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EDITED BY

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## 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 and to promote the study of Natural History. 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.

The annual subscription is only Rs. 10.

Application for membership should be made to:---

*The Curator,  
Natural History Museum,  
Darjeeling.*

Journal  
OF THE  
Darjeeling Natural History Society.

No. 1

Game Birds of Sikkim including the Darjeeling District  
and of the Jalpaiguri District, Bengal.

BY

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

(Continued from page 63 of Vol. II).

9. The Bronze-winged or Emerald Dove (*Chalcophaps  
indica*). (Linn.)

This extremely handsome little bird is very easily recognized and must be well known to most sportsmen.

In the cock the crown and nape are slatey-grey and the forehead and eyebrows white: the head, neck shoulder and lower plumage are deep vinous-red paling towards the abdomen. The back and wing-coverts are metallic emerald-green with a varying amount of golden-bronze sheen and the shoulder of the wing is fringed with white. The lower back has two light-grey cross bands.

The hen differs from the cock in having the white forehead and eyebrows much smaller and sometimes scarcely visible; the slatey-grey of the crown and nape is replaced by vinous-red and there is no white fringe to the shoulder of the wing.

In both sexes the bill and legs are coral-red and the iris is dark brown.

About its distribution Stevens writes:--

“Generally distributed at all elevations from the plain-level up to 6000'. Equally plentiful in the valleys of the interior, where it occurs commonly in winter, as it is on the outer ranges throughout the year.”

This beautiful little Dove is essentially a forest loving bird keeping to the dark evergreen forests and also to bamboo jungle. Very often all that is seen of it is a flash of emerald as it flies past. It may also often be seen on forest paths picking up seeds and grain and is graceful and quite at home on the ground. Stuart Baker's notes on this bird are as usual, most interesting. He writes:-- It is extremely partial to the banks of the smaller forest-streams and to mossy banks through heavy forest. Working along the former the fisherman will often see it working along the bank in front of him, finally making off as he gets too close, but seldom flying far and often pitching again within a couple of hundred yards or so. In the same way the traveller along the forest-tracks may see a little dark bird or perhaps a pair, get up almost at his feet as he rounds some corner, and flit away down the path with incredible speed—dark and sombre-looking unless a flash of sunlight catches it, when it gleams like a jewel until once more the shadows embrace it and it vanishes from sight.....Almost any place where there is a "salt-lick," by a river-bed or in fairly thick evergreen-forest is sure to be much frequented by these Doves, and the *Cacharies* have a saying to the effect that: elephants and deer *like* salt-licks, buffalo and gaur *must* resort to them at times, but that the Emerald Dove *dies* if kept away from them more than a day".

They are wholly vegetarian, except that they will readily eat termites, and their food consists of grain and seeds and Stuart Baker has found them eating wild strawberries, raspberries and blackberries.

Their flight is extremely fast and low and it is marvellous how they twist and turn through trees without apparently slowing down.

They are generally seen singly or in pairs, but I have heard of a small bag being made by beating them out of bushes with a line of coolies. When this is done they present very difficult and pretty shots.

The note is rather a soft, deep and plaintive *coo*.

Stuart Baker notes the following rather curious habit:--"It has a curious habit of entering and passing through buildings, which doubtless, it hopes will afford refuge from the glare of the sun; but finding the interior so different from what it expects, it passes straight through instead of resting. Two or three writers have commented on this curious habit of entering

buildings, and it will even sometimes dash through a tea-factory in which many people are working and while the noise of machinery is continuous and loud."

It is a resident bird but the only record I have of its eggs taken within our area is a clutch secured at Longview, in the Darjeeling District on the 18th May. Stuart Baker says in all parts of its range it "breeds more or less over a great portion of the year, and the majority of the birds undoubtedly have two broods and many probably have three." He has received eggs from Nepal taken at an elevation of over 4000 ft. and has himself taken them at still higher elevations but says:-- "As a rule, however, it breeds below 3000 ft., and is common from this elevation down to the plains."

The nest is the usual structure of sticks but more compact than that of other Doves, the sticks either being picked fresh from the tree or else dry from the ground. The nests are generally situated in a high bush or a small sapling from five to ten feet from the ground. Stuart Baker has also taken a few from bamboo clumps. He also writes:-- "I think the Bronze-winged Dove is more particular in seeing that its nest is concealed than are the Green Pigeons and other Doves which make their nests in similar places, and frequently I have taken nests so well hidden in thick bushes, brambles, and cane-brakes that it was with no little difficulty they were discovered."

The eggs, two in number, are not white, as is the case is those of other Pigeons and Doves which breed with us with the exception of those of the Bar-tailed Cuckoo Dove, but pale cream or fawn colour. They measure 1.08 in.  $\times$  .82 in.

This Dove does well in captivity, when once reconciled to that life and specimens have lived for ten or eleven years at the Alipore Zoo and also bred there. The late Mr. Sanyal told of a pair that laid their eggs in the seed pan and successfully hatched and reared their young there. Stuart Baker doesn't consider it a very quarrelsome little Dove and says that, as a rule, it may be kept safely with others, either of its own or other species. Finn however writes:-- "Unfortunately the bird's own temper as might be inferred from its unsociable ways, is anything but good and in captivity it is given to bullying other Doves. For a good-sized aviary, however, it is a very nice bird."

( To be continued ).

## The Snakes of Northern Bengal and Sikkim.

BY

G. E. SHAW AND E. O. SHEBBEARE.

(Continued from page 68 of Vol. II.)

