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DARJEELING NATURAL HISTORY
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Edited by C. M. INGLIS, F.Z.S., F.R.E.S., B.E.M.B.O.U.

15

DARJEELING NATURAL HISTORY SOCIETY.

The Society was started about the end of 1923, the objects being to maintain the Museum in a proper condition; to promote the study of Natural History and to get together, as complete as possible, collections of Natural History specimens from a limited area, including "the civil districts of Jalpaiguri and Darjeeling and the State of Sikkim", as well as what could be procured from the neighbouring countries of Tibet, Bhutan and Nepal.

The Government and Municipal grants not being sufficient for our purpose, it was proposed to enrol members so as to increase our funds, and a Quarterly Journal has been started. It is hoped that everybody will join the Society and co-operate to make the Museum and Journal a success.

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THE CURATOR,
Natural History Museum
Darjeeling.

THE
JOURNAL
OF THE
DARJEELING NATURAL HISTORY SOCIETY

EDITED BY

C. M. INGLIS, F.Z.S., F.R.E.S., B.E.M.B.O.U.

Vol. IX.

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plates, five half-tone plates, six other plates
and two diagrams.*

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CONTENTS OF VOLUME IX.

No. 1.

| | PAGES. |
|--|--------|
| Game Birds of Sikkim, including the Darjeeling District and of the Jalpaiguri District, Bengal, Part XXX. By C. M. Inglis, F.Z.S., F.R.E.S., B.E.M.B.O.U. | 1 |
| The Occurrence of the Eastern Palm Swift (<i>Cypsiurus batasiensis infumatus</i>) in the Darjeeling District (<i>with a coloured plate</i>) By W. H. Matthews | 3 |
| Bears and their Shikar. By Col. H. S. Wood, I.M.S. | 6 |
| An attempt at Angling. By C. Primrose (<i>with a half-tone plate</i>) | 15 |
| The Dragonfly Fauna of the Darjeeling and Jalpaiguri Districts and Sikkim. By Lt.-Col. F. C. Fraser, I.M.S., F.R.E.S. Part II | 18 |
| The Editor. Capture of Calf of the Indian Great One-horned Rhinoceros. (<i>With two half-tone plates.</i>) By W. E. Hodge, I.F.S. | 32 |
| Review. The Nidification of Birds of the Indian Empire by E. C. Stuart Baker, C.I.E., O.B.E., F.Z.S., etc. Vol. II. By the Editor | 34 |
| Office Bearers and members | 37 |

No. 2.

| | |
|--|----|
| The Orioles of our area. By C. M. Inglis, F.Z.S., F.R.E.S., B.E.M.B.O.U. (<i>with a coloured plate</i>) and additional notes by Mrs. Milburne | 43 |
| Bears and their Shikar. By Col. H. S. Wood, I.M.S. (<i>With a half-tone plate and diagram</i>) | 56 |
| An Attempt at Angling. By C. Primrose (<i>with two plates and a diagram</i>) | 63 |
| The Dragonfly Fauna of the Darjeeling and Jalpaiguri Districts and Sikkim. By Lt.-Col. F. C. Fraser, I.M.S., F.R.E.S. Part III | 70 |
| The Feeding of Wild Animals in Captivity. A skit. By C. Primrose (<i>with one plate</i>) | 85 |

No. 3.

| | | |
|---|--------|-----|
| Game Birds of Sikkim, including the Darjeeling District and of the Jalpaiguri District, Bengal, Part XXXI. By C. M. Inglis, F.Z.S., F.R.E.S., B.E.M.B.O.U. (<i>With a coloured plate</i>) | ... | 87 |
| Some observations on the Bird-List of Sikkim. By Dr. Satya Churn Law, M.A., PH.D., F.Z.S., M.B.O.U. | | 92 |
| Bears. By T. A. Baldry | | 93 |
| A supposed Giant Deer. The Editor | | 97 |
| Continental Fishing. By Col. H. S. Wood, I.M.S. (<i>With two plates</i>) | | 99 |
| Record Mahseer. The Editor | | 106 |
| The Dragonflies of the Darjeeling and Jalpaiguri Districts and Sikkim. By Lt. Col. F. C. Fraser, I.M.S., F.R.E.S., Part IV. (<i>With three plates</i>) | ... | 108 |
| More about Land Leeches. How Abundant are They? By J. Percy Moore | | 116 |
| Shikai and other notes. By Gyles Mackrell. | | 124 |

No. 4.

| | | |
|---|--------|-----|
| The Indian Grackle (<i>Gracula religiosa intermedia</i>). By C. M. Inglis, F.Z.S., F.R.E.S., B.E.M.B.O.U. (<i>With coloured plate</i>) | | 129 |
| Elwes' Eared Pheasant (<i>Crossoptilon harmani</i>) in Captivity. By C. M. Inglis, F.Z.S., F.R.E.S., B.E.M.B.O.U. (<i>With a plate</i>) | | 140 |
| Local Birds' Names in the Darjeeling District. By W. H. Matthews | | 156 |
| Sanctuaries for Wild Game and the Protection of Game. By N. Primrose, (<i>Communicated by C. Primrose</i>) | | 169 |
| Motifs and Inspirations for designs derived from Nature. By C. Primrose | | 170 |

ALPHABBTICAL LIST OF CONTRIBUTORS.

VOL. IX.

| | Pages. |
|---|-------------|
| Baldry, T. A. Bears | 93 |
| Editor. Review :—The Nidification of Birds of the Indian Empire | 34 |
| Office Bearers and Members | 37 |
| A supposed Giant Deer | 97 |
| Record Mahseer | 106 |
| Fraser, Lt. Col. F. C. (I.M.S., F.R.E.S.) The Dragonfly Fauna of the Darjeeling and Jalpaiguri Districts and Sikkim (<i>with three plates</i>) | 18, 70, 108 |
| Hodge, W. E. (I.F.S.) Capture of calf of the Indian Great One horned Rhinoceros (<i>with two plates</i>) | 32 |
| Inglis, C. M. (F.Z.S., etc.) Game Birds of Sikkim including the Darjeeling District and of the Jalpaiguri District, Bengal (<i>with one coloured plate</i>) | 1, 87 |
| The Orioles of our District (<i>with a coloured plate</i>) | 43 |
| The Indian Grackle (<i>with a coloured plate</i>) | 129 |
| Elwes Eared Pheasant in Captivity (<i>with a plate</i>) | 140 |
| Law, Dr. Satya Charan (M.A., PH. D., etc.) Some observations on the Bird List of Sikkim | 92 |
| Mackrell, Gyles Shikar and other Notes | 124 |
| Matthews W. H. The occurrence of the Eastern Palm Swift in the Darjeeling District, (<i>with a coloured plate</i>) | 3 |
| Local Bird names in the Darjeeling District | 156 |
| Milburne, Mrs. Additional notes on the Orioles of our District | 52 |
| Moore, Professor J. Percy More about Land Leeches. How abundant are they? | 116 |
| Primrose, C. An Attempt at Angling (<i>with three plates and a diagram</i>) | 15, 63 |
| The Feeding of Wild Animals in Captivity (<i>with a plate</i>) | 85 |
| Motifs and Inspirations for designs derived from Nature (<i>with a plate</i>) | 170 |
| Primrose, N. Sanctuaries for Wild Game and the Protection of Game | 169 |
| Wood, Col. H. S. (I.M.S.) Bears and their Shikar (<i>with one plate and a diagram</i>) | 6, 56 |
| Continental Fishing (<i>with two plates</i>) | 99 |



John Bale, Scrs & Danielsson, 11th London.

GRACULA RELIGIOSA INTERMEDIA Hay.
The Indian Grackle.
 $\frac{2}{5}$ Nat. size.

We have unfortunately not been able to get ready for the press any of Col. H. S. Wood's interesting articles for this number but our next issue will see them renewed.

Editor.

JOURNAL
OF THE
DARJEELING NATURAL HISTORY SOCIETY.

Vol. IX.—No. 4.

The Indian Grackle or Hill-Myna.

Gracula religiosa intermedia A HAY.

BY

C. M. INGLIS, F.Z.S., F.R.E.S., B.E.M.B.O.U.

(With a Coloured Plate).

The Grackles belong to the family *Graculidae* which has three genera, *Gracula* (Grackles or Hill-Mynas), *Lamprocorax* (Glossy Stares) and *Saroglossa* (Spotted-winged Stares). Of these genera the first and last occur in our area.

There are six species and subspecies in the genus *Gracula*, Mr. Whistler having lately named an intermediate race, but only one occurs with us. Grackles are rather stoutly built birds with strong legs, short wings and tail and deep curved bill. The feathers of the crown of the head are short and curl inwards and have a partial sort of parting down the centre. Their plumage is black mostly glossed with purple and green, with a white patch on the wing. The most striking feature is the presence of yellow fleshy wattles on the nape with bare yellow patches of skin of various sizes and extent, absent in the Ceylon species, on the sides of the head.

In America there are some birds, belonging to the Family *Icteridae*, which are also called Grackles. These latter birds are very omnivorous and are said to do considerable damage to the corn crops.

We will now continue about the Indian Grackle or Hill Myna.

Field identification :—A heavily built bird with short tail, larger than a Myna, glossy black plumage, very noticeable white band on wing quills and yellow wattles on the nape. Found on trees in forest or open clearings either in pairs or parties uttering, usually, harsh shrieks or croaks but also clear melodious whistles.

Description :—Length about $11\frac{1}{2}$ inches ; wing 6.4 and tail 3.3 inches. The *young bird* is brownish-black and has no pendant wattles on the nape. There is no necessity to describe this well-known bird, the coloured plate is sufficient.

Distribution. In our area :—A resident bird found in the forests of the plains, even some distance from the foothills, and probably ascending our hills not higher than 2500 feet although, in some parts of its habitat, it ascends as high as 4000 feet.

Outside our area :—Stuart Baker gives the distribution as “The Himalayas from Kumaon to Eastern Assam and the whole of Burma, where suitable, as far South as lat. 12° ; Siam, Shan States ; Annam and Cochin China. It also occurs in the Hilly country in the South Eastern Central Provinces of India.” Whistler has lately separated the birds found in the latter area as *Gracula religiosa peninsularis* on account of their smaller size and finer and shorter bills.

