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EDITED BY

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

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and one map.*

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CORRIGENDA.

VOL. XVIII. No. 2.

PAGE	LINE	
45	13 (from bottom)	read "slanting" instead of "starting".

VOL. XVIII. No. 4.

PAGE	LINE	
107	10 (from top)	"B.E.M.B.O.U." instead of "B.E.M., B.O.U."
190	12 (from bottom)	insert "tail" between "stiff" and "feathers".
109	10 (from bottom)	insert comma after "barbed."
110	16 (from bottom)	read " <i>ferrugineus</i> " instead of " <i>ferruginens</i> ."
110	17 (from bottom)	read " <i>Rhynchophorus</i> " instead of " <i>Rhynchopherus</i> ".
110	13 (from bottom)	capital "G" for "golden".
111	10 (from top)	insert comma after "and".
114	3 (from top)	"B.E.M.B.O.U. instead of "B.E.M., B.O.U".
114		bottom line read "which" instead of "while."
116	2 (from top)	small "l" in 'Laying'.
116	12 (from top)	read "Huldibari" instead of "Huldabain".
116	19 (from top)	small "m" in " <i>Micropterus</i> ".
116	7 (from bottom)	delete apostrophy in "cuckoo's".
116		bottom line small "m" in " <i>Micropterus</i> ".
118	6 (from top)	capital "C" in <i>cuculus</i> '.
118	6 (from bottom)	, , , ,
120	11 (from top)	, , ,
123	11 (from top)	read "unrecognisable instead of "uncognisable.

(b)

CORRIGENDA.—*Continued.*

PAGE	LINE
123	19 (from bottom) insert comma after “cautiously”.
124	19 (from bottom) read “epidemic” insted of “epedemic”.
125	13 (from top) insert commas before “in” and after “consequence”.
125	8 (from bottom) read “hope” instead of “hopes”.
127	11 (from top) read “had” instead of “hap”.
127	5 (from bottom) read “jungle” instead of “jurgle”.
128	4 (from top) small “o” in “o” clock”.
128	10 (from bottom) read “shining” insted of “shinning”.
130	10 (from top) insert fullstop after “white”.
131	19 (from top) read “Hübner” instead of “Hiibner”.
131	13 (from bottom) read “mesial” instead of “nusial”.
181	12 (from bottom) read “hyaline” instead of “hyalius”.
131	4 (from bottom) read “rubiaceous” instead of “rubiaccous”.
137	18 (from top) read “Ramchuckar” instead of “Ran chuchar”.
138	6 (from bottom) insert comma after “beaters”.



MYOPHONUS COERULEUS TEMMINGKII vigors
The Himalayan Whistling-Thrush
About 1/2 Nat. size

JOURNAL
OF THE
BENGAL NATURAL HISTORY SOCIETY.

Vol. XIX.—No. 1.

The Himalayan Whistling Thrush.

(Myophonus coeruleus temmincki.)

BY

W. H. MATTHEWS

A detailed description of this bird is unnecessary as there is a coloured plate to go with this article, but I give below the field identification.

Length. 12 inches. A bold and conspicuous bird found chiefly hauating rocky streams, cliffs and shady ravines, but also almost anywhere where the land is rough, steep and broken. Glistening blue-black in colour, with a yellow beak and black legs. When seen close-to, or in the sun, whitish spots on the upper surface can be seen, giving it a dappled appearance. The general appearance reminds one forcibly of an English blackbird. Young birds are duller in colour and the beak is greenish instead of yellow.

The Whistling Thrush is found throughout the length and breadth of the Himalayas from the Afghan frontier on the west to the extreme eastern border of Assam, at all elevations from the foothills up to 12,000 ft., and appears equally at home in the tropical forests of the Teesta Valley and the barren glacier-fed villages of Ladak. There is said to be a downward movement towards the Plains in winter, but I have not noticed any increase in the birds during that period, at lower elevations. Over all this wide area the Himalayan Whistling Thrush has no geographical varieties, but further east it is replaced by the Burmese Whistling Thrush (*Myophonus coeruleus eugeni*) which differs from the Himalayan bird, chiefly, in having

no white tips to the wing coverts. In the Nilgiris and hill ranges of Travancore, there is an allied form with a brilliant blue forehead and the beak black, called the Malabar Whistling Thrush (*Myophonus horsfieldi*), which is very similar in habits. The main breeding season is from April to June, but nests with young may be found as late as August, and these most certainly contain the second brood. The nest is in the shape of a massive cup and always made entirely of moss pulled out bodily by the roots and built in while still wet and muddy, and lined with finer roots and maidenhair. It is placed in a great variety of places, but the favourite site is on a steep and overhanging rock face, overlooking a stream and always out of reach of human beings, and often conspicuous from a long way off. I have also seen many nests on the rocky sides of overgrown ravines, under the eaves of bungalows, godowns and tea factories and a favourite place is amongst the stacked firewood in wood godowns. One pair built for years at the apex of the triangular corrugated iron roof of the bow window of my bedroom up against the creeper and the noise of the bird building in the moss used to wake me up in the morning. When the creeper was cleared the bird still tried to go on building for the next two years but had to give up as the roof was too smooth to make a foundation. The bird is very wasteful of building material and most nesting sites have enough moss to make two nests lying on the ground below. Both male and female assist in the nestbuilding, which is carried on only in the early mornings and late evenings, and at this time they are very shy of being seen near the nest, even if it is inaccessible, and will not go near it if they think they are being watched. The sitting bird too will fly off at once on the approach of a human being, even though the nest may be on the other side of the stream and 30 yds. away, and will not return until one has moved off or hidden oneself very unobtrusively. The eggs are 3 to 5 in number—I think 4 or 5 is the normal clutch—and the colour is pale greyish green minutely freckled with brown spots, giving them a sort of misty appearance which is most

attractive. An occasional brown line is found in some specimens. They are rather long and pointed and very fragile and measure about 1.40 x 1.00 ins. The nestling when first hatched is of the usual hideous thrush type, all stomach and yellow-rimmed mouth and goes through a distinct mottled stage in its very early plumage until the dull blue first plumage is attained.

No one can fail to meet with the Himalayan Whistling Thrush during a walk in the Hills. It will be seen shooting down a ravine, darting out from under a bridge, flying across a cliff or perched on a boulder. Many a time on a pheasant shoot have I put up my gun at a black bird that has come dashing out ahead of the beaters only to find it was a Whistling Thrush. They are often found in pairs and are very fond of chasing one another, beak to tail, at breakneck speed down the hill. I think they do this from sheer exuberance.

The song is unique, like a boy whistling out of tune, very loud, and sometimes quite melodious, but often with a harsh timbre that is very difficult to describe. They usually sing only in the very early mornings before the sun has risen and late in the evenings, and this is also the time for their aerial acrobatics.

Except in the vicinity of the nest the Whistling Thrush is a bold bird and does not resent the proximity of human beings. It is never still: other birds, like shrikes and doves, may be seen sitting motionless on the branch of a tree, but not so the Whistling Thrush. It turns this way and that, almost dancing, it spreads out and closes its tail, and lifts it high like a Magpie Robin, occasionally uttering a harsh squawk, and is off to some other point of vantage. It feeds chiefly in the streams, picking up small snails and the like, and is also said to hunt in the forest turning over the leaves and working the ground methodically. It is always neat and alert, and I cannot do better than terminate this article by quoting Whistler in his "Popular Handbook of Indian Birds". He says "There is something very neat and tight-trussed about the Whistling Thrush as

it hops and flies from boulder to ledge, from wall to branch : its hard shiny feathers are pressed close to its body and as the long tail sways slowly upwards above the long legs, the bird seems the living embodiment of all the qualities of vitality and fitness that one associates with nature and the hills."

[This bird is also found at a good distance from the foothills having been found in North Bihar. We have obtained it in the Duars, during the months of December, January, February and March, many miles from the hills. Curiously very little has been recorded about the food of this bird ; besides snails it feeds on dragonfly larvae and other water insects. Mr. V. S. Edwards has recorded them taking gold fish from a shallow cement pool in a green house in Darjeeling but whether the birds would have eaten them, had they not been disturbed, is not known. The Malabar bird is known to feed on worms, crabs, slugs and various other insects so probably our bird does the same.

We have seen this bird in the middle of the station of Darjeeling perched on the roof of a house.

The whistle is not nearly as melodious as that of the Mylabar species which is generally known as the "Whistling School boy." Editor.]