Of the nine families into which the snakes of India have been divided, five only occur in Northern Bengal viz:—

(1) *TYPHALOPIDÆ*, the so-called Blind Snakes which live in the earth and look like worms. They are quite harmless.

(2) *BOIDÆ*, of which our only representative is the Indian Python. Non-poisonous.

(3) *COLUBRIDÆ*, a large family including most of the ordinary snakes, some of them harmless and others fearfully poisonous, e. g. the Cobra.

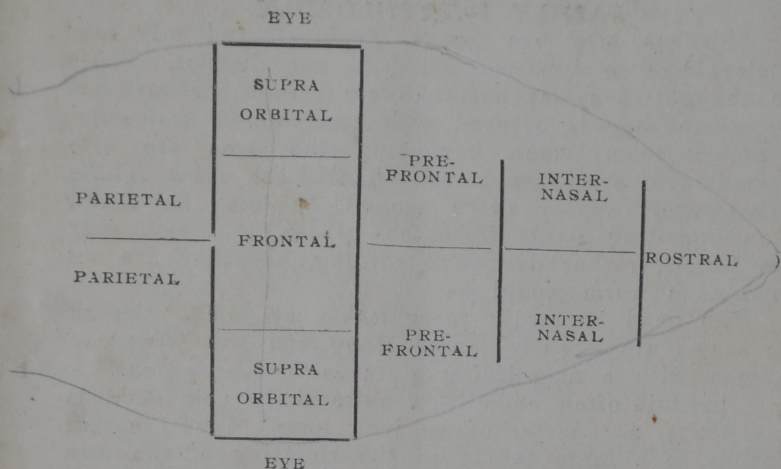
(4) *AMBLYCEPHALIDÆ*, with only one species here, the Snail and Slug-eating Snake. Non-poisonous.

(5) *VIPERIDÆ*, the Vipers, all poisonous and all having either a "pit" or a "scaly head" (see Plate III, Figs. G. & H.), usually both. The only exceptions in our area are Russel's Viper which has no "pit" and the Himalayan Pit Viper which has shields, not scales, on the head.

The descriptions will be given in accordance with this arrangement.

We intend to use the very minimum of technical terms—all that are necessary for our key have already been explained in the diagrams—but it is convenient to have the names of the head-shields on record for reference and they can easily be described by looking at Plate III which appeared in the last number of our Journal.

Plate III, Fig. E. is a birds-eye view of the head of a King-Cobra; the arrangement is almost identical in all snakes with shielded heads (except the Python). It will be seen that the shields are arranged symmetrically on either side of a middle line so that all are in pairs *except two which fall on the line*—these are the *ROSTRAL* on the tip of the snout, and the *FRONTAL* on the top of the head. The *PARIETALS* are marked P and the rest can be identified by comparing Fig. E with the diagram below:—



In the profile view shown in Fig. F some more shields are visible. The row forming the upper lip are the SUPRA-LABIALS (the first three numbered in the figure); those forming the lower lip are INFRA-LABIALS. Any shields touching or containing the nostril are NASALS; thus, in Fig. F, there are two (one of them marked N) enclosing a slit-like nostril, while in Figs. A, B & C there is only one NASAL with the nostril passing through it. Any shields touching the eye (except the LABIALS and SUPRA-ORBITAL) are called PRE- or POST-OCULARS according as they are before or behind the orbit. Any shields lying behind the POST-OCULARS are TEMPORALS.

We have now named all the shields in Figs. E & F but there are some small ones in Figs. B & C (marked "2" in B and "3 (or 4)" in C) which do not fall into any of the above categories. These are the LOREALS and may be defined as any shields lying between the eye and the nostril but touching neither.

Another point worth noting is that the rows of scales in snakes are often counted in three places. At mid-body, as in our keys, and also two head lengths behind the head and two head lengths before the vent. If the three numbers are given without comment they are given in order from head to tail.

**FAMILY I—TYPHLOPIDÆ**

This has only one genus, **Typhlops**, and only four species have so far been found in our district. There are no ventral scales below different from the rest, but the whole body is covered with small round scales and to protect them when burrowing the eyes are also covered with scales and can hardly be seen. These snakes rarely appear above ground but may be found when uprooting plants from the garden and look very like worms, rather dark and shining, but they are not moist as a worm would be.

The head is hardly recognisable as such, though the scales are slightly larger above and the eyes can be seen with a magnifying glass as blacker specks.

The tail often ends in a quite sharp point and is only about a quarter of an inch long. Identification depends to a large extent on the counting of the rows of scales, and this is no easy matter unless the precaution is taken of sticking a pin well into one scale at mid-body and then holding the snake in such a way that it can be twisted right the way round to the pin again while one eye is glued to a magnifying glass and one hand holds the glass. Try it before actually starting to count. Of course there are dodges for doing it easily such as a watch-maker's glass fixed in the eye leaving both hands free, or a piece of cotton to hang the snake up by so that one hand is sufficient to turn it.

1. **Typhlops oligolepis** Wall. The Few-scaled Blind Snake, also called Wall's Blind Snake.

This snake was first discovered by Col. Wall in a bottle in our Darjeeling Museum, the original finder being the late Dr. Seal who picked it up on a road in the Nagri Valley at an elevation of 5,000 feet. This specimen is no longer in the Museum and, as far as we know, only two others have ever been found. It is described as only 5½ inches long and cigar-brown above, paler beneath. It is distinguished from all other known species by having only 16 rows of scales round the body. It should be looked for.

2. **Typhlops porrectus** Stoliczka. Stoliczka's Blind Snake.

This cannot be common here for we have no specimen in the Museum though the Indian Museum in Calcutta has one labelled "Darjeeling District."

