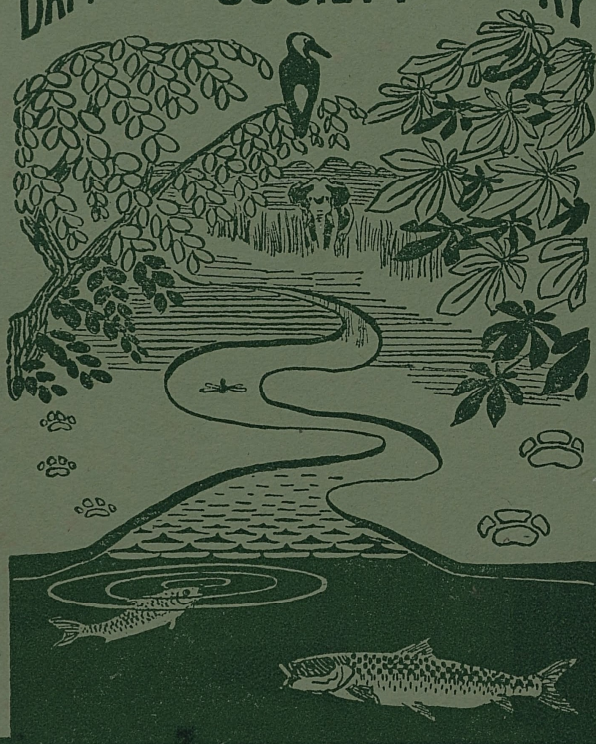


THE JOURNAL OF THE  
DARJEELING NATURAL HISTORY  
SOCIETY



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*Issued June 1935.*

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

## DARJEELING NATURAL HISTORY SOCIETY.

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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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*CISSA CHINENSIS CHINENSIS* (GODDAERT.)  
The Indian Green Magpie  
from  
a specimen collected in the Kumani Forest on 19/1/1934  
The shrub represented is *Tabernaemontana coronaria*  
2/5 Nat. size.

**JOURNAL**  
OF THE  
**DARJEELING NATURAL HISTORY SOCIETY.**

—  
**Vol. X.—No. 1.**  
—

The Green Magpie.

*Cissa chinensis chinensis* (Bodd.).

BY

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

*With additional notes*

BY

Col. H. S. WOOD, I.M.S.

*(With a Coloured Plate).*

The birds of this genus are very beautiful. They differ from *Urocissa*, the Blue Magpies, in having very much shorter tails and wattled eyelids and from other Magpies in their red bills and legs. The wattles of the eyelids are most noticeable in life but are also so in fresh skins.

There are a number of species and subspecies of the genus *Cissa*, French Indo-China being especially favoured as Messieurs Jean Delacour and Jabouille describe no less than six from that country, our bird being one of them. In India there is only one, the typical form, and Ceylon can boast of one of its own.

The following notes, except these by Col. Wood have, mostly, appeared in our *Journal Vol. VI. No. 3* but we reprint them to make this article more complete.

*Field identification*:—A beautiful, rather stoutly built, yellowish-green Magpie, with a black band through the eye

to the nape, and red bill, legs and rims to the eyelids. It keeps principally to forest below 5,500 feet, where its loud, harsh, discordant cry generally reveals its presence. Often seen in the company of Laughing—Thrushes, etc.

There is no necessity to describe the bird as the Coloured Plate shows the colours sufficiently well.

The iris in the adult is blood-red; "pale blue-brown in young birds" (*Stuart Baker*), yellow (*Delacour*).

The plumage in ill health and where skins are at all exposed to light changes. The yellow pigment is evanescent and leaves the plumage a cœrulean blue; the red on the wings also becomes duller. We have been able to keep cabinet specimens for some time, in their original colour, by wrapping them in red-coloured papers, one specimen which we have had for five years is still mostly green; but it varies, in two specimens collected in January 1934 one is still in perfect condition (end May 1935) and the other has blue patches on the back; in a ten years old specimen the forehead and throat still show signs of the yellow pigment but the wings have changed to olive-yellow. We are often asked by visitors, who see a blue bird exhibited, why it is called a green Magpie when it is blue? So have had one of these coloured plates framed and placed near the specimens.

*Distribution* :—*In our Area* :—From plains level in the Duars up to about 5,500 ft. in the Hills. It is resident wherever found.

*Outside our Area* :—Himalayas from Jamna Valley to the extreme East of Assam, North and South of the Brahmaputra, Eastern Bengal, Burma, Shan States and Northern Siam" (*Stuart Baker*). In French Indo-China *Delacour* and *Jabouille* say it is found in the whole of Tonkin, the North of Annam and in Laos.

*Habits etc* :—This beautiful Magpie inhabits, principally, thick shady forest but is also met with in bamboo and deciduous forest. Some, at any rate, are very local in their

habits. There is one bend on the road, between the Mangpu Cinchona Plantation and Sureil where one can nearly always hear, if not see, one of these birds. We have twice seen them in a small patch of trees in the compound of a tea garden in the Duars, quite a long distance from the forest, but this is unusual. They are often found in the company of Laughing—Thrushes and other birds, in hunting parties, often only one Magpie being with the flock. Formerly O'Donel found these Magpies in quite large flocks but not of recent years. We have only noticed them singly or in pairs. Their notes are very harsh but they also often mimic other birds. Stevens syllabializes their notes as a quickly repeated *peep, peep*. They are shy birds, and, although so brightly coloured, are not very noticeable in the heavy forest but their note generally gives them away. In the more open, or deciduous forest, they are, of course, more easily seen.

They feed both on trees and on the ground and their food consists of insects, especially the larger ones such as grass-hoppers, mantids, beetles etc., also lizards, young birds, etc., A specimen we had, in captivity, killed, and ate, a full grown Hoopoe. In captivity they become very tame and have lived up to 6 years in the Calcutta Zoo.

They breed principally from April to June making a cup-shaped nest of twigs, leaves, grass, etc., lined with roots and placed in a clump of bamboos, bush, or sapling. According to Stuart Baker, in Assam "most nests were placed in small trees or saplings, sometimes in high bushes, occasionally in tangles of raspberry vines or other creepers or very rarely, in bigger trees. Few nests are found over 20 feet from the ground, while often they may be within five or six, I have seen a few nests with eggs in the end of April and, on the other hand, have taken fresh eggs on the 23rd July and 6th August" He also says "A rather favourite haunt was some deep rocky ravine running through a copse surrounded by open grass land but, in such cases, the jungle was always thick and the cover good." They also, according to the same observer, selected trees near streams or pools where the sun could penetrate.