The Green Pigeon of the Genus *Crocopus* in Bengal

By

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

With notes and articles, by various authors.

(Continued from Vol: XVIII page 115)

The courtship of Green Pigeon is similar to that of other birds of the family.

They breed from March to June, but Stuart Baker took a nest with fresh eggs on the 26th August (*Nidification of Indian Birds Vol. IV page 125*). The nests are placed on trees, saplings, or even palm trees and, very occasionally, bamboos; usually at no great height from the ground. In North Bihar we found 3 nests on the same tree and have, on several occasions, found nests on trees growing side by side.

The nests are the usual Pigeon type, a few sticks placed criss-cross and, looking at them from below, it seems impossible that the eggs would not drop out or the young fall through the bottom.

The number of eggs laid is, usually, two but we once found 3 in one nest and have also got one fresh egg and one about to hatch in the same nest. Stuart Baker thinks the period of incubation is 14 days.

The eggs are, of course, pure white and average $1.25 \times .96$ inches in size.

From a culinary point of view we consider these birds dry and uninteresting if roasted, but good in a stew.

Note on the Bengal Green Pigeon.

(*Crocopus P. Phoenicopterus*).

I have not often shot green pigeon, having been usually intent on the pursuit of other fowl, and have, consequently, recorded little about the occurrence of the various species in Bengal. Early in 1941, however, I shot a few of the Bengal Green Pigeon near Calcutta and examined a pair, in some detail, to see how the plumage compared with the description given by Blanford. The note I then recorded may be of some interest:—

“Male length about $12\frac{3}{4}$ ”, wing $7\frac{1}{2}$ ” bill ‘9”

Female, „ „ 12 „ „ 7”.

No appreciable differences in colouring between the sexes. Occiput, nape, and ear-coverts, I should have said lavender grey, not particularly dark grey, shading into yellow-green on the forehead.

The “ashy grey collar round the base of the neck” is not very distinct, and is only round the back of the neck.

Primaries, primary wing coverts, and winglet, black.

Secondaries black, with very narrow yellowish-white along outer edges.

Greater wing coverts greyish towards inside, blackish towards outside, yellowish-white an eighth of an inch deep along outer edge.

Tail, terminal half rather dark grey above, light grey below, basal part black below.

Lower breast greeny grey, *not* light ashy grey, and *not* contrasting very strongly with yellow of upper breast; tinged with yellow towards vent.

Lower flanks grey green rather than dark green. Tibial plumes yellow.

Under tail coverts grey near the quill, dirty white towards the edges, the female having a little chestnut between the grey and the white, the male having a well marked

tongue of brighter chestnut running out into a point on each feather.

Colouring of remainder corresponds with Blanford's description."

The main points of difference between the above and Blanford's description of the standard "*phoenicopterus*" seems to be:—head a lighter grey, lower breast greeny grey rather than light ashy grey, and lower flanks lighter green.

Nests of this pigeon can be found near Calcutta. I saw one sitting on a nest on 4. 5. 41. I found another nest on 26. 4. 42. It was in a mango tree, about 20 ft. from the ground, placed on the top of a fairly thick branch just where some leafy shoots were sprouting, so that the bird, which was then sitting on eggs, was not easily distinguishable from below. There was a Drongo's nest in the same tree only ten or fifteen feet away. I do not know whether this was purely fortuitous or whether the pigeon thought it a good idea to have a drongo at hand to drive predatory birds away from the neighbourhood. I had hopes of photographing this bird but thought it wise to wait till the young hatched before disturbing it to make the necessary preparations. Later, however, the eggs disappeared. On 25. 4. 43 my Shikari informed me that the pigeon and the drongo were again nesting in close proximity in the same tree. When I went to look a few days later the nests were there, but both were empty. It seems that the breeding season begins in the latter part of April round Calcutta.

I remember that green pigeons I shot in Rajshahi district 11 years ago included the Orange-breasted Green Pigeon, (*Osmotreron bicincta*) but, unfortunately, kept no detailed records. At that time I had no text book of Indian birds which mentioned more than one or two species.

W. A. S. LEWIS.

[From the description of the lower parts given by Mr. Lewis we think the bird described was, possibly, one intermediate between the Bengal and Southern Indian races.

Editor.]

Note on Green Pigeons in Bengal.

My personal experience of the Green Pigeons in Bengal is as follows :

The Bengal Green Pigeon has noticeably declined in numbers during the past twenty five years. This is not entirely due to the destruction of the trees which they frequent, for I can remember the time when they were common in many places in the "pipal" and other berry-bearing trees on the edge of mofussil roads. These trees still exist but green pigeons are now a rarity in them in most places even where motor traffic does not disturb them. Probably the decline in their numbers is due partly to the increasing number of fire arms in villages and, to a less extent, to the spread of cultivation in the Province.

It has always seemed to me that the varying amount of grey on the head and on the upper tail coverts of these birds in Eastern Bengal marks this area as the meeting place of the three races described by Stuart Baker in his book on Indian Pigeons and Doves as the Bengal Green Pigeon, the Burmese Green Pigeon and the Southern Green Pigeon.

This species is still very common, though rather locally distributed, in the Dooars of Jalpaiguri district.

The Ashy-headed Green Pigeon is a striking feature of the Chittagong Hill Tracts forests, the maroon tints of the male birds rendering them unmistakable as they fly in flocks of fifty or more in front of the traveller in the secluded river valleys of that area. Even in the headquarters station of Rangamati they are very numerous at certain times of the year—and owing to the undulating nature of the neighbourhood afford high and sporting shots to guns stationed in the small valleys below the trees visited by the birds. Throughout the Hill Tracts, these birds seem particularly fond of the berries of the tree *Bischofia javanica* ; the people there call this tree "Urian" but I think the Government forester's name for it is "Kainjal".

The only other Green Pigeon which I have met with at all frequently in Bengal is the Orange-breasted Green Pigeon. It is locally distributed but used to be quite common in the Madhupur jungle area of Mymensingh district. I have not been there recently but as a good deal of these forests are under the charge of the Forest Department of Government, the conditions there are probably favourable to its survival: similarly in the Sunderbun areas of Khulna district conditions are favourable for this bird and it is fairly common both in forest and cultivated areas.

The above comprise the only Green Pigeons I have met with at all frequently in Bengal; all the other Bengal species namely the Thick-billed, the Pin-tailed and the Kokla are found in the Duars of Jalpaiguri district but my personal experience of them is too slight to provide any record of interest.

L. R. FAWCUS.

(To be continued).

Darjeeling Bird Notes—1943.

BY

V. S. EDWARDS.

In most books on Indian Birds, Darjeeling is mentioned but I have never come across any definition of the area that this is supposed to cover; sometimes it seems to refer to the Town and at others to places very far afield. A book was once published with the strange title of "Birds of Darjeeling and India" by a resident of Darjeeling and through lack of a definition of what the author meant by Darjeeling, is, if for no other reason, quite useless to-day.

Now that the time has been reached when increase in ornithological knowledge in India must come about through specialisation and local observation, it seems necessary that this defect should be remedied.

The Town of Darjeeling and what might be described as the suburbs are fairly easy to define; The Spur from

Ghoom to North Point, bounded by the Old Calcutta Road, Bhutia Busti, Lebong Cart Road as far as Victoria Road, then by this road round the Botanical Gardens and then round Rose Bank and back to Ghoom by the cart road.

It is over a definition of Darjeeling District that difficulties arise. Up to now the Singalela Range and Kalimpong have been usually taken as being part of the District; if these are included, there is no logical or geographical reason for not including the whole of Sikkim. In the civil delineation, the District extends as far into the Plains as Jalpaiguri; this is obviously undesirable from an ornithological point of view and if one were to accept this, one might just as well include the whole of Bengal.

Mr. W. H. Mathews, a resident of the District for many years and whose knowledge of the local birds is unsurpassed, whom I have consulted, agrees with the foregoing comments and definition of the Town of Darjeeling and suggests that there is a natural geographical area which might be called either Darjeeling district or the neighbourhood of Darjeeling. (It might be better to use the latter term to avoid misunderstandings.)

The area suggested is roughly a circle, with a diameter of about 18 miles (as the crow flies) and Tiger Hill as its centre. The boundaries are as follows:—Starting from Singla, following the Rungeet to its junction with the Tista river, then down to Kalijhora, then due west to Latpanchor, Kurseong and Mirik, then north to Simana Busti, and Manibanjhang and from there, north-east down the Chota Rungeet back to Singla.

