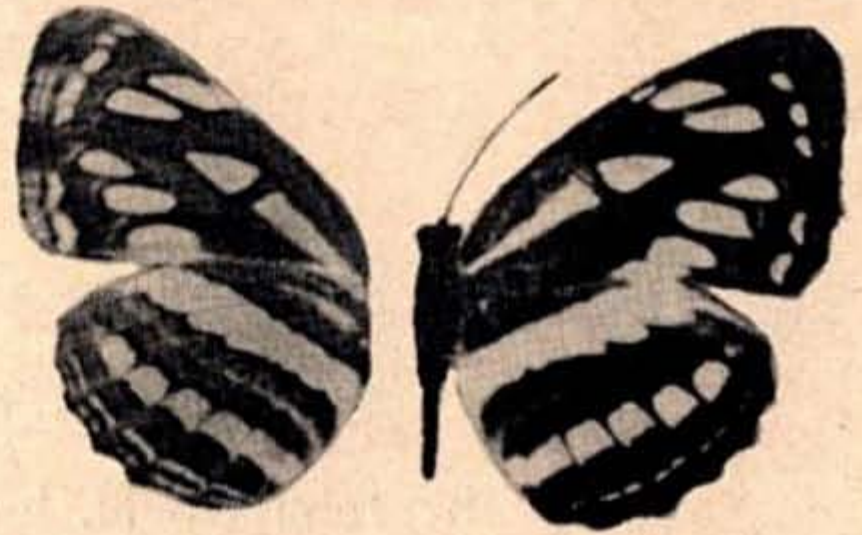
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A.G. SEKAR

56

Family ACRAEIDAE

Butterflies of this family are mainly African in provenance and number about 200 species. Some of them are also found in the Americas, Australia and Asia. In India we have only two representatives of the family of which one occurs in Bombay.

55. TAWNY COSTER *Acraea vio-lae* (Fabricius). Very common. Seen from July to October. Brick-red above with black and white spots. These butterflies have a unique method of protection: at the slightest disturbance they exude an yellowish oily liquid which has a

bad odour. Larvae feed on *Passiflora* spp. (Passion Flower).

Family ERYCINIDAE

21 species of this family are found all over India. They are usually small insects. A single species occurs in Bombay.

56. PLUM JUDY *Abisara eche-rius* (Stoll). Commonly seen from July to October. A shade loving butterfly and prefers dense jungle where it moves among the undergrowth. Larvae feed on *Ardisia* and *Embelia* spp.

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