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

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. X.

*Consisting of four numbers and containing three coloured
plates, eight half-tone plates, four other plates
and seventeen illustrations
in the text.*

Dates of issue

Number 1 (Pages 1 to 35)	...	June	1935.
„ 2 (Pages 36 to 72)	...	October	1935.
„ 3 (Pages 73 to 116)	...	January	1936.
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Coloured Plates and Back Numbers of the Journal.

*At the suggestion of one of our Members we append a list
of published coloured plates.*

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The Atlas Moth	Vol. V.	No. 4	April 1931
The Golden-throated Barbet	Vol. VI.	No. 1	June 1931
The Indian Emerald Dove	Vol. VI.	No. 2	October 1931
The Himalayan Tree Pie	Vol. VI.	No. 3	January 1932
The Yellow-billed Blue-Magpie	Vol. VII.	No. 1	June 1932
The Bora Cheng	Vol. VII.	No. 2	October 1932
The Red-headed Tit	} Vol. VII.	No. 3	January 1933
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The Green-backed Tit			
Gould's Parrot-Bill	Vol. VII.	No. 4	April 1933
The Velvet-fronted Nuthatch	} Vol. VIII.	No. 1	June 1933
The Cinnamon-bellied Nuthatch			
The White-tailed Nuthatch			
The Assam Black Partridge	Vol. VIII.	No. 2	October 1933
and republished in	Vol. IX.	No. 3	January 1935
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(b)

Coloured Plates and Back Number of the Journal—(contd.)

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ALCEDO MENINGING COLTARTI
The Assam Blue-eared Kingfisher
ALCEDO ATTHIS BENGALENSIS
The Common Indian Kingfisher

The following errors in Vol. X, No. 4 should be corrected.

Page 117 alter *Listriichinæ* to *Liotriichinæ*.

In "A Second Note on the Heterocera of Darjeeling.

1213 is *fulvolivirta* not *fulvelivirta*.

1895 is *l-album* not *1-album*.

1928 is *albivenata* not *albiavenata*.

3865 is *ligataria* not *ligatataria*.

JOURNAL
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Vol. XI.—No. 1.

The Kingfishers of our area.

BY

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

(With a coloured plate).

(Continued from Vol. X p. 84).

Next comes the genus *Alcedo* with the head banded black and blue or greenish-blue, the backs blue or greenish-blue, and the lower plumage rufous in the species occurring in our area. The bills too are black or almost so.

There are eleven species and subspecies of *Alcedo* in India only three of which are found in our area. The following key will suffice to recognize our species.

- A. Size small ; wing under $3\frac{1}{2}$ inches.
- (a) Ear-coverts ferruginous in adults ... The Common Indian Kingfisher.
- (b) Ear-coverts blue in adults... The Assam Blue-eared Kingfisher.
- B. Size large ; wing over $3\frac{1}{2}$ inches.
The Great Blue Kingfisher.

3. The Common Indian Kingfisher.

Alcedo atthis bengalensis Gmelin.

Field identification. A small bird often seen flying over streams, pools or any patches of water and having a disproportionately long bill, bright azure back and ferruginous below.

Description. No description is necessary as the lower figure in the coloured plate shows this bird, but the depth of the blue and ferruginous varies very greatly in different specimens.

In the adult male the bill is black but in the young males and females the basal half of the lower mandible is orange or pale reddish.

The length is about 7 inches; wing 2.75 to just over 3 inches; tail 1.4 and bill $1\frac{2}{3}$ inches.

Young birds "are much duller than the adult, even in their first breeding-season, especially on the wing, scapulars and the blue-black on the head, all of which parts are more green and less blue than in the fully plumaged birds; young of the year are duller and more ochre below and have the breast much suffused with brownish-ashy, this colour sometimes forming a fairly definite band, well defined against the white or orange-white throat." (*Stuart Baker*).

Finn writes:—"The half-fledged young are funny little things, for their feathers grow to some length before bursting their sheaths, so that the resulting appearance rather suggests a miniature porcupine."

Distribution: In our area:—A common bird in the plains and in the hills. Stevens writes in his "*Notes on the Birds of the Sikkim Himalayas*":—"Occurs in the Tista river and all tributaries where it has been obtained up to 1,900 (G. E. Shaw). On the Rungbong River it ascends as far as there is a sufficiency of water, but as the river gets depleted in "the cold weather," from December to March, it is found more noticeably to frequent the lower reaches from 3,500' downwards."

Outside our area:—Stuart Baker gives the distribution as:—"Bengal, Assam, North, Central and South Burma; Shan States, Yunnan and East through Indo-China to Japan and Corea. South it extends to the Philippines and through the Malay Peninsula to Sumatra and Borneo, though from South Tenasserim birds seem to become rather duller, more

green and less blue; in India it extends to Orissa, West Bengal, Bihar and the Bhutan Duars and South to the drier parts of the Deccan and perhaps into the North-East Central Provinces; the birds of Sikkin are of this race, though those of the highest ranges may prove to be *pallasii* and it appears to extend West to Sind and to the Himalayan Terai of the Garhwal Hills and Kuman."

Ludlow in his "*Birds of the Gyantse Neighbourhood, Southern Tibet*" Part III (*Ibis* 1928 p. 211) writes:—"The bird is a rare winter visitor to Gyantse, where I have seen it on two occasions only, once in November and once in February. I have seen it in winter on the Lingmothang plain in the Chumbi Valley." He also found it in January at Gyantse as he secured a male there on the 16th of that month. Stuart Baker in his "*Nidification of Birds of the Indian Empire*" Vol. III p.p. 407, 408" apparently doubts Ludlow's identification as writing under the head of the Common Central Asian Kingfisher (*Alcedo atthis pallasii*) he says:—"From Gyantse Ludlow records a specimen of *A. a. bengalensis*, but a very poor skin sent me by Macdonald I put down as *pallasii*, and I think Ludlow's must be the same."

Habits etc. :—This well known and widely spread little Kingfisher is a smaller sized relation of the Common Kingfisher of Europe. It may be found anywhere where there is water, rivers, tanks, pools, ditches by the road side and though mostly frequenting fresh water does, sometimes, wander to creeks and the sea shore; in fact Robinson wrote that it was as partial to the seaside as to rivers and streams. It perches on a stump, stone, bush, even on telegraph wires, according to Jerdon; in fact on any suitable spot from which it can dive for its prey. It, usually, dives obliquely into the water returning to its perch with its catch. The fish is generally caught in the middle and then shifted length ways to nearer the tail and battered against its perch before being swallowed. Sometimes, however, it does hover, with its body perpendicular, the bill pointing downwards, and from that position will plunge, perpendicularly, into the water. Its food consists of small fish and water insects.

The flight of this bird is swift and straight, the sun striking on its beautiful plumage, as it flies, intensifying its brilliant colours. Its loud trilling call, syllabalized by Whistler as *ch'kee*, is uttered during flight and also, according to Stuart Baker, when seated, especially during the breeding season.

They are pugnacious birds and believers in the sanctity of possession and will drive away other Kingfishers which dare to enter the stretch of water which they consider theirs.

With regard to the nesting we cannot do better than quote Stuart Baker's most interesting notes (*Nidification of Birds of the Indian Empire, Vol. III p.p. 405, 406*):—"As a rule this little Kingfisher prefers to make its nesting burrows on the banks of rivers and streams running through open country, cultivated, barren, or partly one and partly the other, I have, however, often taken the nests from banks of streams running through forest and, also, more than once, in the sides of big tanks. A pair of birds in Dacca built in the stiff soil of a tank just outside my bungalow for three years in succession, each time making a fresh tunnel in the same face of the tank. They seem to breed at all heights from the plains up to about 5 000 feet. Osmaston found them breeding in Garhwal up to 4,000 feet; Whympers took the eggs in Kumaon at 3,000 feet, while in the South Assam hills they are common up to about 5,000 feet or as high as the streams afford suitable banks for breeding in.

"The tunnels are not as a rule very long, though varying somewhat according to the soil. I have seen one as much as 6 feet long in firm sand, but anything over 4 feet is exceptional, while often they only run from 1 to 2 feet. The diameter of the entrance is about 2 inches or less and the size of the chamber 5 or 6 inches long by nearly as much in width. The height is not more than 3 inches. In most nest-holes the tunnels rise gradually. Sometimes throughout their length, sometimes for part of the way only.