Habits :—The Grackle is a forest loving bird whether it is dense evergreen or thin and deciduous but it also, commonly, comes on to trees in clearings and even to those in cultivation. They are found in pairs, small flocks and sometimes in quite large numbers. They keep to trees and are said to seldom come down to the ground we, however, saw some at Chupramari freely descend to the ground in front of the bungalow. They do not walk like other Mynas when on the ground, as may be seen in an aviary, but hop like sparrows. Their notes are very variable some being melodious and others far from so. They have a rather clear melodious whistle and also hoarse croaks or very piercing shrieks. According to Davison when feeding or at rest

during the day they call and answer each other in low hoarse croaks. They are most excellent mimics and some become very proficient talkers. Their flight is direct and, for such heavily built birds, powerful. They feed principally on fruit and berries but termites and other insects are also eaten. Davison saw more than a hundred of the very closely allied Andaman race feeding on papaya (*Carica papaya*) which were growing in a clearing. He also states that numbers are caught and sold in Calcutta from three to five rupees each although, in the Andamans, they can be bought for four to eight annas each. Our species is especially popular out here as a cage bird, more so than any of the other Grackles.

In the Duars, according to O'Donel, they breed in March, April and May. Stuart Baker has occasionally got eggs in June and July in Assam so, apparently, some birds have a second brood.

They prefer old rotten trees to breed in, using the same holes, or making fresh ones in the same tree, year after year. According to Stuart Baker "In some trees one may see as many as a dozen large entrance-holes, and each has to be examined for the nest, or nests, as sometimes two, or even three, pairs of Mynas will breed in the same tree." The trees are usually so decayed that the nests cannot always be got at especially if the tree happens to be in a clearing or in cultivation widely separated from other trees. With regard to sites in which nests may be found the same naturalist says "they will breed in almost any kind of country if there are suitable trees available. I have found a nest in a rotten stump standing beside a track through the densest and dampest of evergreen forest, while I have also taken eggs from a hole in a solitary dead tree standing on a bank in a wide open area of plains rice-fields. In the North of Cachar they made their nests in holes of dead Oaks in park-land and in Dibrugarh, as well as in the Surma Valley, we often found their nest-holes in trees on the borders of Tea cultivation." The holes are generally high up in the trees, even as high as 30 to 40 feet from the ground but O'Donel has seen a nest-hole in quite a small *Simul* tree, at Rajabhatkhawa,

and Stuart Baker has found nests as low as 15 feet from the ground. He also says "The nest hole entrances are large, neat and circular, from 4 to 6 inches in diameter, while the chamber varies. It does not seem to matter how big a natural hollow may be but, if too small, the birds enlarge it to suit their requirements generally making it 8 inches wide and up to a foot in depth.....sometimes the birds collect a lot of rubbish in the hollow such as dead leaves, grass, straw, twigs etc., upon which the eggs are laid but, at other times, they are merely deposited on the rotten wood lying at the bottom of the hole. In one nest I found nearly a bucket full of rubbish, including many feathers, had been collected, but this is quite exceptional.

"When rubbish is collected, both birds work at the collection as well as making the entrance holes and enlarging the chamber. Both sexes have also repeatedly been caught inside the tree, but whether the male was incubating or not at the time it is impossible to say, for often both birds are inside at the same time and both parents and young all roost together in the hole."

They lay two or three eggs which are bright blue in colour, this colour, however, fades rapidly, marked with a few red to deep chocolate specks, spots or blotches, sometimes very pale and faint but usually more marked at the thick end. In the richest coloured eggs there are also some lavender and pinky-grey underlying markings. Stuart Baker gives the average size as 36.2×25.6 mm.

This Grackle is reported to have bred in the Botanic Gardens at Sibpur, the progeny of four pairs let loose by Lady Prain in the early years of 1900.

When acclimatised the Grackles live a long time in captivity. Stuart Baker mentions one that was with its owner twenty-four years. Some young Grackles are difficult to rear especially when their wattles are growing. We quote fully from Sanyals "*Hand-Book of the Management of Animals in Captivity in Lower Bengal*" with regard to their treatment in health and sickness and transport, as it may be useful to those who keep these birds.

“*Treatment in health:—Housing.* The hill mynas do as well in small cages as in a large aviary, the advantages and disadvantages in both being well balanced. If kept in a cage, the latter should be at least three feet long, two feet broad and about the same in height, with the necessary perches, feeding and drinking cups and a bathing vessel. These birds are somewhat addicted to spilling their food, and for this, and other reasons their surroundings require constant cleaning: a thin bed of soft hay spread over the bottom of the cage, and renewed once every day, will serve to keep it tidy and clean. The cage should be placed in such a situation that the birds may have the benefit of the morning sun while protected from draughts and cold, to which they, especially the young birds, are very susceptible. Even where a large aviary is available for their accomodation, a cage should always be preferred for the location of young hill mynas, whose wattles and lappets are yet undeveloped, inasmuch as they are likely to require much careful nursing until after the growth of these processes.

Food.—Hill mynas are exclusively fruit eating birds, but in captivity they also eat satoo, boiled rice and milk, bread and milk and sundry other articles of food consumed by man; some of them have been known to become accustomed to eat boiled eggs and even minced meat; (They are not as exclusively fruit eaters as Mr. Sanyal thought as already noticed in this article. *Editor*) Where plenty of fruits, such as papya, plantains, dates, figs etc., are available, no other food seems to be required; In fact, according to Finn, once they have got their full plumage, and grown their wattles they should be fed mostly on fruit as a rich food like bread and milk and *sattoo* is, to birds with such gross appetites, apt to give them fits, yearling birds in captivity require careful feeding; satoo, bread and milk should constitute their principal diet, fruit being sparingly given.

Transport.—Hill mynas kept as pets in India are not unfrequently taken to Europe by their owners; all that is required in such cases is to get a quilted cover made for the

cage and keep it inside the cabin, especially when, cold latitudes are reached. When, however, a number of them are to be transported, the best plan is to put them in a snug plank cage well covered with felt and having proper arrangements to admit hot water at the bottom. These birds have never bred in this, or, so far as is known, in any other garden.

Treatment in sickness.—A certain affection of the eye akin to *ophthalmia* is most common among these birds in captivity; it either effects one or both the eyes, and is generally caused by exposure and cold, although unsuitable dieting may also have much to do with it. If the patient happens to be living in an aviary, it should at once be removed to a small cage, so as to admit of its being handled for treatment. The eyes should be gently washed with sulphate of zinc lotion (sulphate of zinc 1 grain, and water 1 ounce) twice daily, and the bird kept in a warm place, the cage being covered up with a piece of linen or, if the weather is cold, with a blanket; mild cases will yield to this treatment within two or three days. It generally, however, assumes a severer form before any notice is taken and proper treatment adopted; the eyes and the surrounding parts become swollen, the eyelids tumefied and closed, and the conjunctiva completely covered with thickened and hardened discharge. As it cannot but be very painful to the patient, before any attempt at cleaning the eyes and surrounding parts is made, poppy-head fomentation should be applied with a sponge for about a quarter of an hour; the eye-lids should then be gently opened, the thickened and hardened matter adhering thereto and to the conjunctiva removed, and the solution of sulphate of zinc applied with the tip of a feather; on the second day the discharge will be less and the swelling much reduced, and in two or three days the patient will probably recover; a dose of castor-oil, twenty to thirty drops, in a little milk, should be given internally at the beginning; the diet should be light and nourishing, such as bread and milk, satoos prepared with ghi and eggs, etc., no fruits, especially plantains and pappya, are to be allowed. Mynas also suffer from other ailments:

incidental to a captive life. Another disease to which only the young birds become subject appears to have some close connection with the growth of their wattles and the lappets, as it commonly shows itself during the period while those processes are in the act of growing. It consists of a tumour or an abscess near to or on some part of the wattles; by way of treatment a poultice made of burnt turmeric *Curcuma longa* is generally applied by the bird-fanciers of Lower Bengal, and almost invariably with good results; as the young bird shows great aversion to food while suffering from this malady, it requires to be hand-fed; it is needless to say that the bird should be kept warm, and the cleanliness of the cage thoroughly attended to. It may be mentioned here that when a tumour or an abscess is well pronounced, it is by far the best to lance it."

Besides being kept in confinement Grackles may be given full liberty and become extraordinary tame and attached to their owner.

With regard to their ability to talk, as Finn says, real good talkers are rather rare "although accomplished coughers, spitters, etc., are only too common!" He tells of one bird "whose favourite remark was "Not a drop to save my soul!" uttered with an unctuous fervour which ought to have been worth pounds to a Home for Inebriates." We have heard others say "Shut up you dirty dog" and "Oh! you *soor!*" they are also very quick at picking up the names of people and dogs and imitate the notes of other birds. One can see them listening to one, often with their heads cocked to one side.

A friend of mine, who is exceptionally good with animals and birds, has sent me some most interesting notes about her Grackle named Maurice. I give her letter *in extenso* "Yesterday, when we were taking our evening walk, a black rat, three or four inches long, exclusive of the tail, ran across the path in front of me. I stopped to watch it and Boojum the dog, and Maurice the myna who was sitting on a stick in my hand, immediately gave chase. The creature took refuge under some big stones on the side of the road, but Maurice found a small hole into which he poked

his head following it with nearly the whole of his person. I heard the rat squealing, I imagined with rage, and feared it would seize Maurice by the throat and kill him. I ran forward to try and pull him out of the hole, but before I could get to him he emerged triumphant holding the rat in his beak by the end of its nose ! The rat was squealing in terror. It must have weighed quite three or four ounces but Maurice flew off with it and we heard its squeals dying away in the distance. Finally they disappeared round the side of the hill, but in a few minutes Maurice came back without the rat but very breathless from his exertions. I examined him but there was no sign that the rat had bitten him. He always goes for lizards, big and small, and those stick insects, but a rat.....!" This is most extraordinary behaviour for a Grackle, and it is surprising that it was able to lift and carry away such a heavy object as this rat. On asking for further anecdotes or notes about Maurice my friend has most kindly sent me the following observations. "I think the two things about him which strike me most are the way he likes to sleep lying down instead of perching, and his joy in flight.

"He will go into a cupboard or book case and lie down on a shelf, or will creep under the overhang of my roll top desk (under the pigeon holes) when I am working at it, and lie down there and sleep. But however soundly he appears to be sleeping and however quietly I may move, he is up and after me the moment I leave the room. Ever since he has been able to fly he has always left his perch at dusk and put himself to bed in my lap. He snuggles down quite flat and sleeps there till the cage, in which he spends the night, is brought and I put him into that. If I dare to move or disturb him when he is in my lap he gives a little fractious cry just like a sleepy child.....a cry he gives at no other time. In his cage he has a box with cushion in it, and he always gets into it at once, lies down and remains there all night. I often find him still there in the morning, once he went off a long distance to a friend's house on his own, she shut him up in her godown for the night but had to hunt out an empty box for him to go to bed in because he would insist

on trying to make a bed for himself in a half empty box of quaker oats or something of the sort.