The number of rows of scales, 18, will distinguish it from the others while another feature is the nasal

scale which is only half divided in this species; length  $8\frac{1}{2}$  to  $9\frac{1}{4}$  inches.

3 **Typhlops jerdoni** Boulenger. Jerdon's Blind Snake.

This is the only one common in the District. Dark brown above, lighter beneath. The tail, bluntly pointed and ending in a minute spine, is whitish below. Usually 9 or 10 inches long but can grow to  $11\frac{1}{4}$  inches.

4. **Typhlops diardi** Schlegel. Burmese or Diard's Blind Snake.

This is a larger species growing to 17 inches with 24 or 26 rows of scales round the body. Each scale has a barely distinct light transverse streak. Ants appear to be its staple food.

**Typhlops braminus** (Daudin). The Common Blind Snake.

This may eventually be found in the Dooars. It is the commonest of all the blind snakes and has a nearly world-wide distribution. This one has 20 rows of scales and grows to nearly 7 inches.

**FAMILY II BOIDÆ.**

5. **Python molurus** (Linn). The Indian Python.

This is one of the few snakes which possesses a vernacular name understood locally. It is pretty generally known as *Ajgar* or *Ajira* the real meaning of which is a dragon. Non-poisonous.

There is no mistaking this great snake with its beautiful pattern of large squarish or hexagonal reddish brown spots each darkening outwards and enclosed by a network of very light coloured scales.

It grows to 20 ft. and to 200 lbs. in weight but is not often found above 12 ft. long. As a corollary to its size the number of rows of scales is much larger than in any other of our snakes, 60 to 75 at the centre of the body but fewer at the neck or near the tail. Ventrals are 242 to 265 and sub-caudals 60 to 72. Anal scale entire.

There are vestiges of the pelvic girdle in this snake to show its lizard ancestry, and even the rugiments of the femurs or thighbones show as well-marked spurs on each side of the vent.

Like most reptiles it seems to prefer its food in large quantities but at long intervals and one has been known to fast for a year. Although mammals and birds are its staple diet, frogs, worms and even the berries of *jamuna* (*Eugenia jambolana*) have been found in its stomach.

Though the Python is very much on the alert during the day and has often been observed in the act of swallowing an animal in broad daylight, it probably captures its prey more often at night and for this reason its methods have not been very often observed in the wild state.

Various theories have been advanced and we have been told that it hangs by its prehensile tail and butts its head against a passing animal knocking it over and then coiling round it. We have also been told that it lies along a branch with its tail hanging down ready to encircle any animal coming within its reach. Wall in the *Bombay Journal* (Vol. XXI, p. 462) gives a very comprehensive account which we reproduce:—

“The habit of constricting is characteristic of the whole family—boas and pythons alike. The snake, roused to activity by the sight of food, advances towards its prey often with quivering tail and makes a sudden dash at it with open jaws, which are no sooner closed upon its victim than it throws a coil or two—according to the size of the quarry—round it, holding it as in a vice until its struggles have completely ceased when it relaxes its embrace and proceeds to swallow it almost always beginning at the head. Dr. Chalmers Mitchell says “there appears to be no special attempt to crush the prey, to suffocate it or to break its bones.” I certainly agree that there is no attempt to crush with the intention of breaking bones, and so making the mass more easy to deal with, but if the victim is not suffocated how is it killed? My belief is that the vigour of the embrace is such that the victim's chest is incapable of expansion, and asphyxia results, or what amounts to the same thing the heart cannot beat against the pressure to which it is subjected”.

“In swallowing a small animal the mouth is widely opened, and the jaws fixed beyond the head of the victim which is easily engulfed. Prior to the actual seizure of the head the python plays about over it with quivering tongue. It does not slaver over it as is commonly supposed, but the saliva flowing freely under the stimulus of food wets that part which has been received in the mouth, so that if the victim has been disadvantageously seized, and the snake rejects it to make a second attempt, the part of the quarry previously ingested is coated with saliva.

“When the animal is large, the snake seizing the head strives to fix its teeth as far back as possible over the victim, when, having got a firm purchase, the jaws—six in all and all moveable—work alternately over the head, one or more at a time relaxing their hold to be pushed further forward and obtain an extended purchase while the others retain the hold already gained. The process is sometimes a tardy one, and if so the snake is frequently observed to protrude its wide-pipe, so that an inch or even two may be seen beyond the mouth, beneath the mass that is engaged within the jaws. This extension of the glottis is however not a peculiarity confined to the python, for it has been noticed in several other snakes, colubrines and vipers”

Although we have heard accounts of these snakes capturing their prey by means of mesmerism or fascination we have no evidence to substantiate this.

The Python's swallowing capacity is almost incredible. The actual sight of a deer's carcase ripped out of the snake's paunch leaves one more mystified than ever as to how such a colossal mouthful could ever have passed down such a slender gullet. Rats, monkeys, jackals and even a young bear seem comparatively simple but how this amazing snake succeeds in swallowing porcupines without sustaining internal injuries passes comprehension though the feat has been frequently recorded. Pythons swallow barking deer, hog-deer and even cheetal, often stags with horns. There was until recently a hog-deer head of quite shootable proportions (we have unfortunately lost the measure) mounted on a shield in Tirrihana bungalow (Terai) which had been taken out of a Python. It is true that if a Python is disturbed and forced to move after swallowing a porcupine or deer with horns, before the quills or horns have been softened by digestion, they penetrate the stomach and project through the skin with fatal results. That Pythons regard a stag's head as an inconvenience is also shown by the fact that they sometimes remove the head. In this connection we reproduce an extract from our Journal Vol. II, No. 1:—

“Two or three years ago I was in camp at Gorumara in the Jalpaiguri district. Grasscutters, who had taken elephants out to collect fodder, reported that they had seen a big Python which, having just fed, was not likely to move far. So C. K. and I got on an

“elephant and sure enough found the snake which C. K. killed. The length was anything you like to make it.\* When we cut it open, we found the whole of of a male hog-deer except the head.