"The collection of fish-bones so commonly found in the egg-chamber of the English bird is exceptional in this race. I have never seen it when the eggs were fresh, unless they

were a second lot of eggs laid in a preoccupied nest. As incubation advances, and the hen is fed on the nest by the male, bones begin to accumulate, and these, of course, accumulate still faster when the young are hatched.

"Over the greater part of the plains the birds breed in March and April, though odd nests may be found in Bengal in December and January. In the hills, where floods do not constitute the same danger as in the plains, most birds breed in May and June.

"In India the normal clutch is six eggs, five and seven being quite common.

"Forty eggs average 20.9×17.6 mm."

The eggs are nearly spherical and pure china-white in colour.

They do not appear to make very suitable aviary birds. They are said not to realize what wire netting is, dashing into it and damaging their limbs by doing so. Finn says the young may easily be reared on fish and trained to eat raw meat but he does not consider them desirable pets; others seem to be of the same opinion. Lord Lilford did not consider that the English bird ever thrived on anything but a fish diet.

This bird does not seem to be persecuted as much for its plumage as the White-breasted Kingfisher but the English one is, or at any rate was, very much so. A. B. Butler wrote years ago, that it "is shot and netted in great numbers every year, many specimens being stuffed and set up in glass cases as room ornaments; or used as head adornments by the modern female barbarian; or lastly in the manufacture of artificial flies for fishermen." In a foot note is added "A. H. Cocks ('Zoologist' 1891, p. 154) mentions that a local bird stuffer had had nearly a hundred sent to him to set up that year." Probably now-a-days this is no longer the case.

4. The Assam Blue-eared Kingfisher.

Alcedo meninting coltarti Stuart Baker.

Field identification:—Slightly smaller than the last bird and generally confined to forests. In colour it is deeper

and more brilliant blue above and deeper ferruginous below.

Description :—This species is shown in the top figure of our coloured plate and the only description necessary are the principal differences between it and the Common Indian Kingfisher. In adults of this bird the ear-coverts are blue instead of ferruginous; the whole of the blue of the upper plumage much deeper and more brilliant and the lower plumage a deeper and richer ferruginous.

In the adult *male* the bill is black, orange-red at the base and gape.

In size it is slightly smaller than the Common Indian Kingfisher.

The only difference in the *female* is the bill has more red on it at the base. Very red birds are not distinguishable.

In *young birds* the ear-coverts and cheeks are rufous.

Distribution :—In our area. Stevens doesn't mention it in his "*Notes on the Birds of the Sikkim Himalayas*" and the only specimens we have from the Darjeeling District are two obtained at Sukna in November and December. In the Duars however it is common in the forests where there are suitable streams and we have specimens from Rajabhatkhawa, the Moraghat Forest and Gorumara.

Outside our area :—Stuart Baker gives the distribution of this bird as "from Sikkim on the West to the hills of Northern Burma on the East and about as far south as latitude 10° in Burma and about the same in Siam and thence into Cochin China.

"It occurs from the plains and foothills up to about 6,000 feet and is, perhaps, most common at 2,000 to 3,000 feet." (*Nidification of Birds of the Indian Empire Vol. III p. 410.*) None of our specimens, all collected between November and March, have been obtained higher than 500 feet.

It is a bird of forest country we have only obtained it within forests or their outskirts, they are seldom seen in the open though, according to Stuart Baker "it may occasionally be seen flitting, a brilliant flash of blue, down some sunlit stream from one patch of forest to another. It never, however, seems to stay to fish in such stretches but seeks a perch in dense shade, where it plunges after small fish and water-insects, generally the former. Its note is the same as that of *Alcedo atthis* but is, perhaps, less shrill and certainly less frequently uttered.

Nothing is recorded about the breeding of this bird except what Stuart Baker writes in his "*Nidification.*" We quote this *in extenso*. "It is a bird of forest of any description and also of bamboo-jungle, but seems to keep almost entirely to deep gloomy ravines with steep broken sides and plenty of bush and tree cover. The actual nest-holes are, of course, drilled in the banks where they are more or less free from roots, but I have seen bushes overhanging the entrances, and one tunnel I saw was cut into the face of a mossy bank, the moss having to be cut through or pulled out before the work of excavation could be started. The first nest-hole I ever found was in a deep, precipitous gorge running through bamboo-jungle, the sides thinly clad with bushes and small trees. About 5 feet below the overhanging top and nearly 50 from the stream at the bottom a great rock jutted out and attracted my attention. As I looked at it a tiny Kingfisher flew out from under it and, on climbing up, I found the entrance located a few inches below the rock. The bird soon returned and was caught in the noose which had been set for it. The tunnel, barely 2 inches wide, proved to be some 24 inches deep, with a small chamber at the end measuring about 5 inches either way, and here reposed seven eggs on the bare earth. This tunnel was bored in mixed clay and loam, but in sandy soil the galleries may run up to 4 or 5 feet and even 6 feet in length. I have found small amounts of fish and insect-remains both in the tunnels and chambers and, occasionally, a good many in the latter, on one occasion two good hand-fulls being around and under the six eggs.

“The principal breeding months are May and June, but I have eggs in my collection taken by myself from the 14th April to the 7th August, and I think many birds breed twice.

“The eggs number four to eight, but the smaller numbers may be incomplete clutches.

“Fifty eggs average 20.3×17.6 mm. They, of course, are the same in colour as those of the Common Indian Kingfisher.

(To be Continued.)

A Description of the Tsine and its Habitat and Shikar.

By

COL. H. S. WOOD, I.M.S.

(Continued from Vol. X page 130)

Description and details of a cow Tsine.

I may be forgiven for shooting a cow but I was anxious to get a specimen and she was my first Tsine and the only one that I could see, the rest were lying in a hollow. She charged me at the first shot and fell to my second barrel only a few yards away. By killing her I lost a fine bull, that was in the midst of his harem, and dashed off to the left after my first shot. This cow was shot at Tammu on the confines of Burmah and Manipur. It was an extremely handsome well bred looking beast, in appearance half antelope half cow. The general colour was light red, but as the upper parts near the back and buttock were approached the red became darker, being almost a reddish-brown; as the under parts were reached, the red became fainter, gradually merging into white. The inside of both forelegs and hindlegs, as also the belly, were of a whitish colour, this was noticed also on the under surface of the neck and lower jaw. The forelegs and hindlegs, for about four inches above the knee and hock, respectively, to the fetlock, were of a whitish colour. A dorsal ridge was present ending in the middle of the back in a distinct projection. Two very

marked features were:—1. A dark black band which passed backwards along the spine from the termination of the dorsal ridge to the root of the tail; this band was two inches broad at its commencement and gradually tapered off till it was lost at the root of the tail.

A large round white patch on the posterior aspect of the buttock, each a foot in diameter. This patch is very noticeable when a herd stampedes, and its function, as a signal to those behind, is the same as the white under a deer's "scut". Its absence in the bull has been noted, so I take it that nature has given these white signals for the guidance of the calves who would necessarily lag behind in a stampede. The upper portions of the head were of a light red colour: the white rings round the eyes noted by Colonel Pollock were not present. The head was very game-like. The tail had a well marked reddish black tuft, the ears of a light red colour, the anterior borders fringed with long greyish-white hairs, were very large, expanded at the extremity, and very mobile, hence a cow is always on "sentry go". The tips and muzzle were greyish-white. Hair of skin short, smooth and glossy. The skin close to the mammæ and that inside the ears was destitute of hair and light yellow in colour. The great length of the animal was a noticeable feature.

Measurements of Cow.

Height at shoulder	...	...	12 hands.
Length (nose to tip of tail, over back)			13 feet 7 inches.
Length (nose to tip of tail, across body)	13	„	2 „
Girth, chest	...	...	5 „ 9 „
Girth, belly	...	...	6 „ 3 „
Girth, foreleg, thickest part	...	...	1 foot 6 „
Girth, hindleg, thickest part	...	...	2 feet 6 „
Length, head and neck, above	...	...	2 „ 6 „
Length, head and neck, below	...	...	1 foot 7 „
Girth of neck, middle	...	...	2 feet 11 „

DRIED SKULL.