They lay from 4 to 6 eggs which vary much in appearance. Stuart Baker who had a huge series says they "vary from white faintly and sparsely speckled with pale reddish to buffy-brown densely freckled with reddish-brown all over, the freckles coalescing to form rings or caps at the larger end. Between these extremes, which are rare, there is every intermediate phase of colour." He gives the average of 200 eggs as  $30.2 \times 22.9$  m.m.

### Additional Note

BY

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

This bird was very numerous in the Sylhet district especially where it borders on the Tipperah Hills. It is one of the favourite cage birds of the Sylhetis, kept, I think, for the beauty of its plumage, as one which I kept made no song except a chattering.

It is a shy bird confining itself to heavy jungle, Ringal seems to be a favourite type. They are savage and blood-thirsty and feed on lizards, frogs and the young and eggs of birds. When sitting up over kills I have seen these birds descend on to the kill, tear away great morsels of flesh and gulp them down. When I had mine in captivity I, unfortunately, placed my Shama's cage too close to one of these birds and found the Shama with one of its legs almost torn away and had to amputate it. The most extraordinary thing I have noticed about the Green Magpie is its behaviour with a peach worm. After the worm has coiled up, as it does on touching it, the Magpie takes it in its bill and methodically preens its wings with it; the Peach worms' legs acting as a comb. The birds did this with every Peach worm I gave them and a rustling noise was produced during the operation showing how vigorously the bird used it. It is well known that this bird although blue, at first, in captivity turns green. This is interesting as I have never seen a green wild one. (We cannot understand this as the wild birds which we have seen, a very large number, have been *green* with *sometimes*

a few blue patches on them. Birds which are not in the best of health are said to become blue but we, certainly, consider green to be the normal colour. One which we had in captivity was that colour. *Editor*).

Most of this species which I saw in Sylhet, at the foot of the Tipperah Hills, appeared to me blue, whereas those I saw in the Cachar Hills were green. In Sylhet I found them in dense Ringal jungle interspersed with a few forest trees; whereas in the North Cachar Hills I saw them in forest. These Sylhet jungles were damp and dark. Would sunlight have any effect on the colour? The pancy of it producing the blue, e.g. in those kept in captivity, where they do not get enough sun the green turning to blue. Or is it some particular food which prolongs the green? I do not know. (I do not think these can be the correct reasons as why is it that other green birds seem to retain their green colour? Perhaps Dr. Law, who has vast experience in keeping birds of green and other colours, may have some suggestions to make. So far as we are aware it is only in the Green Magpie that this extreme difference in colour is found. Certainly no other of our cabinet or mounted birds of this colour have changed like this. We cannot understand it. *Editor*.) It is a fact that a sea-green sea seen through foliage appears blue, so, perhaps, the bird when seen through thick foliage appears blue. (This cannot be the reason as that does not show why, in cabinet specimens, the green turns blue. *Editor*.) These are questions still to be solved. I have also noted that when the green bird turns blue, the red colouration of the bill also gets dimmer.

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### Some Observations on the Tiger.

By

COLONEL H. S. WOOD, I.M.S.

(With a half-tone plate.)

The chief purpose of this article is to raise a discussion as to which of the senses of a Tiger is most acute. There is a diversity of opinion amongst naturalists and sportsmen about this. Some say that sight comes first, others smell

and others hearing. After a long experience with the Tiger, and his ways, I have come to the conclusion that hearing comes first. Its upright cup-shaped ear is admirably adapted for receiving sound vibrations; the tympanic *bullae*, in the dried skull, which are connected with the internal ear, are very large and well developed when compared with those of other animals. It is well known to shikaris that the faintest sound made, in a machan when sitting up, will keep a Tiger from coming to the hill. The Tiger, provided with his soft pads and moving silently in the jungle, is aware of the faintest sound, be it the crushing of a dry leaf or the crack of a broken twig.

The next sense, in order of merit, is sight. The iridescent *tapetum*, found in the interior of the eye in most carnivorous animals and nocturnal birds, enables the Tiger to have wonderful night sight. In fact he can see by night just as well as most animals can in daylight. In daylight, except when he is concealed under deep shadow, the eye sight is decidedly poor because the pupils are very much contracted and very few light rays reach the retina.

The sense of smell comes last, although, from anatomical investigation of the parts concerned, it seems that this sense is highly developed. The olfactory nerves are large and the ethmoidal sinuses of the nasal cavities, over the mucous membrane of which the olfactory nerves are distributed, are large and well developed. Some naturalists have suggested that, as the Tiger is accustomed to delve his nose into almost putrefying corpses, this sense has been greatly annulled. This is rather a far-fetched theory.

I believe that, in hunting his prey, the Tiger depends on all three senses. I have seen one, with his nose to the ground, following the track along which my live bait was conducted from a village to my *machan*. I had an uninterrupted view from about 200 yards, as the bait was tethered close to a long, broad Government Road. Then again I know of a tree, overhanging an extensive *bheel*, which sloped at an angle, which a Tiger used to climb to get a good view and spot any deer. I found this out by discovering dry clay

and Tigers' hairs high up in the fork of the tree. The Man-eater of Kharupatia ghat, in the Tezpur district, used to ascend a sloping *simul* tree to watch for a solitary milkman proceeding to the ghat to sell his milk.

Most animals trust to the sense of smell in following up their companions when separated. Observe a cow Bison or Buffalo. They always hold the nose close to the ground to give them the right direction. I have, also, observed this in the Porcupine. The beaters drove the female out of the jungle, she crossed a partly dried up *bheel*, and came up close to a hollow where I was concealed. I shot her and about ten minutes later the male emerged and followed the exact track of its mate, he was shot within a foot of his companion much to the delight of the beaters who would have roast "pork" for supper.