This seems to me to be a very practical suggestion which should be accepted. It covers quite a large enough area for present day purposes, with a variation from river level to a height of 8,500 ft. and much varied vegetation.

In the Fauna of British India-Birds, 2nd Edition, mention will be found of Sub-Himalayas, Lower Himalayas, Foot-hills, Lower hills, Sub-montane tracts and higher ranges etc., all used apparently quite indiscriminately, but I

have never come across any suggested definition of these localities. Some attempted definition would be of considerable benefit to ornithologists, using reference books, throughout the Himalayas. The only Society in India with sufficient standing to decide on a definition that could be generally accepted is the Bombay Natural History Society and it would be of great assistance if they could be induced to publish in their Journal definitions of what is covered by these various titles.

There has been for a long time a need for a separate book on the Birds of the Himalayas and this need has been intensified during the past few years when the number of visitors has so greatly increased; it is understood that the Bombay Natural History Society are contemplating the issue of a companion volume to their, 'The Book of Indian Birds' with this title but that there is, unfortunately, no chance of it being published until after the war. If this is to be published, the author or authors will have to give a definition of these expressions or else scrap them altogether and publish a new terminology for the present very unsatisfactory ones. (An attempt to provide a better definition has been made for Burma in Smythies 'Birds of Burma' 1941.) That this will not be an easy matter is clear: take for example, the Darjeeling Spur which at Katapahar rises to 7,850 ft. and at its lower end by the river descends to 1,400 ft; which of the titles mentioned above or how many of them would it be necessary to use for an accurate description?

Information given in all books of reference, regarding birds of this District is in many cases very much out of date; the F. B. I. 2nd edition was published about twenty years ago, most of the information in it is 30 years old and some of it dates back to Oates in 1883.

There were some very useful notes on Birds of the Sikkim Himalayas by H. Stevens published in the Journal of the B. N. H. S. 20 years ago but these are not available in book form and some (2) of the numbers are now out of print.

It cannot be too clearly realised that conditions can and do often change considerably in two or three decades for various

reasons such as weather, cultivation etc. and information, correct when published, is frequently misleading to observers at a later period, particularly when it has not been kept up to date.

To take three examples only :

The Black breasted Sunbird (1272)

The F. B. I. says it is found up to about 5,000 ft. and Stevens, up to 6,000 ft. In the Darjeeling Museum, the specimen is labelled as being found on Birch Hill (6,300/6,800) in the rains.

In 1943 a specimen was seen on Observatory (7,100) in May and two pairs were to be seen on several occasions on the Calcutta Road over 7,000 ft.

Orange bellied Chloropsis (371)

The F. B. I. reports it up to about 6,000 ft. and Stevens says 'perhaps it reaches the limit of 6,000 ft. as reported by Oates'.

- It is now quite common in Darjeeling in September and October at 7,000 ft. and over.

Hodgson's Blue Winged Siva (335)

Stevens mentions it as being found at all elevations up to 5,500 ft.

It is now fairly common in Darjeeling up to just over 7,000 ft.

If information is to be brought up to date, there is an urgent need for a new generation of local observers, from among those who are stationed in this neighbourhood, who would be prepared to keep notes and records of birds seen and to send them once a year to the Editor of this Journal. In the majority of cases, they might be of no value for publication, but there might be information of value in them, which could be recorded and made use of in future publications of books on Indian birds.

By far the best book for bird watchers in this District is the previously mentioned, 'Birds of Burma' but unfortunately this is not available, as comparatively few copies

were distributed in India before the Japanese occupation of Burma. A second edition is urgently needed. It is understood that the Author is in India and that most of the plates were brought out of Rangoon before the occupation. The difficulties of war time publishing may, however, prevent the second edition being published until after the war.

The following is a list of birds seen in Darjeeling during 1943 which merit record as they are unusual visitors or not previously recorded.

March 1. *Beavans' Bullfinch* ♂ (1045)

April 4. *Grey headed Thrush* ♂ (572)

The F. B. I. says that this bird breeds in Kashmir, Garwhal and Eastern Nepal and descends in Winter to the foothills. There seems to be some doubt as to its breeding in Sikhim and Stevens seems to think it unlikely and only records having seen one female at 10,000 ft in 1912. It is to be found as far east as Assam in winter.

There is an excellent photograph of this bird, facing page 903 of Vol. XXXVII of the Bombay Natural History Society Journal.

Messrs Curry and Taylor saw a flock of these birds in March while shooting on the Balusan.

April 22. *Yellow Throated Minivet* ♂ (742)

May 22. *The Forest Eagle Owl* (1663)

This bird spent several hours, one morning, on trees on the Mall within about 50 yards of the Chowrasta.

July 16. *Himalayan Brown Wood Owl* (1647)

This bird is not uncommon in the district but usually keeps to the depths of forests, while this one was visible on Observatory Hill in broad daylight.

October 22 *Mrs. Goulds Sumbird* ♂ (1269)

November 17 *An albino Red headed Tit* (77)

This bird was entirely white, except for the tail and a slight bit of the wing and was with a flock of ordinary red headed tits and grey faced Willow Warblers.

Fire tailed Myzornis (367)

This was seen twice, once in March and once in October.

It is recorded as a bird of high elevation coming down to 6,000 ft. in winter. I have been informed, however, that Dr. Law records having had this bird taken by one of his collectors at Jessore. Confirmation on this point would be of considerable value as, if correct, it would necessitate a considerable alteration in the ideas previously held of the habits of this bird.

On October 27, just below the Jalapahar Parade Ground (in bamboo scrub) I saw what was almost certainly a Suthora but unfortunately it was disturbed before it was possible to obtain a long enough view to make a definite attribution.

Reference to notes on the Suthoras shows that Oates mentions the *Black Fronted Suthora (94)* as common in Sikhim and 'above Darjeeling' but Stevens says 'This locality can only refer to Senchal to the South'. With this statement I disagree; when Oates wrote Darjeeling was much smaller than to-day and it would have been natural to describe Jalapahar and Katapahar as 'above Darjeeling', whereas to-day they are looked on as part of Darjeeling.

It is possible that Dr. Law may have seen this bird, as the scrub is just above the top of his garden; information on this point would be of value. The following was seen on Senchal on October 7, presumably during migration.

Eastern White Spotted Blue Throat ♂ (539)

This bird breeds in Northern Kashmir and N. E. Ladakh and the F. B. I. says that in the winter it is found as far afield as Assam.

With reference to the Roller, mentioned in my notes for 1942, I find that Stevens, in his notes, mentions that he

was informed that the Indian Broad Billed Roller was once seen in Darjeeling, on the Chowrasta. Information is wanted regarding the following :—

White tailed Blue Robin (554)

Bengal Red Vented Bulbul (403)

According to the label on the specimen in the Darjeeling Museum, the White tailed Blue Robin used to be very common in Darjeeling, as it is described as being frequently found in gardens. In the past six years, of which the last two have been entirely spent in Darjeeling, I have only seen one specimen and that was on Birch Hill in July. Has this bird changed its habits and moved away from this locality ?

Information about the Red Vented Bulbul varies considerably ; the F. B. I. gives it as breeding up to 7,000 ft. and Whistler as not above 4,500 ft. while Stevens agrees with the latter and says it is very doubtful if it approaches an elevation of 7,000 ft. as recorded by Oates. Mackintosh in his 'Birds of Darjeeling and India' said it was quite common in Darjeeling but his information is valueless, owing to his failure to define Darjeeling. It is certainly seen at Gantok, 5800 ft, and I have seen it in the neighbourhood of Darjeeling at 5,400 ft, above Soom.

[Mr. Edwards advocates altering the boundaries of the "Darjeeling District". We consider any such change would only lead to confusion. When working out any District it is customary to keep to the recognized civil boundaries as they are understood by all. It is wrong to say that if this is accepted there is no reason for excluding "the whole of Sikkim". For one thing Sikkim is an Independent State and does not belong to British India.

We discussed the matter with Mr. Matthews and fully agree with him that any one working a circumscribed area round Darjeeling should define it "Darjeeling and its neighbourhood."

Editor.]