Length anteriorly	...	...	1 foot	5 $\frac{1}{4}$ inches.
Distance between orbits	...	...		7 $\frac{1}{2}$ "
Breadth across forehead	...	...		7 "
Distance between horns, top of skull	...	...		6 "

HORNS.

Length of right horn	...	...		15 $\frac{1}{2}$ "
Length of left horn	...	...		15 "
Girth, right horn, at base	...	...		7 $\frac{1}{2}$ "
Girth, left horn, at base	...	...		7 $\frac{1}{2}$ "
Distance between tips	...	...		7 $\frac{1}{2}$ "
Distance between convexities	...	...		16 $\frac{1}{2}$ "
Length of ear	...	...		11 "

The colour of the horn was a semi-transparent blackish green, that of the tips for four inches jet black; posteriorly near the base of the horns, the colour was almost yellow; at their bases the horns were distinctly ringed in a regular manner, the horns, above these, were beautifully smooth and terminated in very sharp tips. In the fresh specimen each horn terminated, at the base, in a bulbous prominence owing to its being covered by a pachydermatous skin devoid of hair. The direction of the horns was upwards and outwards. 2. Inwards. 3. Upwards and slightly backwards, this becomes more pronounced in older cows.

A table is now given to show the difference between the bull and the cow.

BULL.	Cow.
1. Colour dark red, parts, especially about head, greyish-white.	1. Colour light red generally, underparts white.
2. No dark line extending from termination of dorsal ridge.	2. Dark line present.
3. Ears short.	3. Ears long and expanded.
4. Length short in proportion.	4. Longer.

BULL.	Cow.
5. White patches on posterior part of buttocks absent.	5. Present.
6. Black colouring on anterior aspect of forelegs present.	6. Absent.
7. Black tip to ears and anterior margins present.	7. Absent.
8. Presence of a thick chalet of skin on bone on forehead.	8. Absent.
9. Eyes ordinary.	9. Eyes very prominent and large.

I trust I have not bored my readers with this somewhat lengthy description of the Tsine and its habits, but I am not aware that any detailed description of this beautiful animal has ever been published, and most Indian sportsmen who have not hunted in the Burmese jungles do not know the animal, so I hope I may be excused for entering into so many details. I will, however, now go on with the second part and perhaps the more interesting one to my readers.

THE SHIKAR OF THE TSINE.

No one should go after this animal unless he is prepared for a good deal of foot-slogging, discomfort and exposure. I have never hunted them from the top of an elephant, in fact I do not believe that one could get near them that way as the Tsine is such a shy beast, and its senses extraordinary. Colonel Pollock only shot five in thirteen years and I have only shot three in thirty-six, but saw many more unshootable heads. B. of Kendat had, I think, fourteen solitary bulls to his credit, but he worked hard, and ultimately fell a prey to dysentery, probably contracted by the exposure and privations he subjected himself to when after Tsine. When I saw him, many years ago now, he was as hard as nails and wore no boots when stalking; we used to chaff him about the

thickness of the skin on the soles of his feet. He was one of the best and thoroughly versed in the art of woodcraft and tracking.

My favourite hunting ground was Tammu on the Manipur frontier. My Regiment was stationed in Manipur and I made many trips into this glorious country. In one case N. and I got ten days' leave and we did the 74 miles from Manipur to Tammu in nine hours with the help of four daks (ponies). We had both brought reversible hide saddles for the trip and next day saw us very sore on the saddle part of our anatomy. The road we traversed was awful, a mere Naga path and very stoney in some places.

I worked my way right down the Chin side of the Kubbo Kale Valley into Sagaing, opposite Mandalay, and got some grand sport. It was delightful to see how well the villagers in these remote villages treated one with the greatest respect. I am afraid education and missionaries have altered all this. When I arrived at a village the Headman and all the villagers sat on the ground with palms together in obeisance. I always had the "Zyat" or temple for my abode and the villagers brought carpets and curtains to embellish it. Here I reclined surrounded by brass and alabaster Buddhas gazing at me with stolid indifference. After a hard day's work, I slept the sleep of the just and dreamt the dreams of a happy hunter.

The villagers would not take any money, rare nowadays, from me and brought me fruit etc. They said the flesh of the animals, especially that of the elephant which I shot, was ample reward. I liked the Burmese, happy, honest and cheerful people, and were it not for them I would never have bagged a Tsine. My tracker was called Toinem, a half Burman, half Manipuri, a splendid man at his work. He accompanied me on all my expeditions. Poor fellow he met his death by being gored by a wild Buffalo which he wounded and followed up with a single barrel smooth bore gun.

It is hopeless going after Tsine in the rains or before the jungle fires. The jungles, at these periods, are very

thick and rank, so that one can see nothing, and swarm with leeches, mosquitoes and ticks; besides these there is every chance of contracting severe Malaria. After the yearly jungle fires, in April and the beginning of May, when the new grass and bamboo shoots sprout, is the best time, but it can then be very hot and stifling. In tracking Tsine, the fallen teak leaves, several feet deep in some places, are a great nuisance and one can hear their scrunch for yards.

One happy year I was fortunate in obtaining three months leave, so off I started for my happy hunting grounds in the Kubbo Kale Valley. I took a different route working practically through the centre of this lovely valley and making for Kalewa at the foot hills of the Chin Hills, celebrated for its "Devils rapids" at the bottom of which lies many a rifle, ammunition, baggage, and I believe, treasure which were lost when Kalewa was the base for one of the Chin Hills expeditions. I went down the rapids and the experience was most thrilling. The dug-out had lashed to its side bundles of green bamboos to protect it from being dashed to pieces by the numerous jagged rocks that rose above the surface, and how these boatmen manoeuvred the frail craft was marvellous. The rapids, at that time, were nearly a mile long and the journey was over in a minute, and at the bottom was a pool in which the boat, after making several circles, came to rest.

The Kubbo Kale Valley at that time of the year, middle of April, was in all its glory and perfect for shikar. The new teak leaves were in full blast and the parts of the jungle, that had been fired, had about two feet of green grass and the bamboos were sprouting. Here and there one came upon open glades covered with "Dhoob" grass, vivid green in colour, always a sure find for Hog deer and Barking deer. I once saw eleven Hog deer in one of these glades. The teak forests were full of Imperial pigeon, Green pigeon, Parrots, Orioles, Racket-tailed Drongos, Woodpeckers etc. and the cicada kept up an incessant chirrup, the soppy excretion from their bodies, as one passed through the forests, felt like drops of rain. The Chindwin river lay to my left.

It was in one of these glades that I watched a herd of Tsine feeding, the sun glinting on their satiny hides, it was, indeed, a lovely sight. They were very alert, and I noticed a cow on one of the flanks, did not feed much, but kept on the alert, staring and with ears working vigourously. The calves were beautiful little creatures, they looked very solid about the legs, and had thick coats. I regretted that I hadn't a camera. The forest was intersected by small streams, I passed two on my way. Horse flies were much in evidence and my poor horse bled profusely. As I was crossing a nullah, close to a rest house, I noticed the pugs of a tiger, and, when I got to the rest house, I asked the chowkidar if there was a tiger about. "Yes" he said, "It is a man-eater." The Deputy Commissioner of Kendat came down a few days before to shoot it and his cook, who had gone down to the stream, to do some washing, was carried off. The Deputy Commissioner, minus his cook, had to return to Kendat. As I was marching on some miles further, I made no attempt to bag this man-eater. Its chief victims, I was told, were postal runners.

At my next camp I had a curious experience. I was out one morning and heard a Barking deer bark. I stalked and shot it, and, just after the shot, I got a glimpse of a tiger slinking away, the trunks of the teak trees prevented me from firing at him. It was evident that the tiger and myself were both stalking the same animal.

At Kalewa, I met a lot of officers who were very good to me. One of them had bagged the rare Hume's Pheasant. I shot a lot of Vermiculated Kalij Pheasants, the Yit of the Burmese, also a lot of Chinese Francolin. Their guttural cry of "Khah-rah-Kha, the "Honk" of the Great Hornbill and the crowing of the Jungle cock announced the dawn in these glorious forests!