“Dunbar Brander in his book ‘Wild Animals in Central India’ (which I commend to all sportsmen who want to learn about the habits and calls of forest animals) writes :---‘I once came on one which had just swallowed a male barking-deer horns and all. It was quite helpless and easily killed. A friend of mine once came on a chital stag which had been killed by a Python. The horns were more than the snake could swallow and in order to get rid of these he severed a strip of skin along the back leaving it attached to the skull and by this means he bound the head to a small tree. Having accomplished this, the snake then revolved the body until the head was twisted off. Although not actually observed in the act the circumstances justified the assumption that this is what took place.’”

“When we found our python, I had not read this book and had never heard of this theory, I did not go back to search for the head. If anyone is lucky enough to come across another full python, will he search the neighbourhood to see if there is any truth in the theory that he twists the head off.

“It seems reasonable as I cannot see how a python can get the horns of anything bigger than a barking-deer through his mouth.”

An even more startling achievement was that of another Jalpaiguri Python which overcame and swallowed a leopard measuring 4 ft. 2 ins. from nose to rump—the tail was too decomposed to measure, but say a six-foot leopard. The snake in this case only received seven minor wounds in the encounter. This incident occurred in the Tondoo foresst near the railway line between the Murti and Jaldahka rivers, and is recorded in the Bombay Natural History Society's Journal Vol. XVII, p. 1021.

The Python is a good climber and is frequently found in trees at a considerable height from the ground where it often catches monkeys and roosting birds. It often lives near water, is a good swimmer and may be

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\* Note :—Thus J. H. the other eye-witness, C. K. has since given us the measurement of this Python as being 19 ft. 10½ ins. probably a record for the district.

regarded as semi-aquatic. It has a habit of keeping still for long periods on land as well as under water with only its nostrils appearing. It is generally considered to be a slow mover and this is certainly true of big pythons though it is possibly more from inclination than inability as a full grown specimen rarely shows much inclination to get away. We have been outdistanced on a river bed by a half-grown one caught unawares, probably drinking, and anxious to get back to cover.

This snake is usually solitary but Wall cites an instance of six in one retreat and elsewhere in this Journal we publish an account from the Dooars of seven in one hollow tree

In the plains part of our area Pythons probably hibernate for a few months during the latter part of the cold weather as we have then found them covered with leaves They are certainly active during October and November as well as in the rains. More information on this point would be welcome. We know nothing about hibernation in the hills.

Wall records them as being found up to an elevation of 6,000 ft. we have not personally encountered them above 4,000 ft. in our area.

Unlike the African Python, which is viviparous, our species is oviparous laying from 8 to 107 eggs (Wall) which the female hatches by coiling herself round them. The young are  $2\frac{1}{2}$  feet long when hatched and grow rapidly at first reaching five feet in their first twelve months. Pollock gives the rate of growth in later life as three feet in two years.

### FAMILY III COLUBRIDÆ.

**Colubre** simply means snake and this family includes all the ordinary snakes that cannot be divided off into classes with some special characteristics, such as the blind snakes with no wide ventral scales or the vipers with small scales over the top of their heads. It is therefore a large family and it includes many common harmless snakes and also all the poisonous ones too except the vipers.

**6. Polyodontophis collaris** (Gray). The Collared Polyodont, also called Gray's Polyodont or the Collared Dwarf Snake. Non-poisonous.

The name Polyodont means the many toothed snake, but the many teeth, though evident enough, will

not help much in identification. It is the commonest of all our snakes at about 4,000 ft. elevation and perhaps when one first catches sight of it, recognition is due to its smooth appearance and the fact that the anterior half is a more reddish brown than the other. The colour is brightest a quarter of the way along and the posterior half is a dark greyish brown. When one takes it in the hand the yellowish collar will be noticed and a vertebral row of black spots about a quarter the size of the scales.

These become larger in old snakes and in the female. They lengthen near the collar till in front they may form a continuous line. The head is darker brown with smaller spots and lines, one forming almost a band across the posterior part of the frontal and another distinct narrow band across the posterior part of the parietals. The collar is a broad black band on the neck four scales wide bordered with yellow posteriorly and extending from just behind the mouth over the back. The supra labials are white, usually with some black spots and always edged with black borders forming together a white line with black edges from the nostrils not quite to the collar.

The chin is white, spotted with brown, and therefore looking greyish. Light lateral lines on the fourth costal start on the neck and extend along the body breaking down into spots posteriorly.

Just before the anus a dark ventral border to these lines appears and persists along the tail after the spots disappear. Ventrals as usual are nearly white but the lateral edges in the front half are frequently light red. Below each of these pink bands is a line of very characteristic small black spots becoming confluent farther back and then dying out about half way along.

Ventrals 168-188. Sub-caudals 92-121.

Scales round the body 17 at each of the three counting places.

1204 snakes of this species have been counted and all had 17 rows except one which had 16 and one which had 18.

Length up to 36 inches, rarely over 30.

Food—Small lizards and frogs.