“ This evident joy in flight interests me because it would seem to give the lie to the statement so often made that birds fly, not for the joy of it, but simply in order to get their food. Cage them, and feed them well, and they will have no desire to fly. This is most certainly not true of Maurice. There can be no doubt at all that he flies for the sheer joy of it. Some days when we go for a walk he is in flight practically the whole time. No sooner is he back on the perch I carry for him, or on one of our heads (a favourite alighting place) than he is off again. He races with Boojum, skimming along the path just out of his reach, then flings himself up in the air and wheels and circles about like a mad thing. And the myna is not a bird that suggests flight with its heavy body. It took him about a year to get full control of himself in flight. Now he can thread his way through closely growing trees to get to me and never touch a branch.

“ The longest flight I ever saw him take was one day when he went right across the Balasun and the hills on the other side and must have crossed the Mechi and reached Nepal. It was a most beautiful sight. He flew in great circles getting higher and higher and further and further away, till I completely lost sight of him and my husband could only just see him as a speck against the sky. Then he turned and came sweeping and circling back again till finally he planed down on to my *topi*. Next morning he disappeared quite early and did not return for 24 hours and we always think he went off to complete his explorations. It was a terribly stormy night and he arrived drenched to the skin and has never gone away since. I expect he had a bit too much.

“ Occasionally other mynas of his *jat* come here but he never seems the least interested in them although he tries to make friends with a pair of house mynas that are always here. They play together a lot chasing each other all over the place, sometimes Maurice after them, sometimes they

after him—a sort of friendly armed neutrality. He sleeps with them in the roof sometimes. They drive him away till they get sleepy and then he, occasionally, goes in to them, but usually he has fled to me for protection before this happens.

“He is rather nervous at first with strangers, but once he knows any one he never seems to forget them however long it is till he sees them again so, evidently, he has a good memory.”

With regard to this bird's diet my friend writes:—“He does not eat meat but apart from that is practically omnivorous. He was not so at first, but inclined to be suspicious of any new thing that I offered him. Now, however, he eats or tries to eat whatever he sees me eating. What he loves more than anything is butter and next to that hot buttered scones and tea cake. If he sees the tea cake dish on the table at tea time it is no use offering him cake or bread and butter. He simply takes it and drops it until he gets tea cake! He used to eat dry bread.....brown.....never cared much for white, but one day I gave it to him buttered and now he will only eat dry bread if he is *very* hungry. When Boojum has his breakfast which is dry dog biscuit of various kinds, Maurice always steals two or three bits and swallows them without apparently any subsequent discomfort, though it is not exactly the sort of fare one would think would suit a fruit eating bird! He also eats Spring onions with avidity, but not always. Some days he refuses them, and on others will eat nine or ten at a go and refuse anything else if he sees them on the table. It is as if he had a craving for them from time to time. He gets three small tea spoonfuls of *sutoo* mixed with water to a paste everyday, and some banana, but for the rest shares my food.”

I've had further news of Maurice while *ex-route* for home. My friend writes:—“Maurice proves an *excellent* traveller. He takes everything as it comes and gives no trouble. Directly we got into the train on Monday I took him out of his small cage (on the leash of course) and let him sit on his stand which he did quite happily till his bed

time, when, of his own volition, he got into my bed (which was made up), lay down beside me and never moved all night! It was cold, and I pulled up blanket after blanket as the night wore on and wondered if he would be suffocated; but he evidently approved, for he did not move until he heard the rattle of the tea cups with our early morning tea, quite an hour after his usual getting up time. He then instantly emerged, very spry and very hungry. It was the same again last night, so I take it the problem of keeping him warm at night is solved!"

Elwes' Eared-Pheasant (*Crossoptilon harmani* Elwes) in
Captivity. Its daily round of life and notes
on the species.

By

C. M. INGLIS, F.Z.S., F.R.E.S., B.E.M.B.O.U.

(With a Drawing and a Plan).

A pair of these birds was received by Major F. M. Bailey, C.I.E., (now Lt. Col.) from Tibet on the 4th June 1924. They passed through Changu (12,600 ft.) in Sikkim while Capt. Nevill and myself were there but we did not see them then as they went right through. However, on my return to the Residency at Gangtok, I was fortunately able to spend a whole day observing them.

These birds are exceedingly rare, even in Museums, and no others had ever been kept in captivity so it was a unique opportunity of observing them, one not to be lost.

They were housed in the same fine aviary which held the Blood-Pheasants (*Ithaginis cruentus*), an account of which appeared in *Vol. V. No. 3 pp. 53-61* of this Journal. The other wild inmates being four Spotted Doves, one male Himalayan Greenfinch and, in the evenings, a pair of Demoiselle Cranes. There were also a pair of Guinea fowl and a couple of coops of chickens.

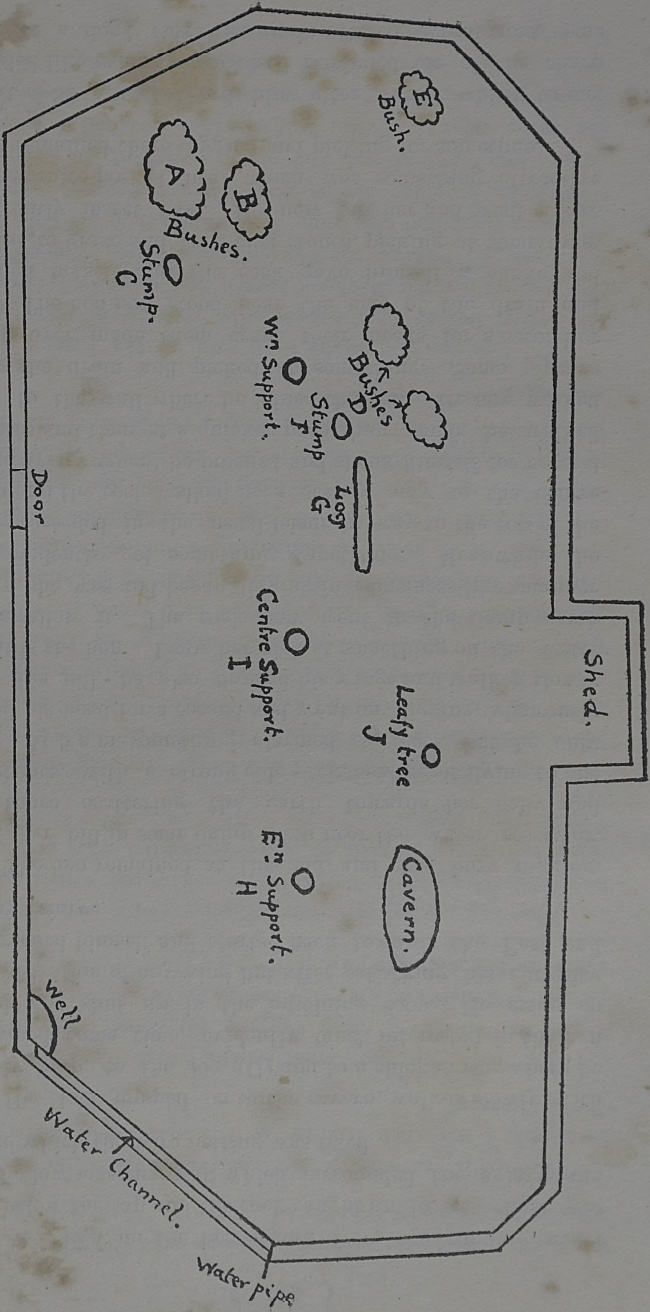
I visited the aviary at 4-30 a. m. and found both birds roosting on the bush under which the hen Blood-Pheasant was sitting on eggs, but five minutes later the cock got down on to the mat, which was placed to shelter the Blood-Pheasant from rain and hail, scratched his head, pecked at his breast and opened his wings; eight minutes later he walked down the mat and flew on to the ground and was there joined by his mate a few minutes later.

They slowly crossed to the East side of the aviary, grazing as they went and while in her company the cock made a low soft call something like *oway! oway!* and she ran up to him and picked up some delicacy.



ELWES' EARED PHEASANT (*CROSSOPTILON HARMANI*)
DRAWN FROM LIFE.

Ground Plan of Aviary.



At 4 45 a. m. the hen drank from the running water just below the tap and the cock caught an insect which was on the low masonry wall which surrounded the aviary and above which the wire netting was fixed.

He then jumped on to the cavern, walked slowly, with stately step, to the log (G) and to a chicken run where he remained some time, evidently, much interested in the hen which was shut up in the adjoining coop. He made no demonstration of any kind but after satisfying his curiosity he preened himself and started back towards the East end of the aviary.

The hen remained at this end and was busy digging, with her bill, in some damp earth near the water reservoir, sometimes scattering the earth towards her belly and sometimes, with a strong side peck, sending it flying to one side. At 5 a. m. something alarmed the cock but he only raised his head for a second and went on digging vigorously with his bill, he also flapped his wings and walked slowly towards the hen. I saw her pick at something on the water and swallow it. The cock now went to the damp earth where she was and began digging in a business-like manner and evidently got something appetising. Meanwhile the hen proceeded in the usual leisurely way to the top of the drain and the cock walked in a stately way to the centre of the aviary where he preened and shook himself for several minutes and then, at a quicker pace than usual, he walked back to the wall where he joined the hen. He now walked along the drain and picked at something. Some pigeons flying over made them crane their necks for a second or two. The hen now stood near the side of the drain and preened herself and the cock gave himself a shake and started to graze and turn over stones, picking at something, apparently insect food. He now left her and went across to the centre post (1) near which was something attractive as he remained there digging and picking for sometime.

At 5-30 A.M. I heard him utter a call which, to me, sounded like *wough, wough* and reminded me of the sharp bark of a dog! this was again uttered several times some

ten minutes later and on both occasions from the ground and with no extension of the neck.

The hen was still at the Eastern side and, on several occasions, I saw her feeding at the same spot as a hen Blood-Pheasant.

The cock had now reached the North-West end of the aviary and was very busy digging all round himself and feeding; sometimes digging close to his breast, and, at other times, rather well away from himself.