I bagged a good Bison and a Buffalo on my way down to Kalewa. The Buffalo were all in the water when I came on them, and at first I could only see a sea of horns: they stampeded up the bank into some very heavy Null jungle. The bull separated, and Toinem and I tracked him up and

I bagged him. From Kalewa I took the steamer to Monywa and from there, where my brother met me, I ultimately reached Sagaing where my people were. The trip from Manipur had taken me five weeks. I was only ten days at Sagaing when I got a telegram from my C. O. ordering me to return to Manipur at once by the shortest route as cholera had broken out in my Regiment! How sick I was! but orders had to be obeyed, so I started next day and made the trip to Sattang, about 18 miles from Tammu by steamer. Between Sittang and Tammu, I had to cross a large river, which was in full flood, and nearly lost my charger, which was being towed behind the dug-out; the rope snapped and he was carried down the river for about 600 yards; however none the worse for it. At Tammu, I was met by my faithful Toinem, whose eyes beamed when he saw me. He said in excited tones, "Sahib, You are lucky". This morning I have seen, at a salt lick, the tracks of the biggest Tsine in these forests, let us go after him". I got some food and a change of clothes and off we started on the tracks of the bull. It was about 11 A.M. when we started. When we reached the salt-lick, about three miles from Tammu, I saw the huge slots of the bull and unmistakably fresh. The tracks led through low, undulating grass-covered hills, knolls, I might say. I was looking at the tracks but Toinem told me to look ahead, as the bull would be lying down and on the *qui vive*. It was well I did so, as, on topping a ridge, there was a loud snort and I saw the bull going at tremendous speed up the opposite slope about sixty yards away. A snap shot was my only chance, so I fired. We went up to the spot, but there was no blood, and I cursed my luck! We went on for about twenty yards and found lots of blood. Toinem said he had not been hit in the body, so it appeared that my chances of bagging him were small. We slogged on, however, for hour after hour, the bull making for steep and difficult country; he evidently had slipped much, and found it very difficult. All on a sudden about 5 P.M. Toinem pointed and I saw the bull, about fifteen paces off, looking at us. The head, neck and chest were visible, and I fired for the base of the neck and over he rolled. On going up

to him our delight was great, for sure enough, he had the finest head I had seen anywhere, and Toinem, who had been in at the death of many bulls, said "He is the "Raj" of the Tsine, truly a royal head". We shook hands and as we were miles away from camp, we turned back, heaping leaves, stones, etc. on the carcass of the bull to prevent animals and vultures getting at it. We did not get back to camp till 11 P.M. so I decided to halt two days at Tammu to get a rest, measurements of the bull and to superintend the skinning and dissection. This halt nearly led to my being court martialled, as on reaching Headquarters, I was asked to submit a diary of my journey and an explanation, in writing, for halting two days at Tammu. The 2nd. in Command did not like me for some reason, and as he was acting C. O. he thought he would now go for me. However, a wiggling was all I got, and like a naughty schoolboy told not to do it again! That head, that nearly got me a court martial, adorned our Mess wall until it finally rested in a Museum and many a time was I chaffed about it.

When we got back next day to examine the bull, I found that my shot had smashed one of the hind legs to pieces and the large tendon at the back, the "*tendo achilles*", had been severed. It was fortunate the bull took to the hills, as this was his undoing. Had he stuck to the comparatively flat country, he might have gone on for miles on three legs, but the jungle on the flat was sparse, with no cover to speak of, and he thought he might escape by getting into heavier unburnt jungle. So ended these perfect days in hunting this splendid animal and at the end of them a good trophy.

Before leaving India for good in 1926, I contemplated revisiting the happy hunting grounds, but I was told that the game was not worth the candle, as all the Tsine etc. had disappeared into remote tracts, or had been shot. What a pity? The Kubbo-Kale Valley would have made one of the finest sanctuaries in the world, as it swarmed with every species of Burmese big and small game. One can only dream of these exciting times and in gazing on the trophies recall every incident of their chase. My plea is for more

severe restriction or the preservation of this noble animal and the discrimination of sportsmen in shooting them. Of course, with the native, we can do nothing, he will shoot and trap, in and out of season, does, fawns, anything is game to his gun, as he only shoots for the pot! Forest guards are also open to bribes. The indiscriminate issue of arms, on the plea of crop protection, has done immense harm, this should be restricted and only made in *bona fide* cases. India, I am sorry to say, has been sadly denuded of game within the last 15 years and so it goes on without any serious measures being taken. Let us hope that such measures will be taken before it is too late, and our authorities will follow the example set by America and our African Colonies.

[There is a most interesting article on this animal by Major G. P. Evans in his book "*Big-Game shooting in Upper Burma.*" With regard to the colour of the bull Tsine the author "once saw three old bulls in a herd which were so black that, at first, I took them for bison." He also mentions old grey bulls and says they always possess fine heads and that "Anything over 25 in. is a very good head. Occasionally Tsaing with enormous heads measuring over 30 inches with a girth of 18 inches are shot.....and no one need be ashamed of a 24 inch. head, if well corrugated and with a good span." This will show what a fine bull Col. Wood shot.

With regard to Tsine charging Major Evans states that he was only once charged in earnest by that animal. Col. Wood doesn't consider it feasible to shoot Tsine from elephants, but Major Evans writes:—"I knew one man who in an out-of-the-way spot where elephants were numerous, made a practice of shooting Tsaing from the back of an elephant. In this way, he secured some fine heads, and had rather a low opinion of Tsaing in consequence. But later, when circumstances necessitated his following them on foot, he very speedily changed his opinion". Major Evans's article is full of interesting observations on this fine animal. Writing about the cunning of a bull, he says:—"A scared bull will often, when crossing a stream, wade for several

hundreds of yards, and ascend the opposite bank a quarter of a mile or more higher up, or lower down, with the evident intention of confusing his trackers.....I don't know that he has yet attained to walking backwards, with a view of hiding his tracks, but he is not far of it !".

Editor.]

A Second Attempt at Angling

By

C. PRIMROSE.

In Vol. IX, No. 2 I described what, from an angling stand point, was a very unsuccessful trip to a local river.

The N. E. Monsoon for 1935 ceased abruptly and unusually early, no rain falling after 17th December. Perfect fishing weather followed and, having given the river ample time to clear, I was able to obtain a week's leave, at the end of January, to try my luck again. J, the companion on the trip previously described, also managed to wangle leave and gladly accepted my invitation to join me on this one.

We arranged matters so as to have four clear days fishing and, had we been able to do as we planned, we would have had much better sport. That our plans were frustrated and the trip, to some extent, spoilt I attribute to my folly in allowing J. to persuade me to start on a Friday, which, as everyone knows, was asking for trouble. J, on the other hand, insists that it was "entirely due to your disreputable pals" as it pleased him to call wild Elephants, though he must have seen that I was no more "pally" with the brutes than he was. But that is J all over, he loves to find, or to invent, something that allows him to exercise his, so-called, sense of humour even though it be at the expense of his best friend. On this occasion the first signs of Elephant gave him the idea of pretending he believed I loved them and had made the trip with the sole idea of admiring and fraternising with them.

As on the previous occasion my bungalow, being the most convenient, was made the starting point. We left the bungalow at 5 A.M. carrying lanterns to enable us to see our way. The weather was frosty and the cloudless sky was a smother of stars, their brilliance enhanced by the clear atmosphere. Venus, or whichever is the planet commonly called the morning star, fairly blazed straight ahead of us while to our right the S. Cross leaned over at an angle of 60° , not far above the horizon, as though in the act of lying down to a welcome rest. I will not attempt the impossible by trying to describe the charm of this fascinating hour or the entrancing changes from night to dawn and then to day. Those who have been fortunate enough to have done a march at this hour, through beautiful hill scenery, can conjure up, from memories, a mind picture of such scenes far better than any pen picture of mine. I have often pitied people who, surrounded by beautiful scenery, declare "I hate walking unless there is an object in it". Such an expression shows that beauty has no real appeal to them; and to be unable to keenly appreciate beauty, in its manifold forms, is, to my mind, pitiful. I consider these lines by, Wordsworth, exactly express the views of one to whom the beautiful has a strong appeal.

"My heart leaps up where I behold a Rainbow in the sky.