The whiskers of a Tiger give him an important fourth sense, that of feeling. No doubt they are for ornament too as a Tiger's head *without* whiskers is a travesty of beauty and I should same the same for a man without a moustache (Query! *Editor.*). A hirsute appendage on the upper lip gives character and manliness to the face; so much so that, in certain crack regiments, the edict has gone forth that all ranks should cultivate moustaches. In former days, in the Army, shaving of the moustache was looked upon as a crime and a subaltern of my regiment was asked to give his reasons, in writing, as to why he had shaved his moustache !! He went to a fancy dress ball as a baby and could hardly appear, in that character, with a profuse growth on his upper lip !!! After this digression let us turn to the Tiger's whiskers. Dissection reveals that each whisker is supplied with a well developed nerve. With such a delicate sensory apparatus the Tiger is apprised of any objects in his way, thorns, twigs of bushes etc., when moving through the jungles.

The way in which a Tiger kills is a matter for discussion and on this point there is much divergence of opinion, I will not enter into all the theories but, after examining and making post-mortems on many kills. I have come to the

conclusion that the Tiger's chief objective is to bite into the spinal chord either in the cervical, dorsal or lumbar regions, so as to paralyse his victim. If the neck is attacked the whole muscular structure is pulled away and one can put one's two fists into the wound. In the dorsal and lumbar regions where the spinal chord is more exposed, and the muscular structures lie alongside, no such hollow can be produced and one will only see the deep wounds made by the canine teeth. In larger animals such as buffalo, horses etc. the animal is hamstrung and is then at the mercy of his enemy. In some cases the animal is emasculated, as related in a former article of the Journal. In chasing the victim and making ill-timed springs the tuft of the tail is bitten through and I have often found this in following up the track of a tragedy. In the case of a solitary Bison there was no vestige of a tail, it had been pulled out by the root. The well marked scars on the beast's rump revealed that it was not accidental or congenital, but the work of a Tiger.

The Tiger always drags a kill backwards, here muscular strength is aided by the weight of the animal, but I have seen a Tiger drag a full grown bullock up a gradient of 45°, where, of course, weight would not count. I have also seen a Tiger drag a buffalo, on flat ground, for a distance 150 yards or so. Then a Tiger will snatch a "kill", in the twinkling of an eye, just as a cat carries away a mouse. From these facts, it can be concluded, that the strength of a Tiger is enormous, especially of the jaws. To prove that a Tiger drags his "kill" backwards one has only to observe the direction of the paws in the ground: these will always point in the direction of the dragged animal, the Tiger digging his claws into the ground to get a purchase.

There is discussion amongst sportsmen as to whether the Tiger or the Lion is the finer and stronger animal. The Lion has been styled the King of Beasts but I think the palm must go to the Tiger. One cannot judge from Tigers in a Zoo what really magnificent animals they are; they are generally podgy and, from confinement, the entire muscles have undergone degeneration. To appreciate his beauty, symmetry of form and action one must see him in his natural



THE TIGER ON THE PROWL.

*Photo by T. V. Dent.*

haunts. I think that if a Tiger and Lion came to grips the former would always be the victor. The Lion never has the perfect coat which one sees in a Tiger. Tigers have a coat on them with the sheen of that of a race horse.

Why and when do Tigers roar? This is a disputed point. One cannot imagine that a Tiger roars when after his prey as this would upset the whole jungle and put his quarry on the *qui vive*. My opinion is that they roar only when mating, or when a Tiger and Tigress miss one another. I have heard a Tiger keep up a constant roar at dusk for half an hour until he reached the spot where I had shot his mate on the previous night. In another case where the Tiger was shot the Tigress tracked the corpse to our camp and kept roaring, at intervals, throughout the night, causing a panic amongst our servants and coolies. Sometimes a mewling sound is produced, this is more often the case when the cubs get separated from the mother. I do not believe that the Tiger can imitate the call of other jungle animals, Barking deer, Sambhur etc. The Tiger's roar, when heard in the distance, sounds very like that produced by a Burmese circular gong.

The charge of a Tiger may be silent or else he springs upon his assailant with a roar. They do not often speak when hit like the Panther but I have seen such instances; neither do they bite at the site of injury as the latter animal does.

People, often, imagine that a Tiger is always found in impenetrable jungle but this is not so. Owing to the delicateness and softness of his pads he avoids very thick and thorny jungle. When on the prowl he generally selects paths made by other animals and unfrequented Government roads; village paths are also a favourite route.

When he lies up, after a meal, he generally selects a bush, short, soft grass or sparse jungle on the bank of some stream; where there are caves he will enter them but I have never found them do so in Assam.

The Tiger has a curious habit of sharpening his claws, almost daily, against a tree, preferably a *simul* which has a

soft bark, the red sap of which, the natives say, he likes to see because it is the colour of blood. This is the reason why when maned by a Tiger septecaemia is less apt to follow than in the case of mauls by a Panther. If one protrudes the claws of the latter animal one can see, at their base, the accumulation of septic stuff loaded with germs. The Panther cleans his claws by scraping them against the ground like a dog does after the purpose of nature has been satisfied.

The presence of these marks on trees often gives one valuable information of the whereabouts and size of a Tiger. If the marks are quite fresh, ten to one, the Tiger will return to that tree on the following night. I, once, shot a Tiger in this way but most unfortunately he got into heavy jungle and I lost him.

The behaviour of vultures, peafowl, monkeys and jungle fowl often betray the presence of a Tiger.

The Tiger starts eating at the posterior end of his victim, if a cow, the region of the udder is first attacked. His great objective is to get to the liver, heart and lungs. He, generally, has nothing to do with the intestines and never the paunch. This is the favourite titbit of the Wild Boar and, on two occasions, whilst following up a dragged kill, I have come across Wild Boar thoroughly enjoying the partly digested food of the paunch etc. A Tiger prefers fresh meat and, unless he is hungry, will not devour a corpse that is distinctly high. If he has been fired at, from a *machan*, he gets very cunning. He will have a meal and never return a second time.

There are other interesting points about Tigers but I have already written at length. For those who are interested may I refer than to my recent publication "Shikar Memories" published by Messrs. Witherby and Sons. 326 Holborn, London. In this work I have stated, fully what I know of the Tiger after an experience of 36 years; the cause of their turning man-eaters, their food and many thrilling encounters with this splendid beast.

The Editor has kindly offered to illustrate this article with a flash-light photograph of a Tiger, which will greatly enhance its value for which I thank him.

[This excellent photograph was taken by Mr. T. V. Dent of the Imperial Forest Service, who most kindly has allowed us to reproduce it.—*Editor*].