Duck Shooting at Rarhia, Champarun Dist., N. Bihar

BY

F. A. C. MUNNS.

(Continued from Vol. XVIII page 82)

The *chauar* is divided into four parts worked by four head men, and the fifth man works the *nassie*. Those guns who have drawn the *nassie* butts, 1 to 5, go by car about $\frac{3}{4}$ mile to boats, U to V, and get into their respective butts and hide their cars in a grass land (*Kharar*), at Flag 4, along the road by Flag 3. Those guns who have drawn the *nassie* butts, 6 to 10, take boats and cross the *nassie* just behind the pavilion—walk about 500 yds to boat 10, for butts 6, 7 and 8, and go on foot to butts 9 and 10, hiding their beaters, two to each gun, in the neighbouring grasses.

As soon as I see all the guns have got to their respective butts, the boats taken back to the south side of the *chauar* and the guns' two beaters posted each side of their butts, $\frac{1}{2}$ way between neighbouring butts, and all *white* garments removed, I fire the first shot. 12 noon.

At the sound of the first shot the duck all rise with a noise like a cannon being fired on the *chauar*, and the guns start popping off in all directions, some at birds the size of sparrows in the sky, which they expect, I suppose, to fall from the flight! Others wait, patiently, for a bird to come in range and bring him down, to be quickly recovered by his beater: others only wound a bird, which carries on to some far distant part of the *chauar* and a shout of "*takko, takko, luggar hai,*" ("watch, watch, wounded") is heard all over the *chauar*, and his beater is sent to try and recover it which, on most occasions, he successfully does, or returns, much to the annoyance of the gunner, to say "*Oolgea, Sahib*" ("flown away"). He is called a d-lazy liar!

On this occasion it was a lovely day, warm and no wind; birds flew high, but didn't leave the *chauar* for a long time, as usual the greater number of duck were Pintail. As arranged beforehand, I only allowed the guns to fire for about two minutes and then blew the "cease fire". This

was to allow the Pintail to clear out, as they always do, to the river and neighbouring *chauars*, and allow other kinds of duck to return to the *chaur* and settle down. What a wonderful sight it is to see tens of thousands of duck, each with his own lot, fighting back to the *chaur*. Some pass so close over one's butt that one could catch them in a butterfly net! all going different paces, and some dropping out of the sky, volplaning down to settle quite close to your butt. When practically all have settled down again, and I can see no more birds in the sky, I give orders to "open fire." At the sound of the first shot there is a terrific roar as the birds all rise again, and the firing commences again all over the *chaur*, and you also hear shouts in the far distance, from the *nassie*, forty guns all trying to get in a shot!

Some 10,000 duck, or so, have returned; some 20-30,000, mostly pintail, have gone for the day. Some return during the day, flying well out of range, to have a look and then fly away again.

At 1-30, or 2 p.m., I whistle to cease fire and, while we sit in our butts and have lunch, we watch the birds returning. Sometimes they don't return and one's eyes get sore scanning the horizon praying that they will come back soon.

Suddenly, in the distance, I spy a flight, very high up, coming in and hope no gun will fire at them out of range when *Bang!* off goes someone's gun at birds, which must have been over 100 yards up, and away they go again. I pass the word down.

"Please allow the birds to come down, and don't fire until the order for 'open fire' is given, unless the gun who fired is using a rifle." The next lot in is allowed to come down and soon more follow and, about 3 p.m., I give the "open fire" and we get another good hour's shooting.

About 3 p.m. one hears shouts of "*nau lau*" (bring the boat) and sees some of the less keen guns making off towards the Pavilion. Some don't keep the straight course, but wander round, hoping to finish off a wounded bird or two to swell their bag, which only totals three!

Others stay on to the bitter end, hoping for one more shot and are, sometimes, lucky especially if there are many White-eyed Pochard on the *charuar*, as they roar back at sunset, line after line, and all generally well in range. I had a wonderful shoot one night at Pochard in the Eastern line of butts.

Others go in to try for some fighting Pintail, Wigeon, Teal or other duck, over the *parti* and some nights we've had some grand shooting here. By sunset, when all the guns have come in, the duck are laid out in lines like soldiers on parade, each in his own line, the Mallard topping the line like colonels in charge of their troops, then the Wigeon followed by Pintail and the Gadwall. The Red-crested, Dun, White-eye, Tufted Pochard and Spotbill, with Garganey Teal, of which we always get the most, lined up in the rear. The Shovellers are put to the side to be given to the head men—orderlies, bearers, chauffeurs etc., and the snipe and "*Kuchnais*" by themselves. On this day the bag was 608 Duck, 7 Mallard, 5 fine Drakes, without their curly tails! (These were adorning the topee of the lucky man who had shot one, or that of his wife) 4 Wigeon, 5 Spotbill, 7 Pintail, 14 Gadwall, 46 Shovellers, 5 Red-crested Pochard, 2 Tufted Pochard, 100 White-eyed Pochard, 380 Teal, 15 Garganey Teal, 12 Snipe and Curlew.

After the count, and the different duck have been entered in the Game Register, to be sent to each gun the next day on a printed Post Card, and have been compared with the number shot by each gun, which is also entered in the Register, I divide the birds to each gun 5 big Duck and 10 Teal and ask the gentlemen who have shot a Mallard to take their bird from the lines first.

The lottery of Rs. 30/- on the bag has, this time, been won by the lady who drew P. G. Munns, with top score 60—a record for the *charuar*; he was in the *nassie*. This record was beaten on 8-1-39 by P. G. Munns again, and Major Graham, in the *nassie*, with 61 each. The *nassie* 8 guns score 240, out of the 608, leaving 368 for the remaining 32 guns on the big *charuar*, where Major Kemp and I top score with 31 (3 of Major Kemp's total being snipe).

As soon as the guns, and ladies, have been given their tea by my wife, who has poured out some hundred cups or so, and their birds, also noticing that the whisky bottles are getting low! they say "Good-bye" and drive on their long journey home—some all the way back to Mozafferpore (70 miles), and another "Rarhia" is over, which I hope had been enjoyed by all present.

The biggest bag ever shot on Rarhia was on 28-2-31, when 46 guns got 903, (716 being Teal), only 3 Mallard were shot, but it was a record for Pintail—we got 21. The greatest number of Mallard ever shot on the *chaur* were 23 on 5-1-36; Wigeon 43 the same day.

Spotbill 16 on 24-12-33, Pintail 21 on 28-2-31; Gadwall 51 on two occasions, 10-1-32 and 5-1-36; Shoveller 69 on 5-1-41; Dun 27 on 5-1-36; Red-crested Pochard 21; and Tufted Pochard 17, on 7-1-40; White-eyed Pochard 110 on 8-1-33; Garganey 156 on 3-3-35; Teal over 706 on 28-2-31.

Other duck shot on the *chaur* were Cotton Teal, Baikal Teal, Golden-Eye and Combduck.

Some 255 different guns have shot on the *chaur* and 123 ladies visited it from time to time. 45 different kinds of birds have been shot there. 17 kinds of ducks; 2 kinds of Geese, Greylag and Bar-headed, 4 kinds of Snipe, Pintail, Fantail, Jack and Painted; 3 kinds of Plover, Golden, Grey and Green or Peewit, Curlew, Whimbrel, Godwit, Stilt, Spoonbill, Ibis, Heron, Redshank, Greenshank and Yellowshank, Crested Grebe and Little Grebe, Snippet, Ruff, and Openbilled Stork; round the *chaur* Green Pigeon, Quail, Black Partridge and Lesser Florican (Likh).

Some of the best shoots have been done during a terrific West wind when one has had time to fire two barrels, miss, load again, and drop the bird with the third shot. It is extraordinary how good shots found these birds, against the wind, sitters, much harder to kill than those coming 60 miles an hour with wind. I did myself. We had such a day the last shoot last year. 4th April 43; when there must have been

10,000 to 20,000 duck, chiefly Garganey Teal, on the *chaur*. I could not get any guns to come—no petrol, no cartridges! Twenty guns could easily have killed 1000 duck, they just came to be shot and never left the *chaur* at all. A terrific west wind was blowing and one could pick and choose one's bird at will. Another gun and myself got 61 in 100 shots (the only cartridges we had left.)

We could easily have fired 300 rounds—20 big duck and 41 Teal the latter all Garganey. The best average shoot on Rarhia was on 8-1-39, 574 duck for 22 guns. Top score in *nassie* was 61 (P. G. Munns and Major Graham), the record to date for Rarhia: Average 26 per gun; *nassie* 4 guns 216, average 54 per gun, leaving 358 for 18 guns on big *chaur*, average 20 per gun; 81 big duck, 491 Teal and 2 Snipe.