( To be continued )

### Is the Serow Savage ?

Regarding the savageness of the Serow, I am inclined to think that from its local vernacular name *Thar* it has been confused, in this respect, with the true Thar of the Western Himalayas. I have never known it attack man or even stand up to man except when on, what it no doubt considered, an inaccessible precipice. It will stand to dogs when unwounded and wounded. Many years ago F. A. B. Cowley, when at Glenburn, had a Rampur hound which he used to take out shooting. On one occasion a Serow was beaten out and he put a heavy conical bullet from a Paradox gun right through both shoulders. The dog was loosed and followed up the wounded animal and trackers followed on and found it dying in a river bed. A man who was fishing close by said the dog had chased the Serow across the stream into a cliff; here the wounded animal came to bay on a rocky ledge, and when the dog sprang, lowered its head catching it on its horns which were then pressed back against his neck thus impaling the hound. It then threw the dog over the precipice. The Serow was never found.

Mr. Lister once saw a Serow cornered by sawyers on a cliff and the men were rolling logs of wood and stones on to it. The latter caught the missiles on its horns and threw them over the khud. Mr. Lister drove off the sawyers and the Serow escaped.

I have known a man stationed on a Serow run who, when the animal came cantering along, fired at and missed it at about 15 feet. The Serow swerved aside and did *not* charge.

Similarly with bear. I have had three or four come straight on top of me when fired at from below, but they were not attacking, they had simply lost their heads.

All this, and the fact that Serow are seldom killed by wild dog, points to great strength and endurance but I do not think points to either savageness or ferocity.

While on the subject of Serow it may be of interest that, while on the way back from Calcutta on the 15th of last month, I saw a Serow at about 9-30 A. M. opposite the 13½ mile above Sevoke, crossing a small land-slip on the east side of the Tista. It was small with horns 6" to 8", fairly black in colour without any obvious signs of either red or grey tinge to its coat.

The height above sea-level would be about 500 feet. The animal walked slowly across the slip and there were no signs of its being driven by any beast of prey such as wild dogs &c.

Lopchu T. E.

B. N. CREES.

3rd August 1927.

[ We see no reason to assume that the Serow has been mixed up with the *Thar* except for the reason that the former animal is generally known as *Thar* here. Nobody appears to have found the *Thar* a dangerous or savage animal. The real *Thar* (*Hemitragus jembraicus*) occurs in Skkim.

With regards to the fierceness of the Serow I can find no record of any specific case of its attacking man. Kinloch writes:--

“ Although very shy and difficult to find, the Serow is a fierce and dangerous brute when wounded and brought to bay. I have even heard of an unwounded male charging when his mate had been shot. It is said that the Serow will beat off a pack of Wild Dogs and I believe that Serow and Dogs have been found lying dead together. It is, therefore, advisable to be cautious when approaching a wounded one.” The bare statement that it is a fierce and dangerous animal without giving any specific instance and the matter of hearsay evidence does not seem to me to be sufficient proof of this animal's savageness. Certainly there is circumstantial evidence and the proved evidence of its attacking dogs so there may be truth in the assertion.

Colonel Ward writes.—“Under certain circumstances a Serow will show fight and will go for dogs when brought to bay or wounded—many wild animals will do so, especially hinds when their fawns are chased by dogs, but they strike with their feet whilst a Serow will make a headlong charge.” If any of our readers have experience of their attacking man, or can quote any reliable sportsman as having seen them do so, we hope they will let us know. Editor ]

#### A Retort.

J. H's almost true story of the murder of a poor unfortunate Tiger having its post or pre-prandial swim is really too pathetic. I thought better of J. H. He admits he had a wonderful tiffin and plenty of iced

beer, so should have been in a more kindly mood than to deliberately shoot the poor animal who had no chance of retaliating. I could understand it if he had done it on the spur of the moment, after having been woken up and in a bad temper (some of his unfortunate subordinates know what he is like in this mood), but he says he had recovered his temper, so there is no excuse for him. Why didn't he try and noose the tiger or angle for it with his trusty "Hardy's Palakhona" (which he never catches anything with)? Then, if he had landed it, there would have been *some* Fisherman's Tale to write about. It's wonderful what beer can do, *female* Tiger cubs only measuring 8' 4", what would they have grown to 10,' 11', any advance on 11'? Papa and Mamma, *must* have been some size.

W. P. F.

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#### Mina attacking Lizard.

Returning from Ghoom a few days ago, along the old Calcutta road, I noticed a mina some distance up the side of the khud, which was pecking at what appeared to be a grasshopper. From my position below I was not able to determine what the object of its attack was, and being rather intrigued, I scrambled up the bank and drove off the mina. The insect, or whatever it was, alternately appeared and disappeared as it leapt and wriggled in the grass. Arrived at the spot, I was astonished to find that it was the severed tail of a largish lizard, to judge from the size of tail. It was several inches in length, and galvanized by the stimulus of the severed end of the caudal-nerve, it was lashing and twirling in the herbage, far more actively than ever it was when attached to its owner.

This in itself was not extraordinary, for the enduring and active movements of a lizard's tail, when shed, are too well known, but the fact that a mina should have attacked a lizard by itself, and compelled it to resort to caudal autotomy in order to escape from its aggressor, was certainly surprising.

I searched round for the lizard but was unable to find it, it had apparently made a rapid retreat, probably up a tree, near which the wriggling tail lay. I had not seen the beginning of the incident, but think there can be no doubt but that the lizard was attacked

by the mina in the first place, and that it then resorted to autotomy to escape. Lizards are credited with shedding their tails in order to escape from a foe, by providing a superior or counter-attraction in the shape of a galvanized shed tail. I think that we have here, clear proof of such an action.