So was it when I was a Child
So is it now I am a man
So may it be when I am old
Or let me die."

Whilst on the subject of beautiful things one, that has never failed to make my heart leap up, is the bird chorus at dawn. From having listened to it from the time the first sleepy chirp was uttered till, having attained its full strength, it gradually died away, as the birds dispersed to feed. I have been forced to wonder whether the music for "Dawn", by Peer Gynt, was inspired by listening to this dawn chorus of the birds. What is the object in or reason for it? The reason, which I consider most likely, is that

birds being eminently cheery creatures the beauty of the light of dawn acts, on their cheery souls, in such a stimulating way as to force them to burst into song lest their wee bodies be unable to bear the strain of the joy which fills them. I have a sneaky feeling that this joyous babel of voices, raised in unison at dawn, is a *Matin*. May be they are reiterating, in their various tongues, such phrases as the Muezzin calls from a lofty minaret to arouse the faithful, at the same hour, "Come to Prayer, there is no God but God. God is Great" etc. Whatever the object this dawn song will ever make my heart leap up, or, if, not, then let me die.

This music and the beautiful scenery of the gorge, which the path winds down, combine to make us forget time and the discomfort of walking over a steep, narrow path with a really bad surface. Before we realize it we have reached what we call the *chota hazri* stream marked on the map as the——— a Tamil name of 19 letters, which only a Tamil could ever hope to pronounce. Here we stop and have a light *chota* of sandwiches and hot coffee from the thermos and the comfort derived from the meal, plus a cigarette, causes J to ask sarcastically "what is wrong with Friday?" Being impossible to convince a man, who refuses to be superstitious, that there is a great deal in it. I merely replied "there's a lot of Friday left". We move on and make a good progress J reiterating, annoyingly, "this is Friday—isn't it?" and similar stupid remarks. About a mile from the *chota* stream, and 15 yards from J's last remark about Friday, things started to go, as only to be expected when one starts on that day. The country here was dried up, knee high grass, liberally interspersed with shrubs and trees armed with vicious thorns of various shapes and sizes. There were innumerable paths made by grazing cattle and quite as distinct as the path which led to the Kraal we were making for. The one our guide took seemed to me to be leading far too much to the right and I drew his attention to this; "No, no, this is *it*" he declared, in a very convincing tone of voice, so we, patiently, followed him for some time. I then stopped him and told him that this was *not* the path to the Kraal but led to a village which was no concern

of ours. His reply, typical of a native of these parts, was "it may be". On being roundly cursed for leading us on the wrong track he calmly admitted that he had not been in the valley since he was a boy and "somehow I seem to have forgotten the paths." J, impatiently, remarked "look here, its blasted hot, don't go on arguing let's get a move on". I told him to lead right away, adding, there is plenty of Friday to go so you should get somewhere by the time Saturday comes." "Don't be d--n stupid" he replied "beyond that we are in this --furnace of a valley and trying to get to the river which, presumably, flows through it, I havn't the foggiest idea of the direction to take so if you've any idea of the direction of the lunch stream Kraal lead on and make a bee line for it, before the sun burns me to cinders." Poor old J had he stopped to think he would have realized that to take a bee line through that country was about as easy as taking one through Hampton Court maze. However I took the lead and, keeping the position of the Kraal in mind the whole time, countered the deviation made by the maze-like hedges of impassable thorn bushes, and in treble the time taken, had we been on the right path, reached the Kraal by the second stream where, on the previous occasion, we had lunch. From here I knew my way to the hamlet between us and our destination, and, as a competent guide had been sent to the hamlet, we sat down to lunch in a more cheerful frame of mind. Whilst enjoying an after lunch smoke and admiring the quantity of rice that even the smallest of the carriers was able to put away, an Elephant roared some distance away. "Here" said J, "their's one of your pals sounding the 'fall in' ; just go along, don't mind me, and say that the Jamboree you sent word about was for Saturday, 21st February and *not* January. Make your apologies for the inconvenience you've put them to". "If you want to know *that's* Friday" I replied, "and you, I suppose, are Robinson Crusoe, I don't care if you are but just you keep pal Friday from trying to get beastly familiar with me, *I've* no love for the monstrosities." "That being so we better push on" I said and, anxiously scanning the jungle ahead and on either side of the path, we moved on.

After covering a quarter of a mile there were no fresh tracks of Elephant and we hoped we had left the sole inhabitants enjoying themselves near the launch stream. About a mile further on, however, fresh tracks of a large herd, that had enjoyed themselves during the night and early morning, in breaking branches for food and kicking hollows in the dusty soil to get dust to throw over themselves, proved that there were plenty more in the valley. As it was now noon, and as hot as blazes, we knew that there was little likelihood of our running into any Elephant till the next stream was reached as only on the banks of such are there trees affording real shelter from the heat of the sun. This was cautiously approached and we were relieved to find that the herd was some way off, upstream, as was shown by the cracking of branches and an occasional trumpet of annoyance. "Go along and rub noses or whatever you do in the polite line with four rotten pals "said J" and do not mind me. After the trouble they have taken to attend the Jamboree you arranged, you can't be rude especially as the "cubs" seem to have attended in full strength. I know as little about elephants as J does but the miniature tracks of the calves perturbed me as, when accompanied by her infant, "the female of the species is more dangerous than the male." We moved on to the hamlet, a furlong or so away, and seated ourselves under the shade of a fine Tamarind tree while the carriers went to the only shop "Whiteleys", as J called it, to buy rice and other provisions for themselves for use in camp. That done they returned accompanied by "Whiteley", a local Mussalman, who politely enquired, in what he fondly imagined was Delhi Urdu, as to where we were going and why? On being told, he said the place was stiff with *Hathis*, that if we were wise we would stay in his house or, if not, we should start at once. As we moved off he said "*Juldee jana Sahib bahut badmash hai kootha ki marfik galata kartha*". Only old tracks were seen, and we began to think that we had left the brutes behind, when the breaking of a branch, to our right front, showed we were wrong. We moved on with eyes and ears strained, but saw no signs of Elephant



VIEW FROM ELEPHANT CAMP.
(SEE PAGE 23).



"WHITELEYS."

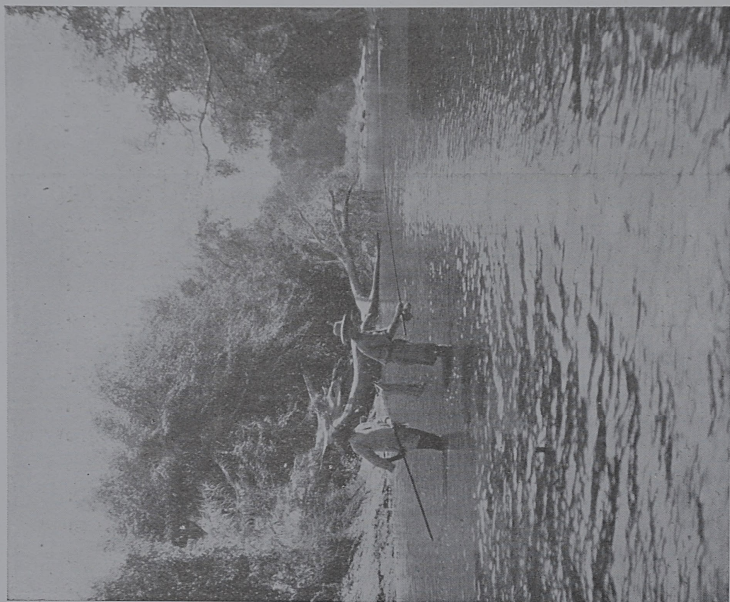
till we crossed a small tributary, to the river, a few hundred yards above the spot we previously camped at.