The hen meanwhile was digging away and dug up several worms which she swallowed with great relish. Five minutes later she seemed to have exhausted this spot and went further East.

The cock had crossed the aviary, stopping to pick at grass as he went but not digging, to near the cavern where there was a chicken run; this, or rather the enclosed hen, seemed to be some attraction to him; he peered through the wire netting, up and down, at the hutch to see if there was any means of ingress. He remained here some time, often with his head close up to the netting, but, at last, finding he could not get in, got tired of hanging around, picked at some chicken food which had dropped, stretching one leg at the same time and partially uplifting one wing and went past cavern cropping grass as he went. He jumped on to one of the stones of the cavern and stood there apparently gazing at nothing.

The hen was still at the west side of the aviary, near the lower bushes (A), occasionally picking up something. She flapped her wings, shook herself and proceeded towards the bush (E) where the Blood-Pheasant sits. The cock, in the mean time, had also come West and at 7-20 A.M. they were both together at the North-Western corner. He got on to a low masonry wall and preened himself and she did the same, near the bush; now and then he stood motionless. A pair of young Doves came and sat a few inches away from him, not in the least afraid, looked up at him exemplifying Dignity and Impudence. He now drew up one leg and

rested on the other one and the hen, having finished her toilette, remained motionless a couple of yards away. They stayed like this for some time and, at 7-45 A.M., the cock dropped his tucked up leg and stepped off the wall and began to feed. Five minutes later he stretched himself and walked in a slow, dignified manner further East.

The hen was now busy digging in the South-West side, mostly with side blows of the bill; she stopped for a bit, drew up one leg, only hiding the shank in the feathers, and began preening herself. She then remained motionless for a short while turned round and began preening again.

The cock gave a flap or two of the wings, jumping in the air at the same time, turned in her direction; got on to the wall and preened himself. He then returned to their favourite North-West corner and the hen, after remaining twenty minutes in one position, joined him there, where he was picking at grass and digging with his bill. He appeared to be feeding on succulent roots. They stopped to preen themselves for a bit and then went on feeding again. They were momentarily startled by the guinea-fowl screeching and, at intervals, preened themselves, often standing on one leg while doing so.

The cock called quite close to me at 8-30 A.M. Standing on the ground he raised his head and called *uh uh, uh uh, uh uh uh uh*, the first two notes not so quickly uttered as the others which are uttered very quickly. The call is very difficult to syllabalize and is very harsh.

Both birds remained at this side of the aviary till 10-25 A.M. the cock then stepping across in the usual stately fashion to near the cavern without stopping to feed on the way. The hen remained at the West side walking up and down it with deliberate step, every now and then stopping to pick at something, she made several halts but her motions were very restless.

The cock was busy picking young and tender grass at the East end of the aviary but didn't remain there long. He traversed the North side of the aviary passing through

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The cock was busy picking young and tender grass at the East end of the aviary but didn't remain there long. He traversed the North side of the aviary passing through

the shed. I was close by and he didn't like to pass near me but, at last, picked up sufficient courage to do so uttering a low soft note, which I syllabalized as *oway oway*, as he went by. He stopped to pick something and at 10-45 A.M. again joined the hen at their favourite corner which is now well dug up.

The hen was engaged in spade work with her bill and the cock preened himself, after which they both picked about for a bit; he now got on to the wall and preened himself again, she doing likewise but on the ground.

A dog squealing made them raise their heads for a moment, but otherwise didn't disturb them, and they resumed their toilette. The hen gave herself a shake, picked at something, then squatted on the wall and continued preening herself.

At 11-15 A.M. the cock slipped once, righted himself by partially expanding his wings and stepped down. He grazed for a moment or two, preened himself again and went towards the bush, where the Blood Pheasant sits, grazing on the way. He then squatted in the ferns, picked something off a leaf but I could only see his head. A quarter of an hour later he got up, stretched one leg and wing, and began feeding in a dilatory manner; he then scratched his head and preened himself as did the hen.

A dove flying close overhead startled them and they jumped to one side, bending forward and spreading their tails at the same time; the cock then stretched himself and both began preening operations again. They then both started digging with their bills and picking about, the hen once stopping to shake herself and ruffle her feathers. The cock squatted in the ferns for five minutes and then got up and grazed towards the Blood-Pheasants bush, stopping once to flap his wings and spread his tail, standing upright while doing so; the hen did the same.

Again a dove flew past and the cock jumped in the air spreading his wings and tail. Both now proceeded to their favourite digging spot and dug and fed close together. At

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Again a dove flew past and the cock jumped in the air spreading his wings and tail. Both now proceeded to their favourite digging spot and dug and fed close together. At

noon they stopped feeding and went behind the Blood-Pheasant's bush for a moment or two ; the cock then preened himself and the hen paced up and down trying to get out. A quarter of an hour later he crossed over the centre of the aviary and was most assiduous in digging and picking up insects which I think were ants. Now and again he would give a fierce sideways dig with his bill sending the earth flying to one side. A man now entered the aviary and he scuttled past at a great pace, with outstretched neck held high, to the East side of the cavern where he dug vigorously for a few minutes, then ran quickly across to where the hen was on the West side, near the Blood-Pheasants bush ; they now rested, he on the wall and she on the ground and preened themselves ; his preening only lasted a few minutes and he got up and walked up and down along the wall.

At 12-55 P.M. the hen flew on to the mat, preened herself, cleaned her bill on it and flew down to between bushes (A and B) where she was joined for a minute by her mate. She squatted between the two bushes and preened herself and he grazed back again towards the wall but returned to the shade of a bush beside the hen.

On returning after lunch at 2 P.M. they were both in their favourite corner, the cock preening himself on the wall and the hen doing the same on the ground. Twenty minutes later he got down, pecked at some grass, near the Blood-Pheasant's enclosure, gave his head and body a good shake and preened himself again and then picked at something.

At 2-35 P.M. the hen got up walked slowly past the enclosure, picking at grass as she went, shook herself and grazed toward bush (A) where she stood for a little preening herself and was joined here by the cock fifteen minutes later ; both then returned to their favourite corner ; he to his old station on the wall and she on the ground near him : here they again preened themselves.

At 3 p.m. he got down picked at something on the wall and preened himself. She doing likewise and a few minutes later both rested. Then they began to feed, but

with little enthusiasm, and he returned to the wall where he scratched his head and preened himself. Five minutes later he got down to pick at something but she remained squatting. Shortly afterwards both began digging, working their heads from side to side and occasionally looking up. They were now most assiduous in their search for food, moving forward very slowly and working each inch of ground most thoroughly.

At 3-30 p.m. the cock stopped feeding and walked along the wall towards the shed, stopping and looking about now and again. When near the chicken run he got down and began making that soft low sound heard in the morning; he opened his wings once and stretched himself nearly overbalancing while doing so. Then he walked over to the cavern feeding once or twice on the way.

The hen was still busy feeding at their favourite place pecking and digging backwards and forwards over a very small area. By 3-45 p. m. the cock had reached the Eastern wall. It had been raining some time so he shook the drops off his feathers and returned to the chicken run uttering his soft, low note; here he ensconced himself beneath a piece of bamboo matting but only for a short time; now he ran across in front of the shed, to where his mate had been digging and started feeding there. She had stopped feeding and was standing quietly on the wall. He joined her there and preened himself.

At 4-20 p.m., the cock moved across to the ferns, picking at grass on the way, but the hen still remained motionless with puffed-out feathers and looked very dejected. Twenty minutes later both were busy digging and feeding, he uttering his rather pleasant low note *oway, oway*; he continued uttering it near the chicken run and now and then trying to reach the enclosed hen, sometimes standing up at full height, with expanded tail, when attempting to do so. He walked round and round the run in a crouching manner, every now and then extending his neck, the tail being expanded the whole time, each feather separated. He jumped at the hen sometimes striking at her with his feet

in the same way as a cock does. While jumping up the wings were expanded and he kept up a low soft note resembling *wha! wha!* the whole time. Several times he jumped on to the run and nearly overbalanced himself, but by raising the expanded tail was able to right himself again. Though, apparently, unfriendly towards the hen, he was quite friendly with the guinea-fowl and other inmates of the aviary.

At 4-50 p.m. he entered the shed and drank five times out of the porcelain vessel which contained water, after which he walked a few yards beyond the shed but returned to it again and picked about in some charcoal but swallowed none; he however discovered a piece of egg-shell which he swallowed and then went to their favourite digging ground where he ate one or two small seeds.

The hen was moping where she was last noticed but joined her mate at 5 p.m., and they both began feeding at their favourite spot. He then got on to the wall, looked around a bit and cleaned his bill against it. The hen only fed for a few minutes, stopping to preen herself, as did the cock, he also scratched his head. The hen began feeding again and shaking herself between courses.

At 5-30 p.m. the cock got down, after having been exactly half an hour on the wall, fed for a few minutes and returned to the wall again getting down five minutes later to feed again. They remained at this side of the aviary for more than half an hour.

I once saw the cock use his feet. He was digging away with his bill in the usual fashion and then gave a couple of scratches with his feet; that was the only instance during the whole day that this occurred. Beebe in his Monograph says:—"The Eared Pheasants like the *Impeyans*, probably never use their feet for scratching, the heavy body and short legs doubtless making the quick shifting of gravity not an easy matter". The sole occasion noticed by me is the exception that proves the rule.

The cock then, with slow and stately tread, crossed to the East end for a few minutes, returning to the other side

where his mate was ; he stood upright and opened his wings and once while grazing he looked into the air and pecked at something on a leaf. Some people entering the aviary disturbed him but he only increased his pace a little for a short distance and again assumed his slow and stately step. He then raised his head as somebody passed outside, stretched a leg and went into some ferns. When standing the tail droops but when walking it is slightly raised.

At 6-30 P.M. they both got together for a minute or two, then separated, the hen digging for a bit and preening and shaking herself. Again they got together, the cock looked around in the air and the hen pecked at something. Five minutes later they looked up into a bamboo clump outside the aviary as if they wanted to roost there, getting on to the wall to be as near to it as possible and paced up and down the wall trying to get out. At 6-40 P.M., the cock flew on to the matting, which protects the hen Blood-Pheasant but got down again, rather clumsily, stepping on to a bamboo, the wings and tail slightly expanded, and from there jumped to the ground. They again both looked longingly at the bamboo clump, paced the wall for a bit craning their heads towards the clump. The hen jumped on to a small stump and looked towards the bamboos. The cock, for the second time, jumped on to the matting and craned wistfully towards the bamboos again returning to the ground in the same manner as before. A few minutes later he again flew on to the mat, looked up at the clump and jumped down again. Both now paced about for a little, every now and then looking towards the bamboos. Th cock flew on to the mat, for the fourth time, and back to the ground again.