“Long live Rarhia.”

A Shooting Trip to Ladakh

By

LT.-COL. J. A. SHORTEN, I.M.S. (RETD.)

PART IV.

(Continued from page 68 Vol. XVIII)

Every twelfth year these ceremonies have a special significance. Certain garments, idols, and other articles which remain locked up for the preceding twelve years are produced, and a special embroidered picture of Drukpa Rinpochey, the head of the Buddhist sect, is unfolded.

The articles among other things include the dried hand and part of the forearm of a Lama who was present at the building of the monastery. The story attached to it is that when the main wall had fallen down three times, this lama cuts off his right hand as a sacrifice, and thus made possible the completion of the building.

This withered member was produced on the second day when nearing the close of the proceedings, and produced a weird unearthly effect on the spectators.

A detailed account of the proceedings would be monotonous; suffice it to say that the main idea throughout the ceremonies is the production of certain demons and their destruction by favourably disposed Deities.

The dancers wore robes of multi-coloured silk, some of great age. Many of the garments were really magnificent. Those representing devils wore masks of singular hideousness, painted in various colours. These were furnished with large ears and noses, prominent eyes and open mouths from which enormous fangs protruded, and the tongue lolled out. The scalps were covered with knobs and other weird excrescences. They danced and wheeled to the clash of tinkling cymbals, blasts on great Tibetan trumpets and the continuous rattle of drums, re-echoing from the precipitous sides of the gorge. The effect was weird and awe inspiring; but after the time monotony told its tale. Each dance lasted about an hour and then after a short interval a new lot of actors appeared.

The majority of the Lamas wore red robes. These are the red sect Lamas who are allowed to drink *Chhang*, and keep, or marry, women. The yellow sect on the other hand of whom only a few were present at this festival, are more strictly brought up. They may not drink *Chhang*, smoke or marry; nor can they eat food unless it is handed to them.

The final act is performed on a comical note. A great fat figure known as Hashang Gyapo, with a devil mask out of all proportion to his body, escorted by six or seven rascally children, appears. He is the clown of the circus and proceeds to thrash his attendants, or anyone within reach—evoking much amusement and laughter. When he withdraws the festival is over.

We left Hemis on the 1st June for Shapu ground opposite Leh and camped near the Stok Monastery. This is one of the seats of the Raja of Leh. It consists of a number of scattered hamlets at the mouth of the Stok nullah, where the record Shapu was shot some years ago.

We remained for two days and paid a visit to the Raja and were treated to hot sweetened milk and home made biscuits.

The Palace is built on the lines of a monastery. It occupies a commanding position on the spur of a hill overlooking the villages and fields below.

The present Raja is a son of the old Raja, who has renounced worldly ambitions to become a Lama. He wears the garments of Lama but lives "en famille." He also owns a Palace at Leh, and a town house in the city.

From here we despatched Habiba to Lumayuru with the eight heads we had already acquired ; and proceeded up the Stok nullah. We camped one night there.

The scenery rivals anything I have ever seen. The rocks on either side rise in serrated lines to the sky. Flowering plants at this time of the year show their heads above the ground. The air is cool and bracing. In the afternoon a torrent fed by melting snow rushes down the river bed. With the turquoise sky above, green grass beneath the feet and prospect of game ahead, what more can the heart of the hunter desire ? After crossing two ridges, 14,000 ft. and 16,000 ft. above sea level, we entered the Rumbak nullah which had been reserved for us.

During the crossing one of the yaks lost his footing and went rolling down the hillside till he was arrested on the brink of a 3,000 ft. precipice by his load catching on a projecting rock. He was not badly damaged save for bruises and superficial wounds. We eventually got him back to the top of the second pass ; but the baggage, containing the servants' tea and sugar, was scattered to the winds, and a man had to go to Leh, twenty miles away, to replenish these very necessary stores.

On arriving at the top of the pass, we selected, with the aid of our binoculars, a camping ground about two or three miles below, and despatched the yaks with the tents, etc., while the two shikaris, my wife and I, cut across the hills

to the left. We soon came on the fresh tracks of Burrhel. Shortly afterwards we sighted a flock of these animals, about ten strong, lying down on the hillside across a small nullah and ridge. Leaving my wife and one shikari to watch them, Razzak Khan and I crossed the nullah and crept up to the top of the intervening ridge. The game were 200 to 300 yards away. There was no available cover; so we "nipped" over the sky line and sat down below in full view of them. At first they took no notice of us. I, having previous experience of missing animals lying down, waited. Razzak Khan, the head shikari, insisted on a shot, which duly missed its mark. In a moment they were on their feet and galloping away. A second attempt laid one of the biggest ones low. Then I turned on to another good head and had the fortune to hit him fatally at my third attempt, at about 300 yards. So inside a minute, I had two big Burrhel lying dead on the hillside. The biggest measured 26 ins. by $10\frac{1}{2}$ ins. (in circumference at the base of the horns.) There was great rejoicing in camp that night. The yak attendants and local villagers sat up all night feasting on the meat which they roasted in a great fire of Bhurtse.

Next day we continued our march to the Shapu ground. Several flocks of Burrhel were seen: but it began to snow and no reasonable chance presented itself. Finally on the 22nd of June we were encamped near a village between two precipitous ridges. We were all tired out after the previous long marches, so we decided to remain in camp till lunch time. I was sitting in the sun reading a book, when two Shapu appeared on the ridge behind. They came down towards the water in the nullah in the usual fasaion—a series of short rushes. I seized a rifle and hid behind some low rocks close to the river bed. When they reappeared out of the nullah I had a shot at the biggest one. They both went off at full gallop up the hillside. Thinking I had missed I fired again at the leader, which I thought was the one I had fired at in the first instance. He went 30 yards and collapsed, shot through the lungs. The other one was now out of range, going very slow, and apparently badly wounded. We got him next day. The one I had killed outright turned out

to be the smaller one. They had obviously changed places in their flight. However, we were short of meat and it tasted like good mutton.

We spent four more days in this block, and got a shot nearly every day. Shapu were plentiful, but there were also a couple of packs of wolves which kept the game on the move. They spoilt more than one stalk.

On the 23rd of June I shot two Shapu, the biggest measuring 33 ins, by 11 ins. We had watched the flock all afternoon; but were unable to approach them owing to the wind being unfavourable. I had finally to take my chance at 200 yards in a snowstorm and failing light and wounded two which got over the ridge to the south, where they were found next day.

The next couple of days we spent after Burrhel. One evening while returning from an unsuccessful stalk we came on a couple of Ram Chukor with a brood of eleven chicks. The hen bird tried to entice us away by fluttering along in front and pretending to be wounded. We caught a couple of the chicks and I was sorely tempted to take them with me; but feared they would die on the way so, reluctantly, we let them go and had the satisfaction of seeing Mother Chukor return and collect them under her wing.

Next day we moved camp to Shingo crossing the Kunda La (16,211 ft.) on the way. While the "outfit"—yaks, baggage and camp servants—moved into camp, Razzak Khan and I went over the hills to the north. When almost opposite camp we were fortunate enough to run into a flock of Burrhel among which were two good rams. The stalk was easy as everything, including the wind, was right. We got within a hundred yards of them and I shot the two—one dead and the other with two shots. Again there was great rejoicing and a feast in camp.

We had intended to cross the Zanskar river by the rope bridge near Chilling, but heard it was unsafe. One morning we sent Habiba to investigate. In the afternoon he returned saying the bridge had collapsed. So there was nothing to

do but to return the way we had come and cross the Indus below Leh, if we found it fordable.

We recrossed the Kunda La and camped near Urucha again. On the way back we spotted six good Shapu rams lying down about a mile away. We waited till they got up and disappeared into an adjoining river bed. We did good time down the hill and across the intervening nullah, only to find they had gone. Their tracks were mixed with those of a couple of wolves, which had got their stalk in first. The flock passed close to our camp, one wolf close on their heels and another running parallel to them on the hillside above. They had by this time been joined by some females and young ones; and I have no doubt that the wily wolves wore the smaller ones down and had a good meal that night.

The next day we reached and crossed the Indus at Phe, a few miles below Leh, and were once more on the Treaty High Road and our return march to civilization.

At Lamayuru we picked up the heads we had despatched from the Stok valley and had now quite a respectable collection. *Ovis ammon hodgsoni*, 5; Burrhel 6; Shapu 4; Ibex 3. Among these the 48½ ins. *Ovis ammon* and the 33 ins. Shapu were alone worth the three months toil on the mountain sides of Ladakh.