Minas as a rule live sociably with lizards, and I have often seen them in juxtaposition, showing no concern at each others presence. On the other hand, acting in concert, minas will attack a snake at sight. Their scolding cry will call up comrades from all sides and I have on occasions even seen crows attracted and assisting them in an attack on a viper or *dryophis*.

One might argue that the mina had pecked off the tail of the lizard, but caudal autotomy is so easily accomplished by these reptiles that such an explanation is not feasible.

The tail is not bitten off, but actually fractured by direct muscular action, very much as a boxer may fracture his humerus in the course of a fight by over-action of the biceps. Lizards appear to be the only vertebrates which practice autotomy but it is quite common amongst invertebrates. Instances are very common amongst leaf and stick insects, spiders etc, whilst crabs have a false joint to all their legs, by the medium of which they may shed one or more limbs when attacked by one of their natural enemies. The principle is the same in all, viz,—“ Better to lose a limb than one's life.” Man on a higher plane, exhibits the same instinct when he resorts to a surgeon to save his life at the expense of a limb.

F. C. FRASER, LT. COL., I. M. S.,

Darjeeling, May 29th 1927.



**A True Snake Story from the Duars.**

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I heard this yarn first hand from a reliable source.

Information about a python, which was always to be found in a certain piece of thatch grass, was given by a mahout, and on going to the spot a large cleared space was seen with the thatch laid flat and a solitary Kheir tree in the centre of it. There were several holes verging from this space into the tree and in one of them was shown what the man said was a python inside it. Something was seen which looked like a snake and a couple of shots were fired at it. The tail of a python was seen and the snake pulled out. When its head appeared another shot was fired which killed it. No sooner was it despatched than another was seen and duly accounted for. Thinking that there might be more, but none appearing, they dug a bit. Ultimately seven were taken out of the same spot. The biggest measured 16 feet, the next largest 15 feet 10 inches and the remainder varied from 8 to 12 feet.

Colonel Wall writing in the Journal of the Bombay Natural History Society Vol, XXI page 455 says :--  
" Sometimes one hears of several congregating in the same retreat. In the *Pioneer* ( 19th February 1906 ) is an account of six pythons being discovered in a cavity in the bank of a stream in Mysore. One after another was seized and dragged out and all ranged between 10 and 12 feet in length."

With regard to the length of the python Wall writes :--" There is little doubt that it exceeds 20 feet." Elliot says it grows to 30 feet but this statement has never been confirmed and is open to doubt.

Darjeeling, Chas. M. Inglis, F. Z. S., F. E. S., M. B. O. U.  
9th April 1928.

To a Lost Grilse.

Fish,  
If I'd my wish.  
You'd now be lying grilled on yonder dish.  
But no,  
It is not so;  
You still lurk snugly in the stream below.  
Great fat lout!  
You just looked out.  
And wagged at me a very knowing snout;  
And then you rose  
Beneath my nose  
Just off the channel where the bind-weed grows.  
Greedily you took  
My dangled hook  
Any fled, nor waited for a second look,  
With fell intent to flout  
You took straight out,  
Full forty yards of line, then turned about.  
Swiftly on the other tack  
You shot straight back,  
And round a bunch of weeds you wound the slack.  
In you came, for ever in,  
On wayward fin,  
And rubbed your nasty face against my shin.  
Then something snapped! Tut, tut!  
My cursed gut  
Caught round my brogues and let itself be cut!  
Blighter, you've still got  
My best Jock Scott,  
A Fly I love. I hope it hurts a lot!  
Well, well; 'twas thus  
Fate parted us.  
Left you to nurse your jaw, and me to cuss.  
Ah, but zounds!  
You weighed six pounds,  
And now you're lost you'll grow by leaps and bounds  
Why, yes,  
You'll be, I guess,  
A salmon of surprising heaviness.  
Still,  
If I'd my will,  
A grilse you would remain—nay, more—a grill!

*Author unknown.*

### Leeches of the Darjeeling District.

A new volume of the "Fauna of British India" series has appeared with the title "*Hirudinea*," which means that it has a most interesting account of all we know about Indian leeches together with the usual very scientific description of all known species. I will extract a few patches of information for the benefit of our readers.

Apparently up in the hills here we have five species of leech.

(1) *Dinobdella ferox*, the large dark green cattle leech growing to ten inches or more in length. These infest the nostrils not only of cattle but also of dogs and horses and deer. They are distributed all over India, Burma and Ceylon and often cause severe emaciation of the infected cattle. Even death has been known to result as a consequence of the constant loss of blood and the irritation. The usual method of getting rid of them is to walk the infected animal about in the sun for some time till the leech, as well as its host, begins to notice a lack of moisture, and then to offer, but not quite to give, water. The leech travels down and soon appears and can be seized. I remember trying this method with success on one of my own ponies many years ago. Another method quoted is to syringe the parts with betel juice and a writer states that by this means he easily succeeded in dislodging all the leeches from the nares of a buffalo.

(2) *Hæmadipsa zeylanica montivindicus* is the ubiquitous dark coloured small leech "that so abounds in the damp ravines and dripping forests of moderately high levels in the Darjeeling District, Sikkim and Assam, and which is referred to resentfully by so many harassed travellers who have invaded its domains." It was named *zeylanica* because it was first found in Ceylon, of course very very many years ago, and among the resentful references to it one of the most striking is that of Hækel "When the English seized Kandy in 1815 they had to toil for weeks through the dense jungle of the damp hill-country, and they lost a great many men from the incessant attacks of swarms of leeches."