The hen stayed under a bush for a minute or two and then joined her mate both looking for some time at the clump of bamboos. The cock, for the fifth time, got on to the mat and at 6-50 P.M., went into the bush near it, remaining there to roost. At the same time the hen attempted to fly up into the bamboos but, of course, was stopped by the wire netting. She was now very impatient to roost and, five minutes later, she flew on to the mat and from there to the bush, but found her footing not very secure

and, after floundering about for a bit, she had to return to the mat ; she, however, only waited there a minute or two returning to the bush, where she had to use her wings to balance herself at first ; by 7 P.M., she also had settled down for the night. Other birds of this species received by Bailey preferred roosting high up on a dead tree.

Bailey told me that these Pheasants, in a wild state, are very noisy in the early morning and less so in the evening. He also said that the call I heard was not the same as he heard uttered by wild birds nor does he consider the call resemble that of a Peafowl as given for the allied species the Blue or Pallas' Eared-Pheasant (*Crossoptilon auritum*) in Beebe's Monograph. He also told me, later on, that he heard his birds calling in the early morning in mid-February but that, when he wrote, they were calling at any time during the day ; while some blasting operations were going on they called to the report. I have heard the cock calling from a pile of rocks and from a stump. The hen is less vociferous than the cock.

Przywalsky, as quoted by Beebe, writing about the Blue Eared-Pheasant (*Crossoptilon auritum*) says :—"The great difficulty lies in discovering the whereabouts of the bird, owing to the long irregular intervals between its cries, whilst it is sometimes absolutely silent even on a fine bright morning." This agrees with what I observed as to the silence of these birds.

Although Beebe writes about *Crossoptilon auritum* that "several observers have spoken of the enjoyment which these birds seem to take in dust baths" during my whole days' observations, of this very closely allied species, I never saw either of them dust themselves.

As regards the manner of feeding my observations corresponded with those of Beebe when writing about the Brown Eared-Pheasant (*Crossoptilon mantchuricum*). I found the greater proportion of food to be vegetable ; they were fond of cropping grass and eating the succulent roots of plants and also seeds. They ate cauliflower leaves but were not as fond of them as were the Blood-Pheasants. I

also saw them take insects. They ate paddy in preference to maize, unlike most of the other Pheasants in the aviary.

During a second visit to Gangtok, when Bailey had four males and two females of these Pheasants, the birds were rather sluggish, often remaining in one position for half an hour or more though, certainly, when walking about, although their gait was slow and dignified, they assumed an alert manner. The apparent sluggishness may have been due to their being brought down from a high elevation (10,000 to 15,000 feet) to the comparative low one of Gangtok (5,900 feet).

One of the Eared-Pheasants had to be kept shut up as he was very pugnacious. He killed a Blood-Pheasant by bashing its head in with his powerful bill and also nearly killed a cock Monal. He was the tamest of the *Crossoptilon* and would jump on to Bailey's knee to be fed. Bailey noticed it displaying before a hen Monal about the end of November and I also saw one displaying; one wing was lowered and the other raised. The bird assuming a slanting position, the tail was spread laterally each feather separated. The cock, while chasing a hen, opened his wings, spread his tail and lowered his head.

Note on the species.

In the Eared-Pheasants the top of the head has short velvety feathers and the ear-coverts project beyond the head in upward-curved tufts. The plumage is long, lax and hair-like especially so in the centre tail feathers, the webs of which fall in handsome curves over the much shorter and closer plumed outer feathers.

Beebe considers this bird to be a hybrid between Pallas' Eared-Pheasant (*Crossoptilon auritum*) and the Tibetan White Eared-Pheasant (*Crossoptilon tibetanum*). It has also been placed as a subspecies of *auritum* and Rothschild considers it to be a subspecies of *Crossoptilon crossoptilon* (*tibetanum*), but at present the material is too poor to enable any definite status to be given to it. Stuart Baker, for the present, retains it as a full species.

In colour it greatly resembles *auritum*. Elwes' original description and note in the "Ibis" for 1881 as given by Beebe, is as follows :—

"*Crossoptilon harmani*, sp. nov. (Plate XIII). "Bill horn-colour tinged with red, $1\frac{1}{2}$ inch long from gape, and $\frac{3}{4}$ inch deep at nostril. Lores and a space surrounding the eye, 2 inches long by 1 inch deep, naked, red. Top of head covered with short velvety blue-black feathers. A band on occiput, chin, and middle of throat, for a space of about 5 inches from the beak, white. Ear-coverts produced, nearly 2 inches long, white. Rest of neck, back, wing-coverts, breast, flanks, and under tail-coverts dark slaty bluish. Upper tail-coverts long, rather greyer than back. Centre of belly white. Primaries and secondaries dark slaty bluish, with purplish reflections. Wing 12 inches long. Tail composed of twenty graduated feathers, the central pair about 18 inches long, the lateral pair about 9 inches, bluish purple, with violet and green reflections on the central four or five pairs. Tarsi strong, 4 inches long with stout spurs. Middle toe, with claw, 3 inches long. Legs and feet vermillon red.

Hab.—Eastern Tibet, about 150 miles East of Lhasa (*Harman*).

"This species resembles the figure of *C. auritum* Pall., given in Elliot's "Phasianidae" in its general coloration and markings. It may, however, be easily distinguished by the tail—which has no white in the centre of the lateral feathers, and is quite differently coloured. The type of *C. auritum*, according to Elliot, is lost; it is, however, described by Pallas as having eighteen tail-feathers. Mr. Elliot's plate is taken from specimens collected by the Abbé Armand David in the provinces of Shensi and Kokonor, and originally described as *C. caeruleus* David ('Comptes Rendus,' lxx. p. 538, 1870). The figure shows twenty tail-feathers, as in the case with my bird; but whether the species collected by David is really *C. auritum* Pall., or not, my bird is clearly distinct from both of them, so far as can be ascertained without seeing the specimens themselves.

"For this fine species I am indebted to Lieut. Harman, R. E., who has distinguished himself as a surveyor and explorer of the Eastern Himalayas, especially in Sikkim, where he has been employed for some years. When at Darjeeling in December last, I saw the skin of what I at once recognized as a new *Crossoptilon* hanging on the wall of his room. Unfortunately it had never been properly preserved, and was in such a terribly moth-eaten state that the remains, which he kindly presented to me, and which are now in the British Museum, are hardly worth preserving. They have, however, proved sufficient for Mr. Keulemans to make a very accurate drawing, the only fault of which is that the ear-coverts do not seem in the specimen to be so strongly developed as in the figure.

"The skin was brought to Mr. Harman by one of his native surveyors, who said that he had procured it 150 miles east of Lhasa, at an elevation of about 6000 feet, where it was found in flocks during winter. This part of Tibet has never been visited by any European or by any of the late Mr. Mandelli's native hunters, and having, as reported, a much milder climate and more luxuriant vegetation than the western parts of Tibet, may be expected to produce a number of remarkable and, as yet, unknown species.

"This makes the fifth, or, if *C. tibetanum* Hodgs., and *C. drouyni* Verr. should prove to be identical, the fourth species of the genus known; and though it is probable that, as in the genus *Phasianus*, the local races or species of *Crossoptilon* will be eventually found to merge insensibly into each other, yet there is no difficulty in distinguishing them so far as we know at present."

I have two skins of Elwes' Eared-Pheasant, in my private collection of Game birds, which I owe to the generosity of Lt. Col. Bailey. They were both obtained at Shingdzam in Tibet at an elevation between 12 and 13,000 feet; the cock on the 7th April 1922 and the hen on the 15th of the same month. The tail of my hen specimen is not complete but that of the cock has twenty feathers as given in Elwes' description,

My specimens differ slightly from the original description. The feathers on the top of the head are more a velvety violet-black than blue-black; the neck and extreme breast is *much* darker than the rest of the body plumage and in certain lights shows a violet gloss; the rump and upper tail-coverts are very light glistening ashy-grey, the coverts tinged with cream, strongly contrasting with the rest of the upper plumage and not only "rather greyer than back" of the original description. The primaries are unglossed brown; the tail feathers are as in the original description, the centre ones metallic purple at the base changing to bronze-green and then rich bluish—purple at the terminal 4 or 5 inches; the flanks are pale ashy-grey and the thighs brown.

In the live bird I noted the soft parts as:—Bill yellowish-fleshy, cere lighter; facial skin deep lake; legs light pinkish-lake and iris orange-red.

Bailey gives the colours of the soft parts as:—"iris orange-brown; bill light reddish-horny; legs scarlet.

He gives the length of a large cock and a large hen as $35\frac{1}{4}$ inches and $34\frac{1}{8}$ inches. The spurs in my bird are $\frac{3}{4}$ inch.

The sexes are alike the hen differing in having no spurs. Stuart Baker describes the chick obtained by Col. Bailey as follows:—

Chick.—Probably about a fortnight old. Crown velvety black and not brown as in Pallas' Pheasant; upper plumage a dull black changing to dark ashy grey on the rump and upper tail coverts; the shoulders and wings are vermiculated with reddish bars and the wings-coverts have broad reddish fulvous shaft streaks. The distribution of the white on the head is the same as in the adult, and the long ear-tufts are partially developed, but the white does not extend down to the throat; there is a well defined black patch behind and under the ear coverts.

"The upper breast and flanks have the feathers black with the centres and terminal edges fulvous; the lower breast and abdomen are dirty white; the vent and under

tail-coverts dull ashy grey with white tips, and the tail feathers are blue-black glossed with blue, which has a tinge of green in certain tights."

He gives the distribution as:—"Abor and Mishni Hills and South-East Tibet. Apparently common on all the higher ranges of the extreme North-Eastern watershed of the Brahmapootra River."

Bailey got a clutch of 6 eggs from Lhagyari in Tibet at an elevation of from 12 to 13,000 feet on the 12th July 1933. Three out of four, which I was able to examine, were buffy-stone colour with, in two of them, pale brown specks and freckles towards the narrow end, the fourth egg was not so buff but a clearer greyish-green. They measured 59×43 , 59×42 , 58×42 and 60×43 mm.