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**Broadcast by E. O. Shebbeare, Conservator  
of Forests, Bengal.**

Some of you may have read in the papers the accounts of a Conference held in Delhi at the end of last January about the Preservation of Wild life. It may interest you to hear something more about it—what it was all about and what suggestions were made there.

The idea of preserving wild birds and animals is not, of course, an altogether new one, but it is one that has come into the limelight only recently. I must not take it for granted that everybody who is listening to me is convinced of the necessity for preserving wild life at all, and I had better begin by telling you the objects of the numerous wild life preservation societies that have sprung up all over the world.

The best way for me to do this is to quote the objects laid down by one of these societies—the one that aims at preserving wild life throughout the British Empire. They are as follows :—

1. The main object of the Society is to ensure that no more species of wild animals shall be exterminated within the British Empire.
2. It considers that this can be best effected by the creation off a strong public opinion on the subject both at home and abroad, by furthering the formation of National Parks and permanent sanctuaries and by enforcing suitable Game Laws and Regulations.
3. It believes that practical steps can be taken by which every species of wild life can be

preserved without hampering in the slightest the economic development and civilization of our territories.

4. It is no part of the aim of the Society to preserve animal life to the detriment of human industry or the natural development of mankind; nor does it offer any opposition to the fair and legitimate pursuit of sport.

This last sentence shows that the society like most reasonable people, does not disapprove of fair sport. Sport is generally the foundation on which a love of wild life is built and, what is more, it is mainly sport on which we shall have to depend for the sinews of war in our struggle against the wanton destruction of wild animals.

Mankind has waged war on wild animals from the very earliest times—as soon as he was strong enough or skilful enough to do so. At first, as a hunter, he killed whatever would serve him for food as well as the beasts of prey that would otherwise have killed *him*. Later, when he had discovered the secrets of agriculture and the domestication of animals, he became a farmer and stock-breeder and, no doubt, killed the grazing animals that ate his crops as well as the carnivorous ones that ate his cattle. Even at this stage, although he no longer depended on wild animals for his food, he seems to have continued to kill anything that he could by way of sport and as a change of diet.

Naturally, with a history like that behind us, we are all of us born with the hunting instinct more or less strongly developed and this, to my mind, is all to the good. It is all a part of the love of nature, for you cannot help noticing that those who love nature most and are the keenest on its preservation, are the very ones in whom this sporting instinct is most strongly developed—those, in fact, who, in their youth first displayed their love of wild life by their energy in trying to kill it.

It was all very well for man to kill whatever he could, indiscriminately, in his early, savage days when he was poorly armed and engaged in a constant struggle against

wild nature. As his armoury improved, particularly when firearms were invented, the odds became heavier and heavier against the animals and man had to begin to handicap himself by means of game laws and close seasons. All the modern inventions, the motor-car and aeroplane, the spot-light and electric torch, demand further restrictions to preserve the balance between the number of animals killed and the natural increase in the stock of game.

No sportsman objects to such reasonable restrictions made in the interest of the game, though, of course, opinions may differ as to what is reasonable and what is not. The true sportsman is more interested in the increase of game in his own neighbourhood than in a heavy individual bag. It is for this reason that I believe that the Shooting and Fishing Clubs of Northern Bengal will become the backbone of any scheme for the preservation of wild life in Bengal. These clubs, since they have leased the fishing and shooting in the Reserved Forests, have imposed restrictions on themselves in the interests of the game.

Of course the Shooting and Fishing Clubs are really only concerned with the protection of those birds, beasts and fishes that are considered game, though in practice they extend their protection to all wild things. Wild Life Preservation Societies are not only interested in game but in all kinds of wild life as well as wild vegetation and scenery. They also interest themselves in the foundation of what are known as National Wild Life Parks.

In all parts of the World nations are making sanctuaries to preserve their wild animals and natural vegetation which they now regard as a national heritage of their territory, to be held in trust for future generations. In these National Parks nature is left to herself and sightseers, besides enjoying the scenery, can watch the birds and animals in their natural surroundings.

In such places wild animals lose all fear of mankind in an unbelievably short time. Visitors can feed wild black bears from their motor-cars in the National Parks of North America and watch lions at close quarters and without

danger in the Kruger National Park in South Africa. One of the most thrilling sights in the world is to see the enormous herds of antelope and zebra, with occasional groups of giraffe, out of the train window as you steam across the Athi Plains in East Africa and to walk almost among them, zebra, wildebeeste, kongoni and gazelles, from the golf-course at Nairobi. There are sanctuaries nearer home in Burma and Assam and a newly established one in the United Provinces. One is almost tempted to hope that it may one day be possible to feed our Bengal rhinoceros on carrots !

More and more people every year are in a position to spend their holidays in sightseeing and, with the improved transport of the future, Wild Life Parks will become the great rival of mountain scenery and ancient monuments as an attraction for sight-seers. It will not be long before the countries that possess such attractions will reckon themselves lucky.

Another sign of the times is the way in which the sportsman traveller who, ten years ago was mainly a collector of trophies, has given up the rifle for the camera—an example set by the Prince of Wales. Every year more books on wild animals and birds are written by men who have watched them in their native haunts, and these are illustrated with the most beautiful and intimate photographs of them in a "home setting". "Movie" and "still" photography is becoming yearly easier for the amateur particularly that most fascinating hobby, flashlight traps. A camera is set up in the jungle alongside a game-path or over a tiger's kill and the animal is made to take its own portrait.

I seem to have drifted away from what I set out to tell you about—the Wild Life Conference at Delhi. The idea of holding this Conference originated with a small group of enthusiasts—sportsmen and nature-lovers—who were distressed to see the wholesale destruction of wild birds and animals that is going on in almost every part of India and at a steadily increasing rate. These men got in touch with as many others in all parts of India as they could and proposed a meeting to see what could be done. The proposal came to the ears of the Government of India who, realizing at once

the importance of the matter, not only offered its fullest support but undertook the whole organization of the Conference. About sixty representatives official and unofficial representing Provinces and Indian States attended the Conference, which lasted for three days.

The Preservation of Wild Life will be a matter for Provinces and States under the new Constitution and not for the Central Government which will pass on the resolutions with their recommendations. It will than be up to Local Governments to show what they can do to remedy the present deplorable state of affairs, merely a question of making laws to control the destruction of wild birds and animals, or of laying out sanctuaries to protect them. This is an important part of the work but it can never be effective unless it has the backing of public opinion. The formation of local wild life societies and the appointment of Honorary Game Wardens from among good sportsmen of influence are two good lines to work on.