We were making for a Kraal about two miles up stream from this spot and the path lay through heavy evergreen forest which was enabled to exist by the moisture derived by the water of the stream and river. On crossing the stream it was obvious, by the tracks, that a large herd with a goodly sprinkling of young calves had enjoyed a drink and a bath and moved in the direction we were going very shortly before our arrival. We held a consultation and, as no sound of the beasts was heard, decided to push on cautiously. We had not gone 100 yards when, rounding a bend, some, that were just ahead of us, got our wind and stampeded with a tremendous crashing through the jungle to our left. The carriers shouted loudly, in unison, and this, apparently, annoyed one of the rearguard as it replied with a deep rumbling, like distant thunder, and then threw up a cloud of red dust, presumably by sucking it into its trunk and then blowing it out high above the jungle which concealed it. It was apparent, by the cloud of dust, that the beast was about 30 yards to our left front. A few seconds later it roared angrily and threw up more dust, this time directly ahead of us and, again, rumbled loudly. "I suppose he's saying dust to dust and ashes to ashes but he won't work it on me. I am off" said J. We moved back quietly the way we had come and I asked the local guide what he thought had best be done and he advised our company near the junction of the two streams and trying to get through the next day. We, accordingly, selected a good spot and got the cots put up and the servant busy preparing dinner, while the carriers collected drift wood to light fires all round us. I put my wee ghillie, an Estate *cholera*, aged about 13, on to catching some green grasshoppers as bait for the next day's fishing, put the rod together myself and tried a promising looking pool close by. J refused to join me saying "I won't butt in; go along and enjoy yourself and have a nice heart to heart talk with your filthy friends". I had not been fishing long when I struck a small Carnatic Carp of $\frac{1}{2}$ lb, and a few minutes later, I was into, what proved to be, a 2lb

fish of the same species. This made J change his mind and join me. In an hour we had caught 7 fish, three being over a lb, one of mine, of 2lb, being the best. We were both in good spirits when just before dark we returned to camp for, what we felt, was a well-earned whisky and water before dinner. From the roaring and squealing that occurred at frequent intervals, it was plain that Elephants were scattered throughout the surrounding jungle but the fires, which burnt brightly all round the camp, would, we knew, keep them from passing very close by should they wish to cross the streambed. After an early dinner we were soon asleep though our sleep was interrupted, several times during the night, by roars nearby which, in turn, caused an excited babel of carrier's voices as they replenished the fires round the camp.

After a hot cup of tea, enjoyed while watching a lovely dawn fade to daylight, we got into the water again. As there were miles of water to fish J started at the camp while I walked a mile downstream and fished downstream from there.

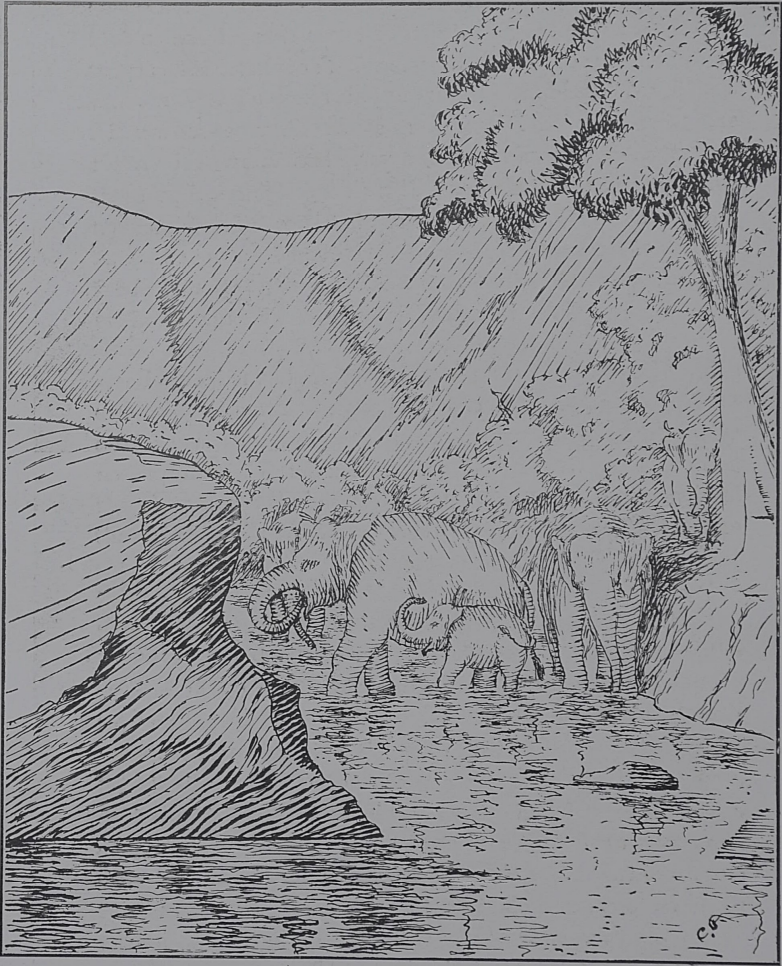
Using green grasshopper on a No. 7 hook the fun was fast and furious, seldom more than quarter of an hour passing without a run, but the size of the fish was very disappointing. On returning to camp at 9 a.m. I had 9 fish, the biggest being 1½ lbs. as against J's 5, with biggest 2 lbs. The local guide, who, with another man, had gone to investigate the chances of our getting through to our destination, returned, while we were at *Chota*, to say that they had met nine elephants, at the same spot as we had on the previous evening, and that they were coming down to the stream. Shortly after distant roaring and squealing showed that they were at the spot where the path crossed the stream and, presumably, enjoying themselves. He suggested that we spend the day there and, in the evening, set fire to a number of dry fallen trees in the hope of scaring the beasts away. This seemed reasonable so we settled down to fish till noon. J wished to stick to the reach he had just fished and as I fancied mine we started off as before. This sport was much the same as before till about 11 when the intervals



J CHANGED HIS MIND AND JOINED ME.



MOVING FROM ELEPHANT CAMP.
(SEE PAGE 26).



THEIR NEUTRAL GREY BLENDED WITH THE SURROUNDINGS
AND BACKGROUND.

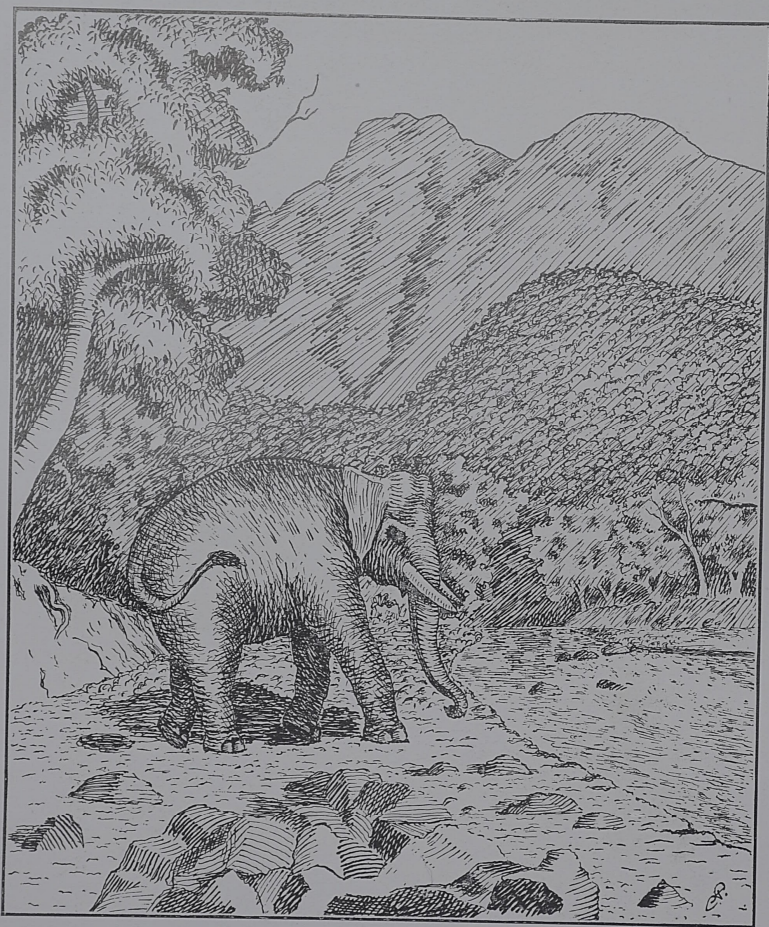
between the rises grew longer. I was fishing rather boredly when my wee ghillie suddenly exclaimed "Goodness me what a lot of Elephant". He pointed to the right of a huge boulder just in front of us and until one of the beasts moved its trunk from the water, to put it into its mouth to convey water to its large interior, I could not see any sign of the beasts. They were about 50 yards away and the wind was blowing from them to us so that they were quite oblivious of our presence. There were 3 cows and one calf and I watched them, interestedly, for some time. What impressed me most about them was the manner in which their neutral grey blended with their surroundings and back ground. So much was this the case that having taken my eye off them, for a few seconds, and then looking at them again, they seemed to have disappeared until an ear was flapped and so made them visible again. The more I studied them the more I was impressed by the way in which they seemed to melt into the background and for its bulk, I am inclined to think, no animal can hope to be more inconspicuous. The wonderful suppleness of all their movements was another thing which struck me.