We spent two days just north of Machoi at the foot of the Zoji La pass shooting marmots. We got nineteen skins—enough to make a couple of fair sized rugs.

Finally on the 25th July we reached Srinagar. The long weary marching was over; but pangs of regret pierced our hearts to have left, perhaps for ever, the snow mantled mountains, turquoise skies, and the delightful inhabitants of that El Dorado of the sportsman, Ladakh.

Before closing this account of a most delightful and successful shooting trip it behoves me, I think, to add a few notes on mountain shooting in general.

Guns

First of all as regards guns. The rifle is a most important item and it is well, if possible, to have a spare one. A slip or the casting of a load may put one out of action and there is no hope of repair. The rifles I recommend are the .375 Rigby magnum, which was the rifle with which I shot most of my animals, the .375 Holland and Holland magnum, and the .300 Jeffrey magazine rifle. I am not in favour of smaller bores as it is difficult to place one's shots accurately when firing across nullahs at unknown distances.

A spare foresight should be carried. My rifle was fitted with an ivory sight which became dark brown when exposed to the dry winds of Ladakh. After a time shooting became possible only by smearing the foresight with flour paste, which I always carried with me.

A shot gun should always be carried as one lives to a large extent on pigeons, chukor, and ram chukor, shot *en route*.

Stores

Kashmiri agents issue comprehensive lists of stores, These may be cut down considerably :—

The essential things are :—Tea, sugar, jam, biscuits, flour, butter (good tinned butter can be obtained in Srinagar) and various condiments. If possible a bag of onions and a side of bacon, both of which travel well, should be carried. Dried apricots can be obtained *en route* and a quantity should be carried when away from the main routes.

Dried or tinned milk is useful. In the *ammon* ground one usually has a small herd of goats which travel with the camp to give the necessary milk.

Sheep can be purchased in most places. We always had a couple with us in case of emergency.

Vegetables are the great difficulty. On the main routes sufficient potatoes, turnips, onions, etc., can be procured ; but, in the wild *ammon* and Burrhel ground, nothing can be had

except perhaps wild rhubarb in places. This is why onions, which supply the necessary vitamins, are recommended.

Kit.

As regards clothes, warmth must be the first consideration. On the other hand the Indus valley is always hot in the daytime, and so this must be provided for.

Sunproof goggles must be worn when travelling over snow. Our experience shows that a dark coloured net suspended from the topee, stops the reflection of sunlight from the snow and saves one's face from bad sunburn.

Footwear

The Kashmiri agents produce footwear of various kinds. For wear at night, Gilgit boots which are made of pleated felt, are essential. Chapplis or nailed sandals are liked by some. I could never get used to them. Grass shoes are supposed to be a *sine qua non*. They are certainly useful in travelling over rocks, where the soles grip the surface, and nailed shoes are liable to slip.

Personally, except when working over rocky ground, when grass shoes are essential, I always wore ordinary shooting boots with sharp nails, to bite into icy surfaces.

Some other animals.

Comment may be made on the absence of reference to the Snow Leopard, skins of which adorn the shops of all the furriers in Srinagar. We found tracks of these animals almost every day. They prowl about at night and disappear among the innumerable precipices in the day time. They are very seldom seen except by accident.

The local people lay traps for them ; I saw some of these. A hole is dug in the ground and a wall built all around in a barrel shaped manner, the top being narrower than the sides. A dog is put in. The leopard seeing a nice supper jumps in, kills the dog and then finds he can't get out. The villagers collect and stone him to death. The skin is then removed and despatched to Srinagar. The one great disappointment of my shoot was to have missed even a sight

of these beautiful animals. We found tracks of them daily, and when the game could not be found, the shikari always blamed the poor Snow Leopard.

Wolves were seen frequently, but, they seldom offered a reasonable shot.

Kiang—the Tibetan wild ass—already referred to, was everywhere in evidence in the *ammon* ground. I could never bring myself to shoot one, though their skins are supposed to be valuable.

Conclusion.

Before concluding I may be permitted to pay a tribute, however small, to my wife who accompanied me on this trip and whose stamina, unflinching cheerfulness and good companionship made the chagrin of many an unsuccessful stalk more bearable.

She was the first woman to cross the Zoji La that year. In fact there was only one man—a subaltern in a junior regiment—ahead of us. More than once she “touched” 18,500 ft. which few women have done.

‘I’m but a wanderer neath the Milky way,
Loving the starry night and cloudless day,
The cold and bitterness of mountain sides,
The dank and deep ravine and what it hides.

Wide open spaces, and eternal snow ;
Deep purple valleys, where the shadows come and go
And when my wand’ring spirit comes to rest
May it find a place mid scences I have loved the best.’

A List of, and Notes on, the Butterflies of Calcutta.

I understand that an up-to-date list of the butterflies of Calcutta would be of interest to readers of this Journal. I know of no list of the butterflies of Calcutta more recent than that published by de Niceville towards the end of the last century, a copy of which is reproduced in Colonel Peile's book "Hints on collecting butterflies of India", but unfortunately I have not now a copy of that book and was therefore unable to compare the list with mine; it is also possible that I have misquoted the title of the book.

I am however appending a list of the butterflies which I have found within a short radius of Calcutta, excluding the Hesperiidæ but including those which I have not personally taken but which have been recorded as occurring in Calcutta or Bengal. I also append a list of the Hesperiidæ occurring near Calcutta, and a supplementary note on the butterflies of Calcutta, kindly prepared by Mr. D. G. Sevas-topulo, F. R. E. S.

My collecting has been within a straight radius of not more than 5 or 6 miles of Calcutta. I have scarcely ever collected in the Northern and Eastern outskirts, as to reach them one has to pass through miles of bazars and, normally, bad roads.

The environs of Calcutta are good collecting grounds and butterflies are to be found there throughout the year, but are scarce in May, June and July, and still scarcer in December and January. I have found the best seasons to be from about the middle of February to the middle of April, August and the early part of September, and October and November. The lull after the spring season is due to the fact that the monsoon seasonal forms are then mostly in their immature stages, but the later monsoon forms appear to persist almost until the autumn forms emerge. Similarly, most of the spring forms pass the winter months in the pupal or oval stage.

The best places for collecting round Calcutta are mixed jungle and garden lands, of which, despite the continual expansion of the city, there are still a few not over-populated

patches left within a reasonable distance; the Botanical Gardens at Sibpur are also an excellent collecting ground and I have come across a few species there which I have not seen elsewhere near Calcutta.

It may be of interest to observe that several of the southern Indian subspecies as well as some of the north-easterly subspecies occur near Calcutta, but this is perhaps not surprising in view of its geographical position.

The nomenclature adopted in my list is that given in the "Fauna of British India—Butterflies." Volume 1, 2nd Edition, by G. Talbot, F. R. E. S., for the Papilionidæ and Pieridæ. For the remaining families the nomenclature is that employed in "The Identification of Indian Butterflies" by Brigadier W. H. Evans, C.S.I., etc., 2nd Edition Revised. The commonness or rareness of the butterflies, according only to my own observations, is indicated by the abbreviations

V. C.	=	Very common.
C.	=	Common.
N. R.	=	Not rare.
R.	=	Rare.
V. R.	=	Very rare.

Bengal Club,

Calcutta.

D. F. Sanders.

11th February, 1944.

[The list of Hesperiidæ and supplementary note by Mr. D. G. Sevastopulo will appear in our next Journal.

Editor.]

The Butterflies of Calcutta.

Exclusive of Hesperiidæ.

I. PAPILIONIDÆ.

1. POLYDORUS hector. ... Recorded from Calcutta but I have never found it there.
2. " aristolochiæ. C.
- " " form diphilus. ... C.
3. CHILASA clytia clytia. ... N. R.
- " " form dissimilis. ... N. R.
4. PAPILIO polymnestor
 polymnestor ... R. Found chiefly in March & Oct.
5. " memnon agenor Recorded from Calcutta, but form polymnestoroides. I have never found it there.
6. PAPILIO crino ... V. R. Found almost entirely only in March.
7. " polytes romulus ♂ C.
- " ♀ form cyrus ... V. R.
- " ♀ form romulus ... R.
- " ♀ form stychius C.
8. " demoleus demoleus ... V. C.
9. GRAPHIUM nomius nomius ... R. Found practically only in March/April.
10. GRAPHIUM doson eleius. C.