Fortunately the whole attitude of mankind towards Wild Life has changed and is changing rapidly with the spread of education. The extent to which the British school-boy has changed within one generation was well put by one of the speakers at the Conference. Whereas, in his own schooldays, his interest in natural history had consisted mainly in birds-nesting, he found, when he went on leave that his son, armed with a pair of field glasses, really studied the habits of wild birds and animals. He thought that this was partly due to the excellent, and very cheap, natural-history books that boys in England can now get, and partly to the lectures on natural history with lantern slides that they are given at school.

The Conference recommended the drawing up of an all India Convention for the preservation of wild life, on the lines of the African Convention of 1933. This would be a sort of agreement between the various States and Provinces to co-operate on certain definite lines. It also recommended that, if the proposed Asiatic Conference is held, India should be represented.

The most important recommendation was made that all Provinces and States should enact legislation for the preservation of the wild life in their territories. The old Wild Birds and Animals Preservation Act of 1912 has been practically a dead letter because offences under it are noncognizable. A policeman who finds a poacher selling deer's meat in the close season can neither arrest the man nor seize the meat. All that he can do is to lodge a complaint with the nearest magistrate who can issue a summons. If the poacher fails to obey the summons the magistrate can order his arrest but, by that time, the meat will have been sold and eaten and the poacher will have departed for his home—often outside British territory.

One of the most definite conclusions arrived at by the Conference was that the most effective way to stop the indiscriminate slaughter of wild animals is to prohibit, or at any rate regulate, the sale. All really serious destruction of wild life is brought about by those who kill for profit. Besides this the depredations of the most blood-thirsty poacher who kills for his own larder or to give to his friends is a minor evil. The danger to our Bengal rhinoceros was the value of his horn. The scarcity of sambhur is due to the sale of meat. Apart from these larger animals the netting of duck, quail and snipe for supply alive, under conditions involving the most revolting cruelty, to large hotels and even to private houses is another example of the evil of commercialized shikar. It is safe to say that, if the trade in game could be checked, the effect would be apparent in the countryside to the most casual observer within a year or two. The Conference recommended that, if the sale of wild animals could not be prohibited entirely, it should be closely regulated. This proviso was not inserted out of any sympathy with the hotel proprietor who may wish to include game on his menu, still less to placate the gourmet who likes eating snipe but wishes to be spared the exertion of shooting them. It was inserted because it might be necessary to provide for certain backward tribes in wildest parts of the country who might be entirely subsistent on the capture and sale of some wild animal.



EXPECTATION:  
WINTER FISHING.



REELING IN A HOOKED FISH.



REALIZATION



NETTING THE CATCH.

The Delhi Conference will have done some good if it has opened our eyes to what is happening to some of our wild birds and beasts and shown us what ought to be done to protect them. But the Conference was only in a position to recommend; it remains for local governments to put the recommendations into operation, with the help of public opinion which will surely be behind them in any sane efforts to protect our wild life. Before an Asiatic Conference if called together I hope that we shall be in position to show that India, and particularly Bengal, has done its share of the task.

### **Continental Fishing.**

BY

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

#### **PART II.**

*(With four Half-tone Plates.)*

*(Continued from Vol. IX, page 106.)*

The Rainbow Trout runs up to 3 lbs., but 8 and 9 pounders have been caught. These heavy fish are rare as they move down to deeper waters and larger rivers, and the authorities net them in the off season as they destroy such a number of their smaller brethren.

The season starts on the 1st April and ends at the end of September. If one wants large fish the later months are best, as the fish move up to spawn in the higher reaches and tributary streams. April is also a good month. I, usually visit Wildbad in June, July and August and have had all the sport I wanted. The Enz is subject to floods and the time for good sport is after the subsidence of the floods when the water has somewhat cleared. The Enz clears up very rapidly. One must be on the look out for snags and be prepared for one's cast to be fouled. The best hours for fishing are from 8 A.M. to mid-day and then from 3 to 7 P.M. The fish are generally on the rise in the evening and, at times, one gets a fish at every cast, provided one keeps well

away from the bank. I don't think the weather makes any difference. I have had good sport on a bright sunny day, when rain has been falling and on cloudy days; but I prefer a cloudy, over cast sky with bursts of sunshine. It is no use fishing when thunder is about or during a cold east wind. In July and August the horse-flies and midges are a nuisance. The horse flies are twice the size of the Indian ones and very voracious. One day, wearing shorts, I had 23 bites which I did not notice until I got home, hence it is always advisable to carry a small bottle of antily preparation in one's bag. Messrs. Farlow, of the Haymarket, supply a very effective and pleasant preparation.

I have dissected a number of fish, caught in the Enz., and found the stomachs of all filled with small calcareous tubes, probably the home of some aquatic larva such as the caddis fly. When one gets these tubes from the stones they contain a yellowish caterpillar looking insect. I have seen the same larva in Italy where the grub is used for catching trout in the mountain streams.

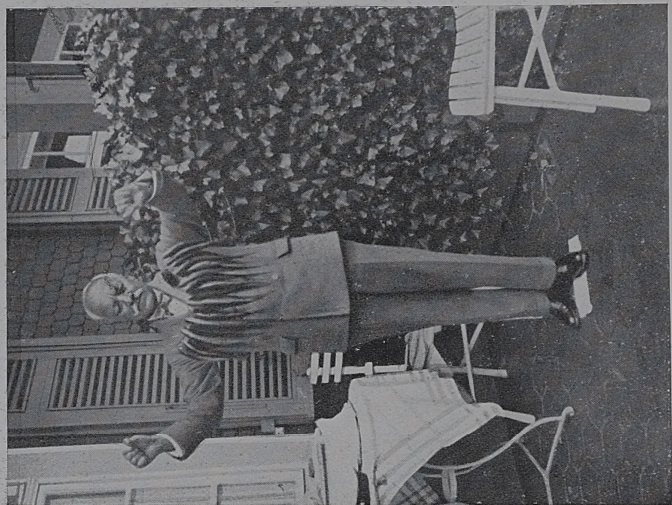
On these occasions a curious thing has occurred while I was fishing. I have been reeling in the line with a fish on when a stoat has come out, within a few feet of me, and, after discovering what I was, by standing up on its hind legs, has darted into the bushes like a flash. I suppose the animal mistook the screech of the reel for the cry of some animal or bird in distress, I have called up a stoat by blowing on a blade of grass held between one's two thumbs, an old Indian shikari's dodge for calling up game, which I have used effectively in my younger days.