Bailey seems to be the only white man who has observed this fine Pheasant in a wild state. He writes to the Bombay National History Society—"This bird occurs in Pome, where I found feathers and scratchings, though I was never fortunate enough to come on the birds themselves. It is common in the Lower Tsangpo Valley in Tibet. The furthest point west at which we saw it was the East side, Putrang La, when there were numbers in the rhododendron scrub at about 15,500 feet. The lowest elevation at which we found this pheasant in the Tsangpo Valley was about 9,300 feet at Gyala, but I saw traces of them in Pome at about 8,500 feet. In the valley of the Tsangpo itself the highest point upstream at which we found these birds was the neighbourhood of Nang Dzong. They were plentiful in the valley of the Char, which is a branch of the Subansiri but more were found west of the Pu La, which is the watershed between the Tsang Po and Subansiri in this region. There were many on the Takarla and the Le La. They were heard calling near Natrampa on the Lower Chayul Valley, but they do not appear to extend west of these places. They were said to be common at Tsari in winter, but we saw none. These birds move about in flocks of about 5 or 10 and frequent forest covered hills and the higher elevations, dwarf rhododendron jungle, where they

feed on the grassy clearings among the bushes. They are only noisy in the early mornings, and less so in the evening. Their call is like that of *C. tibetanicum*. When alarmed, they usually fly into a tree; the flight is heavy and usually downhill. The beaters on seeing these birds would make a noise like the barking of dogs, on which the birds fly into a tree and are easily shot. A well-grown young one on the Putrang La on 24th August. These birds are trapped by Tibetans in the Lower Tsang Po Valley. Adult specimens in the flesh measured males $31\frac{1}{2}$ ", $33\frac{3}{4}$ ", $35\frac{1}{4}$ " and females, 34 " and $34\frac{1}{8}$ ".

Bailey sent some home to the Edinburgh Zoo but whether they reached there alive or not I don't know. They certainly weren't there when I visited it in 1929.

The sketch was done from a live cock in Bailey's aviary at Gangtok.

Local bird names in the Darjeeling District.

It is a well-known fact that the Paharia is no naturalist, and, except in the case of the very common birds, there appears much diversity of opinion as to the real name, if any, of a large number of birds. The average Paharia cannot recognise, and name, more than a dozen species and any small bird is usually termed "phista" and any medium sized one "biakura" or "kolkolay".

There are, however, quite a number of names used by the more observant of rural and tea garden population, that appear to be fairly constant and I append a list of all that I have been able to collect in recent years.

The numbers refer to the Fauna of British India (Birds), 2nd Edition, and the names marked with an asterisk are quoted from Dr. Satya Churn Law's list in the Journal of the Asiatic Society of Bengal of June 1933, to make as complete a list as possible.

- | | | | |
|----|---------------------------|---------------------|-----------|
| 7 | Himalayan Jungle Crow | <i>Kāk</i> . | काक |
| 11 | Common Indian House Crow. | <i>Mādēsi Kāk</i> . | मदीसे काक |

| | | | |
|-----|----------------------------------|--------------------------------------|---------------|
| 22 | Yellow-billed Blue Magpie. | <i>Lāmpuchāri.</i> | लाम पुकरे |
| 24 | Green Magpie | ... <i>Dōri Kwēli.</i> | ढोड़ी कोइली |
| 32 | Himalayan Tree-pie | ... <i>Kōkālī.</i> | कोकले |
| 46 | Himalayan Nutcracker | * <i>Lek-bhāli.</i> | लेख भाले |
| 59 | Green-backed Tit | ... <i>Chinchin</i> <i>Kothi.</i> | चिचिन कोटे |
| 89 | Great Parrot-bill | ... * <i>Tūti.</i> | टुटी |
| 111 | Cinamon-bellied Nuthatch | <i>Sūsālī.</i> | सुलसुले |
| 120 | Rufous-necked Laughing Thrush. | <i>Biākura.</i> | भ्याकुरा |
| 128 | White-crested Laughing Thrush. | <i>Kōllōli.</i> | कोलकोले |
| 132 | Black-gorgetted Laughing Thrush. | <i>Kūntay</i> <i>Kōllōli.</i> | कन्टे कोलकोले |
| 220 | Rusty-cheeked Scimitar Babbler. | <i>Chūchay</i> <i>Biākura.</i> | चूच म्याकुरा |
| 243 | Mandelli's Spotted Babbler | <i>Khōrkhōray.</i> | खोरखोरे |
| 270 | Black-throated Babbler | <i>Moustay.</i> | मुसटे |
| 311 | Black-headed Sibia | ... * <i>Chārchāri.</i> | चरचरे |
| 351 | Indian Red-Billed Liothrix. | } * <i>Jher-jheri</i> { | } भयारभयारे { |
| 376 | Silver-eared Mesia | | |
| 380 | Indian White-throated Bulbul. | <i>Auli Jūrēli.</i> | औले जुरेली |
| 386 | Himalayan Black Bulbul | <i>Kēnki.</i> | क्यांकी |
| 397 | Striated Green Bulbul | ... <i>Jogi-chāra.</i> | जोगी चरा |
| 403 | Bengal Red-vented Bulbul. | <i>Kālay jūrēli.</i> | काली जुरेली |
| 405 | White-cheeked Bulbul | <i>Tārka</i> <i>Jūrēli.</i> | तारके जुरेली |
| 495 | Indian Bush-Chat | ... <i>Dūyirē.</i> | दुईरे |

| | | | |
|-----|--|-----------------------|--|
| 502 | Western Dark-grey Bush Chat. | <i>Dwinchi.</i> | दुईचे |
| 518 | Eastern Spotted Forktail | } | <i>Dhobini.</i> धोबीनी |
| 519 | Slaty-backed Forktail | | |
| 558 | Indian Magpie Robin ... | | |
| 605 | Chestnut-bellied Rock Thrush. | } | <i>Singaney.</i> सिंगाने |
| 606 | Blue-headed Rock Thrush | | |
| 614 | Himalayan Whistling Thrush. | <i>Kolchura.</i> | कलचुड़ा |
| 665 | Verditer Flycatcher ... | <i>Hārini.</i> | हरीनी |
| 700 | White-browed Fantail Flycatcher. | } | <i>Nākalichara.</i> नकली चरा <i>Bijwani chara.</i> विजुवानी चरा |
| 712 | Indian Black-headed Shrike. | | |
| 716 | Grey-backed Shrike ... | } | <i>Bādraia</i> भद्रायो |
| 733 | Indian Scarlet Minivet | | |
| 739 | Assam Short-billed Minivet. | } | <i>Rāni chāra</i> रानी चरा |
| 753 | Dark Grey Cuckoo-Shrike. | | |
| | | <i>Krishna chāra.</i> | कृष्ण चरा |
| | (Its note is described as <i>Krish-na-ki</i>) | | |
| 759 | Large Himalayan Cuckoo-Shrike. | <i>Rew rew</i> | रिड रिड |
| 763 | Ashy Swallow Shrike ... | <i>Mōrāli chara</i> | मुरली चरा |
| 767 | Himalayan Black Drongo | } | <i>Cheebay</i> चिबे |
| 774 | Himalayan Grey Drongo | | |
| 780 | Northern Bronzed Drongo | | |
| 782 | Indian Hair-crested Drongo | | |
| 789 | Large Racket-tailed Drongo. | <i>Bhingāna</i> | भिङ्गना |
| 814 | Burmese Tailor Bird ... | <i>Phista</i> | फिसटा |

| | | | |
|--|---|----------------------------|-------------------|
| 896 | Yellow-billed Flycatcher Warbler. | <i>Moustay jhēr-jhēri.</i> | मुसटे भ्जारभ्जारि |
| (Applies equally to any Willow or Flycatcher-Warbler). | | | |
| 913 | Blandfords' Bush Warbler | <i>Jāri phīsta</i> | जुरे फिसटा |
| 923 | Brown Hill Warbler ... | } <i>Chābārki</i> | चिबुरके |
| 928 | Black-throated Hill Warbler. | | |
| 961 | Maroon Oriole ... | <i>Jhōlay phīsta</i> | भोले फिसटा |
| 964 | Indian Grackle ... | <i>Māina</i> | मैना |
| 982 | Grey-headed Myna ... | <i>Chāhchār</i> | चांचर |
| 996 | Common Myna ... | <i>Rūpi</i> | रूपी |
| 1024 | Hodgson's Munia ... | <i>Kotēra</i> | कोटेरा |
| 1097 | Burmese House-Sparrow | } <i>Bhanghēra</i> | भंगेरा |
| 1101 | Malay Tree-Sparrow | | |
| 1142 | Crested Bunting ... | <i>Bu-jūrēli</i> | भुईं जुरेली |
| 1152 | Eastern Swallow ... | <i>Ghūr-gaonthūli</i> | घर गौथली |
| 1161 | Hodgson's Striated Swallow. | <i>Bir-gaonthūli</i> | भिर गौथली |
| 1175 | Indian Blue-headed Wagtail. | <i>Khōla-Bhagēra.</i> | खोला बगेरा |
| (Applies to all Wagtails) | | | |
| 1186 | Indian Tree Pipit ... | <i>Chaiyah.</i> | चुईया |
| 1248 | Northern White-eye | <i>Ruīnta</i> | रुईटा |
| 1262 | Indian Yellow-backed Sunbird (or any Sunbirds). | } <i>Bāsi chāra</i> | बलदी चरा |
| 1293 | Indian Streaked Spider-Hunter. | | |
| 1335 | Long-tailed Broadbill ... | <i>Auli sāga</i> | औली सुगा |
| 1353 | Large-Yellow-Naped Woodpecker. | <i>Jōgi-lānchay</i> | जोगी लांचे |

(Other Woodpeckers are called *lānchay*).

| | | | |
|------|---------------------------------------|--------------------------|------------|
| 1427 | Great Himalayan Barbet | <i>Niāoul</i> | नेउल |
| 1432 | Assam Lineated Barbet | <i>Kātārka</i> | कुथुरका |
| 1452 | Asiatic Cuckoo | ... <i>Kūkū</i> | कुक्कु |
| 1454 | Himalayan Cuckoo | ... <i>Chāgdāndān</i> | कक धुन धुन |
| 1455 | Small Cuckoo | ... <i>Ghārti chāra</i> | घरती चरा |
| 1456 | Indian Cuckoo | ... <i>Gotālay chāra</i> | गोठाले चरा |
| 1462 | Indian Plaintive Cuckoo | <i>Sābee chāra</i> | सुबी चरा |
| 1479 | Large Himalayan Green-billed Malkoha. | <i>Kwēli</i> | कोईली |
| 1504 | Himalayan Slaty-headed Paroquet. | <i>Sūga</i> | सुगा |