Thinking J might enjoy watching this bathing party I moved upstream to find him. I met him about a quarter of a mile upstream and heard him telling his ghillie to keep his eyes open and not to—well go to sleep. On seeing me and before I had time to say a word, he said "Can't you keep your blasted gate-crashing friends to yourself instead of allowing them to spoil my fishing and frighten me out of five years growth; "Why what has happened?" I asked him and J replied "I was fishing peacefully, eyes and ears alert to detect sight or sound of the dirty Hathi. I had just put on a fresh bait, prior to casting, and had had a good look round, there was neither a sign nor a sound of an Elephant. Just as I had a second cast I had a premonition that something was wrong and, looking over my left shoulder, I found that a shapeless mass of iniquity, about 14 feet high, which looked as ugly as sin and swished its tail and trunk about positively indecently, had materialised out of thin air.

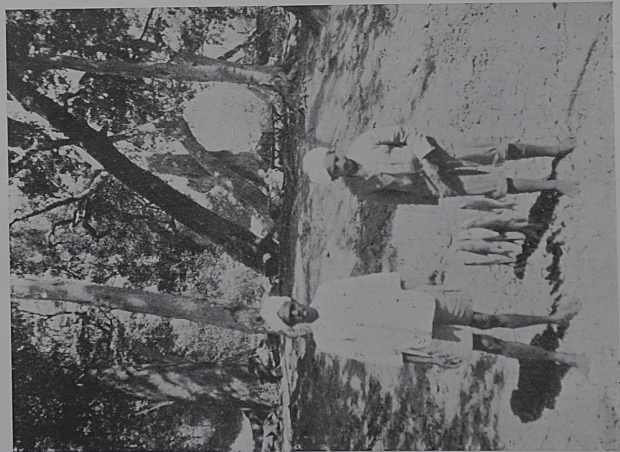
I did my best to imitate the perfect tree stump while the brute hesitated, shifting its weight from one foot to other, and glaring straight at me. His tusks fairly gleamed in the sun and looked beastly effective. Once he seemed about to raise his trunk to his forehead and I found myself saying that's right, do the thing properly, sound the Last Post. After what seemed hours he made up his mind to cross the river. He crossed and disappeared by that mango tree over there and, except that he splashed a bit in the water, made no more sound than the shadow of a cloud does when moving. And after what I have seen, I dare not cast for a long time for fear of embedding a No. 8 hook in the hide of some dirty brute which may have materialised behind my back".

I could sympathise with J and as the heaviest fish caught by either of us, was just over 2 lbs. I was just as anxious as he to move on to the spot we were originally making for. After lunch, and up to 5 P. M. that evening the river was running definitely muddy, owing to a herd that had enjoyed themselves bathing some distance up stream, so we only got about one and a half hours decent fishing and again nothing over 2 lbs. That evening numerous dry, fallen trees were set fire to and these burned brightly throughout the night. It was noticeable that the roaring and squealing was very much less and more distant than on the previous night and, after an early *chota*, men were sent to examine the path for Elephant while J and I fished, close to camp, so as to waste no time. After an hour, during which we had caught a few fish and J one of 2 $\frac{3}{4}$ lbs. and the camp kit packed, the men returned to say that, except for a large solitary Elephant which was in some thick stuff some distance from the path, all was clear. We wasted no time in loading the bulls and coolies and moving off from what J and I now call Elephant camp.

We moved cautiously but, barring the tracks of the previous night, saw no other sign of *Hathi* and it was with great glee that we selected a site for camp under some fine trees, by the river, at the spot we had been originally making for.



THE BRUTE HESITATED, SHIFTING THE WEIGHT FROM ONE FOOT
TO OTHER AND GLARING STRAIGHT AT ME.



PART OF A MORNINGS' CATCH



THERE WAS A FINE POOL JUST ABOVE THE CAMP.

There was a fine pool just above the camp which looked very promising. After lunch we overhauled our tackle and started up stream, at 3 P.M. to fish till dark. One pool, which I discovered, yielded good sport, though, owing to its width and depth, a boat was essential to really work it. Even so, in an hour, I took 5 fish of over 2 lbs. out of it, the biggest being $3\frac{1}{4}$ lbs., which, I think, as far as the Carnatic Carp of this river go, can be considered fair sport. J also had enjoyed himself having caught 4 fish, his best being $3\frac{1}{2}$ lbs.

The improved sport, combined with the complete absence of Elephants, and the fact that the prospects of sport on the morrow were good, made the simple dinner of Bully beef and boiled potatoes, followed by a tasty curry of Carp, seem excellent indeed and, in this pleasant state of content, we got to bed and enjoyed a perfect night's rest.

The next day I got my best bag, the biggest fish of which were $4\frac{1}{4}$, $3\frac{3}{4}$, $3\frac{1}{2}$, $3\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{1}{4}$, 2 and $1\frac{3}{4}$, with several more over a lb. and many under it. J also had good sport though his bag was not as large and his best fish just 3 lbs.

The following morning I decided to devote to exploring and set out at 7 A.M. to walk across country to strike the river some 5 miles above camp and then fish downstream. I found some lovely pools but here again a boat was essential to do them full justice. I, however, managed to get 10 fish, 6 of which were over 2 lbs. and the best $3\frac{1}{2}$. J's bag was much the same but his best was 4 lbs. caught in the same pool which had yielded my $4\frac{1}{4}$ lb. We made the most of this our last day and fished till it was almost dark. I took some photos of some of the beauty spots. It was such a spot as might have inspired R. L. S. to write what he did "you sink into yourself and the birds come round and look at you; and the sun lies warm on your feet and a cool air visits your neck and turns aside your open shirt, if you are not happy you have an evil conscience." We turned into bed feeling that this reach, any way, had afforded some very pleasant sport and hoping we would not experience trouble with Elephant on our march for the hills on the morrow.

Beyond fresh tracks of a very large solitary beast we saw nothing more of the "disgusting brutes which can move as silently as shadows and have to use a stomach pump to drink water" as J described them.

In due course we reached our starting point feeling that the trip had been very enjoyable and looking forward to the next visit to the same reaches.

With regard to the habits of *B. carnaticus* I would refer my readers to the wonderfully accurate description given by Thomas in "*The Rod in India*." One thing we discovered was that the artificial green grasshoppers bought from Messrs. C. Farlow were every bit as deadly as the natural ones. The paint, however, wears rather badly so that after four or five fish have been caught a new one has to be used. I am writing to Farlow pointing this weakness out and suggesting that they try, by the use of cellulose dope or such like, to overcome the defect. As the "*Cutli*" of your streams take green grasshopper freely I would suggest that anglers try a dozen, mounted on No. 6 size hooks, from Messrs. Farlow and I am certain they will not have reason to regret it. I trust they may have better spot than that which I've tried to describe.

A Third Note on the Heterocera of Darjeeling.

The present note deals with material collected for me by Mrs. C. M. Galstaun between the 10th. June and 15th. July 1935. The collection was made entirely at the lights of the Hotel Mount Everest.

Mrs. Galstaun is not an entomologist and, as might be expected, the collection is composed mainly of the larger and more conspicuous species. The number of species caught that were not recorded in my first and second series of notes (9.8—12. 8. 34. and 10.5—9. 6. 35 respectively) is, therefore, remarkable; such species are marked with an asterisk.

The system of nomenclature is the same as that adopted in my two previous notes.

Saturniidae.

- 25* *Loepa katinka*, Westw. One male.

Eupterotidae.

- 52* *Palirisa lineosa*, Wlk. One male.
61* *Ganisa glaucescens*, Wlk. Several males.
63* *Alpha floralis*, Btlr. One male.