The Rainbow Trout give splendid sport. It is the joy of the fisherman to hear the screech of the reel, the dash of the fish up and down stream and leaps in the air, coming down with a slap on the surface of the water. It is well to keep your fish away from the sides, the fish when hooked always makes for the overhanging bank and, if they reach it, one is sure to be snagged; I lost several good fish in this way. When the Rainbow Trout leaps do not forget to lower the point of the rod.

What a lovely fish the Rainbow Trout is, looking, for all the world, as if made of mother-of-pearl. In the male fish this appearance is very marked about the head and gill plates. In some parts of the river, where the soil is yellow, due to iron, the lateral line of the fish assumes a deep orange hue.

Once, after a flood, I hooked a large Rainbow Trout which gave 5 or 6 leaps and then made for a heap of sticks which blocked the mouth of a tributary stream. He went right under, my rod almost bending in two. I was powerless to recover him as all my cast was under the sticks. Fortunately some hay-makers came to my rescue and the Trout was hauled out just like a rabbit out of a hole. I was, fortunately, using a fairly thick cast and, although much frayed, it held. It was a very strong fish and weighed  $2\frac{3}{4}$  lbs.

A tip worth remembering is when you get a small Rainbow on do not be in a hurry to net him as his rushes will probably attract other larger fish to the flies. Many a time I have had a Rainbow on each of my three flies; this happened once four times in the one day. It is a difficult job landing them all single handed but see which is the largest and net him. Should you have two big ones on, go for the middle one first or the uppermost. Where there is a line of bushes, with trees here and there, making the usual casts impossible, a good plan is to force a passage through the bushes, regardless of nettles and brambles, make a side cast and run your line out for 40, 50 or 60 yards, you are sure to get a fish, either when letting out your line or reeling in; the difficulty is to keep your fish away from the bank. Never despair, even under the most trying circumstances. I have had to leave my rod when the cast got fouled and rush down stream to find the cast wound round a snag but the fish still there and promptly netted. My biggest Rainbow and Brown Trout have been obtained in this way as the fish cannot see one and the current carries the flies down just to the places where the fish are lying with their heads upstream.



A DAY'S CATCH.  
UPPER ENZ.



CASTING.  
CALMBACH WEHR, RIVER ENZ.



THE BEST OF A DAY'S CATCH.



A 3LB. RAINBOW TROUT.

some time, to a severe chill. One will expect to get many more Brown Trout than Rainbow. The so-called *Schwarz Forellen* is a shy fellow lying in the dark shade under overhanging banks. I do not think he is a distinct variety but that he gets his dark colour from his sombre surroundings. One does not usually catch him, as casting is difficult, but by keeping concealed and dropping a fly over him one, usually, meets with success. When landed he is a uniform greenish-black with very large bright rosette-shaped spots, but in a few hours he becomes pale or piebald, all the pigment having disappeared. His head is long. He is a very strong fish and plays well, sometimes jumping out of the water like a Rainbow Trout. He is considered, by the Germans, the best Trout for the table.

You should always carry your license with you as it is not unusual to have your bag examined, and your license scrutinized, by the watchers three or four times a day.

The hotel where I was staying is the Sommerberg. This hotel is situated high up amidst beautiful pine forests and an electric railway takes you down and up for the modest sum of 14 marks, available for a month. The hotel is of the first order, food excellent and the staff most obliging. The pension terms are 10 to 11 marks a day and a reduction is made for long stay. Herr Batzner is the proprietor. I would not advise anyone to stay in the town as it can be hot and very oppressive and on Sundays the place is pandemonium. Trains and *char à bancs* take one to the various villages situated along the fishing rights. Baden Baden is not very far away and all the roads are kept in beautiful order.

I forgot to mention that my biggest catch, for one day, was 42 Trout and my largest Trout, a Rainbow, caught in 1931 was 3 lbs. (*vide photo*).

In conclusion I should be very glad to give fishermen the benefit of my further advice, for what it is worth. My address is:—C/o. Lloyds Bank, Cox & Kings Branch, 6, Pall Mall, London.

For a keen fisherman wanting a pleasant holiday Wildbad is the ideal spot, so brother fishermen flock there and you will never regret it. Nerves, sleeplessness, malaria, etc., will all be banished.

I have heard that the fishing in Czecho-Slovakia in the river Kryko is splendid and I intend visiting that country some time. I would not advise any one to go Jugo-Slavia. I know some fishermen who went there and all of a sudden their licenses were cancelled, without any reason being given, which meant all the expense of the trip was for nothing. I am told that the inhabitants are very jealous and dislike the intrusion of foreigners for sporting purposes. As regards Norway, the fishing there has been overdone, the climate is atrocious and the charges beyond the ordinary man's purse. The fishing in Spain has deteriorated and the whole country is in a turmoil and travellers are put to a lot of inconvenience and the Customs officials too too officious. Fishing in Finland is excellent but a fishing trip costs about £100 a month and the mosquitos are terrible.

I forgot to say that all the German hotels add 10% for service which saves one all the trouble over tips when leaving. If you are not a medical man a small amount is charged as *Kurtax*. One can get the fishing license and ticket for the railway through the *concierge*. I have sent some photos, with this article, and hope they will interest the readers of the Journal.

If one wants a change the river Oos at Baden Baden affords fair fishing but the fish are not of any size. Ever since 1927 I have spent 9 months on the Continent, always on the look out for shikar or fishing. So my advice should be reliable.

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### Three New Species of Dragonfly from N.India.

(Order Odonata.)

*Anax nigrolineatus* sp. nov.

*Anax bacchus* Martin (nec *bacchus* Hagen), Cat. Coll. Selys (Aeschnines) fasc. xviii, pp. 22, 23 (1908).

*Anax guttatus* Series C Laidlaw, Rec. Ind. Mus. vol. xxii, pp. 82-86 (1921).

*Anax fumosus* Laidlaw, Proc. U. S. Nat. Mus. vol. lxii. p. 13 (1923).

*Male.* Abdomen 53 mm. Anal appendages 6 mm. Hindwing 48 mm.