II. PIERIDÆ.

1. LEPTOSIA nina nina ... C.
2. DELIAS eucharis ... V. C.
3. „ hyparete ethire Recorded from Bengal but I
have never taken it near
Calcutta.
4. CEPORA nerissa phryne C.
5. ANAPHEIS aurota aurota.
(= BELENOIS mesentina
mesentina) ... R.
6. APPIAS libythea olferna V. R.
7. „ albina darada. V. R. This applies both to the
♂ & the 3 ♀ forms.
8. IXIAS-marianne ... R.
9. „ pyrene sesia ... N. R.
10. COLOTIS calais modesta. V. R.
„ ♀ form albina. ... Presumably occurs but I
have not taken it near
Calcutta.
11. VALERIA valeria hippia. C.
„ ♀ form philomela. V. R.
12. CATOPSILIA crocale cro-
cale. V. C.
13. CATOPSILIA pomona ... V. C.
„ ♀ form catilla. R.
N.B. I have not found the
other ♀ forms distin-
guished by Talbot near
Calcutta.
14. CATOPSILIA pyranthe
pyranthe. V. C.
15. CATOPSILIA florella
gnoma. V. C.

16. EUREMA brigitta rubella
(=libythea). R.
17. EUREMA læta læta ... R.
18. ,, blanda silhetana N. R.
19. ,, checabe contuber-
nalis. V. C.

III. DANAIDÆ.

1. DANAIS aglea aglea ... R. Apparently not previous-
ly recorded from Bengal.
 2. ,, limniace mutina. V. C.
 3. ,, plexippus ... V. C.
 4. ,, melanippus indica V. R.
 5. ,, chrysipus ... V. C.
- N.B. I have not found forms
alcippoides or dorippus
near Calcutta.

6. EUPLOEA core core ... V. C.
7. ,, crassa kollari. C.

IV. SATYRIDÆ.

1. MYCALESIS perseus
typhlus. V. C.
2. MYCALESIS mineus poly-
decta. N. R.
3. MYCALESIS visala visala. V. C.
4. LETHE europa niladana. R.
5. ,, rohria nilgiriensis. V. R. Apparently *very* rare
near Calcutta, and neither
Bingham nor Evans re-
cord it from Bengal. I
have only seen and taken
one, many years ago,
which settled on a glass
of beer at the drink hole
at the Royal Calcutta
Golf Club. It was a little
tipsy and I took it easily
in my fingers.

- 6. YPTHEMA inica ... Recorded from Bengal, but I have not found it near Calcutta.
- 7. „ asterope maharatta. Recorded from Bengal, but I have not found it near Calcutta.
- 8. YPTHEMA hubneri hubneri. V. C.
- 9. YPTHEMA baldus baldus. V. C.
- 10. ORSOTRIOENA medus medus. R.
- 11. MELANITIS leda ismene. V. C.
- 12. ELYMNIAS hypermnesta undularis. C.

V. AMATHUSIIDÆ.

- 1. DISCOPHORA tullia zal. }
 " indica. " " } R.

DISCOPHORA tullia zal form spilopectera.

I have not found this form, so far, near Calcutta.

N.B. If I remember right, in the series "Common Butterflies of the Plains" which appeared several years ago in the Bombay Natural History Society's Journal, doubt was cast on the possibility of this butterfly occurring in Calcutta, as it was stated to be "a true forest insect." There is still a certain amount of jungle near Calcutta and I have

found *Tullia* there, especially in and near bamboo clumps: the female comes to light in the evenings and I have found one inside the Bengal Club and two in a flat in Russell Street, so that it would seem that it can and does breed wherever bamboos exist. Possibly the authors of the series above mentioned mixed the species up with *continentalis*.

Recorded from Bengal, but I have never taken it near Calcutta.

- 2. *DISCOPHORA continentalis continentalis*.

VI. NYMPHALIDÆ.

- 1. *CHARAXES polyxena imna*.
- 2. *CHARAXES fabius fabius*.
- 3. *ERIBOEA athamas agrarius*.

V. R. Seen only in March, but there may be another brood.

V. R.

I see no reason why this should not occur near Calcutta, but have never seen it here.

- 4. *EUTHALIA garuda sudhana*.
- 5. *EUTHALIA lubentina indica*.
- 6. *EUTHALIA nais* ...
- 7. *LIMENITIS proceris proceris*.

R.

V. R.

V. R.

R.

8. PANTOPORIA perius ... V. R.
9. NEPTIS columella nil-
girica. R. Does not appear to have
been recorded from Cal-
cutta before. I have only
taken it in the Botanical
Gardens at Sibpur, where
a few can always be
found in March, especially
around the "Amherstia"
avenue.
10. NEPTIS jumbah jumbah N. R.
11. ,, hylas varmona. C.
12. ,, yerbunii sik-
kima. V. R. Does not appear to
have been recorded from
Calcutta and it seems
strange that should occur
here, but I have taken
four or five specimens of
what is undoubtedly this
species near Calcutta.
13. NEPTIS harita ... Recorded from Bengal, and
may occur very rarely
near Calcutta but I have
not come across it here.
14. ,, hordonia hor-
donia. V. R.
15. HYPOLIMNAS misippus ... R. I have only seen the
typical females here.
16. ,, bolina ... N. R.
17. PRECIS hierta hierta ... R.
18. ,, orithya swinhoei. R.
19. ,, lemonias vaisya... R.
20. ,, almana almana ... C.
21. ,, atlites ... C.

22. *PRECIS iphita pluviatalis* R. Evans does not record *iphita* from Bengal. I think the Calcutta subspecies must be *pluviata* and not *iphita*, as I have never found such large specimens in Calcutta as occur in Sikkim, especially in the wet season forms.
23. *VANESSA cardui* ... V. R.
24. *ATELLA phalanta* ... C.
25. *CIRROCHROE tyche* *mithila*. V. R. Only one, a female, ever seen and taken.
26. *ERGOLIS ariadne indica*. C.
27. „ *merione tapes-trina*. N. R.
28. *TELCHINIA violæ* ... N. R.

VIII. ERYCINIDÆ.

1. *ABISARA echerius suffusa*. R.

VIII. LYCÆNIDÆ.

1. *SPALGIS epius epius* ... V. R.
2. *CASTALIUS rosimon* *rosimon*. R.
3. *TARUCUS callinara* ... R. I am not sure whether both forms occur, or whether *alteratus* does not also occur. Accurate
4. „ *nara* ... R. identification is very difficult.
5. *SYNTARUCUS plinius* ... R.
6. *AZANUS ubaldus* ... Probably occurs, but I have not found it near Calcutta.

7. AZANUS uranus ... R.
8. " jesus gamra Probably occurs, but I have not found it near Calcutta.
9. NEOPITHECOPS zalmora C.
10. MEGISBA malaya sikkima. V. R. Evans gives 'thwaitesi' (the tailless form) as occurring in Bengal and sikkima (the tailed form) from Kumaon to Burma but the very few I have taken near Calcutta were all the tailed form.
11. LYCAENOPSIS puspa gisca. V. R.
12. " lavendularis. Evans records this from Bengal, but I have never taken it near Calcutta.
13. CHILADES laius laius... C.
14. ZIZEERIA trochilus putli. V. R.
15. " maha maha ... V. C.
16. " lysimon ... V. C.
17. " gaika ... N. R.
18. " otis otis ... C.
19. EUCHRYSOPS cnejus ... N. R.
20. " pandava pandava. C. Has at least 3 seasonal forms: the W.S.F., large and coarsely spotted below; and autumn form small and pale below with spots nearly of the ground colour; a winter form with the broad dark discal band on the hind wing beneath and a spring form similar to the autumn form.

21. *LYCAENESTHES emolus* emolus. N. R.
22. " *lycaenina* lycenina. V. R.
23. *CATACHRYSOPS strabo* ... N. R.
24. *LAMPIDES boeticus* ... N. R.
25. *JAMIDES bochus bochus* ... N. R.
26. " *celeno celeno* ... N. R.
27. *NACADUBA kurava* euplea. V. R. I have only taken one near Calcutta, in November 1940.
28. *NACADUBA nora nora* ... C.
29. " *dobiosa indica* R.
30. *CURETIS thetis* ... R.
31. *IRAOTA timoleon timoleon*. V. R. Can occasionally be found mainly round Banyan trees.
32. *HORSFIELDIA anita dina* Evans records this from Bengal, but I have never seen it near Calcutta.
33. *MAHATHALA ameria* ... V. R.
34. *AMBLYPODIA alemon* ... V. R.
35. " *centaurus* pirithous. V. R. I have only seen and taken one, which I thought was a dull coloured amantes, until I had examined it.
36. *AMBLYPODIA amanates* amantes. R.
37. *LOXURA atymnus continentalis*. R.
38. *SPINDASIS vulcanus vulcanus*. C.