Sphingidae.

- 162* *Herse (Protoparce) convolvuli*, L. Two specimens.

Notodontidae.

- 254 *Pseudofentonia (Fentonia) argentifera*, Moore. One male.

Drepanidae.

- 697 *Cyclidia (Euchera) rectificata*, Wlk. Several females.

Lymantriidae.

- 997* *Dasychira complicata*, Wlk. One male.
1063 *Euproctis inconcisa*, Wlk. Several.
1085* *Euproctis plagiata*, Wlk. One female.

Arctiidae.

- 1215 *Estigmene (Alphaea) imbuta*, Wlk., *sikkimensis*, Roths.
Two females.
1261 *Deilemera arctata*, Wlk. One female.
1315 *Agylla (Sidyma) ramelana*, Moore. Two males.
1426 *Asura (Miltchrista) undulosa*, Wlk. One female.
1468 *Miltchrista cuneonotata*, Wlk. One female.

Noctuidae.

- 1829 *Prodenia litura*, F. (*littoralis*, Bsd.) Several.
1831 *Spodopetra mauritia*, Bsd. Several.
1833 *Amyna punctum*, F. (*selenampha*, Guen.) Several.
1904 *Sideridis (Leucania) sinuosa*, Moore Several.
———**Sideridis (L.) nigrilinea*, Leech (*fasciata*, Moore
praeocc.) One male.
2282 *Odontodes aleuca*, Guen. Several, varied.

- 2288 *Stictoptera illucida*, Wlk. Several, varied.
2289 *Stictoptera albodentata*, Moore. Several.
2389 *Hypocala subsatura*, Guen. Several, all typical.
2425* *Polydesma spissa*, Guen. One male.
2433 *Ophiusa melicerte*, Drury. Several.
2499* *Ophiusa maturescens*, Wlk. One male.
2573 *Cauninda (Remigia) undata* F. (*archesia* Cr.) One
male.
2629* *Spirama retorta*, Cr. One female.
2640* *Argadesa (Ophideres) materna*, L. One male.
2909 *Dichromia quadralis*, Wlk. Several.

Geometridæ.

- 3114* *Caberodes dentisignata*, Moore. One female.
3133 *Peratophyga aerata*, Moore. Several.
3422 *Boarmia infixaria*, Wlk. One male.
3485* *Medasina albidaria*, Wlk. One male.
3518 *Abraxas martaria*, Guen. One female.
3654 *Euphyia (Cidaria) silaceata*, Schiff. Several.
3678 *Cidaria viridata*, Moore. Several.
3685 *Larentia albigirata*, Koll. Several.
3718 *Larentia schistacea*, Moore. Several.
3739 *Photoscotia aurantiaria*, Moore. One female.
3836 *Asthena plurilinearia*, Moore. Several.
3883 *Scopula (Craspedia) undulataria*, Moore (*remotata*,
Hmpn. part nec Guen.) Several.
3970 *Timandra correspondens*, Hmpn. One female.
4073 *Comibaena (Geometra) pictipennis*, Btlr. One female.

Pyralidæ.

- 4702 *Talanga seppunctalis*, Moore. Several.
4786 *Zinckenia fascialis*, Cr. Several.
4948 *Botyodes asialis*, Guen. Several.
5056 *Pygospila tyres*, Cr. Several.
5076 *Crocidolomia binotalis*, Zell. Several.
5151 *Pachyzancla licarsisalis*, Wlk. Several.

In addition there are two still unidentified species.

Calcutta, 20. 9. 35.

D. G. SEVASTOPULO, F.R.E.S.

A Note on our Museum.

In a letter, dated 10th February 1934, the Museums Association of Great Britain addressed the High Commissioner for India with regard to a survey of Indian Museums. This Association had, already, completed "Surveys of the Museums in Great Britain, Canada, British Africa, Australia, New Zealand and in the various Colonies and Protectorates" and, therefore, were anxious to complete their survey by including India and Burma.

In their communication they stated "As with our previous Surveys of Museums, our desire to interest one of the larger charitable trusts to undertake a policy of assisting the various museums, whether national, municipal or university, to develop still further on lines that will produce the greatest service to scientists and other research workers, and to the general public. The preliminary to this is a survey of the existing museum situation which involves.

1. A personal visit by a small team of museum experts to such of the museums open to the public in India and Burma.
2. The preparation of a general Directory on these museums on the lines of the Australian and New Zealand Directory enclosed.
3. The preparation of a general qualitative Report on the museums of India and Burma, on the lines of the Australian and New Zealand Report here enclosed."

The cost of this survey was calculated to be about £2,200. The Museums Association were willing to cover a portion of this but would require the expense involved in travelling and publication which was estimated to be slightly less than £2,000 or about Rs. 25,000.

The Government of India was communicated with by the High Commissioner and, through it, all local Governments were asked whether the proposal of the Museums Association would be welcomed by the various authorities of the

museums concerned. The reply being in the affirmative the Museums Association applied to the Carnegie Corporation of New York for financial assistance for this purpose and through its generosity the work was undertaken.

The experts selected to visit India were Mr. H. Hargreaves, a former Director of Archæology in India and Mr. S. F. Markham, M. P., the Empire Secretary of the Association. They visited India this last winter leaving, we believe, in February.

Last January the "Statesman" published an interview given by Mr. Markham and a list of certain museums was given for which he had little but praise but the rest, visited up to then, were very disappointing indeed "especially when judged by European and North American standards". He found that many "irreplaceable specimens are disappearing before our very eyes" and this was largely due to the lack of proper Curators and sometimes the care of some of these museums was only a part time job. Manuscripts and tapestries came in for the greater part of his strictures but the Natural History Sections were not left scathless and came in for some straight and strong words too on account of the age and poor mounting of the specimens, an inadequate representation of the fauna displayed and the unsuitable cases in which the specimens are exhibited.

Mr. Markham visited our Museum on the 9th January of this year. Unfortunately notice was received a day too late to enable us to show him round. We hurried up on the 10th but only to find that he had left on the previous day. However we had the pleasure, and privilege, of two interviews with him in Calcutta on the eve of his departure for Madras. We had most interesting and profitable talks and he was sufficiently impressed with our large descriptive labels and the coloured illustrations in our Journal to ask if he might have copies of the former and one of the originals of the latter to exhibit at one of the meetings of the Association. We have complied with his request. He also took a copy of our Journal with him.

We told him that we were sure our members would be most grateful if he would write a short critical note on our museum for publication; a wish which he was kind enough to grant. We intended publishing this note along with a History of the Museum which we have compiled but as that will not be published till next year we thought our members would like to know what a Museum expert thinks of this small Museum which they so generously support. We understand that copies of the Report on Indian Museums will be sent to the Government of India. Below is Mr. Markhams "Critical Assessment".

A Critical Assessment of the Museum.

This Museum has seen many vicissitudes but its Golden Era began in 1922 when the then Deputy Commissioner, Mr. J. T. Donovan outlined, in a statesmanlike memorandum, the requirements of the Museum. Since then the three essential factors he indicated a good Curator, an energetic Society and adequate Government and local support have combined to make this one of the best of small Museums I have seen. Unfortunately Government reduced their original grants during the depression and the grants have not been fully restored. It is hoped that this will be done as soon as possible as otherwise the Museum must inevitably suffer.

I was particularly impressed by the general brightness of the Museum, its cleanliness, good labelling and well made cases, being a material factor in this. But I was even more impressed by the fact that the collections here really do represent the natural history of the Darjeeling area, excepting, of course, the larger mammals. The bird collection is particularly fine and I wish to congratulate the Society on the habitat cases which are as near perfection as I have seen for their cost. Other cases too are good and the small mammals, generally, are presented in lively lifelike attitudes.

The only weak spot in the museum is the exhibited insect collections. This requires replacement of many of the

specimens and an indication of the habits etc., of the commoner species. A small leaflet for visitors would be appreciated.

During the past eight years I have seen over 2,000 Museums in all parts of the British Empire, but rarely have I seen a small museum that gave me an impression of so much keenness.

Sd/- S. F. MARKHAM,
Empire Secretary,
The Museum Association.

Darjeeling Natural History Society.

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