Head:—labium bright or pale ochreous; labrum ochreous bordered more or less broadly with black or blackish brown, this sometimes limited to the central portion; face and frons greenish yellow with a blackish brown T-shaped mark on upper surface of latter, with its stem more or less constricted at the middle but never quite detached from the basal expanded portion: eyes bluish green during life; occiput black. Prothorax reddish brown with the anterior collar and a very narrow bordering laterally yellow; thorax palest green with upper part of middorsal carina and the lateral sutures very finely black; spots on axillaries and antealar sinus pale blue. Legs black, bases of anterior femora yellowish green or reddish brown. Wings hyaline; pterostigma light to dark ochreous between black nervures, covering 2 to 3 cells; membrane blackish brown; 5 to 6 cells in discoidal triangle of fore-wing, 4 to 5 in the hind, 13 to 16 cells in anal-loop; nodal index  $\frac{10-18}{11-12} \left| \frac{19-10}{11-11} \right.$

Abdomen black marked with bluish green or bluish spots as follows,—segment 1 green, its base finely black, more broadly so on dorsum; segment 2 green for basal third, azure blue for the rest, the green area projecting dorsally and convexly into the blue, the two areas being separated by a narrow black convex line which is confluent with a narrow middorsal stripe extending from apical border and expanding on the jugal suture; segment 3 with a broad prolongation of azure blue on to its sides as far as the jugal

suture, a postjugal subdorsal spot and an apical subdorsal spot; segments 4 to 7 with basal, jugal and apical subdorsal spots of blue; segment 8 with only an apical and postjugal spot; segment 9 with only apical spots which are repeated on a larger scale on segment 10 and nearly meet across dorsum at apical border. Anal appendages black or blackish brown, the middle of inferior paler; superiors closely similar to those of *Anax guttatus* but very much broader, at least half as much again at the middle breadth; inferior appendage relatively shorter, more tapered and with four spines above, two of which are situate at each corner at apex.

*Female.* Abdomen 49-51 mm. Hindwing 50 mm.

Resembles the male closely but the wings palely enfumed brownish yellow especially towards apices; abdominal markings more greenish yellow than bluish green or blue. Some specimens have the stem of the T-shaped marking on frons nearly severed from the transverse bar leaving a basal triangular spot somewhat like that seen in *A. imperator*. The blue on segment 2 restricted to dorsum and the jugal and apical spots on segments 3 to 7 are confluent, forming short subdorsal stripes. Segment 10 has two isolated quadrate dorsal yellow spots. Anal appendages similar to those of *A. imperator* but rather shorter, dark reddish brown.

*Distribution.*—Sikkim; Kurseong, Mangpu, Turzum and Nagri in the Darjeeling District. Type in my own collection, will be deposited in the British Museum. The late Dr. Ris was of opinion that this species was quite distinct but thought that it might possibly be a form of *A. fumosus*. The latter species extends from Java to the Celebes and is distinguished by having the stem of the T on frons very broad, never constricted as in the present species; the labrum of *fumosus* is not bordered with black and there are no black lines on the thorax. The present species is distinguished from *A. guttatus* by the abdominal markings bluish instead of orange and from *A. nigrofasciatus* (Japan and China) by the lines on thorax fine instead of

very broad. In some respects it resembles *A. imperator* but the latter has no T-shaped mark on upper surface of frons. (It is to be noted here that the latter species has been reported from the N. W. Himalayas, a new record for the species and a new one to the Indian fauna).

*Foot-note.*—"Jugal suture" is the transverse ridge which is seen in many Anisopterous dragonflies on the dorsum of the segments nearest thorax. Markings on the thorax side of these sutures are known as "antejugal spots"; and on the reverse as "post jugal spots").

*Periaeschna unifasciata* sp. nov.

*Male.* Abdomen 57 mm. Hindwing 47 mm.

Head : labium bright ochreous ; labrum duller ochreous ; anteclypeus brownish ; rest of face and frons olivaceous brown, unmarked with darker brown or black ; vesicle and occiput reddish brown ; eyes brown. Prothorax ochreous, posterior lobe deeply emarginate at middle, fringed with long golden hairs. Thorax very dark reddish brown as far lateral as the posterior suture, metepimeron beyond this level light reddish brown or ochreous. Two narrow antehumeral stripes on dorsum grass-green and with upper ends squared and almost meeting antealar sinus ; laterally a broader, similarly coloured stripe traversing the middle of mesepimeron and narrowly bordered in front and behind with black ; beneath reddish brown. Legs bright reddish brown. Wings hyaline ; 2 rows of cells between the forking of *IRiii* but occasional cells interposed between these two rows ; 12 cells in anal loop ; 3 to 4 cells in anal triangle ; nodal index  $\begin{array}{l|l} 23-23 & 25-22 \\ 23-18 & 17-26 \end{array}$  6 median nervures in forewing, 5 in the hind ; 8 cubital nervures in forewing, 7 in the hind ; 1 or 2 rows of cells between the origins of *Cuiv* and *IA* in hindwing. Abdomen dark reddish brown to black on dorsum marked with yellow or green as follows,—segment 1 unmarked ; segment 2 with a large spot on each side, a short middorsal line extending from base to jugal suture, a pair of linear lunules at jugal suture and a pair of apical lunules confluent broadly over dorsum ; segments 3 to 7 with linear spots at jugum and a pair of apical green lunules ; segments 8 and 9 with mid-dorsal apical triangular spot extending basally along

middorsal carina, segment 8 with a vestige of the jugal spots ; segment 10 with a small round subdorsal subbasal spot on each side. Anal appendages black ; superiors narrow and cylindrical at basal third, lanceolate and flattened for apical two thirds, strongly ribbed above, apex very obtuse but with a minute point on outer side ; more than twice the length of segment 10 ; inferior appendage nearly three fourths the length of superiors, narrowly triangular with apex curled gently upwards.

*Female.* Abdomen 57 mm. Hindwing 51 mm.