39. SPINDASIS ictis ictis ... Probably occurs, though I have never taken it near Calcutta.
40. ,, elima elima ... R.
41. ,, lohita lazul-
aria. V. R.
42. ZEZIUS chrysomallus ... V. R. I have taken several females at intervals, but all in poor condition, and can only remember having seen one male. Do the males fly only in the afternoon? My collecting has been done almost entirely in the mornings.
43. PRATAPA deva lila ... V. R.
44. ,, cleobis ... V. R.
45. TAJURIA jehana ... Recorded by Evans from Bengal, but I have not found it near Calcutta.
46. ,, cippus cippus ... R. de Niceville stated that the male was common in the cold weather on Poinsettia flowers and although I have taken it on those flowers, I have always found it distinctly rare, and the female rarer, near Calcutta.
47. CHARANA jalindra indra V. R.
48. RATHINDA amor ... V. C.
49. CHLIARIA othona ... V. R. Found mainly flying round Kleinhovia hospita trees—? its foodplant.
50. DEUDORTX epijarbas
epijarbas. V. R.

51. VIRACHOLA isocrates ... R.
52. RAPALA varuna lazulina. V. R. Out of the very few specimens of this insect taken by me near Calcutta, one or two seem to be nearer subspecies 'orseis' than 'lazulina'.
53. RAPALA schistacea ... C.
54. „ pheretimus petosiris. N. R. Evans does not record this from Bengal, but I have found it fairly common in April, in the Botanical Gardens at Sibpur, but nowhere else near Calcutta.
55. RAPALA dienece dienece. Evans records this from Bengal, but I have never taken it near Calcutta.
56. RAPALA melampus ... V. R.

19 B, Raja Santosh Road

Alipore, Calcutta.

18th November, 1942.

The Editor,

The Journal of the
Bengal Natural History Society,
Darjeeling.

Dear Sir,

Just after sunset one evening in October of this year, while motoring about two miles south of Sukna on the Siliguri road, I saw what seemed to be a black panther crossing the road about a hundred yards ahead. On seeing the car the animal turned back and crouched at the side of the road, giving me a good view of it as the car passed about five yards away. I have no doubt whatever that it was a not quite fully grown leopard, but I was puzzled by its colour, which, when seen at close quarters, seemed to be a uniform dark reddish-brown without any spots. The driver of the car confirmed that its colour was reddish, not black. It is possible that this appearance was due to some trick of the fading light; but I notice that in the Fauna of British India (*Mammalia, Second Edition, Vol. 1 p. 224*) "a dark chestnut leopard with black spots" has been reported from the C. P. Possibly the one I saw was a similar animal, the spots not being visible in the poor light. It would be interesting to know whether such a leopard has been noticed by anyone else in the district.

Yours faithfully,

A. P. Benthall.

[We have no doubt the cat was a specimen of the Golden or Temminck's Cat (*Profelis temminckii temminckii*) Horsf. & Vigers. Apologies for delay in printing.

Editor.]

Measurements of a Leopard.

Civil Lines.

Raipur, C. P.

Dt. 5th Feb. 1944.

DEAR MR. INGLIS,

A friend of mine Capt. G. E. C. Miller, R.I.A.S.C. recently bagged an exceptionally big panther measuring 8'-9" over curves. No other measurements were taken after the animal was shot. I saw the skin yesterday and the following measurements were taken with a steel tape.

Nose to root of tail	...	6 feet.
Tail	...	3'-3".
Width of skin behind forelegs	2'-6 $\frac{1}{2}$ "	
Length of skull	...	10 $\frac{3}{4}$ ".

In Rowland Wards "*Records of Big Game*" Third Edition the record measurement given is one of 8'-4". I would be grateful if you could let me know what the present record is and if you would publish the measurements given, as they may be of interest to members.

Your's sincerely,
H. V. BLACKBURN.

[Rowland Ward in the 9th Edition of the above mentioned work gives 9'-4" as the record length of a dressed skin shot in Gwalior by H. H. The Maharaja of Datia. The record Indian skull is given as 11 $\frac{1}{16}$ basal length from back to front.

Editor]

Measurements of a Sloth Bear.

Tasati Tea Estate,
Birpara P. O., & T. O.
Jalpaiguri.

DEAR SIR,

I recently shot a Sloth Bear which is considered to be very large. I should be much obliged if you will let me know if the measurements are unusual for this district.

I read in Dunbar Brander's book that the largest he had heard of was one shot in Cooch Behar, weighing 423 lbs.

These measurements were all checked and can be vouched for :—

Nose to tail (between pegs)	...	5'8"
Nose to heels (between pegs)	...	6'9½"
Girth of chest	...	4'9"
Forearm	...	1'5½"
Weight	...	407 lbs.

Could you also kindly tell me whether the Indian Black Bear (*Ursus torquatus*) carries a white horseshoe mark on the chest similar to the sloth ?

I am very interested in the habits of the two kinds, with relation to hibernation etc. and it seems difficult to find a book that goes into detail.

Your's truly,
R. N. CASTLEY.

[The weight of a Sloth Bear owned by F. A. Bruce Cowley weighed about 550 lbs. It was shot in the Darjeeling Terai. A skin owned by Lt. Col. W. L. Hogg measured 71" from nose to tip of tail (*Rowland Ward's Records of Big Game 9th Edition*). The Himalayan Black Bear (*Selenarctos t. tibetanus*) has a white horse-shoe mark.

Editor]



Measurements of a Sloth Bear's Skull from Assam.

Messrs van Ingen and van Ingen of Mysore have sent us the following photograph and measurements of the skull of a very large Sloth Bear which was shot by Mr. H. F. Meston of Mangaldai, Assam.

Measurements of Skull.

<i>Length between uprights</i>	14 $\frac{1}{2}$ "
<i>Width</i>	8 $\frac{7}{8}$ "
<i>Height</i>	6 $\frac{3}{4}$ "

The largest measurements given by Rowland Ward "*Records of Big Game. 9th edition*" are as follows.

<i>Basal Length. from back to front.</i>	<i>Width Across. Zygomatic arches.</i>	<i>Locality</i>	<i>Owner.</i>
12 $\frac{7}{8}$	7	Mysore.	The late Lieut.
12 $\frac{1}{2}$	7 $\frac{3}{8}$	Central Provinces.	Col. M. Macneill C. F. Egerton.

Editor.

BENGAL NATURAL HISTORY SOCIETY.

Accounts for period 1st April 1943 to 31st March 1944.

RECEIPTS.	Rs.	As.	P.	EXPENDITURE	Rs.	As.	P.
April 1943 Opening Balance is	Superior Establishment including T. A.	6,719	9	6
D. I. F. Grant	Inferior Est.	679	2	0
Subscriptions	Mounting charges	104	11	6
Donations	Journal	1,449	8	0
Sale of plates and back numbers	Office and miscellaneous	326	0	6
				Subscriptions to other Societies	25	14	0
				Closing Balance	3,062	8	6
					12,358	6	0
To closing Balance of				
				should be added the sum of			
				Government Grant	3,062	8	6
				Municipality Grant	3,600	0	0
					1,530	0	0
Making a total of		8,192	8	6

DARJEELING
29th May 1944.

CHAS. M. INGLIS,
Curator.

Bengal Natural History Society.

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- | | | | |
|-----|--------------------------------|-----|--------------------|
| 17. | BRIGGS, REV. F. S. | ... | Advance B. P. O. |
| 18. | BROWN, A. | ... | Dwarband P. O. |
| 19. | BROWN, A. G. | ... | Mal P. O. |
| 20. | CALDWELL, J. | ... | Panighata P. O. |
| 21. | CHAUDHURI, S. (I.F.S.) | ... | Calcutta. |
| 22. | CHANDRA, TIKKA DIVIJA | ... | Jabbul State. |
| 23. | CLOUGH, R. J. | ... | Calcutta. |
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| 25. | CLUB, THE | ... | Darjeeling P. O. |
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