(Applies to all Paroquets)

| | | | |
|------|-----------------------------|---------------------------|-------------|
| 1519 | Burmese Roller | ... } <i>Thēwa</i> | ठेवा |
| 1520 | Broad-billed Roller | ... } | |
| 1529 | Blue-bearded Bee-eater | <i>Bui ni-aoul</i> | भुई नेउल |
| 1532 | Himalayan Pied Kingfisher. | <i>Chāngi</i> | चांगी |
| 1563 | Great Hornbill | ... <i>Hongraio</i> | होडरायो |
| 1565 | Large Indian Pied Hornbill. | <i>Dhānesh</i> | धनेस |
| 1580 | Tibetan Hoopoe | ... <i>Pāpāray chāra.</i> | फाफरे चरा |
| 1586 | Red-headed Trogon | <i>Bhāūs ko chāra.</i> | बांस को चरा |
| 1596 | Nepal House Swift | ... <i>Bir gaonthali</i> | भिर गौथली |

(Applies to all Swifts and Swiftlets).

| | | | |
|------|----------------------------|---------------------|----------|
| 1626 | Japanese Jungle Nightjar | <i>Kāmi chara</i> | कामी चरा |
| 1647 | Himalayan Brown Wood-Owl. | <i>Hoo-chāl</i> | हुचौल |
| 1663 | Forest Eagle-Owl | ... <i>Kwayrālo</i> | कोईरालो |
| 1672 | Eastern Spotted Scops-Owl. | <i>Gōl simāl</i> | गोल सिमल |

| | | | |
|------|------------------------------|---------------------------------|------------------|
| 1690 | Burmese Barred Owlet | <i>Lātkhōssēra</i> | लाट कोसिरा |
| 1705 | Cinereous Vulture ... | <i>Lāma gīda</i> | लामा गिह |
| 1736 | Black Vulture ... | <i>Gīda</i> | गिह |
| 1741 | Himalayan Kestrel ... | <i>Bessāra</i> | बेसारा |
| 1754 | Rufous-bellied Hawk-Eagle | <i>Jāmālkāt</i> | जमल काठ |
| 1755 | Indian Black Eagle ... | <i>Kālay chīl</i> | काली चील |
| 1760 | Hodgson's Hawk-Eagle | <i>Jūri chīl</i> | जुरे चील |
| 1765 | Indian Crested Serpent Eagle | <i>Gūrūl</i> <i>Kākākūli</i> | गडुल काकाकुली |
| 1787 | Common Pariah Kite ... | <i>Chīl</i> | चील |
| 1796 | Long-legged Buzzard ... | <i>Thāngne chīl</i> | थाङने चील |
| 1803 | Indian Shikra ... | } <i>Bāz</i> | बाज |
| 1812 | Indian Sparrowhawk ... | | |
| 1840 | Pin-tailed Green Pigeon | } <i>Hālesso</i> | हलिसो |
| 1841 | Wedge-tailed Green Pigeon. | | |
| 1843 | Hodgson's Imperial Pigeon | <i>Hookūs</i> | हुकुस |
| 1852 | Indian Emerald Dove ... | <i>Sūndookūr</i> | सुन दुकुर |
| 1873 | Indian Spotted Dove ... | <i>Dookūr</i> | दुकुर |
| 1884 | Bar-tailed Cuckoo-Dove | <i>Hookūs</i> | हुकुस |
| 1897 | Common Peafowl ... | <i>Moozūr</i> | भूजुर |
| 1903 | Common Red Jungle Fowl. | <i>Luinchay</i> | लु'ईचे |
| 1920 | Black-backed Kalij Pheasant. | <i>Kālij</i> | कालीच |
| 1928 | Monal ... | <i>Dhāpay</i> | डाँफि |
| 1931 | Crimson Horned Pheasant. | <i>Monal</i> | मुनाल |

| | | | |
|------|---------------------------------|-----------------------|------------|
| 1959 | Rufous-throated Hill-Partridge. | <i>Peūra</i> | पिउरा |
| 1997 | Burmese Bustard-Quail | <i>Buttai</i> | बट्टई |
| 2034 | Eastern Common Crane | <i>Karung-Kūrung.</i> | कारड कुरुड |
| 2167 | Woodcock | ... <i>Sim kākra</i> | सिम कुखरा |
| 2168 | Wood Snipe | ... <i>Chāhāss</i> | चहास |
| 2216 | Eastern Purple Heron | ... <i>Hūtitem</i> | हुटो टडांऊ |
| 2227 | Cattle Egret | ... <i>Bogula</i> | बगुला |
| | Any wild Goose | ... <i>Raja hañss</i> | राजा हांस |
| | Any wild duck including | } <i>Pani hañss</i> | पानी हांस |
| 2288 | Eastern Goosander | | |

W. H. MATTHEWS,
The 9th June 1934.

“Sanctuaries for wild Game” and “the Protection of Game.”

Under the above titles appeared two short articles in the June 1930 issue of “The Indian Forester”.

These were of special interest to the writer, he having spent many years of service in this country much of which has been closely associated with jungle life both in India and Burma.

These associations have afforded from time to time unique opportunities of sport with gun or rifle, and of a close observation of the conditions under which protection is afforded to the game animals of British India.

Briefly the laws relating to the preservation of game have as their object :—

- (1) The reservation of certain forest areas controlled by the Indian Forest Department, in which it is unlawful for any person to enter therein for the purpose of shooting game without a permit.

- (2) A close season for the protection of game during the breeding season.
- (3) Sanctuaries consisting of certain selected reserved areas for the absolute preservation of game throughout a definite period or for all time.

Admirable as these laws may seem it is evident that they are to a large extent ineffective in operation since each year sees a general diminution rather than an increase in the wild animal life of our forests. The reason for this general decline is popularly attributed to the advent of the high velocity rifle and of the motor car but however much these two factors may have contributed towards the wholesale destruction of game in other parts of the world, the harm being done in India cannot, with any real knowledge of the circumstances, be attributed to these agencies.

Let us first consider the case against the high velocity rifle.

In a country where the shooting of game is not controlled and everyone and anyone is at liberty to shoot as he pleases, the use of the high velocity rifle as compared with the older fashioned weapons has undoubtedly brought destruction in its train, but the conditions are very different in India. The shooting of game in reserved forest areas is strictly controlled, as far as the European sportsman is concerned, by the issue of permits under which are definite rules regulating the number, sex and species of animals that may be shot. In the fixing of these limits presumably account is taken of all such factors as would operate detrimentally towards the preservation of game. It is by no means apparent therefore how the use of high velocity rifles can affect the destruction of game beyond these prescribed limits. Such weapons moreover are almost exclusively in the possession of European sportsmen.

As regards the motor car, this has facilitated access to forest tracks which were rarely visited by European sportsmen before the advent of these transport facilities, it has also afforded a welcome means to the officers of the Forest

Department of better supervision of these outlying tracts, so, apart from the rare instances under circumstances which may favour its misuse wherein it becomes possible to employ the motor car in the shooting of game in an illegitimate and unsportsmanlike manner, it is contended that more good than harm has followed in its wake, as will be discussed later.

The forest game laws make a great appeal to the average European sportsman. He is intent on the strict observance of these, not only because they tend to enhance his prospects of sport but from a sense of fair play which is his inheritance. So far, therefore, as the European sportsman is concerned, and their numbers are comparatively few, these laws operate effectively. In the close season the European sportsman is conspicuous by his absence.

Can the same be said of the native shikaree or poacher? These, in the writer's opinion and in the opinion of many other observers, are the root cause of the unwholesome destruction to game and the real enemies to the successful conservation of game life in this country.

Can it be acknowledged for a moment that these individuals have any respect for the laws that aim at the protection of game?

The writer has yet to learn of an instance of any native shikaree, apart from the professional poacher, who is not out to break these laws at the first opportunity.

This, obvious to any one who has been closely associated with jungle life and with a knowledge of mentality of the class of individual referred to, and yet these game laws in their very nature, giving credit to all men as being sportsmen, by following a European code, play into these poachers' hands.

It has just been stated that the European sportsman in the close season is conspicuous by his absence and it is then, more than at any other time, that the poacher gets his opportunity.

Many of these reserved areas are far removed from District or Range head-quarters and so lack supervision. They are thus left, for long intervals, entirely in the charge of forest guards on meagre salaries. These forest guards are not only low paid, but in the very nature of their duties many of them are obliged to live a life of exile away from their homes and families among strange aboriginal tribes who alone populate these forest regions. Admirable as their services under these unattractive circumstances may appear, it cannot, for a moment, be supposed that such services are rendered from an entire sense of devotion to duty. Unfortunately the frailty of human nature is prone in these circumstances to temptations and the impecunious forest guard, whatever may be said to his credit, takes every advantage which comes his way of feathering his nest, and how could it be otherwise?

There can be no doubt whatever that for a consideration, he surreptitiously connives with those who would unlawfully slaughter game in Government reserved forests. The many machans, especially in outlying tracts, one sees over water-holes in Government reserved forests afford irrefutable evidence of this.

A sanctuary for the absolute protection of game and where game can breed unmolested is regarded by all sportsmen as a sacred area in which no white man, bar the Forest Officer, on his occasional advertised rounds, ever enters. Such an area may be described as the poacher's paradise. Taking advantage of the infrequent visits of the white man and of the susceptibilities of the low paid forest guard to increase his emoluments our enemy poacher reaps a heavy harvest. The writer has, personally, observed, in such areas where carnivora alone may be shot, machans built over many water holes and the forest guards, who zealously accompany sportsmen on these occasions, loath to draw his attention to these, a guilty conscience no doubt.

In such circumstances is it surprising to find slowly yet surely a general diminution in numbers of the wild game animals that affect these forests?

Take as an example the game in the Nilgiri District in the South of India. Very special measures have now been in force for a considerable number of years in this District for the preservation of game under the custodianship of the Nilgiri Game Association, a very alert body wholly engrossed in the protection of game and out to punish any European for inadvertantly, or otherwise, breaking any of the forest laws. Yet what results, towards the increase in game, it may be asked have they achieved ? It is a well known fact that game in the district is becoming more and more scarce every year, in spite of seasonal modifications imposing further restrictions in the shooting rules intended to meet changing conditions.