A much more robust insect than the male, thorax very bulky and abdomen very swollen at base, markedly compressed from segment 8 to 10 where the very large ovipositor broadens the segment dorso-ventrally ; wings also much broader and tinted palely and evenly with brown, whilst the bases are coloured bright amber to as far as halfway to arc ; pterostigma paler brown, covering 4 to 5 cells ; 2 to 3 rows of cells between forking of *IRiii* and short lengths of 2 rows of cells between *IRiii* and *Rspl* in the hindwings only ; 14 to 15 cells in anal loop ; both median and cubital spaces with reticulated nervures forming a partial network ; other details similar to those of male. Colour and markings similar to male but abdomen broadly ochreous along the sides of segments 1 to 9 ; segment 8 with a small round subdorsal subapical yellow spot ; segment 9 with a large basolateral spot on each side. Anal appendages black, shortly conical ; ovipositor robust but not extending beyond end of abdomen ; genital dentigerous plate as for genus.

*Distribution.*—Darjeeling District, Bengal. I have a pair which I took in May at Mangpu, the male the type. This species is easily determined from all others by the presence of only one stripe on the sides of thorax in place of the conventional pair of stripes.

*Palpopleura sexmaculata octomaculata* subsp. nov.

*Male.* Abdomen 12 mm. Hindwing 14 mm.

This subspecies differs from *P. sexmaculata sexmaculata* by its smaller size, by the wings, especially the hind, being

much narrower and of even width throughout and coloured similarly in the two sexes, those of the male being marked similar to those of the female of *sexmaculata sexmaculata*. The dorsum of thorax reddish brown with the middorsal carina and a narrow bordering to same yellow; humeral suture black above on the dorsal side and then continued very finely downwards. Abdomen pruinosed blue and with the sides of segments 1 to 3 and base of 4 yellow; a small basolateral yellow spot also on segments 5 to 7 which may be extended in some specimens as a narrow lateral stripe as far as apical end of segments; segment 8 with a subdorsal longitudinal spot on each side; segment 10 and bases of anal appendages yellow but the sides and extreme base of segment black. Wings with basal black marking more extensive than in the female of *sexmaculata sexmaculata*, this extending in fore-wing nearly to wing border in some specimens and in the hindwing to as far as the tornal angle of base including the basal portion of anal loop. Beneath the proximal end of pterostigma in the male, a very large triangular opaque black spot extending transversely across the hindwing for two thirds its breadth. Nodal spot in forewing covering 2 cells and a vestige of this spot present also in the hindwing. Amber tinting of hindwing very intense and extending almost up to apex of wing.

*Distribution.*—A number of males from Sylhet, Assam, characterized by their extremely small size and gynomorphic colouring. They are also distinguished from the males of *P. sexmaculata sexmaculata* by the presence of a preapical subpterostigmal opaque spot in the hindwings. This spot is occasionally found in the females of the latter species but is quite unknown in the male. Type in my own collection.

F. C. FRASER, LT. COL. I.M.S., RETD, F.R.E.S.

Bournemouth, Hampshire.

**The Purple Thrush** (*Cochoa purpurea*).

Mr. W. H. Matthews of Namring T.E., kindly sent in a skin of this uncommon or very local bird and, with it, the following interesting note.

"I send you the skin of a male *Cochoa purpurea*. This was one of a pair obtained in the coolie lines feeding on the berry of the "*Daling Patay*" tree.

Both birds called morning and evening—a long whistle like the Hill Partridge (*A. torqueola*) descending the scale on the last note, reminiscent of the lora in the rains. When the male was shot the female called all the afternoon till six P.M.

If I had known *Cochoa purpurea* was about I would have tried to find their nest, but I sent the shikari to get an immature Plaintive Cuckoo, in chestnut plumage, for the Museum and he produced the *Cochoa*!" This note of Mr. Matthews is especially interesting on account of the birds having been found actually in the coolie lines, it has always been represented as essentially a forest bird, also on account of his description of the bird's note which differs from that recorded by Stuart Baker.

*Editor.*

## REVIEW.

**Popular Handbook of Indian Birds. By Hugh Whistler. Revised and Enlarged Edition 1935. Published by Gurney and Jackson. Price 15 shillings.**

It is with the greatest pleasure that we announce the publication of the 2nd Edition of this, deservedly, popular book. Mr. Whistler's name is sufficient guarantee as to the reliability and correctness of his observations as is Mr. Gronvolds' for the beautiful illustrations.

The 1st Edition was published in 1928 and so popular was it that it was exhausted within the short period of 5 years. It is a work which filled a long felt want as, although several other popular books on birds, one with coloured plates, had been published, these were local or only described a small number of common species. Mr. Whistler's work covers the whole of the avifauna of this country, so far as the commoner and more striking birds are concerned. We anticipate that this 2nd edition will be exhausted in even a shorter period than the 1st one.

The Edition under review consists of 495 pages of letterpress, 22 full page plates (ninety-five figures), of which 5 are coloured, and 96 figures in the text as compared with 423 pages of letterpress, 17 full page plates (eighty-one figures) of which 4 are coloured and 85 figures in the text of the 1st Edition. Also, in the 1st Edition, 250 birds were described whereas in this one 275 have been fully described and over 230 others have been sufficiently described to be recognizable and their distribution given so that more than double the number of the 1st edition are found in this one. This is a very great advancement and covers, practically, all the birds that are likely to be come across by anyone in any part of India. The letterpress has also been thoroughly revised and brought up to date.

There was a certain amount of criticism of the 1st Edition as a number of birds which were common locally or some which covered a very large area were omitted; also that N. W. Himalayan and Punjab species predominated too

largely, but this criticism cannot be said of the 2nd Edition as all areas have been equally dealt with. Possibly a few birds may have been omitted such as the Yellow-naped Ixulus which is common in gardens in our Hill station but these will be very few indeed and, in a book covering such a vast area as India, it is impossible to make a selection with which everybody will agree but we consider the one made, in the present volume, is as good as anyone could make. It may be safely said that no matter in what part of India one may be stationed one can turn to this volume and not only find there what the common birds, in one's particular locality are, but also most interesting information about their habits etc.

The descriptions are concise and correct and no one should have any difficulty in recognizing the birds they observe. There is nothing to puzzle even those who know nothing about ornithology and the advanced student will also find much that is of interest to him.

The illustrations are beautifully executed by the well known bird artist Mr. Gronvold and the only figure which we consider not up to his standard is the one of the Red-vented Bulbul in the frontispiece; the crest is shown too round, at any rate for our Bengal birds.

The printing and general get-up of the book are excellent and quite up to the high standard of the firm which publishes it.

We strongly advise all who are interested in birds, either casually or deeply, to invest in this book the price of which is within every one's reach. It is real good value for the money.

*Editor.*

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