(3) *Hæmadipsa montana*. Few people would distinguish this from the last species and only a few have therefore been collected. Major Hingston found it up here when collecting on the Everest Expedition of 1924 but altogether only about forty specimens have been obtained. It differs principally in the position of the minute eyes and how few of us even knew that a leech possesses eyes at all!

(4) *Hæmadipsa sylvestris* ranges from Darjeeling to Calcutta and from the Chinese border to Lower Burma with its stronghold in the hills of Assam. It is larger than the last two, often reaching two inches or more in length, possibly even attaining four inches when stretched. Its colour is reddish or brownish and it has three dark lines along its back and marginal orange or yellow stripes. It has been called the "Stinging leech" but our authors are not sure whether the painful bites attributed to this one were not really due to the next species.

(5) *Hæmadipsa ornata*. The type specimen of this, preserved in the Indian Museum, Calcutta, is due to G. W. O'Brien of Ghumti. It is the handsome but villainous striped variety that occurs between 1500 and 2000 feet, and whose bite is known by everyone in the District to be most painful. A broad velvety black stripe occupies the centre of the back, bordering it is a pair of cream coloured stripes about a third as wide and merging front and back into the bluish colour of the head and tail. Outside these is a pair of dark stripes wider than the light ones and then narrowest of all pale cream coloured or nearly white stripes. The colour below is reddish buff. The appellation of "Rainbow striped" has been well applied to it.

It is interesting to note that a flat worm occurs imitating this leech in size, form and colour pattern. We hope some one will find it and forward a specimen to the Museum.

A most valuable part of the book is the collection of introductions. There is a historical preface by the late A. E. Shipley, a very necessary introductory note on the segmentation, explaining the terminology, by J. P. Moore, on introduction to the *Rhynchobdellæ* or leeches with a proboscis by W. A. Harding and then on page 97, near the middle of the book, another introduction, this time to the *Arhynchobdellæ* or leeches

without a proboscis, i. e., the ordinary jawed-leeches by J. P. Moore. From these introductions we discover that the life history of a leech is somewhat imperfectly known and that observers in this land of leeches would be doing extremely useful work.

The proboscis leeches are mostly aquatic and "have been found in such diverse situations as the anus of an elephant, the mouth of a crocodile and the pouch of a pelican." But apparently not in the Darjeeling Hills.

Our leeches without a proboscis, it appears, can live for months without food and during the dry weather retire into the earth or under stones where sufficient moisture remains to keep their skin damp. Their blood cannot be aerated if the skin dries and they would perish. How long they live does not seem to be known. They are hermaphrodite and lay eggs. Like the common earthworm they secrete a gelatinous mass from a glandular ring near the middle of the body called the *Clitellum* and into this jelly they deposit the eggs and then slip out of it leaving the jelly to harden outwardly and form a horny "cocoon" to protect the eggs and provide the first meal for the young leeches.

Everyone knows that they have a sucker at each end few know that there are almost invariably five pairs of eyes forming a regular arch on the first segments and, that there are fourteen lines of dotted "sense organs" along the body. The eyes are only glorified "sense organs" but have a lens and a nerve axis and optic ganglion enclosed in a dense pigment cup. They "are not truly visual organs as they probably form no images but are phototactic or light perceiving organs."

It is pointed out that though leeches have not been definitely connected with the transmission of any disease of man or the domestic animals still there is much reason to hold them under suspicion and "a thorough-going investigation of them from this point of view is much needed." They are known to play the role of intermediate host for certain parasites of invertebrates and the lower vertebrates and they have been accused of carrying the organism of rinderpest and other cattle diseases. There can be little doubt that boils and ulcers of various descriptions are spread among natives of India by these creatures.

It would make this paper too long to enter into the history of leeches or their medical uses but a final note on the collection and preservation must be given.

J. P. Moore recommends placing in a vessel with a small quantity of water and stupefying them with ordinary soda water added gradually. Other things could be used instead of the soda water such as weak tobacco decoction, epsom salts or lemon juice. When they no longer respond to pinching they are rapidly passed through the fingers to remove the surplus mucus, straightened out and laid extended side by side in a flat dish and fixing fluid gently poured on, at first not quite enough to float them. After allowing a few minutes for them to partially harden sufficient of the fluid is added to completely immerse them, care being taken to prevent floating. Usually 50% alcohol or 2% formalin is used for this. After they have fully stiffened the leeches should be transferred to 85-90% alcohol or 4 to 5% formalin. Those who wish to preserve leeches by this method should remember that methylated spirit is 90% alcohol and that ordinary formalin as bought is 40%. These can be diluted to give the lower strengths required but the methylated spirit would then be very cloudy. This does not matter but if clear spirit is preferred whisky which is 55% alcohol and usually obtainable could be used. Anyone wishing to draw morals of whatever kind from this use of Whisky and Soda should observe that a great deal of the lethal effect is due to the soda water.

Mangpu,

G. E. SHAW.

2nd December 1927.

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#### EDITORIAL.

We give a list of contributions received since our last list was published in December 1927 and also a few remarks on the most interesting specimens.

One Bay Bamboo-Rat (*Cannomys badius*) from Mr. E. G. L. Webb.

One skull of Himalayan Black Bear (*Selenarctos tibetanus*) from Mr. O. Lindgren.

One Tahr's (*Hemitragus jemlaicus*) skin from Mr. Lobzang Chhoden.