Forty or fifty years ago the plateau regions of this District were virtually a sportsman's paradise, yet in spite of the admirable attempts to conserve the game on these hills, nothing but reports of deterioration, both in numbers and size, attach to these laudable endeavours. The spread of civilisation no doubt indirectly accounts for this, for where there is civilisation there is a demand and where there is a demand in comes the poacher to furnish the supply and he, beyond doubt, is mainly and directly responsible for this deterioration. The above remarks have special reference to the animal inhabitants of the Nilgiri forests, but an annual deterioration in small game is also very noticeable. This may be partially accounted for by the opening out of the country, whereby large areas of scrub have been thrown open to the cultivation of tea, and, moreover, in this particular case the motor car has also taken toil, by affording ready access to small game shooting grounds which were beyond the daily range of sportsmen in days of yore. Yet, amongst small game too, the activities of the poacher are ever present and ever relentless.

Such instances bear evidence of the damage done by surreptitious poaching, either with the connivance of the forest guards, or, less frequently, without their knowledge, and thus not coming to the notice of the Forest Officers or to the game associations is likely to be discounted. The damage done by this means is inestimable and the various

reasons advanced attributing the causes to other improbable agencies arise from a natural desire to avoid acknowledgment of the unsavoury truth, an uncomplimentary reflection on the workings of any society organized for the protection of game. Yet if game is to be preserved the truth has to be faced.

The poacher or native shikaree, there is little distinction in their ethics, naturally favour localities in which they are not likely to be intruded upon in the execution of their ill-deeds and thus it is that the motor car, by providing easier access both to sportsmen and Government officials to these outlying forest tracts, operates in the interests of game protection and the writer is firmly of opinion that the motor car has done more good in these ways than harm in other.

This poaching has considerably increased in recent years as a result of the new arms act under which to obtain possession of a firearm is a comparatively simple matter.

Under the pretext of crop protection many gun licenses are applied for and granted each year and the weapons thus obtained are frequently put to illicit uses. For the *bona-fide* protection of crops nothing more is required than a short barrelled inoffensive firearm to scare away animals. The intention should not be to destroy but to frighten. The wild pig menace to crops, in certain tracts, may be regarded as sufficiently serious to warrant their extermination, but this is more than likely to be made the excuse under which extensive poaching operations become possible.

Each such application for a gun license is deserving of very special investigation and due discretion exercised in the granting of these.

It is admittedly difficult to suggest a remedy that would effectively stay the hand of the poacher yet much might be done, towards this end, if appropriate action is taken. From the writer's observations such action would appear to lie in the following directions.

- (1) Careful discrimination should be exercised in the issue of gun licenses and for the protection of

crops a restriction in the length of gun barrels should certainly be imposed.

- (2) In no event should possession of lethal weapons be permitted to owners of lands lying adjacent to Government reserved forests.
- (3) The salaries of forest guards should be raised and so attract to the service a better class of individual.
- (4) An adequate reward should be granted to any subordinate forest employee for the arrest and conviction of any person found to be poaching game in reserved forests.
- (5) The law should be stiffened up and provide for severe penalties against such offenders, so that harsher sentences may act as a deterrent. It is no use fining a poacher a few rupees which is invariably the only punishment meted out. It pays him in these circumstances to poach.
- (6) Sanctuaries should be thrown open to shooting, unless they can be closely supervised all the year round; the more such places are visited by true sportsmen, the less chance for the poacher and the better would be the prospects of preserving game. The sportsman does far less harm, in his restricted rounds, than the poacher does unmolested.
- (7) Difficulties should not be placed in the way of sportsmen wishing to obtain permits to shoot in Government reserved blocks; such sportsmen should be encouraged in every possible way. Their presence on these occasions has a salutary effect in the observance of the forest rules, both by forest subordinates and would be poachers. They should specially be asked to report on any breach of forest game laws that have come to their notice during their visits, apart from reporting the number of game animals shot.

Many sportsmen are keen observers and their remarks on the general condition of game in the areas visited would be invaluable.

- (8) The sale of game in the close season should constitute a criminal offence and trade in the skins of wild animals should be strictly penalized.

In conclusion it may be said that the foregoing remarks are not intended in any way to cast discredit on the distinguished attempts that have been made and are being made for the protection of game. But for this devotion to the cause game would have become extinct in many areas where it still survives, and rare in those areas where it still thrives. The purport of this article is to draw attention to the serious menace to the existence of game caused by poaching and to indicate in what ways it is possible for the poacher to carry on his nefarious deeds, in spite of what appear to be admirable forest laws.

If only in small measure, as a result of this writing, action be taken to mitigate this evil, the writer will have rendered a small service to the game animals of this country, and therein will lie his reward.

N. PRIMROSE,

The 15th July 1930.

[These interesting notes on Sanctuaries and Game Preservation were written years ago by the late Mr. N. Primrose and handed over to me by his brother Mr. C. Primrose, one of our best and most valued contributors. Now that the Preservation of Wild Life is so much to the front these notes, written by a keen sportsman, may prove interesting, and instructive, to our readers.—*Editor*].

Motifs and Inspirations for designs derived from Nature.

(With a black and white illustration.)

From recently having studied the subject I have come to the conclusion that the desire to create design or patterns is inherent in almost all humans. So very few, however, are ever called on to develop this talent that it is killed quite early in life. Designing may be said to be the artistic division of a given space by a pattern or motif repeated at regular intervals. It may vary from purely geometrical shapes, drawn with ruler or compasses, to conventionalised plant forms following geometrical lines which are afterwards removed. As even plant forms, when used as a motif, have to serve the purpose of artistically dividing a set space, it follows, that if balance is not to be spoilt, the motif, which has to be frequently repeated, must remain unchanged in size or shape throughout. Therefore conventionalising is resorted to, the essential character of the plant forms being retained and the drawing thereof rendered as simple as possible. Good designing is a gift that is far from common and many quite fair amateur artists find considerable difficulty in creating pleasing designs. Those great artists, the Japanese, overcame any errors in balance and space filling by the beauty of their drawing and harmony of colour. Ages ago they recognised the great natural beauty of the Bamboo and their artists made good use of it in their designs. My interest in designing having been aroused I looked to my old friend, the Indian Jungle, for inspiration. Alas! I find that, that portion of my brain from which designing should come having been allowed to atrophy, the inspiration which objects and scenes in the jungle undoubtedly afford fail to meet with the requisite response from any brain. Such stimuli as the jungle affords have, however, started a feeble vibration in the designing department the result of which is the illustration reproduced. It is intended as a design for a lampshade and, in the Chinese colouring selected by me *viz* jet black against very deep orange, is by no means displeasing as such. The spot where the jungle scene inspired me with the idea of the design was on the road to Mysore and a few miles beyond the N. W. boundary

We are unable to give this illustration in one continuation as by doing so it would have made it too small so have halved and although this has meant duplicating the same design it shows how the design is carried on.

Editor.



of the Nilgiri District in Mysore territory. Seated in a cramped and uncomfortable position in an overladen; noisy and labouring bus, which, if it had any springs, were quite unable, owing to overloading, to function as springs or shock absorbers, we jolted and swayed our way, Mysoreward, in a cloud of dust and fumes from the exhaust. We were passing through a portion of forest consisting almost entirely of Bamboo when the driver suddenly attempted to bring the contraption to a standstill. Fortunately, for the passengers, the violent application of all available brakes was unable to stop it under some 15 yds. else bad language and bruised bodies had been the result. The driver pointed to the right as we stopped and there, 20 yds. away among the Bamboos, was a group of four Spotted deer. They have become quite accustomed to the noise and sight of these buses and paid no attention to this one. The single stag carried quite a fair head, whilst the young fawn which was in the group had not outgrown that "leggy" stage common to the young of almost all animals, I say almost, because I have yet to see a 'leggy' weasel, young or old. Such legginess is probably at its worst in a young Giraffe but that's another story. After admiring the beauty of the group, undoubtedly enhanced by their surroundings, a shrill "Raight Raight" from the conductor started the driver into action once more. With a shrieking of gears and in a cloud of dust and evil smelling exhaust fumes, the apparently, square-wheeled Juggernaut staggered, Mysorewards, once more. Possibly the frequent and painful jarring endured for 4 hours, in this fearsome vehicle fairly bumped the design into my very fibres but there it is. Long after my return (Not by bus) from Mysore, and when only a pale ochre showed where the worst bruise sustained had been, I sat down to design a lampshade and the motif supplied by that jungle scene came clearly and readily before me. The result is the only drawing I have ever done that can claim to have a vestige of Design about it *viz.*, the artistic division of a set space by a geometrically guided Motif repeated at regular intervals. But, it's a serious but, the space has not really been artistically divided as my more artistic readers will see at a glance. Rich colouring however detracts the

eye from this defect as any can prove if they care to copy the illustration in deep orange and black. I have come to the conclusion therefore that jungle scenes do, if one is able to receive them, offer inspirations for motifs which can be employed in pleasing designs. I have an idea that I once saw Langurs playing "Follow my leader" over bending branches reflected on the surface of a still pool of a jungle river that might be done. Somewhere else there were festoons of Flying Foxes, some asleep, some drowsy and all using filthy language against the heat of the afternoon. That could be worked into an effective motif, not the language, oh dear no, the Editor wouldn't allow it, even if, which is impossible, it were reproducable in black and white, only ten Flying Foxes hanging in festoons. Then again, in Central India, in an old *bagh* or walled garden, built in the Moghul days by some noble that his ladies might "take the air" secure from the vulgar gaze, was a rapidly crumbling pavilion, the windows were of beautiful design in red sandstone and on sills, on which in those artistic days many a beautiful arm had leaned, a Peacock was displaying. So you see there is Design in Nature if you can see it but before you can hope to do so you must feel it. Should, at a later date, any further illustrated notes appertaining to such stupid subjects as "Flying Foxes displaying in the Tombs of Kings" or "Langurs vituperating over water" etc., be published in the Journal, go for the Editor. But no, he is not to blame as though, among the members are quite a number who, if they would, could help him by writing articles, they won't do so. No doubt they are too busy but if the Editor, in desperation, is compelled to accept such poor stuff as my feeble pen affords, it is their fault, not his. Talking of being "too busy" reminds me of the following story, "The Minister walking along a lane came across one of his flock, Angus, sleeping off the effects of a recent debauch under a hedge. Hearing footsteps approaching Angus awoke and gazed stupidly at the Minister. "Well Angus, said he, I see you'r awful beesy the day. Na, Na Meenister its the Deil that's beesy I'm happy, replied Angus. I hope some readers haven't heard that one.

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