- One Bengal Bush-Lark ( *Mirafra a. assamica* ) fawn colour. }  
One Dusky Horned Owl ( *Bubo c. coromandus* ). } from Mrs.  
One Forest Eagle Owl ( *Huhua nipalensis* ), } O'Donel.  
One Wood Sandpiper ( *Tringa glareola* ). }  
One Burmese Striated Weaver-Bird ( *Ploceus manyar peguensis* ). }  
One Eastern Goshawk ( *Astur gentilis schvedowi* ) from Mr. F. E. Holland.  
One Hodgson's Hawk-Eagle ( *Spizaetus n. nipalensis* ) from Mr. Bhuktu Singh.  
One Black-crested Baza ( *Lophastur l. leuphotes* ) from Mr. W. H. Matthews.  
Two Indian Grey Peacock-Pheasants ( *Polyplectron b. bicalcaratum* ). } from Mr. J.  
One Smaller Adjutant ( *Leptoptilus javanicus* ) } G. Chapman.  
Four eggs of Western Dark Grey Bush-Chat ( *Oreicola f. ferrea* ). }  
Three eggs of Indian Red-billed Liothrix ( *Liothrix lutea callipyga* ) } Purchased.  
Two eggs of Yellow-naped Ixulus ( *Ixulus f. flavicollis* ) }  
One Buff-Striped Keelback ( *Rhabdophis stolatus* ). }  
One Boie's Whip Snake ( *Dryophis prasinus* ). } from Mrs. J.  
One Lesser Black Krait ( *Bungarus lividus* ). } Macpherson.  
One Silk Moth ( *Salassa thespis* ) from Mr. S. C. Mukerjee.  
One Silk Moth ( *Attacus edwardsi* ) Purchased.  
One Centipede from Mr. D. G. Smyth Osbourne.  
Various insects from Mr. G. E. Shaw.

**For the Library.**

- Birds of Colorado by Professor T. D. A. Cockerell. from the Author.  
Essays on Evolution by Professor E. B. Poulton. } from  
Separates from the Proceedings of } the Author.  
the Entomological Society of London.

The most interesting of the Mammals is the Tahr's skin. Skins were got from Sikkim years ago by Mandelli's collectors but, until recently, Col. Bailey doubted whether they had really been got within the limits of that State. The localities given on Mandelli's labels were not always correct. Now it is known to inhabit the Talung Valley on the precipitous slopes of the mountains. This animal must not be confused with the totally different Serow which is locally known as the Tahr.

Amongst the birds the most interesting are the Dusky Horned Owl, the Eastern Goshawk, the Burmese Striated Weaver Bird and a specimen of the Allied Grosbeak (*Perissospiza affinis*) which was purchased. The Dusky Horned Owl was not known to occur further East than Western Bengal so it is interesting to be able to record it from the Duars. While staying with my friend Mr. O'Donel last cold weather he told me that there was an Owl in the Moraghat Forest (Jalpaiguri Division) whose note he had never heard in any of the forests in the Eastern Duars. We motored out to Kuntimari on several evenings and were at last rewarded by securing a specimen, which he shot and most generously gave to us. A second one was fired at but not got. The call is a deep guttural croak, too deep for my ears to catch and they were found pretty high up in the trees in the well-watered forest.

The Eastern Goshawk was once seen by Stevens Mr. C. E. Brown having sent him a specimen from Sungma. It must be a very rare bird with us.

The Burmese Striated Weaver-Bird is only interesting because we had never come across it before in the Duars.

About the Allied Grosbeak Stevens wrote:—

"This fine Grosbeak occurs sparingly on the Singile La Ridge during the winter and evidently does not descend to a lower limit than about 9000 on either side of the Nepal—Sikkim Frontier." Our specimen, a cock, was shot by a boy with a pellet-bow on a tree just outside the Museum, on the 4th May. It was one of a party of 10 or 12. It is interesting to find it so low, especially at that time of the year.

The Silk Moth (*Salassa thespis*) kindly given to us by Mr S. C. Mukerjee, Accountant of the Cooch Bihar State is new to our collection; the commoner species being *Salassa lola*.

I may also mention that a Cicada sent to Dehra Dun for identification has proved to be a new species and named *Melampsalta inglisi*. We have not, as yet, received a description of it. The specimen is, at present, in the collection of the Forest Research Institute, Dehra Dun but will ultimately be deposited in the British Museum.

Our library, except as regards the Volumes of the Fauna of British India, is very poor so any additions to it are most acceptable. We must thank both Professor Cockerell and Professor Poulton for so kindly presenting us with books for it.

The second instalment of "The Snakes of Northern Bengal" appears in this issue. The authors apologise to those not interested in snakes for the space occupied, but respectfully suggest that the remedy is obvious—to become interested.

All that is necessary is to offer a small reward; the rest follows automatically. Snake collecting takes up very little time, no more than is occupied in the fascinating business of identifying the day's catch over the evening peg. The only apparatus required is a lens and a jar or tin full of methylated spirit. A watchmaker's eyeglass is perhaps the best form of lens, so that you can use both hands. It is very sound to keep a notebook, with a page for each species, in which to put down the "count" of each snake you get; it saves time to teach a *chokra* to do the counting.

If collectors will let us know on a postcard from time to time what species they are getting, for publication in the Journal, it will provide information of the greatest value with regard to the distribution of snakes in our area; it will also be convenient for other collectors who may want to exchange specimens.

The authors of the articles will be glad to answer questions or assist beginners in any way they can and, though they do not want to be inundated with large consignments of serpents, they will do their best to identify any snake which appears to defy their key, returning it, of course, if desired. In sending snakes by post it is not necessary to send bottles of spirit; keep them in spirit for a few days and send them wet in cotton-wool.

We hope that a good number of our members will take up this study. If they do we can confidently predict a great increase in our knowledge of the snakes of our area.